

DANH MỤC HÀNG HÓA YÊU CẦU BÁO GIÁ
(Đính kèm công văn)

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
	GIÀN TỰ NẶNG TAM ĐAO 02					
	DRAWWORK					
1	Solenoid valve repair kit for V&T Series Valves	Repair kit for VERSA V&T Series Valves. Reference PN: V-4732-44 (Versa) or equivalent	V-4732-44	VERSA	set	2
2	Switch Module, Ex-proof	Switch Module, Ex-proof with terminal 1NO+1NC Rated voltage: AC 230/400V, DC 24/110V Ui: 690V Ithe: 16A Ex marking: Ex de IIC, ATEX Temperature class: -55...+60°C Reference PN: 07-3323-1400 (Bartec) or equivalent	Bartec 07-3323-1400	BARTEC	pce	3
	TOP DRIVE SYSTEM, MODEL TDS-8SA					
3	Micro limit switch	Miniature basic micro switch, snap-action type, SPDT 1NO+1NC, plunger actuator, quick-connect terminals, 10–15 A at 250 VAC. Reference: V4NST7GPUL (Honeywell) or equivalent.	V4NST7GPUL	HONEYWELL	pce	4
	DRILLING CONTROL AMPHION SYSTEM					
4	Power Transducer, PN: 256-XWMU-QUHG-C3-VE-DM	Input.230V L/L TR 690/230V; 4.18A TR 5000/5A. Range: 0/5000 KILOWATTS. Frequency. 45/60 Hz. Output A=4-20mA into 750 Ohms. Class index 0,2%. Reference PN: 256-XWMU-QUHG-C3-VE-DM, Manufacturer: Crompton (Or equivalent)	256-XWMU-QUHG-C3-VE-DM or equivalent	Crompton or equivalent	pce	1
5	MI/RFI line filter, single-phase, 250VAC, 30A, 50/60Hz	EMI/RFI line filter, single-phase, rated 250VAC, 30A, 50/60Hz, two-stage high-performance LC filter (L≈0.8–1.2mH, X capacitors 2×2.2μF, Y capacitors 2×0.01μF), effective attenuation over 150kHz–30MHz, chassis mount with industrial terminals, suitable for industrial power systems. Reference PN: SF30F (Filter Concepts) or equivalent	SF30F	FILTER CONCEPTS, USA	pce	1
6	MI/RFI line filter, single-phase, 250VAC, 45A, 50/60Hz	EMI/RFI line filter, single-phase, rated 250VAC, 45A, 50/60Hz, two-stage high-performance LC filter (L≈1.2mH, X capacitors 2×2.2μF, Y capacitors 2×0.01μF), effective attenuation over 150kHz–30MHz, chassis mount with industrial terminals, suitable for industrial power systems. Reference PN: SF45F (Filter Concepts) or equivalent	SF45F	FILTER CONCEPTS, USA	pce	1
7	Flanged Diaphragm Protector (Piston Isolator), 2-1/16" 10.000 Psi	Diaphragm Protector (Piston Isolator), 2-1/16" API 6A , 10.000 PSI, 1/4" HP Instrument Connection. Reference PN: 58133-15-1-2-55-I (Forum) or equivalent.	58133-10-1-2-55-I	FORUM	pce	2
8	Seal kit for diaphragm protector	Tee seal assy c/22 2 backup rings suitable for Flanged Diaphragm Protector 2-1/16". Reference PN: 58121-01 (Forum) or equivalent	58121-01	FORUM	KIT	4
	DRILLING CCTV					

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
9	Network keyboard for CCTV system	Network keyboard controller, 7" LCD, 4-axis joystick, supports PTZ control, video wall operation, decoding up to 4×1080p, Ethernet + RS232/RS485, 12VDC. Reference PN: DS-1100KI (Hikvision) or equivalent	DS-1100KI	Hikvision	pce	2
	TWIN CEMENTING UNIT					
10	Tachometer 0-3000Rpm 24Vdc	Electric tachometer with hourmeter, stainless steel (SS) bezel, plastic lens and case, 24VDC power supply, accuracy ±2%, measuring range 0–3000 RPM, hourmeter up to 100,000 hours. Reference PN: ATHA-40 (Murphy) or equivalent	ATHA-40	FW Murphy	pce	1
	MAIN DIESEL ENGINE					
11	Switch Assembly-Magnetic	Magnetic Switch Assembly 24V for Diesel engine Caterpillar 3516C. Reference PN: 9X-8124 (Carterpillar) or equivalent	9X-8124	CAT	pce	2
12	24 Volt Shutoff Relay	24 Volt 5 Pin Micro Relay for Diesel engine Caterpillar 3516C. Reference PN: 9Y-2921 (Carterpillar) or equivalent	9Y-2921	CAT	pce	2
	DIVERTER AND BOP SYSTEMS					
13	Pressure transmitter 0-6000PSI	Range 0-6000Psi. Proof press. 11250 psi. Power supply: 18-28Vdc. Output: 4-20mA. Electric connection:1/2 NPT. Process connection: 1/4 FNPT. Reference PN: 5705 BHSDHNGNYNZ (Viatran) or equivalent	5705 BHSDHNGNYNZ or equivalent	Viatran or equivalent	pce	2
14	Solenoid valve coil, 24 VDC, 18.5 W	Solenoid valve coil, rated voltage 24 VDC, power approx. 18.5 W, plug connection. Reference: K0510110 (GSR) or equivalent.	K0510110	GSR	pce	2
	JACKING SYSTEM, BAKER MARINE					
15	Bar-Mounted Contactor 1000 A	3 poles - AC-3 440V 1000 A - coil 220VAC 50/60Hz. Motor power kW: 530 kW at 1000 V AC 50/60 Hz (AC-3). Auxiliary contact 2 NO + 2 NC. Mounting support: Notched mounting rails, Bar support bracket. Operating time: 100...150 ms closing, 50...100 ms opening. HxWxD: 490x570x475mm. Reference PN: LC1BM33M22 (Schneider) or equivalent.	LC1BM33M22	SCHNEIDER	pce	1
16	Contact kit 6-45-2 for Contactor AN16SNO, PN:Contact kit 6-45-2 (23-6380 and 27-6378)	Contact Kit, Used with Freedom Series (size 5, series A1 and B1, three-pole). Current Rating: 300 A. LxHxW 3.8"x3.8"x4". Reference PN:CONTACT KIT 6-45-2 (23-6380 AND 27-6378), Manufacturer: Cutler hammer (or equivalent)	CONTACT KIT 6-45-2 (23-6380 AND 27-6378)	EATON/CUTLER-HAMMER	set	2
	MOORING WINCH					
17	Inductive proximity sensor M18, 8 mm	Inductive proximity sensor, M18, sensing distance 8 mm, non-flush installation, PNP output, NO contact, 10–30 VDC, cable connection, IP67. Reference PN: IME18-08NPSZW2S (SICK) or equivalent.	1040952 SICK-NP0929	SICK	pce	6
18	Profibus DP slave communication module	Profibus DP slave communication module for Simatic S7, RS485 interface, 9.6 kbps to 12 Mbps, 1 port. Reference PN: 6ES7277-0AA22-0XA0 (Siemens) or equivalent	6ES7277-0AA22-0XA0	SIEMENS	pce	2
19	Power supply unit 120/230 VAC input, 24 VDC output, 5 A, 1-phase	Stabilized power supply, input 120/230 VAC, output 24 VDC / 5 A, 1-phase, efficiency approx. 88%, DIN rail mounting, protection against overload and short circuit, operating temperature 0 to 60°C. Reference PN: 6EP1333-2BA20 (Siemens) or equivalent	6EP1333-2BA20	Siemens	pce	2
	RAW WATER PUMP					
20	Fuse 315A, 690 VAC	NH fuse link, size 2, rated current 315 A, rated voltage 690 VAC, utilization category gG, breaking capacity ≥ 120 kA, knife blade contacts, ceramic body, compliant with IEC 60269 / DIN 43620. Reference PN: NGTC2-690/315A (Bussmann) or equivalent	NGTC2-690/315A	Bussmann	pce	6

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
	CRANES BMC 2250, BMC 900					
21	Valve connector Form A, 2+PE, 24 VAC/DC	Valve connector, Form A (DIN EN 175301-803 / ISO 4400), 2+PE contacts, 24 V AC/DC, rated current 1 A, screw terminal, cable gland M16, integrated bridge rectifier, varistor (MOV) and LED indicator, protection class IP65, operating temperature -40 to +80°C. Reference PN: GDM21F6-V44-10D (Hirschmann) or equivalent	GDM21F6-V44-10D	Hirschmann	pce	10
	PRESSURE AND TEMPERATURE GAUGE					
22	Pressure gauge, 63 mm dial, -30 to +30 inHg	Pressure gauge, dial size 63 mm, measuring range -30 to +30 inHg, stainless steel case, liquid filled (glycerin), bottom connection, process connection 1/2" NPT, accuracy ±1.6% FS		WIKA or equivalent	pce	2
23	Pressure Gauge, 0 - 210 barg or 3000 psig, 1/4" NPT-M, Center back	Norminal size (mm): 63 or equal. Front flange panel mount - Scale Range: 0 - 210 barg or 3000 psig; Accuracy Class: ± 1.6% FSD; - Case material: 304 SS; Socket material: 316 SS or Brass; Bourdon tube: 316 SS or Brass; Ring: 316 SS or Brass, Bayonet lock; Movement: 304 SS or Brass; Liquid filled: Glycerin; Protection Rating: IP65 min.; Overpressure Protection 125%; - Mounting connection: Center back - Process Connection: 1/4" NPT-M		WIKA	PCE	4
24	Pressure gauge, 0-300psi 1/8" NPT Back connection. Dial size: 63 mm	0-300psi, liquid filled, 1/8" NPT. Mounting: Back connection. Stainless steel. Dial size: 63 mm. Accuracy: 1.0% of FS. 0-300 psi, có dầu, ren 1/8" NPT, kết nối sau, inox, mặt Ø63 mm, độ chính xác ±1,0% FS"	05052701C 20P SERIES	FW Murphy	PCE	4
25	Temperature gauge, 2.5" dial, 130-250 °F	Temperature gauge, dial size 2.5" (≈63 mm), measuring range 130 to 250 °F (54 to 121 °C), capillary type. Reference PN: 10060838C (Murphy) or equivalent	10060838C	FW Murphy	PCE	4
26	Temperature gauge 40-120°C, 24 VDC, Ø52 mm	Temperature gauge, measuring range 40-120°C, operating voltage 24 VDC, panel mounting diameter 52 mm, suitable for VDO temperature sender. Reference PN: 310 040 002 (VDO) or equivalent.	310 004 002	VDO or equivalent	pce	4
	VMS SYSTEM					
27	Modbus communication module, Modbus RTU/ASCII	Modbus communication module for Simatic S7 PLC, supporting Modbus RTU/ASCII protocol, RS-485 interface (9-pin D-sub), power supply 24 VDC (≤500 mA), panel mounting. Reference: C79459-A1715-B21 (Siemens) or equivalent	C79459-A1715-B21	SIEMENS	pce	2
28	Ultrasonic level sensor	Ultrasonic sensor for continuous level measurement Product name: VEGASON 62 Approval UX :FM(NI) CL I, DIV2, GP ABCD, (DIP) CL II, III, DIV1, GPEFG Version / Process temperature A : Seal EPDM / -40...+80°C Process fitting / Material N : Thread 2NPT PN2, AS ME B 1.20.1 / PVDF Electronics H: Two-wire 4...20mA/HART Housing / Protection K : Plastic single chamber / IP66/IP67 Cable entry / Plug connection N : 1/2NPT / without Display/adjustment module PLICSCOM A: Mounted Additional equipment X : Without Model code: SN62.UXANHKNAX"	Type: SN62.UXANHKNAX	VEGASON	pce	2
29	Level limit switch, explosion-proof, SPDT	Level limit switch, magnetic reed type, explosion-proof, contact type SPDT, switching rating approx. 250 VAC, IP65. Reference: MS15/BRX (KROHNE) or equivalent.	MS15/BRX	KROHNE	pce	2

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
30	Tank Level Transmitter 0-16mH2O, 4-20Ma, Included Amplifier And Cable 20M	Power supply: 17-33 Vdc, output current: 4-20 mA. Transducer Ranges: Gauge 0 - 16 m H2O; Accuracy: ± 0.25% F.S. at 20°C Operating Temperature Ranges: -20 to +80°C. Sensor Materials: (Housing: Titanium Grade 2; Diaphragm: Titanium Grade 4) Transducer IP 68; Amplifier IP 56. Reference PN: MAS2600-G30-20-P/2P (Emerson) or equivalent.	MAS2600-G30-20-P/2P or equivalent	EMERSON or equivalent	pce	2
31	Tank level transmitter with 8m cabel	Power supply: 17-33 Vdc, output current: 4-20 mA. Transducer Ranges: Gauge 0 - 16 m H2O; Accuracy: ± 0.25% F.S. at 20°C Operating Temperature Ranges: -20 to +80°C. Sensor Materials: (Housing: Titanium Grade 2; Diaphragm: Titanium Grade 4) Transducer IP 68; Amplifier IP 56. Reference PN: MAS2600-G30-08-P/2P (Emerson) or equivalent	MAS2600-G30-08-P/2P or equivalent	EMERSON or equivalent	pce	2
32	Xenon Beacon (Strobe Light) 10J 230Vac	Xenon Beacon. Voltage: 230V AC. Tube Energy: 10 Joules. Total peak current: 200mA. Reference PN: WT-230-10 (Excedo) or equivalent.	WT-230-10	EXCEDO	pce	1
MUD CENTRIFUGE						
33	Contactora 265A, 100–250 VAC/DC coil	3-pole power contactor, rated operational current 265 A (AC-3), 3NO main contacts, 1NO+1NC auxiliary contacts, universal electronic coil 100–250 VAC/DC, 50/60 Hz. Reference PN: AF265-30-11-13 (ABB) or equivalent	AF265-30-11-13 or equivalent	ABB	pce	1
34	Variable Frequency Drive (VFD), 90 kW, 380–500 VAC	Industrial single drive, wall-mounted, Frame R6. Input voltage 3-phase 380–500 VAC (±10%), nominal current 156 A. Heavy-duty rating: 124 A, 75 kW (100 hp). Light-overload rating: 148 A, 90 kW. Direct Torque Control (DTC), protection class IP21, coated circuit boards (+C135 marine standard). Dimensions (H × W × D): 580 × 252 × 369 mm. Reference PN: ACS880-01-156A-5 (ABB) or equivalent	ACS880-01-156A-5	ABB	pce	1
AIR DRYER						
35	Electronic timer board (control circuit board)	Electronic timer board for Sullair air compressor control system. Reference: 02250160-962 (Sullair) or equivalent	02250160-962	SULLAIR	pce	1
36	Power supply module for air compressor control system	Power supply module for Sullair air compressor control system, universal type SM230-1200. Reference: 02250160-963 (Sullair) or equivalent	02250160-963	SULLAIR	pce	2
ENERGY MANAGEMENT						
37	Compact PLC CPU, 2 PROFINET ports, onboard I/O (DI/DO/AI/AO), 24 VDC supply	Compact PLC CPU, power supply 24 VDC (20.4–28.8 VDC), integrated 2 PROFINET ports, onboard I/O: 10 DI 24 VDC, 6 DO 24 VDC (0.5 A), 2 AI (0–10 V), 2 AO (0–20 mA), communication via Ethernet /PROFINET, program/data memory approx. 150–250 KB. Reference: 6ES7217-1AG40-0XB0 (Siemens) or equivalent	6ES7217-1AG40-0XB0	SIEMENS	pce	1
38	Memory card, 24 MB, 3.3 V flash	Memory card for SIMATIC S7-1200 CPU and SINAMICS, flash type 3.3 V, memory capacity 24 MB. Reference: 6ES7954-8LF03-0AA0 (Siemens) or equivalent	6ES7954-8LF03-0AA0	SIEMENS	pce	1
FIRE AND GAS						

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
39	Power supply module 230VAc/27.3Vdc	Input Voltage230V AC (+10% / -15%), 50/60 Hz Input Protection3.15A (H) 250V Ceramic Fuse (20mm) Output Voltage27.3V DC (Nominal at 20°C, temperature compensated) Continuous Output Current5.0 Amperes (Total available for load and charging) Battery Charging CapacityUp to 38Ah (Dual 12V Lead-Acid batteries in series) Efficiency≥ 80% at full load Operating Temperature±10°C to +55°C Storage Temperature±20°C to +70°C Relative Humidity95% Non-condensing DimensionsApprox. 222mm (H) x 145mm (W) x 85mm (D) Reference: TFX PSM-800 (Tyco) or equivalent	TFX PSM-800	Thorn Grinnell/Tyco	pce	1
GIÀN TỰ NANG TAM DAO 03						
MAIN SWITHBOARD						
40	Micrologic 5.0 A trip unit - LSI	Electronic trip unit (Micrologic 5.0A), for circuit breaker type Masterpact NW. Reference PN: 48360 (Schneider Electric) or equivalent.	48360	Schneider	pce	1
41	Micrologic 2.0 A trip unit - LI	Electronic trip unit (Micrologic 2.0A), for circuit breaker type Masterpact NW. Reference PN: 48358 (Schneider Electric) or equivalent.	48358	Schneider	pce	1
42	Battery, for MicroLogic control unit	3.6V 1/2AA 1100mAh. Reference PN: 33593 (Schneider) or equivalent	33593	Schneider	pce	4
43	Power supply 10A, wide range, UC 120/230V, 5 V. DC/10 A	Power Supply unit for Simatic S7-400, 10A, 120/230V UC, 5V/10A DC. Reference PN: 6ES7407-0KA02-0AA0 (Siemens) or equivalent	6ES7407-0KA02-0AA0	Siemens	pce	1
44	Power supply 24V/5A DC, input: 120/230 VAC	Regulated power supply for Simatic S7-300, input: 120/230 V AC, output: 24 V/5 A DC. Reference PN: 6ES7307-1EA01-0AA0 (Siemens) or equivalent	6ES7307-1EA01-0AA0	Siemens	pce	2
45	Communications processor with RS-422/485 interface	Communications processor with RS-422/485 interface for Simatic S7-300. Reference PN: 6ES7341-1CH02-0AE0 (Siemens) or equivalent	6ES7341-1CH02-0AE0	Siemens	pce	1
46	Relay plug-in DPDT 220VAC	Relay plug-in DPDT, 2NO+2NC, 3A, coil 220VAC, type latching (dual coil). Reference PN: RY2KS-UAC220V (IDEC) or equivalent	RY2KS-UAC220V	IDEC	pce	4
47	Timer relay 100-240VAC DPDT 01.s-180h	Timer relay plug-in DPDT, 2NO+2NC, 5A, supply 100–240VAC, multi-function (ON delay, interval, cycle), time range 0.1s–180h. Reference PN: GT3A-3AF20 (IDEC) or equivalent	GT3A-3AF20	IDEC	pce	3
MAIN GENERATOR						
48	Capacitor for generator Kato Model 6P7-2650	Capacitor for generator Kato Model 6P7-2650, S/N 23951-01 - 23951-04. Reference PN: 8685158891 (Kato) or equivalent	8685158891	Kato	pce	4
EMERGENCY GENERATOR						
49	Touch display panel 6" PN/DP	SIMATIC OP 177B 6" PN/DP STN 256 color display touch and key MPI/PROFIBUS DP protocol RS485/RS422/USB interface Ethernet 10/100 interface. Reference PN: 6AV6642-0DA01-1AX1 (Siemens) or equivalent.	6AV6 642-0DA01-1AX1	Siemens	pce	1
VARIABLE FREQUENCY DRIVE						
50	Option board OPTA5 for VFD Vacon NXP	Option board OPTA5 for VFD Vacon NXP. Reference PN: PC00267J (Vacon) or equivalent	PC00267J	Vacon	pce	2
51	Cooling Fan, 24 Vdc, 12W	Axial fan, DC, 24VDC, 12W, airflow ~350m³/h, size 172×150×51 mm. Reference PN: 6424M (ebm-papst) or equivalent	6424 M	EBM-PAPST	pce	3
VFD COOLING SYSTEM						

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	DVT	Số lượng
52	PLC module	PLC CPU module, program capacity 10K steps, built-in Ethernet port (TCP/IP), supply 24VDC, DIN rail mounting. Reference PN: CJ1M-CPU11-ETN (Omron) or equivalent	CJ1M CPU11-ETN	Omron	pce	1
53	Touch panel HMI 12.1" TFT	Touch panel HMI NS12, 12.1" TFT color display (800×600), supply 24VDC (~30W), interfaces RS232/RS422/RS485 + Ethernet, memory ~60MB, panel mounting. Reference PN: NS12-TS01B-V2 (Omron) or equivalent.	NS12-TS01B-V2	Omron	pce	1
54	Digital input module 16DI, 24VDC	PLC digital input module, 16 inputs, 24VDC, sink/source type. Reference PN: CJ1W-ID211-CHN (Omron) or equivalent.	CJ1W-ID211-CHN	Omron	pce	1
55	PLC Relay output module, 8 output 250Vac/ 24Vdc 2A	Relay output module 8 output 250Vac/ 24Vdc 2A.. Mounting Style: DIN Rail Mount. Reference PN: CJ1W-OC201-CHN (Omron) or equivalent.	CJ1W-OC201-CHN	Omron	pce	1
56	Analog input module 8AI, 4–20mA / 0–10V	PLC analog input module, 8 inputs, selectable 4–20mA / 0–10V, resolution 1/6000, DIN rail mounting. Reference PN: CJ1W-AD081-V1 NL (Omron) or equivalent	CJ1W-AD081-V1 NL	Omron	pce	1
57	Analog output module 4AO, 4–20mA / 0–10V	PLC analog output module, 4 outputs, selectable 4–20mA / 0–10V, resolution 1/6000, DIN rail mounting. Reference PN: CJ1W-DA041 NL (Omron) or equivalent	CJ1W-DA041 NL	Omron	pce	1
ON TRACK & X-COM						
58	Industrial display 21.3" 1600 x 1200	Display with Protection Glass 21.3" 1600 x 1200 ratio 4:3, supply 24VDC, VGA+DVI+HDMI, Versa mount. Reference PN: R21L100-CHM1 (Winmate) or equivalent	R21L100-CHM1 (VGA+DVI; No touch; 24VDC in; Resolution1600x1200; ratio 4:3)	Wimmate	pce	2
59	DC/DC converter module 12- 24Vdc/ 5-15Vdc/2A	DC/DC converter for DIN rail mounting, input: 12-24 Vdc, output: 5-15 Vdc/2 A. Reference PN: 2320018 (Phoenix Contact) or equivalent.	2320018	Phoenix Contact	pce	2
60	On track server PC, 24 VDC, 4.0A max (including SLB software)	On-track server PC, pre-installed and configured with SLB software, fully compatible with OnTrack control system of Tam Dao-03 rig/ Reference PN: 700008468 (Cameron) or equivalent	700008468	Cameron/SLB	pce	1
61	Cooling fan 24Vdc 6W	Axial fan 24VDC, 6W, size 120×120×38 mm. Reference PN: D12E-24PH-05 (Nidec) or equivalent	D12E-24PH 05 12cm 120*120*38mm DC 24V 0.27A 2 Wire	Nidec	pce	2
62	Touch screen display 8.4", 800 x 600	8.4" 800x600, SAW touch, USB for touch screen, supply 24VDC, VGA+DVI+HDMI, Versa mount. Reference PN: R08L200-OFU1 (Winmate) or equivalent	R08L200-OFU1 (SAW touch; USB for touch screen; 24VDC in)	Wimmate	pce	1
TOP DRIVE						
63	Central processing unit MPI/DP, 1 MB	Central processing unit with: work memory 1 MB, (0.5 MB code, 0.5 MB data), 1st interface MPI/DP 12 Mbps, 2nd interface PROFIBUS DP. Reference PN: 6ES7414-2XK05-0AB0 (Siemens) or equivalent	6ES7414-2XK05-0AB0	Siemens	pce	2
64	Analog output module 8AO 13bits	Isolated 8 AO; resolution 13 bit, U/I. Reference PN: 6ES7432-1HF00-0AB0 (Siemens) or equivalent.	6ES7432-1HF00-0AB0	Siemens	pce	2
65	Function module FM 450-1 for counter function with 2 channels incl	Function module FM 450-1 for counter function with 2 channels incl for SIMATIC S7-400. Reference PN: 6ES7450-1AP00-0AE0 (Siemens) or equivalent.	6ES7450-1AP00-0AE0	Siemens	pce	2
66	Pressure Transmitter 0-250 bar, 4-20mA	Pressure Transmitter. 0-250 bar, 4-20mA, 22-28 Vdc, -25 to +60oC. Ex II 2G. Mechanical connection G1/4 A ISO 1179-2 / external. Electrical connection DIN EN 175301-803 /3p + PE. Reference PN: HDA 4745-A-250-000 (Hydac) or equivalent.	HDA 4745-A-250-000	Hydac	pce	2

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	DVT	Số lượng
67	Encoder Hub for Top drive motor	Encoder mounting hub for connection between AC motor shaft and encoder. Reference PN: 1018132 (SLB) or equivalent	1018132	Cameron/SLB	pce	1
DRAWWORK						
68	Solenoid coil 24Vdc 17W	Solenoid coil type: 2A52W, 24 VDC 17W, Ip65/67, Eex Em II T4. Reference PN: 118 195 024L (Eugen Seitz) or equivalent	118 195 024L (Cameron code 9010138)	Eugen Seitz AG	pce	1
69	Poppet valve cartridge, +24VDC	TYPE 2A67W; 24 VDC ; 22 W; Reference ART NO : 121.706.024J. ; Manufacturer: SEITZ (or equivalent)	TYPE 2A67W; 24 VDC ; 22 W; Reference ART NO : 121.706.024J. ; Manufacturer: (Cameron code 9010138)	Eugen Seitz AG	pce	1
70	Power supply input: 120/230 V AC output: 24 V DC/2.5 A	SITOP PSU100S 24 V/2.5 A stabilized power supply input: 120/230 V AC output: 24 V DC/2.5 A. Reference PN: 6EP1332-2BA20 (Siemens) or equivalent	6EP1332-2BA20	Siemens	pce	2
71	Communications processor, S7 communication	Communications processor CP 443-1 for connection of SIMATIC S7-400 to industrial Ethernet over ISO, TCP/IP and UDP, S7 communication. Reference PN: 6GK7443-1EX20-0XE0 (Siemens) or equivalent	6GK7443-1EX20-0XE0	Siemens	pce	1
72	Temperature Transmitter Programming Unit	Programming unit for WIKA transmitters, used for configuration, calibration and diagnostics of pressure and temperature transmitters. Reference PN: 14231581 (PU-584) (Wika) or equivalent.	PU-548	Wika	set	1
MUD PUMPS						
73	Interface module up to 8 modules	ConnectionIM 153-1 for ET 200M, max. 8 S7-300 modules. Reference PN: 6ES7 153-1AA03-0XB0 (Siemens) or equivalent.	6ES7 153-1AA03-0XB0	Siemens	pce	2
74	Pressure Transmitter range 0-17 bar ; 4-20mA ; 9-28 Vdc; -20 to +80oC; Exd IIC T6 ; 2 meter cable	Range 0-17bar ±0.2% FS BSL. 25mm ss316L male conduit. Electrical connector: M20 male conduit with 2m Polyurethane cable 4-20mA 2-wire. -20 to 80°C. Calibration: Zero/ Span. IECEX/ATEX IIIC. Reference PN: PTX5852 TB A1 CA H4, 0-17bar (Druck) or equivalent.	PTX5852 TB A1 CA H4	DRUCK	pce	1
IRON ROUGHNECK						
75	Pressure transmitter 0-400bar, , 4-20 ma (2 wire cable); -25 to +80oC Exd IIC T6, 2 meter cable	Range 0-400bar ±0.2% FS BSL. 25mm ss316L male conduit. Electrical connector: M20 male conduit with 2m Polyurethane cable 4-20mA 2-wire. -20 to 80°C. Calibration: Zero/ Span. IECEX/ATEX IIIC. Reference PN: PTX5852 TB A1 CA H4, 0-400bar (Druck) or equivalent.	PTX5852 TB A1 CA H4 (0-400bar)	DRUCK	pce	1
BOP CONTROL PANEL						
76	Analog output module, isolated, 4 AO; 0/4 to 20 mA, 20-pole	SIMATIC S7, analog output SM 332, isolated, 4 AO; 0/4 to 20 mA, 20-pole, for signals from the hazardous area. Reference PN: 6ES7 332-5RD00-0AB0 (Siemens) or equivalent	6ES7 332-5RD00-0AB0	Siemens	pce	1
JACKING SYSTEM						
77	Three-phase current unbalance & overcurrent monitor relay	Three-phase current monitoring relay, 120VAC supply, 1–5A adjustable (via CT), overcurrent & unbalance protection, SPDT 10A @240VAC, adjustable delay 0.1–1s, panel mount. Reference PN: CLB-120-ALE-5 (Diversified Electronics) or equivalent	CLB-120-ALE-5	DIVERSIFIED ELECTRONICS	pce	1

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	DVT	Số lượng
78	Flex digital input module	Digital input module, 16 channels, 24VDC sink/source inputs, compatible with FLEX I/O system, DIN rail mount. Reference PN: 1794-IB16 (Allen-Bradley) or equivalent.	1794-1816	Allen - Bradley	pce	1
79	Operator interface terminal (HMI) Panel view plus 6 color display	Operator interface terminal, 6.5-inch color display, touchscreen, 24VDC supply, Ethernet communication, compatible with PanelView Plus system, panel mount. Reference PN: 2711P-TM20D ser C (Allen-Bradley) or equivalent	2711P-TM20D ser C	Allen - Bradley	pce	1
80	Power supply module, 120/240VAC input, 24VDC output	Power supply module, 120/240VAC input, 24VDC output, DIN rail mount, for industrial control systems. Reference PN: 96422273 (Allen-Bradley) or equivalent	96422273	Allen - Bradley	pce	1
81	Absolute optical inclinometer	Single-axis absolute optical inclinometer, 360° measurement range, 12-bit resolution (programmable up to 4096 CPR), interface: SEI (Serial Encoder Interface), Damping: Double, supply 7.5–16VDC, programmable parameters (zero, resolution), compact industrial design. Reference PN: A2T-S-D-D (US Digital) or equivalent	A2T-S-D-D Firmware 3.14 ; Ser no. 53380	US Digital	pce	1
82	SEI to RS-232 interface adapter	SEI to RS-232 interface adapter, supports connection of 1–15 SEI devices via 6-wire bus (up to 300 m), RS-232 (DB9) interface to host, differential data and busy signal pairs, supply 8–16VDC (via external power supply), operating temperature 0–70°C. Reference PN: AD2B (US Digital) or equivalent	AD2B	US Digital	pce	1
83	CompactLogix controller	CompactLogix PLC controller with integrated EtherNet/IP port, user memory ~750 KB, supporting 1769 Compact I/O modules, 24 VDC supply. Reference PN: 1769-L32E (Allen-Bradley) or equivalent	1769-L32E	Allen - Bradley	pce	1
84	Power supply module 120/240 VAC Input 2 Amp @ 5 VDC Output	Compact I/O power supply module, input 120/240 VAC, providing 5 VDC/2.0 A and 24 VDC/0.8 A for 1769 CompactLogix system. Reference PN: 1769-PA2 (Allen-Bradley) or equivalent	1769-PA2	Allen - Bradley	pce	1
85	Right end cap module for 1769 Compact I/O system	Right end cap module for 1769 Compact I/O system. Reference PN: 1769-ECR (Allen-Bradley) or equivalent.	1769-ECR	Allen - Bradley	pce	1
MOORING WINCH						
86	High-speed counter module, 2-channel	High-speed counter module, 2 channels, supporting encoder input (up/down and phase A/B), max frequency up to 500 kHz, for Omron CJ1 PLC system. Reference PN: CJ1W-CT022 (Omron) or equivalent	CJ1W-CT022	OMRON	pce	1
87	Digital input module, 32 channels, 24 VDC	Digital input module, 32 channels, 24 VDC, for Omron CJ1 PLC system. Reference PN: CJ1W-ID231 (Omron) or equivalent	CJ1W-ID231	OMRON	pce	1
88	Analog output module, 2 channels	Analog output module, 2 channels, supporting 0–10 V and 4–20 mA signals, for Omron CJ1 PLC system. Reference PN: CJ1W-DA021 (Omron) or equivalent	CJ1W-DA021	OMRON	pce	1
89	Female connector M12	Circular Connector M12, Female, Straight, 3 Position, D code. 250V 4A IP67. Reference PN: T4110502031-000 (TE Connectivity) or equivalent	T4110502031-000	TE Connectivity	pce	10
CRANE				ITALGRU		
90	Bridge signal converter for strain gauge/load cell	Measuring bridge converter, Input : Resistance measuring bridge, Bridge sensitivity 1.0mV/V to 5.0mV/V, Bridge supply voltage: 5V or 10V , Output : 0(4)-20mA, 0-10V, Supply voltage 10...60 VDC. Galvanic 3-way isolation, Mounting rail TS 35. Reference PN: 1067250000 (Weidmüller) or equivalent	ACT20P BRIDGE 1067250000	Weidmueller	pce	2
MONITORING ALARM SYSTEM				MARSHAL		
91	Power Supply unit 24VDC, 20 A	Enclosed switching power supply, input 85–264 VAC, output 24 VDC / 20 A, 480 W, with active PFC and full protections. Reference PN: SP-480-24 (Mean Well) or equivalent	SP-480-24	MEAN WELL	pce	1

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
92	Industrial HMI touch panel, 15-inch	Industrial HMI touch panel, 15-inch TFT color LCD, resolution 1024×768, 24 VDC supply, supporting Ethernet and serial communication. Reference PN: AGP3750-T1-D24 (Pro-face) or equivalent	3280024-02 AGP3750-T1-D24	Omron	pce	1
93	Ultrasonic Wind Sensor	Two-axis ultrasonic wind sensor c/w 30m communication cable, Wind speed range: 0–75 m/s, Wind direction: 0–359.9°, Air temperature range: -40 to +70 °C, Relative humidity range: 0–100 %RH, Power supply: 12–30 VDC, Serial communication: RS232, RS485 and RS422, Protection class: IP66, Housing with ASA body, aluminum and AISI 316 stainless steel parts. Reference PN: HD51.3D17 (Senseca) or equivalent.	HD51.3D17	Senseca	set	1
TANK GAUGING SYSTEM				MARSHAL		
94	SCADA Workstation	Intel Core i5 processor, 16 GB RAM, 512 GB SSD, pre-installed Windows 11, including 27-inch monitor. Reference model: Dell OptiPlex Tower 7020-M7020-14500-08512W or equivalent	Intel Core i5 processor, 16 GB RAM, 512 GB SSD, pre-installed Windows 11, including 27-inch monitor. Reference model: Dell OptiPlex Tower 7020-M7020-14500-08512W or equivalent	Dell	set	1
UV Sterilizer				UEBERALL		
95	Quartz jacket for UV Sterilizer UltraBord 300-1	Quartz jacket, closed at one end, high-purity UV-transmitting quartz sleeve for UV sterilizer system, suitable for Ueberall UV unit, Ref. P/N 6113L or equivalent	6113L	UEBERALL	pce	1
WATER TIGHT DOOR SYSTEM				MARSHAL		
96	Inductive proximity sensor, M30, 12 mm	Proximity Sensor M30, SS316, Sensing distance: 12 mm, DC 2-wire, Power supply voltage: 12-24Vdc, No polarity, NO, Pre-wired model, 2 m, IP67. Reference PN: E2EH-X12D1-T2M (Omron) or equivalent	E2EH-X12D1-T2M	Omron	pce	3
CENTRIFUGE				ANFA LAVAL		
97	Inductive proximity sensor, M18, NAMUR output, 5 mm	Inductive proximity sensor, M18 threaded, NAMUR output (2-wire, NC), sensing distance 5 mm, stainless steel housing, IP67, suitable for hazardous area (ATEX/IECEx), SIL2. C/w connector cable length 3m. Reference PN: NJ5-18GM-N-V1 (Pepperl+Fuchs) or equivalent	NJ5-18GM-N-V1	PEPPERL+FUCHS	pce	1
98	HMI Operator Panel	HMI operator panel 15", TFT-LCD touchscreen, Resolution: 1280 × 800 pixels, Power supply: 24 VDC, Dual Ethernet ports, Dual serial communication ports, Front protection: IP66, Operating temperature: -30 °C to +70 °C. Reference PN: IX T15BR (Beijer) or equivalent.	IX T15BR	Beijer	pce	1
99	Variable Frequency Drive (VFD), 37 kW, 380–500 VAC	Industrial single drive, wall-mounted, Frame R5, Input voltage: 3-phase 380–500 VAC (±10%), Nominal current: 65 A, Heavy-duty rating: 52 A, 30 kW, Light-overload rating: 65 A, 37 kW, Direct Torque Control (DTC), Protection class: IP21, Built-in Safe Torque Off (STO), Dimensions (H × W × D): 730 × 203 × 274 mm. Reference PN: ACS880-01-065A-5 (ABB) or equivalent	ACS880-01-065A-5	ABB	pce	1

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
100	Variable Frequency Drive (VFD), 15 kW, 380–500 VAC	Industrial single drive, wall-mounted, Frame R3, Input voltage: 3-phase 380–500 VAC ($\pm 10\%$), Nominal current: 27 A, Heavy-duty rating: 21 A, 11 kW, Light-overload rating: 27 A, 15 kW, Direct Torque Control (DTC), Protection class: IP21, Built-in Safe Torque Off (STO), Built-in braking chopper, Dimensions (H \times W \times D): 475 \times 173 \times 261 mm. Reference PN: ACS880-01-027A-5 (ABB) or equivalent	ACS880-01-027A-5	ABB	pce	1
	WASHER			Maxiwash		
101	Double Inlet Valve 2 way	2-way inlet valve for commercial washing machine 220/240Vac 50/60Hz. Reference PN: SPPRI340020035 (Alliance) or equivalent Van nước máy giặt, 2 ngã 220/240VAC-50/60Hz. Mã tham khảo: SPPRI340020035, nhà sản xuất: Alliance (hoặc tương đương)	SPPRI340020035	ALLIANCE	pce	2
	GIẢN TỰ NẮNG TAM ĐẠO 05					
	VFD SYSTEM ACS 800 ABB		ACS 800 ABB	NOV		
102	IGBT Module Kit for VFD ABB	IGBT Module Kit for VFD ABB ACS800. Reference PN: 3XAD50000951666 (ABB) or equivalent	3XAD50000951666	ABB	Pce	1
103	Temperature signal transmitter module - 4-20mA output, PT100/K thermocouple	Temperature signal transmitter, accepting RTD (Pt100) or thermocouple input, 4–20 mA output, Supply voltage: 12–40VDC. Refrence PN: GB-100 (Gongbei) or equivalent.	GB-T100	GONGBEI	Pce	2
104	Analog signal isolator and converter, 1 input / 1 output	Analog signal isolator/converter, 1 input 1 output, supporting 4–20 mA / 0–10 V signals, with 3-way galvanic isolation, DIN rail mounting. Supply Voltage: DC24V. Reference PN: GLT-B (SUXUN) or equivalent	GLT-B	SUXUN	Pce	2
	DRAWWORKS ADS-10T - INSTRUMENT		ADS-10T	NOV		
105	Compression cell, Triple bridge 100.000lbs 4-20mA	Capacity 100.000 Lbs compression. Overload 150% capacity without damage, 300% without structural failure. Sensing element: 3 full bridge 10.000 Ω strain gages with independent signal conditioners. Output: 4-20mA, loop powered. Excitation: 8-28Vdc. 17-4PH stainless steel. Electrical connections: 100 foot marine/shipboard armor jacketed cable with cable glands (1/2 npt). RFI protection. ATEX certified, Intrinsically safe for use in hazardous locations. Reference PN: CCE-100K-E551-01AN (MDTOTCO) or equivalent.	CCE-100K-E551-01AN	MD TOTCO	PCE	1
106	Control card PID MOD - Модуль управления	Rated Voltage: 24VDC, 2A Command Input signal: 4-20mA. Reference PN: 05-0070-0823, Manufacturer: Bartec (or equivalent)	05-0070-0823	BARTEC	Pce	1
107	Servo valve	Servo valve. Command: 5VDC, Nul: 0VDC. Rated Voltage: 24VDC, 2A. Reference PN: 03-5110-0032, Manufacturer: Bartec (or equivalent)	03-5110-0032 (NOV P/n: 30154322)	Woodward or Equivalent	pce	1
108	RS485 repeater for PROFIBUS/MPI network	RS485 repeater for PROFIBUS/MPI network, max 12 Mbps, up to 31 nodes/segment, 24 VDC supply (20.4–28.8 V), protection IP20. Reference PN: 6ES7972-0AA02-0XA0 (Siemens) or equivalent.	6ES7972-0AA02-0XA0	SIEMENS	Pce	1
	CEMENTING UNIT C-TPM-S-540 - GOES			GOES		
109	Pressure control pilot valve	Pressure Control Pilot (PCP) Valve Type 3 ; 11000397 - Servo Arm. Standard manual override. Used on all electrical displacement control with a current range 4-20mA. MS connector 4 pins. Scale factor psid/mA: 6,2. Reference PN: MCV116A3501, Manufacturer: Danfoss (or equivalent)	MCV116A3501	Danfoss	Pce	1

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	DVT	Số lượng
110	Industrial LED numeric display	Industrial LED numeric display, 5-digit 7-segment LED display, digit height 100 mm, communication interface RS232 RS485 PROFIBUS DP, protection IP65, enclosure powder-coated steel, front PMMA anti-glare, operating temperature -30...+40°C. Reference PN: NDI 100/5 W L65 (Elen) or equivalent	NDI 100/5 W L65	Elen	Pce	1
111	Coriolis mass flowmeter DN80 3"	Coriolis mass flowmeter DN80 3". Measuring tube material: Stainless steel. Process connection: Cl.150, 316L/1.4404, flange ANSI B16.5. Calibration 0,1%, 0,0005g/cc. Housing: remote, wall IP67 NEMA4X, HE + 20m cable, cable entry: gland M20. Power supply 20-55Vac/ 16-62Vdc. Display: 4 line + touch control. Output 4-20mA SIL Hart + frequency. Reference PN: 83F80-CAASAAA6ABAA (Endress+Hauser) or equivalent.	83F80-AFTSACACBAAJ	Promass	set	1
112	Hall effect speed sensor, dual channel	Dual-channel Hall effect speed sensor, M16x1 threaded body, 11-32 VDC, dual square wave output, open collector, 0-15 kHz, stainless steel, IP68. Reference PN: DSY120502SHW (Jaquet/ TE Connectivity) or equivalent	DSY120502SHW	Jaquet	Pce	2
113	Micro Memory Card, 512KB	Micro Memory Card for S7-300/C7/ET 200, 3, 3V Nflash, 512 KB. Reference PN: 6ES7953-8LJ31-0AA0 (Siemens) or equivalent	6ES7953-8LJ31-0AA0	SIEMENS	Pce	1
BOP HPU CONTROL SYSTEM			11359859-001	NOV		
114	ControlLogix controller	ControlLogix controller with 16 Mbytes Memory and 1 x Built-in USB 2.0 Programming/Download Port. Reference PN: 1756-L74/B, Manufacturer: Allen Bradley (or equivalent)	1756-L74/B	Allen Bradley	Pce	1
GENERAL UPS 30KVA				CHLORIDE		
115	Igbt trench transistor 600V 200A	IGBT trench transistor power module, 600 V, 200 A, suitable for industrial UPS inverter / rectifier. Reference PN: 5053300003 (Chloride) or equivalent	5053300003	Chloride	Pce	1
116	Igbt trench transistor 600V 300A	IGBT trench transistor power module, 600 V, 300 A, suitable for industrial UPS inverter / rectifier. Reference PN: 5053300004 (Chloride) or equivalent.	5053300004	Chloride	Pce	1
117	Exhaust fan Voltage: 230V 50/60Hz - Вытяжной вентилятор	oltage: 230V 50/60Hz Power: 64/80 Watsr Current: 0,29/0,35A Speed: 2550/2800 RPM 1.5µF; 450VDB M2E068-BF Size: 220X80MM Reference by Code: W2E200HK3801 (ebmpapst) or Equivalent	W2E200-HK38-01 or equal	Chloride	Pce	1
VMS				OMEGA		
118	Transducer amplifier for level sensor	MAS 2600 transducer amplifier. Reference PN: G022A901-V4 (Emerson) or equivalent.	PCB CARD G022A901-V4	EMERSON	Pce	1
ANCHOR MOORING WINCHS				EMS		
119	Soft starter 90Kw	Soft starter for 3-phase induction motor, rated operational current 162 A at 400 VAC, rated power 90 kW at 400 VAC, supply voltage 200-460 VAC, control voltage 230 VAC, integrated bypass contact system, screw terminals, suitable for industrial motor starting and stopping. Reference PN: 3RW4436-6BC4 (Siemens) or equivalent	3RW4436-6BC4	SIEMENS	Pce	1
WATER MARKER ORCA 70			ORCA70	ALFA LAVAL		
120	Electromagnetic flowmeter Inline version. DN80 3"	Electromagnetic flowmeter Inline version. DN80 3". (Qmax): 180 m³/h. Liner: PTFE, PFA. Power supply: 24Vdc. Output: 4-20mA, Hart, Pulse/freq./switch ouput. Display: 4 line, illum. Housing: compact. Electrical connection: M20. Process connection: PN40, carbon steel, Flang EN1092-1. Electrodes: alloy C22. IP66/67, type 4X enclosure. Reference PN: 5P1B80-2ED1/115 (Endress+Hauser) or equivalent.	5P1B80-2ED1/115	Endress+Hauser	set	1

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
	AIR COMPRESSORS INGERSOLL RAND. R110ie-W-145		R110 IE-W-145	INGERSOLL RAND		
121	Contactora 3P 370A 200kW 110-120V	Contactora 3P 370A 200kW. Auxiliary contacts 1NO+1NC. Coil 110-120Vac 50/60Hz. Reference PN: 1SFL607074R8411 (ABB) or equivalent.	1SFL607074R8411	ABB	Pce	1
122	Voltage transformer 2.5kVA 380~480V to 110~120V	Input Voltage 0/380/400/420/440/460/480V 50/60 Hz Output Voltage & Current 0/110/120V 0/110/120V (series or parallel) Dimensions ~ 192 L x 161 W x 185 H mm Reference PN: WV 2500 P7S8 (ETE) or equivalent.	WV 2500 P7S8	ETE	Pce	1
	CRANE ITALGRU TS 1200 EH		TS 1200 EH	ITALGRU		
123	Embedded PC with TwinCAT 3 and CANopen interface	CPU module, E-bus, Microsoft Windows Embedded Standard 2009 with CF card c/w TwinCAT 3 License T1200-0040 + TwinCAT3 runtime XAR. CANopen master interface, D-sub plug, 9-pin. Reference PN: CX5010-1120 + M510 (Beckhoff) or equivalent	CX5010-1120 + M510	BECKHOFF	Pce	1
	FIRE AND GAS SYSTEM			TYCO / OMEGA		
124	Infrared combustible gas detector CH4 0-100%LEL, 4-20mA	Infrared gas detector CH4 with signal converter 0-100% LEL, diffusion/suction type, NDIR detection method, 24 VDC, IP66/67, Ex db IIC T5/T6 Gb, 4-20 mA + HART/RS-485, SIL2. Reference PN: SD-3RI (Riken Keiki) or equivalent	SD-3RI	RIKEN KEIKI	PCE	3
125	Toxic gas detector H2S 0-100ppm, 4-20mA	Toxic gas detector H2S with signal converter, 0-100 Ppm diffusion type, electrochemical detection method, for H2S gas detection, 24 VDC, 4-20 mA + HART, Ex db IIC T6 Gb, IP65, ATEX/IECEx certified. Reference PN: SD-1EC (Type H) (Riken Keiki) or equivalent	SD-1GH(EX)	RIKEN KEIKI	PCE	2
126	XLM-MX 2-Loop MX Digital Expansion Card	Loop Expansion Module to expand the capability of the T2000C.I.E. two loop system to four, six or eight loops and replace the FIM loops in case of a failure on either a two or four loop system. Reference PN: 557.202.007, Manufacturer: Tyco (or equivalent)	557,202,007	TYCO	PCE	1
	WATERMIST SYSTEM					
127	Industrial Panel PC 12" include TwinCAT 3 license and Windows embedded	Industrial Panel PC with 12" touchscreen display, 24 VDC power supply, Ethernet/USB/DVI communication interfaces, Compact Flash card 2GB, 2048MB DDR2-Ram, TwinCAT 3 license and Windows embedded. Reference PN: CP6201-0001-0020, Manufacturer: Beckhoff Automation (or equivalent).	CP6201-0001-0020	BECKHOFF	PCE	1
	LIGHTING SYSTEM					
128	Waterproof Twin T8 Lighting Fixture 2x1.2m T8 Led tubes	Waterproof twin T8 lighting fixture, suitable for outdoor and industrial applications, complete with IP65 protection enclosure, designed for 2 x 1.2 m T8 LED tubes, surface or suspended mounting type. Reference PN: NWP212, Manufacturer: Nanoco (or equivalent)	NWP212	NANOCO	Set	50
	GALLEY EQUIPMENTS					
129	Cube Ice maker	Self-contained cube ice maker with stainless steel body, air-cooled system, built-in storage bin capacity 15 kg, ice production capacity up to 40 kg/24 h, cube ice size 28 x 28 x 32 mm, 230V 60 Hz power supply. Reference PN: IM-45CNS-25, Manufacturer: Hoshizaki (or equivalent)	IM-45CNE-25	Hoshizaki	Set	1

STT	Tên VTTB	Đặc tính kỹ thuật	Ký mã hiệu	Nhà sản xuất	ĐVT	Số lượng
130	Food Mixer	Bowl Capacity (qts) 30. Dough Capacity (lb) 45. 3 fixed mixing speeds (91/166/282 rpm), 2 HP motor. Hub Size #12 hub. Power supply: 220V 60Hz 1Ph, supplied with NEMA 5-20 6.5 ft power cord set. complete with dough hook, flat beater and wire whip. Reference PN: GEM130, Manufacturer: General (or equivalent).	GEM130	General	Set	1
	Decanter Centrifuges Type MDE-4566					
131	Variable Frequency Drive 380-480VAC, 45kW/37kW	VFD 45KW Input: 3 phases, 380-480VAC, 50/60Hz. Output: 3 phases, 0-480VAC, 0-400Hz. Overload Capacity: 150% for 60 sec. (HD), 120% for 60 sec. (ND). Standard I/O: Control inputs: 8 digital (sink/source), 3 analog. Control outputs: 4 digital, 2 analog (current/voltage). Motor type supported: Induction motor, Permanent magnet motor. Torque control: Standard. Cooling method: Air cooling / Coldplate. Protection class: IP00. Built-in motor thermal protection. Max. output frequency: 400Hz. Safety level: SIL2, Performance Level d (PL d). Refer to model: Yaskawa CIMR-AT4A0088AAA or equivalent	CIMR-AT4A0088AAA	YASKAWA	PCE	1
132	Variable Frequency Drive 380-480VAC, 18.5kW/15kW	VFD 15/18.5KW Input: 3 phases, 380-480VAC, 50/60Hz. Output: 3 phases, 0-480VAC, 0-400Hz. Overload Capacity: 150% for 60 sec. (HD), 120% for 60 sec. (ND). Rated output current: 31A (HD), 38A (ND). Applicable motor capacity: 15kW (HD), 18.5kW (ND). Standard I/O: Control inputs: 8 digital (sink/source), 3 analog. Control outputs: 4 digital, 2 analog (current/voltage). Motor type supported: Induction motor, Permanent magnet motor. Torque control: Standard. Cooling method: Air cooling / Coldplate. Protection class: IP20 / NEMA 1. Built-in motor thermal protection. Built-in braking transistor. Communication port: RS-422 / RS-485 (MEMOBUS / Modbus). Max. output frequency: 400Hz. Safety level: SIL2, Performance Level d (PL d). Refer to model: Yaskawa CIMR-AT4A0038FAA or equivalent	CIMR-AT4A0038FAA	YASKAWA	PCE	1