

TỔNG CÔNG TY  
ĐIỆN LỰC DẦU KHÍ VIỆT NAM  
**BAN THƯƠNG MẠI**

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
Độc lập - Tự do - Hạnh phúc

Số 109/TM-NB

V/v: Đăng thông báo nhu cầu mua bổ sung  
đợt 1 vật tư dự phòng rủi ro theo định mức  
tồn kho – Nhà máy điện Nhơn Trạch 1.

Hà Nội, ngày 10 tháng 5 năm 2023

Kính gửi: Văn phòng Tổng công ty

Trên cơ sở văn bản số 386/ĐLDKNT-KT của Nhà máy điện Nhơn Trạch 1 về việc đề nghị mua bổ sung đợt 1 vật tư dự phòng rủi ro theo định mức tồn kho – Nhà máy điện Nhơn Trạch 1. Ban Thương mại đề nghị Quý Ban đăng thông tin trên website Tổng Công ty từ ngày / /2023 với nội dung như sau:

Tổng Công ty Điện lực Dầu khí Việt Nam – CTCP (PV Power) có nhu cầu mua sắm mua bổ sung đợt 1 vật tư dự phòng rủi ro theo định mức tồn kho – Nhà máy điện Nhơn Trạch 1 với danh mục như file đính kèm.

Đề nghị các đơn vị có năng lực, kinh nghiệm và quan tâm đến việc nêu trên gửi báo giá đến Ban Thương mại – PV Power trước 11h00 ngày 15 / 5/2023.

- Để biết thêm thông tin chi tiết, xin liên hệ địa chỉ email như sau: [daothithanhthuy@pvpower.vn](mailto:daothithanhthuy@pvpower.vn). Số điện thoại 024 22210288 (6737).

Trân trọng./.

**Nơi nhận:**

- Như trên;
- Lưu: TM (ĐTTT).

**Đính kèm:**

- Danh mục vật tư dự phòng rủi ro theo định mức tồn kho – Nhà máy điện Nhơn Trạch 1.

**KT. TRƯỞNG BAN THƯƠNG MẠI  
PHÓ TRƯỞNG BAN**

**Mai Quang Vinh**

**PHỤ LỤC: DANH MỤC VẬT TƯ PHẦN ĐIỆN**

STT	Mã KKS	Tên thiết bị/Vật tư	Đơn vị	Mã vật tư	Nhà sản xuất/ Xuất xứ	Kiểu / loại/ Đặc tính kỹ thuật	Mã đặt hàng/Bản vẽ	Số lượng
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(15)
1		Journal bearing (pocket) type:DE, drive end 355 mm	Cái	56050080		Journal bearing (pocket) type:DE, drive end 355 mm		1
3	CHA	Auxiliary relay	Bộ	35001304	Finder	TYPE: 60.13 ORDER NO: 60.13.9.024.0040 AUX. VOLTAGE =24VDC		2
4		Power Supply D3 24VDC 5/+/-15VDC	Cái	56571313	Converteam	A32-A101 A33-A101	029.359 329	1
5		Power supply 100..240VAC/ 56VDC	Cái	56571411	Converteam	-A31-T1	029.359 618	1
6		Motor-circuit breaker	Cái	56060725	Converteam	MBS 25 6,3-10A -S-O Q061, -Q130	029.108 157	2
7	11/12BJA+10.HA001-Q1	AIR CIRCUIT BREAKER, ELECTRONIC Type: SACE E3N 25; In=2500A; U=690V	Cái	56061425	ABB SCHWEIZ AG	Type: SACE E3N 25 In=2500A; U=690V; 50Hz; Icu=65kA; 4P, WITHDRAWABLE SACE PR121/P LSIG SETTING x In: L=0.4-1, S=1-10, I=1.5-15, G=0.2-1 IDENTNUMBER: ISDA056138R0001		1
8	11/12BJA+10.BA001-F04 11/12BJA+10.BA001-F09 11/12BJA+10.BA001-F10	MINIATURE CIRCUIT BREAKER 2P,In 6A,TRIPPING CHARACTERISTIC K Umax 440VUC,Icu(230VAC,220VDC) 10kA	Cái	56061475	ABB SCHWEIZ AG	Type: S282UC-K6 2P,In 6A,TRIPPING CHARACTERISTIC K Umax 440VUC,Icu(230VAC,220VDC) 10kA IDENTNUMBER: GHS2820164R0377		1
15	19BTL10/19BTM10	Capacitor 4700µF 350VDC Part number: K02350472/S	Cái	38807535	Manufacturer: Kendeil Supplier: Amelec	Part number: K02350472/S		3
16	19BTL10/19BTM10	Fan 230V, 120x120x38mm 160m³, 18W Part number: 4658N	Cái	51881219	Manufacturer: Papst Supplier: ebmpapst	Part number: 4658N		3
17	19BRU10/19BRU20	Vent. 150 diam./230V 7855ES/A17T23SWBMT0, 390mc/h Part number: VA150D230V	Cái	56060976	Manufacturer: PAPST/Allm. Supplier: AEE	150 diam./230V 7855ES/A17T23SWBMT0, 390mc/h Part number: VA150D230V		3
18	11/12BRU10	Fuse ultrarapid 80A Part number: FN080GRB	Cái	33014980	Supplier: AEE	80A Part number: FN080GRB		1
19	11/12BRU10	Thyristor module 56A, 1200V Part number: SCRD56A12V (SKKT57B12E)	Cái	56060995	Supplier: AEE	Part number: SCRD56A12V (SKKT57B12E)		2
21	19BBA/BBB	AUXILIARY RELAY	Cái	35042032	TELEMECANIQ UE	CAD-32MD, 3NO+2NC (220VDC)		2
25	18/19BFB00GS100	SYNCHRO CHECK MODULE, c/w : - Module CONNECTION CORD	Bộ	56006155	MERLIN GERIN	MCS025 24-250VDC / 100-240VAC CCA785 Synchro-check module connection cord		1
26	18/19BFA/BFB	Bộ nguồn ABL7RP4803 Input: 100-240VAC, 1.6-0.7A, 50-60Hz 100-250VDC, 1.6A Output: 48VDC, 2.5A, 120W	Bộ	56371110	LISTED	ABL7RP4803 Input: 100-240VAC, 1.6-0.7A, 50-60Hz 100-250VDC, 1.6A Output: 48VDC, 2.5A, 120W		1
27	21Q5, 22Q5, 23Q5, 24Q5, 25Q5, 26Q5	Contacteur 7.5kW	Cái	34633047				2
28		Bearing 7219DB	Cái	50177220	SKF/EU	7219DB		2
29		Bearing Nu219M	Cái	50324219	SKF/EU	Nu219M		1
30		3 pole contactors	Cái	34633145	ABB	Order N.: A145-30-11 230VAC/50Hz		1
32		Bearing NU240ECM	Cái	56006350	SKF/EU	NU240ECM		1
33		Bearing 6203ZZ	Cái	50134203		Bearing 6203ZZ		4
34		3- phase Monitoring relay , G2PF400VS02	Cái	56297901		3- phase Monitoring relay , G2PF400VS02		1
35	11/12SAD10AH010/020 11/12SAD20AH010/020	Tụ điện 20MF 400VAC, 50Hz	Cái	38807415	Seal	20MF 400VAC		2

38	10BVA/BVB	Control relay Type: MY4-240VAC-RE-408AL	Bộ	35057042	GOODSKY	Type: MY4-240VAC-RE-408AL		1
39	10BVA/BVB	Voltage Meter POUNDFUL-L PPF-1-A 19-5 INPUT: DC0-300V, display: 0-300V	Bộ	36220195	POUNDFUL-L	PPF-1-A 19-5		1
40	10ADA11/12/13/14GX001/02 /03 10ADA01GX001/02	NUMERICAL CURRENT DIFFERENTIAL RELAY RATED CURRENT 1/5A RATED VOLTAGE 100/120VAC AUX. VOLTAGE 110-250VDC FIELD VOLTAGE 48VDC	Cái	56006025	ALSTOM	TYPE: MICOM P544 RATED CURRENT 1/5A RATED VOLTAGE 100/120VAC AUX. VOLTAGE 110-250VDC FIELD VOLTAGE 48VDC		1
43	10ADA11/12/13/14GA001/00 2/003	AUXILIARY RELAY COIL VOLTAGE: 220V DC WITH 4 CHANGE-OVER CONTACTS	Cái	33432012	FINDER	TYPE: 56-34-9-220-0-0-00+9674		3
44	10ADA01/11/12/13/14GH001	BAY CONTROLLER UNIT S.A 220VDC, Nominal wetting voltage digital inputs 48/60 Vdc	Cái	56006095	AREVA	TYPE: C264C Power supply: 220VDC, Nominal wetting voltage digital inputs 48/60 Vdc CPU 270	C264C11M151000130200006111 0R00	1
45		Bearing 6204ZZ/C3	Cái	50124214	SKF/EU	6204ZZ/C3		2
47		Bearing 6210ZZ	Cái	50134210	SKF/EU	6210ZZ		1
48		Bearing 6310ZZ	Cái	50134410	SKF/EU	6310ZZ		1
49		Contactoer DILM ( C ) 50		34633150	MOELLER	DILM ( C ) 50		2
50		Bearing 6309ZZ	Cái	50137310	SKF/EU	6309/C3		2

**Phụ lục DANH MỤC VẬT TƯ PHẦN CƠ NHIỆT**

STT	Mã vật tư	Tên thiết bị/Vật tư	Đơn vị	Nhà sản xuất/ Xuất xứ	Kiểu / loại/ Đặc tính kỹ thuật	Mã đặt hàng/Bản vẽ	Số lượng
(1)	(3)	(4)	(5)	(6)	(7)	(8)	(13)
4		<b>Hệ thống nhớt bôi trơn</b>					
4.1		Bơm nhớt bôi trơn chính số 1/2 (Main lube oil pump)	Cái	Allweiler	TYPE: NSS 65-250/243 W69		
4.1.2	48847882	Shaft seal ring	Cái	SKF	55 x 75 x 10mm	O-pos.: 34 HTCT 800 108 V0001 B	1
4.1.3	48680165	Set of rubber buffers	Cái	Allweiler	Ø18 x 27L	O-pos.: 85 HTCT 800 108 V0001 B	1
4.2		Bơm nhớt bôi trơn khẩn (Emergency lube oil pump)	Cái	Allweiler	TYPE: NSS65 - 250/252 W69		
4.2.3	48680252	Set of rubber buffers	Cái	Allweiler	Elastic coupling. EFLEX R-RM6	O-pos.: 85 HTCT 800 109 V0001 B	1
4.3		Bình tích áp hệ thống nhớt bôi trơn (Pressure accumulator)	Cái	Olaer AG	TYPE: IBV 475-8/90		
5		<b>Hệ thống nhớt nâng trực</b>					
6		<b>Hệ thống nhớt điều khiển</b>					
6.1.1	49080631	ELASTIC COUPLING, EFLEX R-RM 5	Cái	Allweiler	TYPE: VKF 80R-46 U8.4 W114	O-pos.: 5 HTCT 801 199 V0001A	2
7		<b>Hệ thống trở trực (MBX)</b>					
7.1		Bơm nhớt trở trực bằng động cơ (Hydraulic rotor barring pump)	Cái	Rexroth	TYPE: 1 PF2 G2-4X/004RC20MB		
7.1.1	56002060	Phốt chắn nhớt	Cái	SKF	OD Ø30 x ID Ø17 x 7 mm		1
7.2	56072930	Bình tích áp	Cái	HIDRACAR S.A	Model: U002A27N1-AI. Volume: 0.15L. Max working pressure: 270 bar, Ser No.: 63590 (63589)		1
1		<b>Hệ thống nhớt bôi trơn tuabin</b>					
1.1.1	53465125	BEARING FLANGE DE	Bộ	Alstom/GE	'HTGD125107P0001	'HTGD125107P0001	1
1.2		Bơm nhớt bôi trơn phụ	Cái	Allweiler AG / D 78315 Radolfzell	TYPE: NSS50-250/01 Code 1507	HTGD481152P0002	
1.2.1	53228600	GROOVED BALL BEARING	Cái	Allweiler AG / D 78315 Radolfzell	HTGD481152P2024	HTGD481152P2024	1
1.2.3	53228610	JOINT RING	Cái	Allweiler AG / D 78315 Radolfzell	HTGD481152P2059	HTGD481152P2059	1
1.2.4	53465490	SET OF GASKET	Bộ	Allweiler AG / D 78315 Radolfzell	HTGD481152P2101	HTGD481152P2101	1
1.2.5	53441154	Eflex-coupling R-RM5	Bộ	Allweiler AG / D 78315 Radolfzell	Eflex-coupling R-RM5	O-pos.: 58 HTGD 691 803 D0005	1
1.3.1	53228630	GROOVED BALL BEARING	Cái	Allweiler AG / D 78315 Radolfzell	HTGD481154P2023	HTGD481154P2023	1
1.3.3	53441155	Eflex-coupling R-RM5	Bộ	Allweiler AG / D 78315 Radolfzell	Eflex-coupling R-RM5	O-pos.: 58 HTGD 691 803 D0003	1
7		<b>Hệ thống bypass cao áp</b>					
7.1		Van Shut-off bypass cao áp	Cái	CCI Valve Technology AB	- Type: AB300-SC/V 320-100 SR - Size-class: 8B-1500 - Connections: BWE (butt weld ends) (ASME B16.25) - Document Number: V295857.10A/B (39)		
8		<b>Hệ thống bypass trung áp</b>					
8.1		Van Shut-off bypass trung áp	Cái	CCI Valve Technology AB	- Type: AB300-SC/V 200-65 SR - Size-class: 6B-900 - Connections: BWE (ASME B16.25) - Document Number: V295857.30A/B (43)		
8.2		Van Control bypass trung áp	Cái	CCI Valve Technology AB	- Type: AB300-SC/V 200-65 - Size-class: 6Bx10B-900 - Connections: BWE (ASME 16.25) - Document Number: V295857.40A/B (45)		
9		<b>Hệ thống bypass hạ áp</b>					
9.1		Van Shut-off bypass hạ áp	Cái	CCI Valve Technology AB	- Type: 840P-300 - Body-inlet x Outlet - Size: 840G-14"x14"-12" - Leakage class: IV - Connections: DN 350 BWE (ASME B16.25) - Document Number: V295857.60 (50)		
9.2		Van Control bypass hạ áp	Cái	CCI Valve Technology AB	- Type: 840LLP-300 - Body-inlet x Outlet - Size: 840TBS-14"x14"-14" - Leakage class: III - Inlet and Outlet Connections: DN 350 BWE (ASME B16.25) - Water inlet connection: DN 25 Flange - Document Number: V295857.70 (53)		
9.3		Van kiểm soát nước phun vào hơi bypass hạ áp	Cái		- Type: 840G1 - 13 - Body-inlet x Outlet - Size: 840G1 - 1" x 1" - 1/2" - Leakage class: IV - Inlet and Outlet Connections: DN 25 BWE (ASME B16.25) - Document Number: V295857.70 (53)		
9.3.1	56374465	Gland Packing	Cái	CCI Valve Technology AB			2
9.3.2	56374463	Bonnet gasket	Cái	CCI Valve Technology AB	304+Graphite	Pos: 10	1
9.3.3	56374462	Seat gasket	Cái	CCI Valve Technology AB	304+Graphite	Pos: 9	1
11		<b>Hệ thống xả trong turbine</b>					
11.1		Bơm xả ADV (Advance Drain Pump)	Cái	Johson Pump, Malaysia	Type: CC 50-315 R6 M2 L4		
11.1.2	56374511	Double-row ball Bearing	Cái	SKF/FAG/NTN/NSK	Bearing 3308ATN9/C3		1
11.1.3	56374512	Roller Bearing	Cái	SKF/FAG/NTN/NSK	Type: CC 50-315 R6 M2 L4		1
14.1		Bơm nước cấp HP	Cái	TORISHIMA PUMP	Type/Size: MHG 4/9, Produce No: AP410055, Speed: 2980 rpm, Capacity: 236,02 m3/h, Disch press: 128,05 barg, Suc press: 0,28 barg		

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14.2		Van 4 ngã đầu thoát bơm nước cấp cao áp	Cái	Schroeder, Germany	Valve type: SSV18-6"ANSI 1500-6/6/2,5/2,5-1, PN: ANSI 1500lbs, Material Body: 1.0460		
14.2.1	51932681	Cone complete	Bộ	Schroeder, Germany	Valve type: SSV18-6"ANSI 1500-6/6/2,5/2,5-1, PN: ANSI 1500lbs, Material Body: 1.0460	Part: 3	1
14.2.2	51932680	Coil spring	Cái	Schroeder, Germany	Valve type: SSV18-6"ANSI 1500-6/6/2,5/2,5-1, PN: ANSI 1500lbs, Material Body: 1.0460	Part: 95.1	1
14.2.3	51932684	Coil spring	Cái	Schroeder, Germany	Valve type: SSV18-6"ANSI 1500-6/6/2,5/2,5-1, PN: ANSI 1500lbs, Material Body: 1.0460	Part: 95.2	1
14.2.4	51932685	Coil spring	Cái			Part: 95.3	1
14.2.5	51932683	O-ring	Cái			Part: 78.2	1
14.2.6		O-ring	Cái			Part: 78.1	1
14.3		Control van nước cấp cao áp	Cái	Fisher	Globe valve, Class: 1500, 6" HPT body Serial: 0017945618 Fisher Ref No: 171-146215		
14.3.1	51990265	Plug complete Kit (Incl : Plug , Stem & Pin )	Bộ	Fisher	Globe valve, Class: 1500, 6" HPT body Serial: 0017945618 Fisher Ref No: 171-146215	Part: 2	1
14.3.3	51990209	Seat ring	Cái	Fisher	Globe valve, Class: 1500, 6" HPT body Serial: 0017945618 Fisher Ref No: 171-146215	Part: 9	1
14.3.4	51990213	Gasket set (gồm Seat ring gasket & Bonnet gasket)	Bộ	Fisher	Globe valve, Class: 1500, 6" HPT body Serial: 0017945618 Fisher Ref No: 171-146215	Part: 10,13	1
14.3.5	51990206	Retaining ring	Cái	Fisher	Globe valve, Class: 1500, 6" HPT body Serial: 0017945618 Fisher Ref No: 171-146215	Part: 27	1
14.3.6	51990212	Seal ring GE43856X012	Cái	Fisher	Globe valve, Class: 1500, 6" HPT body Serial: 0017945618 Fisher Ref No: 171-146215	Part: 28	1
14.3.7	51990218	Anti-Extrusion ring	Cái	Fisher	Globe valve, Class: 1500, 6" HPT body Serial: 0017945618 Fisher Ref No: 171-146215	Part: 63	1
14.4.1	51932817	Packing	Cái	HP Valves	Graphitic	Part: 17	1
14.4.2	51932810	Bonnet gasket	Cái	HP Valves	Graphitic	Part: 10	1
15		Hệ thống bơm nước cấp IP/LP					
15.1		Bơm nước cấp IP/LP	Cái	HHI, HYUNDAI	Model: TMS 1503, Serial No: KA0677-IP/LP20A, Capacity: 363 m3/h, Min flow: 110 m3/h, Toral head: 450m, Pump speed: 2972 rpm		
15.1.2	56374556	Mechanical seal (DE)	Cái	Eagle Burgmann	23-H75F1/90-E1	Part: 4330.1	1
15.1.3	56374556	Mechanical seal (NDE)	Cái	Eagle Burgmann	23-H75F1/90-E1	Part: 4330.2	1
15.1.22	48891007	Spiral gasket 8", class: 600	Cái	VALQUA	Spiral gasket 8", class: 600		1
15.2		Van 4 ngã đầu thoát bơm nước cấp trung hạ áp	Cái	Schroeder, Germany	Valve type: SSV10-6"ANSI 600-6/6/2,5/2,5-1, PN: ANSI 600lbs, Material Body: 1.0460		
15.2.1	56291417	Cone complete	Bộ	Schroeder, Germany	Valve type: SSV10-6"ANSI 600-6/6/2,5/2,5-1, PN: ANSI 600lbs, Material Body: 1.0460	Part: 3	1
15.2.2	56291405	Bypass valve head, complete	Bộ	Schroeder, Germany	Valve type: SSV10-6"ANSI 600-6/6/2,5/2,5-1, PN: ANSI 600lbs, Material Body: 1.0460	Part: 60	1
15.2.3	56291411	O-ring	Cái	Schroeder, Germany	Valve type: SSV10-6"ANSI 600-6/6/2,5/2,5-1, PN: ANSI 600lbs, Material Body: 1.0460	Part: 78.2	1
15.2.5	48891236	Spiral gasket	Cái	Schroeder, Germany	Valve type: SSV10-6"ANSI 600-6/6/2,5/2,5-1, PN: ANSI 600lbs, Material Body: 1.0460		2
15.3		Control van nước cấp LP	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215 Serial: 0017945621		
15.3.4	51990266	Gasket set (gồm: Seat ring gasket, Bonnet gasket, Spiral gasket và Shim)	Bộ	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215 Serial: 0017945621	Part: 10,13	1
15.3.5	51990186	Retaining ring	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215 Serial: 0017945621	Part: 27	1
15.3.6	51990183	Seal ring	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215 Serial: 0017945621	Part: 28	1
15.3.8	56070885	Packing	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215 Serial: 0017945621		1
15.3.9	51990188	Backup Ring	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215 Serial: 0017945621		1
15.4.1	51990277	Plug complete Kit (Incl : Plug , Stem & Pin )	Bộ	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215	Part: 2,3,7	1
15.4.3	51990197	Seat ring	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215	Part: 9	1
15.4.5	51990192	Retaining ring	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215	Part: 13	1
15.4.8	56070825	Packing	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215	Part: 63	1
15.4.9	51990200	Backup Ring	Cái	Fisher	Globe valve, Size: 2", Class: 600, 2" ET body Fisher ref no: 171-146215		1
13.2.1	53227381	Turbine-end bearing assembly, MBD10	Bộ	ALSTOM/GE	Turbine-end bearing assembly, MBD10		1

**PHỤ LỤC : DANH MỤC VẬT TƯ PHẦN ĐIỆN**

STT	Tên thiết bị/Vật tư	Đơn vị	Nhà sản xuất/ Xuất xứ	Kiểu / loại/ Đặc tính kỹ thuật	Mã đặt hàng/Bản vẽ	Số lượng
(1)	(3)	(4)	(6)	(7)	(8)	(15)
6	Time Relay FSM4U	Cái	Allen - Bradley	FSM4U		1
7	Contactora M400	Cái	Allen- Bradley	M400		1
8	Contactora M220	Cái	Allen- Bradley	M220		1
9	Auxiliary Contactor 195-MA04	Cái	Allen- Bradley	195-MA04		1
30	INTERFACE CONVERTER	Bộ	Areva	TYPE: CK222 RS232/RS485	ODER.NO:88911-4-0337669-403	1
32	MINI CIRCUIT BREAKER	Bộ	GE POWER CONTROLS	TYPE: EP102 UC C02 IN=2A	ODER.NO: 673319	1
33	MINI-CIRCUIT BREAKER	Cái	MANUFACTURER: ABB	S 281 UC-Z 0,5 / 10kA	GHS2810164R0158	1
34	MINI-CIRCUIT BREAKER	Cái	MANUFACTURER: ABB	S 283-Z 2A / 10k	GHS2830001R0278	2
35	AUXILIARY CONTACTS	Cái	MANUFACTURER: ABB	S2-H11/1S+10E	GHS2701916R0001	2
36	AUXILIARY RELAY	Cái	MANUFACTURER: FINDER AG	TYPE 62.33 220VDC	1HC6002941P0035	2
37	AUXILIARY RELAY	Cái	MANUFACTURER: ALLEN-BRADLEY	700DC-M220Z2 (2NO+2NC/220V DC)	HAGG404062P0024	1
38	TIME RELAY	Cái	MANUFACTURER: ALLEN-BRADLE	TYPE: 700-FSM4UU18	1HC6002630P0001	1
39	AUXILIARY RELAY	Cái	MANUFACTURER: CMC	MG 40 E / 220V DC	HASV400599P0025	1
40	AUXILIARY RELAY	Cái	MANUFACTURER: FINDER AG	TYPE 62.33-0300 220VDC	1HC6002941P0105	1
41	AUXILIARY RELAY	Cái	MANUFACTURER: ALLEN-BRADLEY	100-M05NZ23 (220V DC)	HAGG403830P0004	2
42	AUXILIARY RELAY	Cái	MANUFACTURER: FINDER AG	TYPE 62.33 230VAC	1HC6002941P0051	1
43	AUXILIARY RELAY	Cái	MANUFACTURER: ALLEN-BRADLE	700DC-M400Z2 (4NO/220V DC)	HAGG404062P0004 Y	1
44	AUXILIARY RELAY	Cái	MANUFACTURER: FINDER AG	TYPE 62.33 24VDC	1HC6002941P0031	1
45	AUXILIARY CONTACTS	Cái	MANUFACTURER: ABB	SBH02 / 2 OE / E-NO. 809 991 310	1SAM101901R0003	1
46	MOTOR PROTECTION SWITCH	Cái	MANUFACTURE: ABB	MS325-2,5 / 1,6-2,5A / SETTING:1.65	1SAM150000R0007	1
47	LCC-RECTIFIE	Cái	Converteam	PA75E, MB6C; T1451 N6520 -A052	029.231 260	1
48	FUSES MCC	Cái	Converteam	HLS C6URC 600A 2500VAC 123TT - F071..F073..F075..F077	029.126 796	1
51	DC ISOLATING AMPLIFIER, FIELD CURRENT 24000A2-010.500.336	Cái	Converteam	T106	029.354 253	1
52	AC DAMPING UNIT	Cái	Converteam	-A219	029.153 956	1
53	FIELD FLASHING SKKD81/12 63A/80C 1200V	Cái	Converteam	-T133, -T134	029.218 645	1
54	Temp.-trip unit TR400 800C 24VUC 1co	Cái	Converteam	-F154	029.353 874	1
55	Contactora CL06D300MWN 220VDC 22kW 2no2nc	Cái	Converteam	-K120	029.365 728	1
56	Contactora LS375K 22 230VUC375kW 2no2nc	Cái	Converteam	-K115...	029.212 733	1
57	Contactora MCRA022AT6 230VAC2no2nc	Cái	Converteam	-K161...	029.353 974	1
58	Motor-circuit breaker MBS 25 4,00-6,30A	Cái	Converteam	A31-Q11	029.108 156	1
59	Transf.-circuit breaker	Cái	Converteam	MBS 25 1,60-2,50A -S-O Q063	590.034 902	1
60	Aux.-contact HS9K.001 1co Mbs25	Cái	Converteam	Q102_H Q103_H Q104_H Q105_H Q106_H Q110_H Q113_H Q114_H Q115_H Q130_H Q205_H Q206_H Q305_H Q306_H Q405_H Q406_H A31-Q11_H A31-Q12_H	029.119 347	1
61	Resistor	Cái	Converteam	30X152; 47 Ohm, +5%, 220V R108	029.070 740	1
62	Optocoupler AMMDS	Cái	Converteam	230VAC,200VDC / 230 V; T158	029.151 974	1
63	Optocoupler AMMDU	Cái	Converteam	24VDC / 53 VDC T159	029.200 462	1
65	Aux.-relay RHM1004 24VDC 6A 4co	Cái	Converteam	K135	029.068 053	1
67	2 poles 1A breaker curve C	Bộ	ABB	2 poles 1A, curve C	Part number: 70099QB0	1
68	2 poles 4A breaker curve C	Bộ	ABB	2 poles 1A, curve C	Part number: 70102QB0	1
69	2 poles 6A breaker curve C	Bộ	ABB	2 poles 6A, curve C	Part number: 70103QB0	1
70	Instantaneous relay 24VDC 5A	Bộ	FINDER	24VDC 5A	Part number: 70028KR0	1
71	Contactora 25A3P AC3 24Vdc	Bộ	SCHNEIDER	25A3P AC3 24Vdc	Part number: 70206KA0	1
72	Module 2x1 4-20mA	Bộ	PHOENIX CONTACT	2x1 4-20mA	Part number: 70017UC0	1
73	AUXILIARY CONTACT BLOCK, FRONT MOUNTING INC	Cái	ABB SCHWEIZ AG	Type: CA5-01 IDENTNUMBER: 15BN10010R1001		1
74	AUXILIARY CONTACT BLOCK, FRONT MOUNTING INC	Cái	ABB SCHWEIZ AG	Type: CA5-10 IDENTNUMBER: 15BN10010R1001		1

75	SURGE SUPPRESSOR VARISTOR,110-250VUC,A9-A110,N22-N80,AL9-A L40	Cái	ABB SCHWEIZ AG	Type: RV5/250 IDENTNUMBER: ISBN050010R1002	1
76	UNDERVOLTAGE RELEASE Un 400V,Uh 80-250VDC	Cái	CDA-ELECTRONIC	Type: LVM34-5C-TIM-400 V-220VDC,CE Un 400V,Uh 80-250VDC IDENTNUMBER: LVM34-5C-TIM400	1
77	TIME CUBE RANGES: 0.2-3s, 2-30s, 12s-30min, 2 - 30min COIL 180-265VUC, 0.5VA	Cái	COMAT	Type: CT3-A30/U Imax=10A,14P,4 ALTERNATING CONTACT COIL 230VAC IDENTNUMBER: CT3-A30/U	1
78	RELAY Imax=10A,11P,3 ALTERNATING CONTACT COIL 220VDC, FREE WHEEL DIODE, LED	Cái	COMAT	Type:C3-A30DX Imax=10A,11P,3 ALTERNATING CONTACT COIL 220VDC, FREE WHEEL DIODE, LED IDENTNUMBER: C3-A30DX/DC220V	1
79	RELAY Imax=10A,14P,4 ALTERNATING CONTACT COIL 220VDC, FREE WHEEL DIODE, LE	Cái	COMAT	Type: C4-A40DX Imax=10A,14P,4 ALTERNATING CONTACT COIL 220VDC, FREE WHEEL DIODE, LE IDENTNUMBER: C4-A40DX/DC220V	1
80	RELAY Imax=10A,11P,3 ALTERNATING CONTACT COIL 230VAC	Cái	COMAT	Type: C3-A30 Imax=10A,11P,3 ALTERNATING CONTACT COIL 230VAC IDENTNUMBER: C3-A30/AC230V	1
81	MANUAL MOTOR STARTER 3P,Icu 400VAC=60kA,440VAC=40kA,500VAC=25kA SETTING RANGE=12.5-16.0A	Cái	ABB SCHWEIZ AG	Type: MS325-16 3P,Icu, 400VAC=60kA,440VAC=40kA,500VAC=25kA SETTING RANGE=12.5-16.0A IDENTNUMBER: 1SAM150000R1012	1
82	MINIATURE CIRCUIT BREAKER	Cái	ABB SCHWEIZ AG	2P,In 2A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu UNLIMITED	1
83	CURRENT TRANSDUCER TECHNICAL DATA ACCORDING CIRCUIT DIAGRAM OR EQUIPMENT, Uh=80-276VUC	Cái	CEWE INSTRUMENT	Type: DI125	1
84	DIODE MODUL 4-PAIR VERSION FOR INDIVIDUALL WIRING	Cái	PHOENIX CONTACT AG	Type:EMG 45-DIO 8E/LP IDENTNUMBER: 29 54 79 8	1
85	SUPPLY NETWORK ANALYZERS 3P+N,In5A,Un290/500V 40-500Hz,Uh110,230,400V RS485,ACTIVE-REACTIVE ENERGY,IMPULS EXIT	Cái	CIRCUTOR	Type: ESM-96EINA485 3P+N,In5A,Un290/500V 40-500Hz,Uh110,230,400V RS485,ACTIVE-REACTIVE ENERGY,IMPULS EXIT IDENTNUMBER: 7.00.015	1
86	LOW VOLTAGE FUSES 250A, SIZE 1	Cái	ESTEC	Type: NH 1 250A IDENTNUMBER: GZN 640007P0079	1
88	MINIATURE CIRCUIT BREAKER 1P,In 6A,CHARAC K,WITH DISCONNECTING NEUTRAL Umax 254VAC 60VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S201P-K 6 NA IDENTNUMBER: 2CDS281103R0377	1
89	FUSE FST 6.3x32, In 20A	Cái	ELEKTRO-MATERIAL AG	Type: FUSE 20A IDENTNUMBER: 0001.1037	1
90	MINIATURE CIRCUIT BREAKER 1P,In 2A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu UNLIMITED	Cái	ABB SCHWEIZ AG	Type: S201-K 2 IDENTNUMBER:2CDS251001R0277	1
91	PRIMARY SWITCH MODE POWER SUPPLIES VOLTAGE 110-240VUC OUTPUT 22-28VDC / 20A (Power supply QS 110)	Cái	ABB SCHWEIZ AG	Type: CP-C24/20.0 IDENTNUMBER: 1SVR427026R0000	1
93	RELAY Imax=10A,14P,4 ALTERNATING CONTACT COIL 24VDC, FREE WHEEL DIODE, LED	Cái	COMAT	Type:C4-A40D Imax=10A,14P,4 ALTERNATING CONTACT COIL 24VDC, FREE WHEEL DIODE, LED IDENTNUMBER:C4-A40DX/DC24V	1
94	SIGNAL CONTACT / AUXILIARY CONTACT A SELECTOR BETWEEN SIGNAL / AUXILIARY CONTACT 1 CHANGE OVER CONTACT, RIGHT SIDE ASSEMBLE	Cái	ABB SCHWEIZ AG	Type:S 2C-S/H6R IDENTNUMBER:2CDS200922R0001	1
95	MINIATURE CIRCUIT BREAKER 1P,In 4A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S201P-K 4 1P,In 4A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS281001R0337	1
96	MINIATURE CIRCUIT BREAKER 1P,In 6A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S201P-K 6 1P,In 6A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS281001R0377	1
97	MINIATURE CIRCUIT BREAKER 1P,In 16A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S201P-K 16 1P,In 16A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS281001R0467	1
98	MINIATURE CIRCUIT BREAKER 1P,In 20A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S201P-K 20 1P,In 20A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA IDENTNUMBER: 2CDS281001R0487	1
99	MINIATURE CIRCUIT BREAKER 1P,In 25A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S201P-K 25 1P,In 25A,TRIPPING CHARACTERISTIC K Umax 254VAC 60VDC,Icu (400VAC) 25kA IDENTNUMBER: 2CDS281001R0517	1
100	SWITCH FUSES 3P,Ui 1000V,Imax(690V) 160A	Cái	ABB SCHWEIZ AG	Type: OS160D12 3P,Ui 1000V,Imax(690V) 160A IDENTNUMBER: 1SCA022472R0030	1
101	AUXILIARY CONTACT 1NC FOR OT16-125, OS MINI, OS30-200	Cái	ABB SCHWEIZ AG	Type: 0A3G01 1NC FOR OT16-125, OS MINI, OS30-200 IDENTNUMBER: 1SCA022456R7410	1
102	LOW VOLTAGE FUSES 63A,SIZE 00	Cái	ESTEC	Type: NH 00 63A 63A,SIZE 00 IDENTNUMBER: GZN 640007P0012	1
103	MANUAL MOTOR STARTER 3P,Icu 400-690VAC=100kA SETTING RANGE=0.25-0.4A	Cái	ABB SCHWEIZ AG	Type: MS325-0.4 3P,Icu 400-690VAC=100kA SETTING RANGE=0.25-0.4A IDENTNUMBER: 1SAM150000R1003	1
104	AUXILIARY CONTACT BLOCK 2NC	Cái	ABB SCHWEIZ AG	Type: HK-02 IDENTNUMBER: 1SAM101901R0003	1
105	SIGNAL CONTACT 1NC	Cái	ABB SCHWEIZ AG	Type: SBS01 IDENTNUMBER: 809 992 310	1

106	MINIATURE CIRCUIT BREAKER 3P,In 2A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu UNLIMITED	Cái	ABB SCHWEIZ AG	Type: S203-K 2 3P,In 2A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu UNLIMITED IDENTNUMBER: 2CDS253001R0277	1
107	MINIATURE CIRCUIT BREAKER 3P,In 6A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S203P-K 6 3P,In 6A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS283001R0377	1
108	MINIATURE CIRCUIT BREAKER 3P,In 10A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S203P-K 10 3P,In 6A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS283001R0427	1
109	MINIATURE CIRCUIT BREAKER 3P,In 16A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S203P-K 16 3P,In 16A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS283001R0467	1
110	MINIATURE CIRCUIT BREAKER 3P,In 25A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC, Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S203P-K 25 3P,In 16A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS283001R0517	1
111	MINIATURE CIRCUIT BREAKER 3P,In 4A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S203P-K 4 3P,In 4A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS283001R0337	1
112	MINIATURE CIRCUIT BREAKER 3P,In 20A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA	Cái	ABB SCHWEIZ AG	Type: S203P-K 20 3P,In 20A,TRIPPING CHARACTERISTIC K Umax 440VAC 125VDC,Icu (400VAC) 25kA IDENTNUMBER:2CDS283001R0487	1
113	FUSE BASE 3P, Ui = 690V I <sub>max</sub> (690V)= 160A	Cái	ABB SCHWEIZ AG	Type: U00-3IG 3P, Ui = 690V I <sub>max</sub> (690V)= 160A IDENTNUMBER:1TGB000174R0001	1
114	LOW VOLTAGE FUSES 25A,SIZE 00	Cái	ESTEC	Type: NH 00 25A 63A,SIZE 00 IDENTNUMBER: GZN 640007P0007	1
115	FUSE FST 5x20, In 2A	Cái	ELEKTRO-MATERIAL AG	Type: FUSE 2A IDENTNUMBER: 0034.3120	1
116	CONTACTOR Pmax AC 380-440V=4kW, 500-690V=5.5kW COIL 220-230V 50Hz,230-240V 60Hz,AUX CONT 1NO	Cái	ABB SCHWEIZ AG	Type: A9-30-10 Pmax AC 380-440V=4kW,500-690V=5.5kW COIL 220-230V 50Hz,230-240V 60Hz,AUX CONT 1NO IDENTNUMBER: 1SBL141001R8010	1
117	AUXILIARY CONTACT BLOCK, SIDE MOUNTING 1NO+1NC	Cái	ABB SCHWEIZ AG	Type: CAL5-11 IDENTNUMBER: 1SBN010020R1011	1
118	SURGE SUPPRESSOR RC TYPE,110-250VAC, A9-A40, N22-N80	Cái	ABB SCHWEIZ AG	Type: RCS-1/250 IDENTNUMBER: 1SBN050100R1002	1
119	SWITCH DISCONNECTOR 3P,Ui 750V,I <sub>max</sub> (690V) 125A	Cái	ABB SCHWEIZ AG	Type: OT125ET3 IDENTNUMBER: 1SCA022353R7560	1
120	AUXILIARY CONTACT 1NO FOR OT16-125, LEFT SIDE MOUNTABLE	Cái	ABB SCHWEIZ AG	Type: OA7G10 IDENTNUMBER: 1SCA022673R1140	1
121	AUXILIARY CONTACT 1NO FOR OT16-125, LEFT SIDE MOUNTABLE	Cái	ABB SCHWEIZ AG	Type: OA1G10 IDENTNUMBER: 1SCA022353R4970	1
122	CONTACTOR: Pmax AC 380/415V=11kW, 440-690V=15kW COIL220-230V50Hz, 230-240V60Hz, AUXCONT 1NO	Cái	ABB SCHWEIZ AG	Type: A26-30-10 Pmax AC 380-415V=11kW,440-690V=15kW COIL220-230V50Hz,230-240V60Hz,AUXCONT 1NO IDENTNUMBER: 1SBL241001R8010	1
126	CONTACTOR Pmax AC 380-400V=37kW, 415-690V=40kW COIL220-230V50Hz, 230-240V60Hz	Cái	ABB SCHWEIZ AG	Type: A75-30-00 Pmax AC 380-400V=37kW,415-690V=40kW COIL220-230V50Hz,230-240V60Hz IDENTNUMBER: 1SBL411001R8000	1
127	SURGE SUPPRESSOR RC TYPE,110-250VAC,A45-A300	Cái	ABB SCHWEIZ AG	Type: RCS-2/250 IDENTNUMBER: 1SBN050200R1002	1
128	SWITCH FUSES 3P,Ui 1000V,I <sub>max</sub> (690V) 160A	Cái	ABB SCHWEIZ AG	Type: OS160D21 3P,Ui 1000V,I <sub>max</sub> (690V) 160A IDENTNUMBER: 1SCA022611R6070	1
129	AUXILIARY CONTACT 1NO FOR OT125-160	Cái	ABB SCHWEIZ AG	Type: OBEA 10 IDENTNUMBER: 1SCA022190R3000	1
130	LOW VOLTAGE FUSES 160A,SIZE 00	Cái	ESTEC	Type: NH 00 160A IDENTNUMBER: GZN 640007P0016	1
131	CONTACTOR Pmax AC 380-400V=45kW,415-690V=55kW COIL220-230V50Hz,230-240V60Hz,AUXCONT 2NO+2NC	Cái	ABB SCHWEIZ AG	Type: A95-30-22 Pmax AC 380-400V=45kW,415-690V=55kW COIL220-230V50Hz,230-240V60Hz,AUXCONT 2NO+2NC IDENTNUMBER: 1SFL431001R8022	1
132	SWITCH FUSES Ui = 690V I <sub>max</sub> (690V)= 250A	Cái	ABB SCHWEIZ AG	Type: OS250 D03-3 Ui = 690V I <sub>max</sub> (690V)= 250A IDENTNUMBER: 1SCA022725R0410	1
133	LOW VOLTAGE FUSES 200A,SIZE 1	Cái	ESTEC	Type: NH 1 200A IDENTNUMBER: GZN 640007P0077	1
134	CONTACTOR Pmax AC 380-400V=315kW, 415-440V=355kW COIL 100-250VDC 850VA 950W,AUX CONT 2NO+2NC	Cái	ABB SCHWEIZ AG	Type: AF580-30-22 Pmax AC 380-400V=315kW, 415-440V=355kW COIL 100-250VDC 850VA 950W, AUX CONT 2NO+2NC IDENTNUMBER: 1SFL617001R7022	1
135	SWITCH FUSES, Ui=1000V I <sub>max</sub> =630A	Cái	ABB SCHWEIZ AG	Type: OESA630DV122-2 Ui=1000V I <sub>max</sub> =630A IDENTNUMBER: 1SCA022300R4820	1
136	AUXILIARY CONTACT 2NO FOR OESA200-800,OETL400-3150	Cái	ABB SCHWEIZ AG	Type: OZXK4 IDENTNUMBER: 1SCA022131R9230	1
137	LOW VOLTAGE FUSES 630A,SIZE 3	Cái	ESTEC	Type: NH 3 630A IDENTNUMBER: GZN 640007P0146	1
138	MANUAL MOTOR STARTER, MAGNETIC ONLY 3P,Icu 400VAC=100kA, 440VAC=50kA, 500VAC=30kA RELEASE VALUES OF MAGNETIC TRIP=112.0-155.0A	Cái	ABB SCHWEIZ AG	Type: MS325-16 3P,Icu 400VAC=100kA,440VAC=50kA,500VAC=30kA RELEASE VALUES OF MAGNETIC TRIP=112.0-155.0A IDENTNUMBER: 1SAM160000R1010	1
139	AUXILIARY CONTACT BLOCK 2NO	Cái	ABB SCHWEIZ AG	Type: HK-20 IDENTNUMBER: 1SAM101901R0002	1



140	CONTACTOR Pmax AC 380-400V=22kW, 415-440V=25kW,500V=30kW COIL:220- 230V 50Hz,230 -240V 60Hz	Cái	ABB SCHWEIZ AG	Type: A50-30-00 Pmax AC 380-400V=22kW,415-440V=25kW,500V=30kW COIL220-230V50Hz,230-240V60Hz IDENTNUMBER: 1SBL351001R8000	1
141	MOULDED CASE CIRCUIT BREAKER, MAGNETIC 3P,FIXED,Icu 380-415V=70kA,500V=36kA,In=52A SETTING RANGE MAGNETIC=6-12xI	Cái	ABB SCHWEIZ AG	Type: T2H160 F F IN52 3P 3P,FIXED,Icu 380-415V=70kA,500V=36kA,In=52A SETTING RANGE MAGNETIC=6-12xI IDENTNUMBER: 1SDA051226R0001	1
142	AUXILIARY CONTACT, CABLED VERSION 3 OPEN/CLOSED CHANGE OVER CONTACT 1 RELEASE TRIP CHANGE OVER CONTACT,T1-T2-T3	Cái	ABB SCHWEIZ AG	IDENTNUMBER: 1SDA051371R0001	1
143	SWITCH FUSE DISCONNECTOR, OPERATING MECHANISM 3P,DIN FUSES: SIZE 00,500V 160A, 690V 100A FOR CABLE LUGS	Cái	ABB SCHWEIZ AG	Type: SR-E 00 3P,DIN FUSES: SIZE 00,500V 160A,690V 100A IDENTNUMBER: NHP 100220R6003	1
144	AUXILIARY CONTACT FOR SWITCH FUSE DISCONNECTOR,SIZE 00,1NO+1NC	Cái	ABB SCHWEIZ AG	IDENTNUMBER: NHP 404640R0001	1
145	LOW VOLTAGE FUSES, 35A,SIZE 00	Cái	ESTEC	Type: NH 00 35A IDENTNUMBER: GZN 640007P0009	1
146	LOW VOLTAGE FUSES, 50A,SIZE 0	Cái	ESTEC	Type: NH 00 50A IDENTNUMBER: GZN 640007P0011	1
147	SWITCH FUSE DISCONNECTOR,OPERATING MECHANISM 3P,DIN FUSES: SIZE 2,690V 400A FOR CABLE LUGS	Cái	ABB SCHWEIZ AG	Type: SR-E 2 3P,DIN FUSES: SIZE 2,690V 400A IDENTNUMBER: NHP 100222R6003	1
148	MANUAL MOTOR STARTER, MAGNETIC ONLY 3P, Icu 400-500VAC=100kA, 690VAC=40kA RELEASE VALUES OF MAGNETIC TRIP=22.0-32.5A	Cái	ABB SCHWEIZ AG	Type: M0325-2.5 3P,Icu 400-500VAC=100kA,690VAC=40kA RELEASE VALUES OF MAGNETIC TRIP=22.0-32.5A IDENTNUMBER: 1SAM160000R1007	1
149	Load switch, OT250E03K Part number: 1SCA022763R5040	Bộ	ABB	OT250E03K Part number: 1SCA022763R5040	1
150	Load switch OT630E03K Part number: 1SCA022779R4940	Bộ	ABB	OT630E03K Part number: 1SCA022779R4940	1
151	Fuse NH 630A-gG, DIN3, w/striker Part number: 6882 0630	Bộ	Manufacturer: Socomec Supplier: ESTEC	630A-gG, DIN3, w/striker Part number: 6882 0630	1
152	Circuit Breaker 36kA TSN 400 F F TMA320 Part number: 1SDA054436R0001	Cái	ABB	TSN 400 F F TMA320 Part number: 1SDA054436R0001	1
154	Semiconductor Fuse 630MMT, 630A, 660V Part number: 033071	Cái	Manufacturer: Bussmann Supplier: EME	630MMT, 630A, 660V Part number: 033071	1
155	Thyristor module Semikron Vrrm=1200V Iav= 540A Part number: SKKT500/12E	Cái	Semikron	Part number: SKKT500/12E	2
156	Thyristor module Semikron Vrrm=1200V Itav= 250A Part number: SKKT250/12E	Cái	Semikron	Vrrm=1200V Itav= 250A Part number: SKKT250/12E	1
157	Load switch OT40M3 Part number: 1SCA022497R0490	Cái	ABB	OT40M3 Part number: 1SCA022497R0490	1
159	Capacitor 47000µF 63VDC Part number: K02063473/S	Cái	Manufacturer: Kendeil Supplier: Amelec	47000µF 63VDC Part number: K02063473/S	1
160	Diode Module 2 diodes VRRM=1200V IFAV=47A Part number: SKKD 46/12	Cái	Semikron	VRRM=1200V IFAV=47A Part number: SKKD 46/12	2
161	Diode module Vrrm=1600V Iav= 2x290A Part number: MDD250-16N1	Cái	PowerParts	Vrrm=1600V Iav= 2x290A Part number: MDD250-16N1	1
162	Fuse NH 630A-gG, DIN3, w/striker Part number: 6882 0630	Cái	Manufacturer: Socomec Supplier: ESTEC	630A-gG, DIN3, w/striker Part number: 6882 0630	1
163	Circuit Breaker 36kA T3N 250 F F TMD200 Part number: 1SDA051246R1	Cái	Manufacturer: ABB-SACE Supplier: AEE	T3N 250 F F TMD200 Part number: 1SDA051246R1	1
165	Diode Module 2 diodes VRRM=1200V IFAV=47A Part number: SKKD 46/12	Cái	Semikron	VRRM=1200V IFAV=47A Part number: SKKD 46/12	1
166	Diode Module VRRM=1200V IFAV=380A Part number: SKKE380/12	Cái	Semikron	VRRM=1200V IFAV=380A Part number: SKKE380/12	1
167	Miniature Circuit Breaker S502UC-K26A 500VDC / 18-26A	Cái	ABB	S502UC-K26A 500VDC / 18-26A GHS5020164R0517	1
168	Circuit Breaker 36kA T2N160 MA80 Im=480-140 3p F F	Cái	ABB	T2N160 MA80 Im=480-140 3p F F 1SDA051210R1	1
169	Miniature Circuit Breaker S502UC-K3A 500VDC / 2-3A	Cái	ABB	S502UC-K3A 500VDC / 2-3A GHS5020164R0317	1
170	Thyristor module 91A, 1200V SCRD91A12V	Cái			1
171	TEMPERATURE SENSOR INPUTS	Cái	MERLIN GERIN	MET148-2, 8 Temperature sensor inputs	1
172	AUXILIARY RELAY	Cái	TELEMECANIQUE	CAD-32MD LAD-N22, 5NO + 4NC, 220VDC	2
173	AUXILIARY RELAY	Cái	TELEMECANIQUE	3NO+2NC, 220VAC	2
184	CLOSING VOLTAGE TV CONTACTOR COIL	Cái	MERLIN GERIN	110VAC 50HZ	2
185	OPENING RELEASE FOR EVOLIS	Cái	MERLIN GERIN	59136 200-250VAC/DC 50-60Hz	1
186	OPENING RELEASE FOR EVOLIS	Cái	MERLIN GERIN	59140 200-250VAC/DC 50-60Hz	1
187	CLOSING RELEASE FOR EVOLIS	Cái	MERLIN GERIN	59148 200-250VAC/DC 50-60Hz	1
188	MOTORIZED FOR MISET123(EVOLIS)	Cái	MERLIN GERIN	220-240VAC, 50/60Hz	1
189	AUXILIARY RELAY	Cái	TELEMECANIQUE	LC1-D258MD 2NO+2NC (220VDC)	1

197	Bộ nguồn : E254510 48/60VDC 24VDC 40196E	Bộ	LISTED	E254510 48/60VDC 24VDC 40196E	1
198	Contactoer 24VDC	Cái	Moeller GmbH	DILOM - G ( 24VDC)	1
199	Sứ đầu ra dây	Cái		Sứ đầu ra dây	1
200	Circuit Breaker 36kA T5N 400 F F TMA320 Part number: ISDA054436R0001	Cái	ABB	T5N 400 F F TMA320 Part number: ISDA054436R0001	1
201	AC Input Insulator Type: Multi 9 63A 3pole c/w padlock	Bộ	Merlin Gerlin	Type: Multi 9 63A 3pole c/w padlock	1
202	Bridge Thyristor Module Type: SKKT 132/08E	Bộ	Semikron	Type: SKKT 132/08E	1
203	Charger Output Circuit Breaker Type: XS225NS 175A 25KA 3 pole	Bộ	Terasaki	Type: XS225NS 175A 25KA 3 pole	1
204	Blocking Diode; Type: SKN 240/08	Bộ	Semikron	Type: SKN 240/08	1
205	DC Output 1/2 Circuit Breaker Type: XS 100NB 100A 50KA/220VAC	Bộ	Terasaki	Type: XS 100NB 100A 50KA/220VAC	1
206	AC Voltage Monitoring Type: CM-PVN 300-500VAC, 10s	Bộ	ABB	Type: CM-PVN 300-500VAC, 10s	1
207	Voltage Detection Module Type: CM-ESN 24-240V	Bộ	ABB	Type: CM-ESN 24-240V	1
208	Under / Over Voltage relay M200 - TAC	Bộ	Multitek	M200 -TAC	1
209	Fuse Demex 10-38; 4AgG 4AgG 100kA/660V	Bộ	DEMEX	10-38; 4AgG 4AgG 100kA/660V	3
211	DISCREPANCY CONTROL SWITCH FOR CIRCUIT BREAKER LAMP VOLT. 220 V DC CONTACTS: 1NO+1NC (TURN) 3NO+3NC (PUSH)	Cái	K & N	TYPE: SA10-RIE-571 LAMP VOLT. 220 V DC CONTACTS: 1NO+1NC (TURN) 3NO+3NC (PUSH)	1
212	DISCREPANCY CONTROL SWITCH FOR ISOLATOR LAMP VOLT. 220 V DC CONTACTS: 2NO+2NC (TURN) 2NO+2NC (PUSH)	Cái	K & N	TYPE: SA10-RIE-572 LAMP VOLT. 220 V DC CONTACTS: 2NO+2NC (TURN) 2NO+2NC (PUSH)	1
213	MINIATURE CIRCUIT BREAKER	Cái	SCHNEIDER ELECTRIC	TYPE: C60N 1P C 2A (26134+26924) 1 POLE, 2A, Z-CURVE AC SUPPLY AUX. AND FAULT CONTACTS	2
214	UNDERVOLTAGE RELAY RATE VOLTAGE: 110 VAC, 50HZ AUX. DELAYING: 0.05...30s	Cái	SCHNEIDER	TYPE: RM4UA32MW RATE VOLTAGE: 110 VAC, 50HZ AUX. DELAYING: 0.05...30s	1
215	Bơm nhớt bôi trơn phụ Type: 3- Motor M3BP180M2 IEC 180M/148 kiểu lắp mặt bích 22kW, 400V, 50Hz, 39A, 2950RPM, 88% có bộ sấy động cơ	Cái	ABB	Type: 3- Motor M3BP180M2 IEC 180M/148 kiểu lắp mặt bích 22kW, 400V, 50Hz, 39A, 2950RPM, 88% Có bộ sấy động cơ	1
218	Động cơ bơm nhớt chính Type: M3GP 250 SMA 2 45kW, 400V, 50Hz, 77.5A, 2965RPM, Power factor (Cos $\phi$ ) Full load: 90% Prod.Code 3GBP251001-BXA 209,148,2; IM B5; Heater 3GZV 194 002-56	Cái	ABB	Type: M3GP 250 SMA 2 45kW, 400V, 50Hz, 77.5A, 2965RPM, Power factor (Cos $\phi$ ) Full load: 90% Prod.Code 3GBP251001-BXA 209,148,2 IM B5 ; Heater 3GZV 194 002-56	1
220	Động cơ bơm nhớt nâng trục Type: DC-Motor GKEF - 132M-4B - ea/S Manufacturer: Grossebacher Apparatebau AG Switzerland 2.2 kW, 220 V DC, 16.00 A, 1055rpm, Ue 220 + 10-20%; Ie 1.13A IM B5/VI; CL H Heater 1x240VAC 2x40W	Cái	Grossebacher Apparatebau AG Switzerland	Type: DC-Motor GKEF - 132M-4B - ea/S; 2.2 kW, 220 V DC, 16.00 A, FF 1; 1055 rpm, Ue 220 + 10-20%; Ie 1.13A IM B5/VI; CL H Heater 1x240VAC 2x40W	1
222	Động cơ quạt làm mát nhớt thủy lực 1.5kW, 400V, 50Hz	Cái		1,5kW, 400V, 50Hz	1
223	Động cơ quạt gió chèn DD Manufacturer: WEG Type: 3- 160M-2 15kW, 400V, 50Hz, 27.9A, 2935RPM, 86%	Cái	Manufacturer: WEG	Type: 3- 160M-2 15kW, 400V, 50Hz, 27.9A, 2935RPM, 86%	1
224	Động cơ quạt 4kW EX; 8,3A, 380V	Cái	Ferrari Bissinger	4kW EX; 8,3A, 380V	1
225	Contactoer 24VDC	Cái	Moeller GmbH	DILEM - 10 -G	1

**Phụ lục : DANH MỤC VẬT TƯ PHẦN C&I**

STT	Mã KKS/Hệ thống	Mã VT	Tên vật tư	DVT	Quy cách/Đặc tính kỹ thuật/ NSX	Số lượng mua mới
(1)	(2)	(3)	(4)	(5)	(6)	(13)
5		56333130	PRESSURE TRANSMITTER 3051CG5A22A1AQ4A9258. Cal range: 0...40bar - ROSEMOUNT	CAI	Manufacturer: ROSEMOUNT Type: 3051CG5A22A1	1
6	Van điều khiển nhiên liệu khí nhóm MBP41	51932341	Control magnet incl Seal. P/N: 9126376001 (Pos: 1). Spare part for Actuator RSM 110/50-138. Van điều khiển nhiên liệu khí nhóm MBP41	BO	Manufacturer: Voith Type: RSM 110/50-138 OrderPos: 998	1
8	Van điều khiển nhiên liệu khí nhóm MBP41	51932265	Electronic stroke measurement incl Seal. P/N: TCR.9126376004 (Pos: 4). Spare part for Actuator RSM 110/50-138. Van điều khiển nhiên liệu khí nhóm MBP41.	BO	Manufacturer: Voith Type: RSM 110/50-138 OrderPos: 995	1
9	MBP43AA001	56298523	STROKE MEASUREMENT WITH JOINT. HTCZ402060P0013.Voith	CAI	Manufacturer: Pruss GmbH Type: DN80/PN100	1
10	MBA33AA007	58512810	Pneumatic Actuator. Type: SAF030. FCS. Sealing set (pos: 3,4,7,8,9,10,11,14)	BO	Manufacturer: AMG Type: SAF 030 OrderPos: 998	1
11	MBA33AA009 MBA33AA008	58512811	Pneumatic Actuator. Type: SAF025. FSC/FSO. Sealing set (pos: 3,4,7,8,9,10,11,14)	BO	Manufacturer: AMG Type: SAF 025, FSO OrderPos: 998	1
13	MBX42CP001 MBV21CP002 MBV21CP002	56333213	PRESSURE SWITCH & INDICATOR Model: 8864.83.23.11.38.19.23 ; range: 0...100 bar. Power supply: 11...32 VDC	CAI	Manufacturer: Trafag Type: 8864.83.23.11.38.19.23 OrderPos: 999	1
14	LAB61CP001	56333315	PRESSURE TRANSMITTER Model: 3051S2CD3A2E12A1AD1M5Q4Q8QT Power Supply: 10.5 ... 42.4 VDC Output: 4 ... 20 mA Max W.P: 3626 Psi / 250 Bar Setpoint: 0 ... 1 Bar (Tương đương với Model: 3051CD3A22A1AM5D1Q4Q8TR )	CAI	Manufacturer: ROSEMOUNT Type: 3051CD3A22A1AM5	1
16	MBM31CR	56333360	SCANNER ELECTRONICS Flame scanner 2.0 LAEX P/N: S507.LEX3 + EX-housing GUB03. Stat. commodity no: 84169000. CO: DE/AL: N/ECCN: N/w: 0.25kg/pc. BARTEC 2.0 LA-EX	CAI	Manufacturer: Trafag Type: 8864.83.23.11.38.19.23 OrderPos: 999	1
17	MBM31CR	56333261	Fibre- Optic Cable X-IR P/N: S730.10MEX.Stat. commodity no: 84169000	CAI	Manufactured by Flamonitec BFI Automation GmbH Type: S730.10MEX	1
18	MBD11CY002	53227990	PROXIMITY TRANSDUCER HTCT436938P1114 PNR:111-412-000-533. Type: TQ412	CAI	Ident No:HTCT436938P1114; Manufacturer:Meggitt; Order No:5547689/10; Xuất xứ:Thụy Sĩ; Part Number:111-412-000-533; SERIAL:AH85224; Type:TQ412	1
21	MBA82CG	56333717	ANGLE TRANSMITTER. Type: WT717-2200-0E01-10M0-0. Supply voltage: 12...30VDC. Range: 0.00...350 Deg. Output: 2-wire, 4...20mA	CAI	Manufactured: GMC INSTRUMENTS Type: WT717-2200-0E01-10M0-0	1
22	MBX52AA002	51904401	Van điều khiển thủy lực đóng mở VIGV. Model: KSDG4V392L40MFH712EN48	CAI	Manufactured: VICKERS Type: KSDG4V392L40MFH712EN48	1
27	Đầu dò nhiệt khu vực khối bơm dầu chính	33440250	Đầu dò nhiệt WMX1000-D90 9VDC, 0.5W	CAI	Manufacturer:MINIMAX; Model:WMX1000-D90; Order	1
29	Gối trục 1 CYE10CQ231 CYE10CQ232	56297911	Đầu dò nhiệt độ Model: 801DRH. P/N: 3601-121-1000/500-36. release temperature: 260/538 độ C	CAI	Calibration Range:0...522 DegC; Functional code of sensor:0185D205K1D0180N0425G1G 3; Maximum Temperature:1000; Process Connection:1-1/4" NPT; Sensor Type:T/C type K; Thermowell:SQ128610T0150H	1
31	MBR10CG	56333983	ANGLE TRANSMITTER. Model: EBZG-NN (SMI983-I7ZZN). Angle of Rotation 90 Deg (Max 120 Deg)	CAI	Manufactured: FOXBORO ECKARDT Type: EBZG-NN (SMI983-I7ZZN)	1

STT	Mã KKS/Hệ thống	Mã VT	Tên vật tư	ĐVT	Quy cách/Đặc tính kỹ thuật/ NSX	Số lượng mua mới
32	LAC70AA152	51990377	Fisher 377 Trip Valve Aluminum Construction. Thuộc ACTUATOR của Van điều khiển cấp nước bao hơi cao áp Nhà sản xuất: FISHER Serial no: 0017945619 Type: 585C Size: 60 Travel: 4 POSITIONER Type: DVC6010, AD Mode, HART Input Signal: 4-20 mA DC Access: Airset(64R) Gauges: Yes, Supply, Output Action: Double.	CAI	Manufactured:FISHER Type: Fisher 377 Trip Valve	1
33	DVC6200	51990660	Positioner and mounting kit: Model: DVC6200 dùng điều khiển Actuator type: 585C. Travel: 4". Size: 60 sq.in. AD mode, HART. Input signal: 4-20mA DC. Access: Airset. Gauge: yes, supply. Output action: double.	BO	Manufactured:FISHER Type: DVC6200	1
35	18MAB12CG012 18MAA11CG011	56333277	POSITION TRANSMITTER Model: BTL5-E17-M0125-K-SR32 Output signal: 4...20 mA Supply Voltage: 24 VDC Nominal length: 125 mm	CAI	Manufactured: Balluff Type: BTL5-E17-M0125-K-SR32	1
38	MAN50AA001	33415015	Công tắc vị trí Limit Switch- Type: 1LS19- JH, - 10...120 degC	CAI	Manufacturer:Yamatake; Nhiệt độ:- 10...120 degC; Type:1LS19- JH	1
40	18LAC20CY003	35305065	General Purpose Equipment Monitor 1900/65A	CAI	ACCESSORIES:1900/01 – 1900/65A General Communications Monitor, Communications Upgrade: Order number: - 1900/01-A01-B01-C01- D02; Manufacturer:Bently Nevada; Order No:1900/65A-A01-B14-C00- D00-E01.	1
43	18MAN10AA002	56071830	AIR FILTER REGULATOR 47381 B74G-6AK-QD1-RMN	PC	Manufacturer: NORGREN; Type:B74G-6AK-QD1-RMN	1
45	CUA10	56580422	CONVERTER RS-422/485 To RS-232. Type: MDW-45 LV. ODW-621. MM-LC2. No. 3617-0001. Rated voltage: 12-48VDC. Operating voltage: 9.6- 57.6 VDC. Rated current: 95mA @ 12VDC. 35mA @ 48VDC	CAI	Manufacturer: WESTERMO Type: MDW-45LV	1
46	CYE10GW001	35691011	Galvanic separator unit GSI127. P/N: 244-127-017-A1-B02.	BO	Manufacturer: VIBRO-METER Type: GSI 127	1
49	CRC20	56065020	OUTPUT MOD. FOR ANAL.SIGN AO610 PR: F ABB. 3BHT300008R0001	PC	Manufacturer:ABB Type:AO610	1
50	MBX01GD010	56065105	ANALOG INPUT AI830. 3BSE008518R0001	PC	Manufacturer:ABB Type:AI830	1
56	Pilot Valve To Fuel Oil Drain Valve MBX36AA001	56333376	SOLENOID VALVE, code 18210, Type: 10P-14-8C-MP-R-A-6C2J-A Valve size: 14mm Number of stations: 8 6 Valve: CPV14-M1H-2x3GLS-1/8 2 Valve: CPV14-M1H-5JS-1/8	BO	Manufacturer: FESTO Type: 161361 V602 10P-14-8C-MP-R-A-6C2J-A	1
59	18CRD30	56065320	ANALOG INPUT AI620. 3BHT300005R0001	PC	Manufacturer:ABB Type:AI620	1
60	Tủ điều khiển chu trình hơi nước WSC 18CBA01	56065605	DUAL ETHERNET PORT INTERFACE A665-CI855K01. 3BSE018106R0001	PC	Code:PR D; Manufacturer:ABB; Xuất xứ:SWEDEN; Type:CI855K01	1
67	CYE10GW001	55020130	Card giao tiếp Type SB8002	CAI	Manufacturer:PEPPERL + FUCHS; Type:Type: SB8002 (GHG 111 0000 W 8002)	1
74	18CRD30 CRC30/40	56333267	I/O CARD DI651. Type: DI651. Product ID: 3BHT300026R0001.	CAI	Manufacturer:ABB Type:DI651	1
75	18CRD30	56065035	ANALOG INPUT AI625. 3BHT300036R0001	PC	Manufacturer:ABB Type:AI625	1
76	CRC30/40	56333271	Digital output module DO620. 3BHT300009R0001. PR: L	CAI	Manufacturer: ABB Type: DO620	1
79	MBX01GD010	56065445	DI830 DIGITAL INPUT 24V D.C. SOE. 3BSE013210R0001	PC	Manufacturer:ABB Type:DI830	1
83	BOP/EL/HRSG/WSC	56065410	ANALOG OUTPUT AO810V2. 3BSE038415R0001	PC	Manufacturer:ABB; Type:AO810V2	1
84	HRSG	56333198	I/O CARD DI 880 HI Digital Input Single or Redundant	CAI	Manufacturer: ABB Type: DI880 Model: 3BSE028586R1	1

STT	Mã KKS/Hệ thống	Mã VT	Tên vật tư	ĐVT	Quy cách/Đặc tính kỹ thuật/ NSX	Số lượng mua mới
87	AUMA	38283319	Logic board AMExC01.1-Z013.718D/01. Com no: 40021718 . For type: SAEXC 07.5 -F10	CAI	Manufacturer: AUMA Type: AMExC01.1-Z013.718D/01	1
95	18LBA10AA231 MAN20AA201 LBH20AA201 LBH50AA001	56333371	Solenoid Valve SCXG551A005MS	CAI	Manufacturer: ASCO Type: G551 A005 MS	1
96	18MAD21CT001-006 18MAD41CT001/002 18MAD51CT001/002	56333170	Temperature TRANSMITTER 644RANAQ4 Model: N.644R , range 0...1300c	CAI	Manufacturer: Rosemount Type: 644RAC4Q4/TYPE N	1
98	START UP EJECTOR 18MAJ50AA002	56374268	Air filter regulator Model: B73G-4AK-QD1-RMN c/w 18-013-269. Range: 0...10bar.	CAI	Manufacturer: NORGREN/ MEXICO Type: B73G-4AK-QD1-RMN	1