



LAMPIRAN - LAMPIRAN

1. *Lines Plan*
2. *General Arrangement*
3. *Propeller Arrangement*
4. *Starting Air System*
5. *Fuel Oil System*
6. *Lubricating Oil System*
7. *Cooling System*
8. *Bilge System*
9. *Ballast System*
10. *Fire Emergency System*
11. *Sanitary System*
12. *Cargo Tank System*
13. *Wiring*
14. *Engine Room Layout*
15. *Katalog*



A

B

C

D

E

F

A

B

C

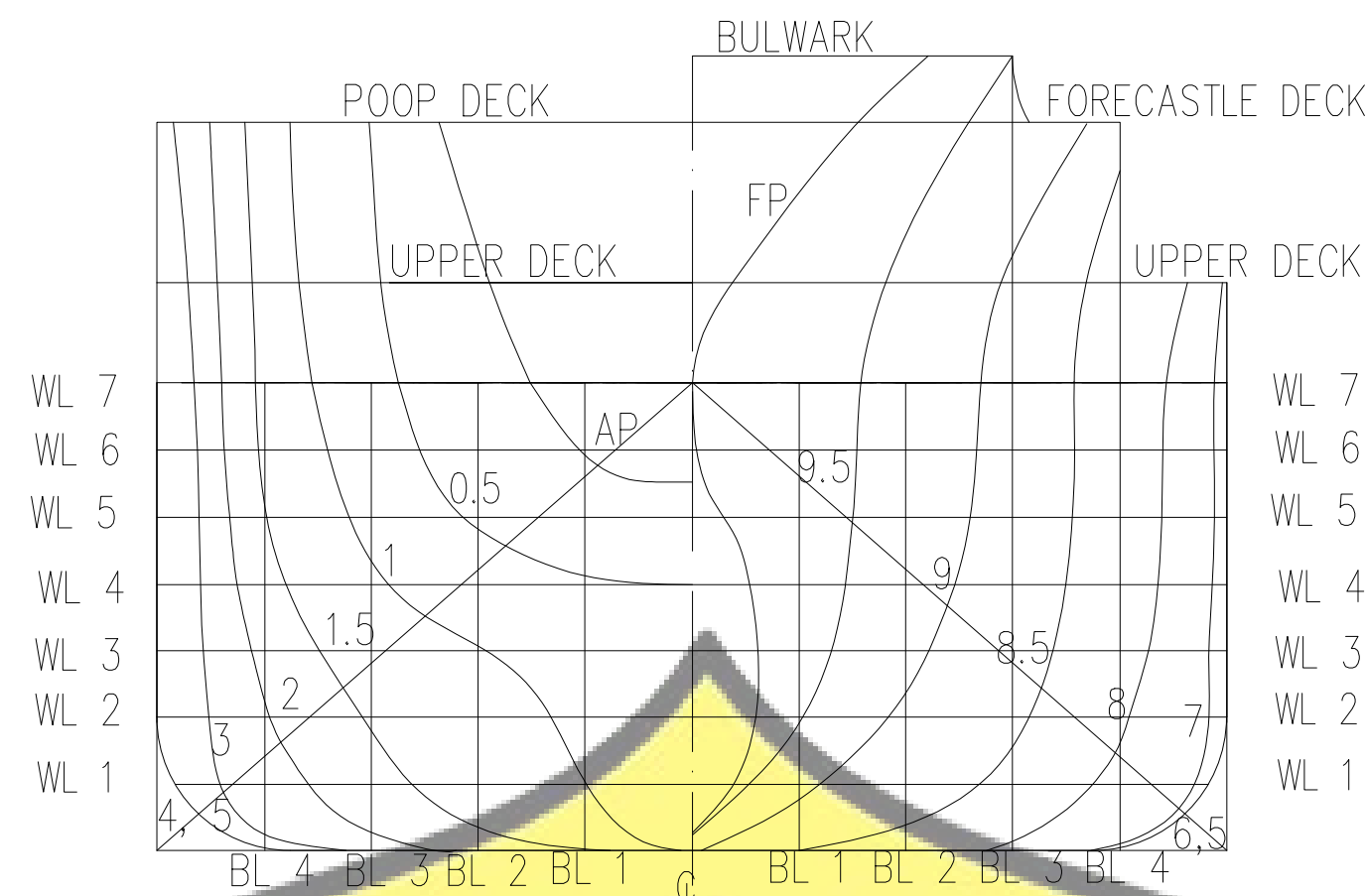
D

E

F

HALF BREADTH PLAN	STATION (mm)															
	AP	0.5	1	1.5	2	3	4	5	6	7	8	8.5	9	9.5	FP	
WL 0 (BASE LINE)	—	—	—	—	—	856	6399	6400	6400	5964	4421	160	133	14.4	—	
WL 1	—	—	—	365	2805	7018	7768	7768	7530	5999	4297	1913	836	627		
WL 2	—	—	—	1060	5714	7324	8000	8000	8000	7733	6550	5052	2939	1658	952	
WL 3	—	—	1717	4516	6435	7367	8000	8000	8000	7735	6550	5052	2939	1658	952	
WL 4	—	379	3338	5824	6230	7378	8000	8000	8000	7792	6977	5608	3941	2301	870	
WL 5	—	1220	4294	6327	6874	7402	8000	8000	8000	7877	7035	5704	4168	2291	131	
WL 6	198	3556	5024	6478	6943	7430	8000	8000	8000	7841	7035	5704	4168	2291	131	
WL 7	1940	4470	5673	6514	6972	7439	8000	8000	8000	7862	7100	5765	4315	1534	1267	
BL 1	1711	1711	1711	1711	1711	1711	1711	1711	1711	1711	1711	1711	1711	1711	1711	
BL 2	3200	3200	3200	3200	3200	3200	3200	3200	3200	3200	3200	3200	3200	3200	3200	
BL 3	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	
BL 4	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400	
UPPER DECK	6440	7407	7610	7883	8000	8000	8000	8000	8000	7936	7404	6220	4578	2905	780	
POOP DECK/F'CASTL DECK	7086	7764	7910	7992	8000	8000	8000	8000	8000	7936	7404	6220	6134	4587	2729	
BULWARK	—	—	—	—	—	—	—	—	8000	7936	7404	6220	6134	5675	3785	

BODY PLAN

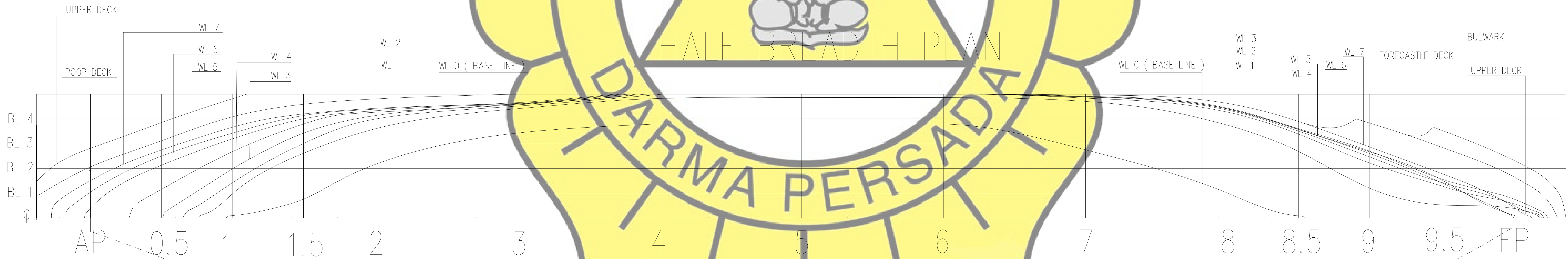


HIGHT ABOVE BASE LINE (mm)	STATION (mm)															
	AP	0.5	1	1.5	2	3	4	5	6	7	8	8.5	9	9.5	FP	
WL 0 (BASE LINE)	6000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5160
WL 1	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
WL 2	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
WL 3	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
WL 4	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
WL 5	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
WL 6	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
WL 7	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
BL 1	6802	5191	2962	2089	915	72	0	0	0	0	0	0	162	1908	—	
BL 2	7984	5747	3878	2465	1045	81	0	0	0	0	0	38	2364	—	—	
BL 3	—	7408	5527	3116	1423	146	0	0	0	0	148	1559	—	—	—	
BL 4	—	—	—	5363	2909	482	26	0	12	105	1603	—	—	—	—	
UPPER DECK	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500
POOP DECK/F'CASTL DECK	10900	10900	10900	—	—	—	—	—	—	—	—	—	—	—	—	—
BULWARK	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11900

SHEER PLAN



HALF BREADTH PLAN



PRICIPEL PARTICULARS

LENGTH OVER ALL (LOA)	: 99 M
LENGTH WATER LINE (LWL)	: 94 M
LENGTH BETWEEN PARTICULLAR (LBP)	: 92 M
BREADTH (B)	: 16 M
DRAFT (T)	: 7 M
HEIGHT	: 8.5 M
DWT	: 6300 T



TUGAS RENCANA GARIS
JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA
PERSADA

SEMESTER GENAP 2018/2019

LINES PLAN

DIKERJAKAN OLEH:
AOI ALOHIFARI
2016320004

PARAF

PEMBIMBING:
ALDYN CLINTON, S.T

PARAF

PEMERIKSA:
ALDYN CLINTON, S.T

PARAF

Skala

File

Drawing No.

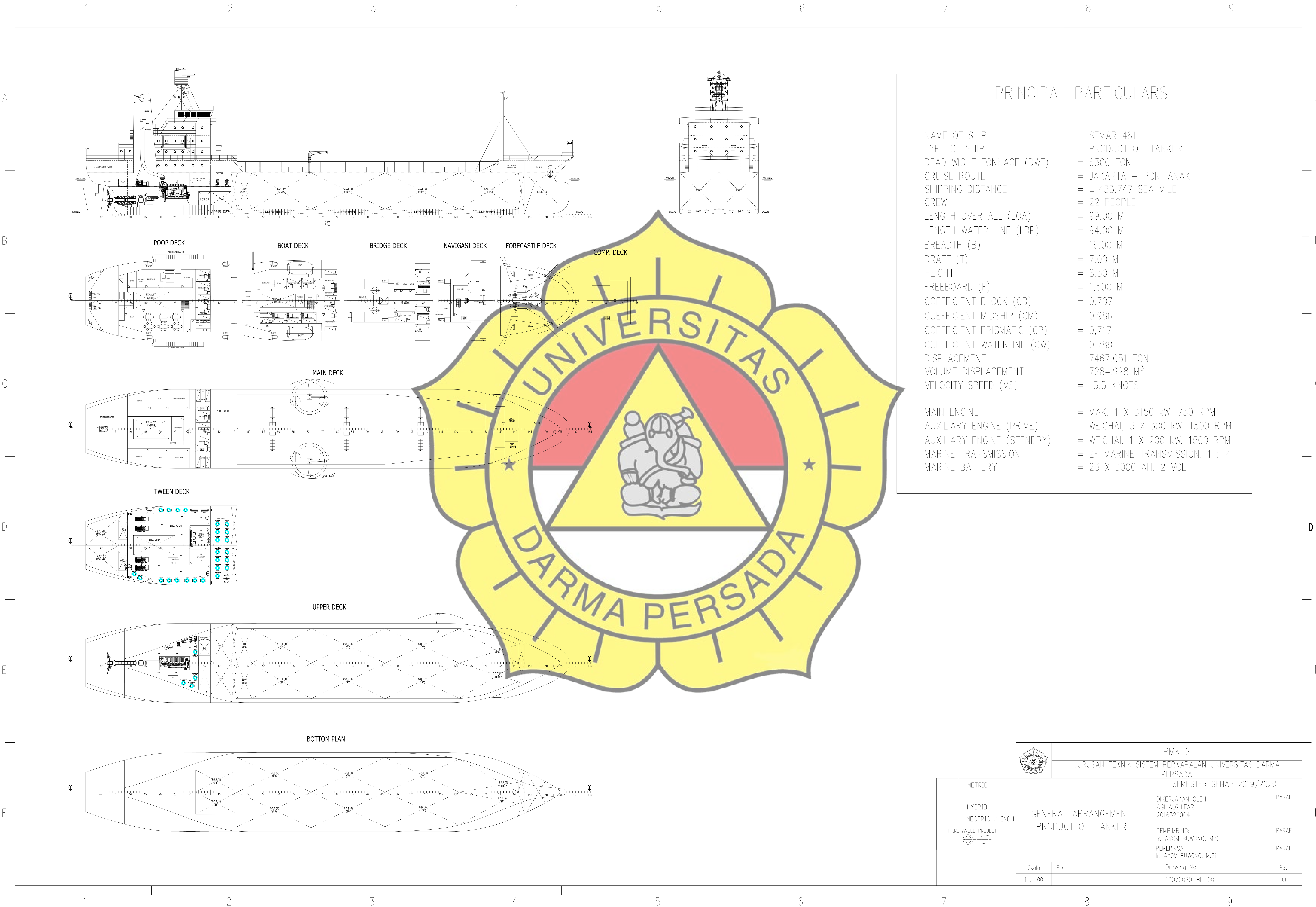
Rev.

1 : 100

—

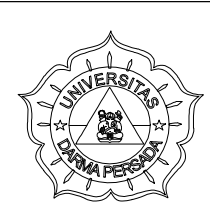
21012019-BL-00

01



PRINCIPAL PARTICULARS

NAME OF SHIP	= SEMAR 461
TYPE OF SHIP	= PRODUCT OIL TANKER
DEAD WIGHT TONNAGE (DWT)	= 6300 TON
CRUISE ROUTE	= JAKARTA – PONTIANAK
SHIPPING DISTANCE	= ± 433.747 SEA MILE
CREW	= 22 PEOPLE
LENGTH OVER ALL (LOA)	= 99.00 M
LENGTH WATER LINE (LBP)	= 94.00 M
BREADTH (B)	= 16.00 M
DRAFT (T)	= 7.00 M
HEIGHT	= 8.50 M
FREEBOARD (F)	= 1,500 M
COEFFICIENT BLOCK (CB)	= 0.707
COEFFICIENT MIDSHIP (CM)	= 0.986
COEFFICIENT PRISMATIC (CP)	= 0,717
COEFFICIENT WATERLINE (CW)	= 0.789
DISPLACEMENT	= 7467.051 TON
VOLUME DISPLACEMENT	= 7284.928 M ³
VELOCITY SPEED (VS)	= 13.5 KNOTS
MAIN ENGINE	= MAK, 1 X 3150 kW, 750 RPM
AUXILIARY ENGINE (PRIME)	= WEICHAI, 3 X 300 kW, 1500 RPM
AUXILIARY ENGINE (STENDBY)	= WEICHAI, 1 X 200 kW, 1500 RPM
MARINE TRANSMISSION	= ZF MARINE TRANSMISSION. 1 : 4
MARINE BATTERY	= 23 X 3000 AH, 2 VOLT



PMK 2
JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA
PERSADA

SEMESTER GENAP 2019/2020

GENERAL ARRANGEMENT
PRODUCT OIL TANKER

DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004	PARAF
PEMBIMBING: Ir. AYOM BUWONO, M.Si	PARAF
PEMERIKSA: Ir. AYOM BUWONO, M.Si	PARAF
Drawing No.	Rev.
10072020-BL-00	01

METRIC	
HYBRID METRIC / INCH	
THIRD ANGLE PROJECT	
Skala	File
1 : 100	-

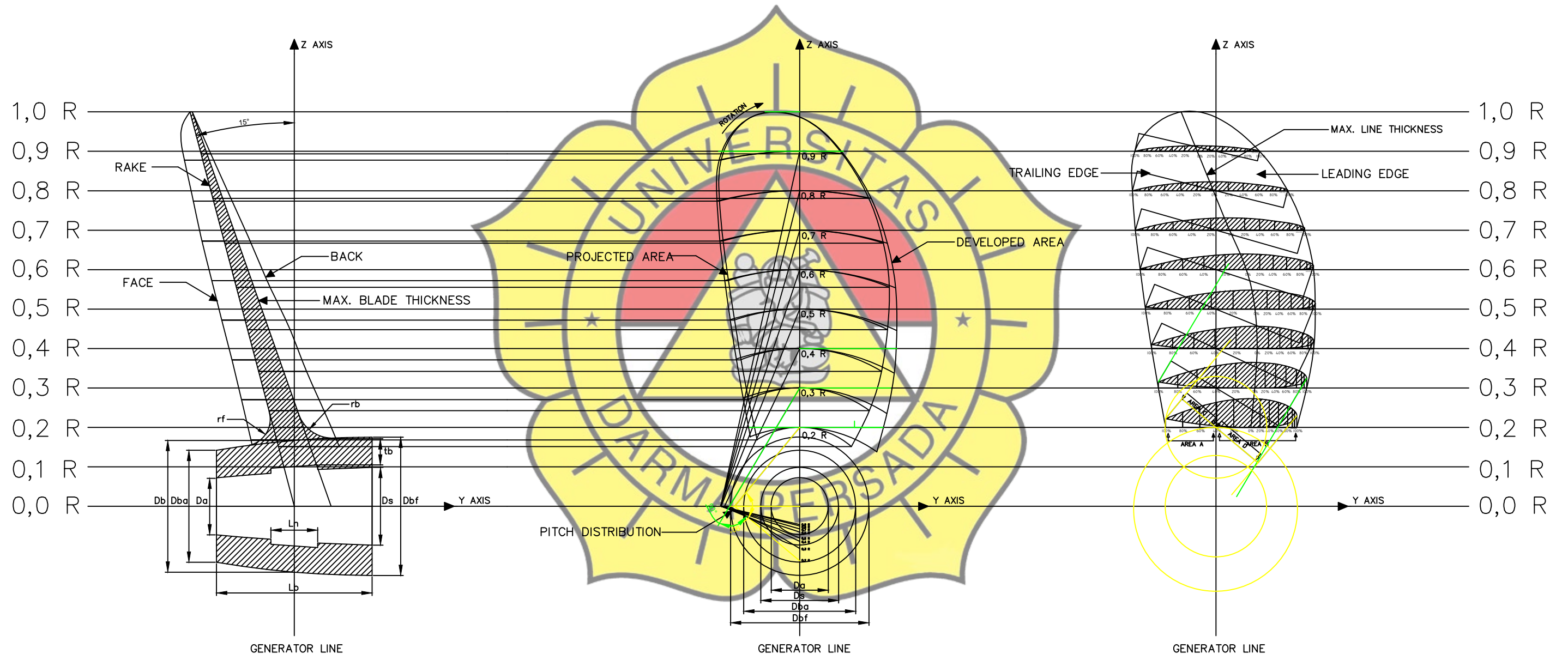
PROPELLER ARRANGEMENT

”B4-55 WAGENINGEN SERIES”

SIDE VIEW

PROJECTED & DEVELOPED

EXPANDED AREA



PRINCIPAL PARTICULARS

SHIP'S TYPE	: TANKER
LENGTH BETWEEN PERPENDICULARS (LPP)	92,00 M
MOULDED BREADTH (B)	: 16,00 M
MOULDED DEPTH (H)	: 8,50 M
DESIGNED DRAFT (T)	: 7,00 M
COEFFICIENT BLOCK (Cb)	: 0,707

PROPELLER PARTICULARS

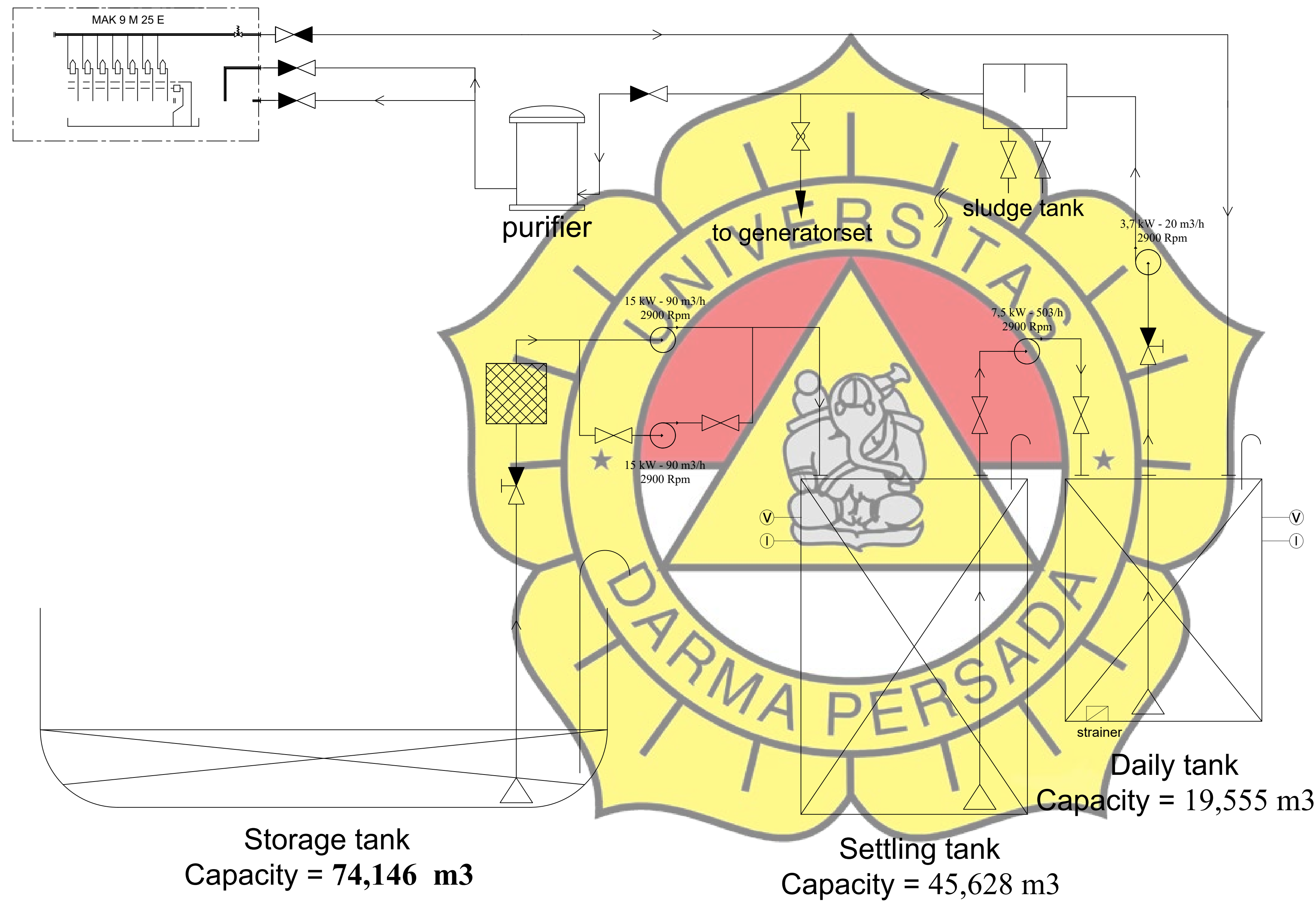
PROPELLER DIAMETER	: 4,157 M
PROP. EFFICIENCY (η_p)	: 0,55
PITCH RATIO (H_o/D)	: 0,6
TYPE OF PROPELLER	: B4-55
MATERIAL	: CAST NICKEL ALUMINIUM BRONZE

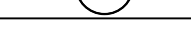


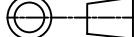
FAKULTAS TEKNOLOGI KELAUTAN
TEKNIK SISTEM PERKAPALAN

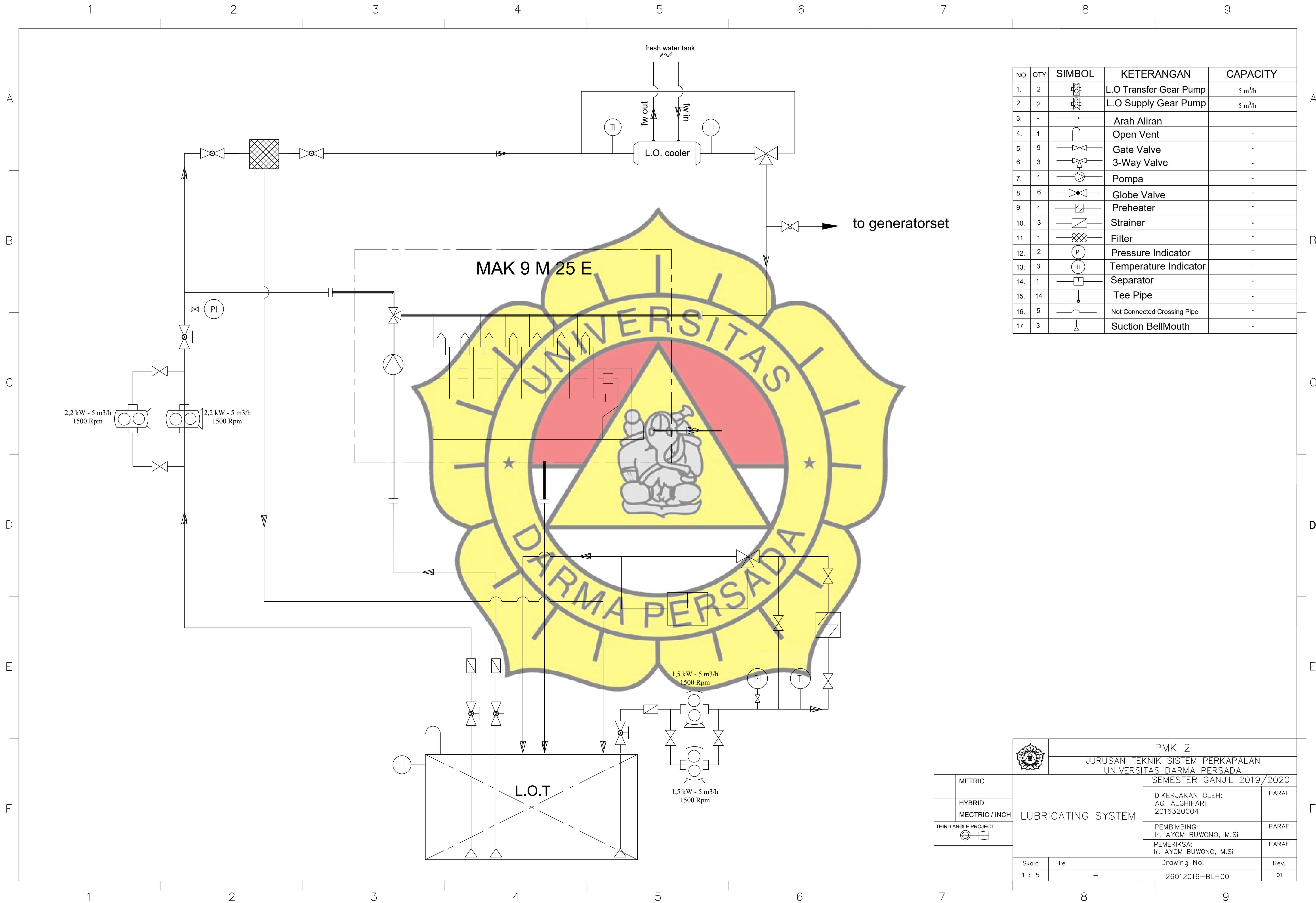
SCALE	1 : 5	DATE	SIGNATURE	INFO.
DRAWN	AGI ALGHIFARI			
N.I.M	2016320004			
CHECKED	Ir. DANNY FATURACHMAN			
APPROVED	Ir. DANNY FATURACHMAN			

PROPELLER ARRANGEMENT



NO.	QTY	SIMBOL	KETERANGAN	CAPACITY
1.	3		F.O Transfer Gear Pump	90 m ³ /h
2.	2		F.O Supply Gear Pump	20 m ³ /h
3.	-		Arah Aliran	-
4.	3		Open Vent	-
5.	6		Valve	-
6.	6		Non-Return Valve	-
7.	1		Strainer	-
8.	1		Filter	-
9.	1		Separator	-
10.	3		Tee Pipe	-
11.	1		Suction BellMouth	-
12.	2		Viscous Regulator	-
13.	2		Indicator	-

		PMK 2	
		JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA PERSADA	
METRIC	FUEL OIL SYSTEM	SEMESTER GANJIL 2019/2020	
HYBRID		DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004	PARAF
MECTRIC / INCH		PEMBIMBING: Ir. AYOM BUWONO, M.Si	PARAF
THIRD ANGLE PROJECT		PEMERIKSA: Ir. AYOM BUWONO, M.Si	PARAF
		Drawing No.	Rev.
1 : 5	—	24012019—RI—00	01

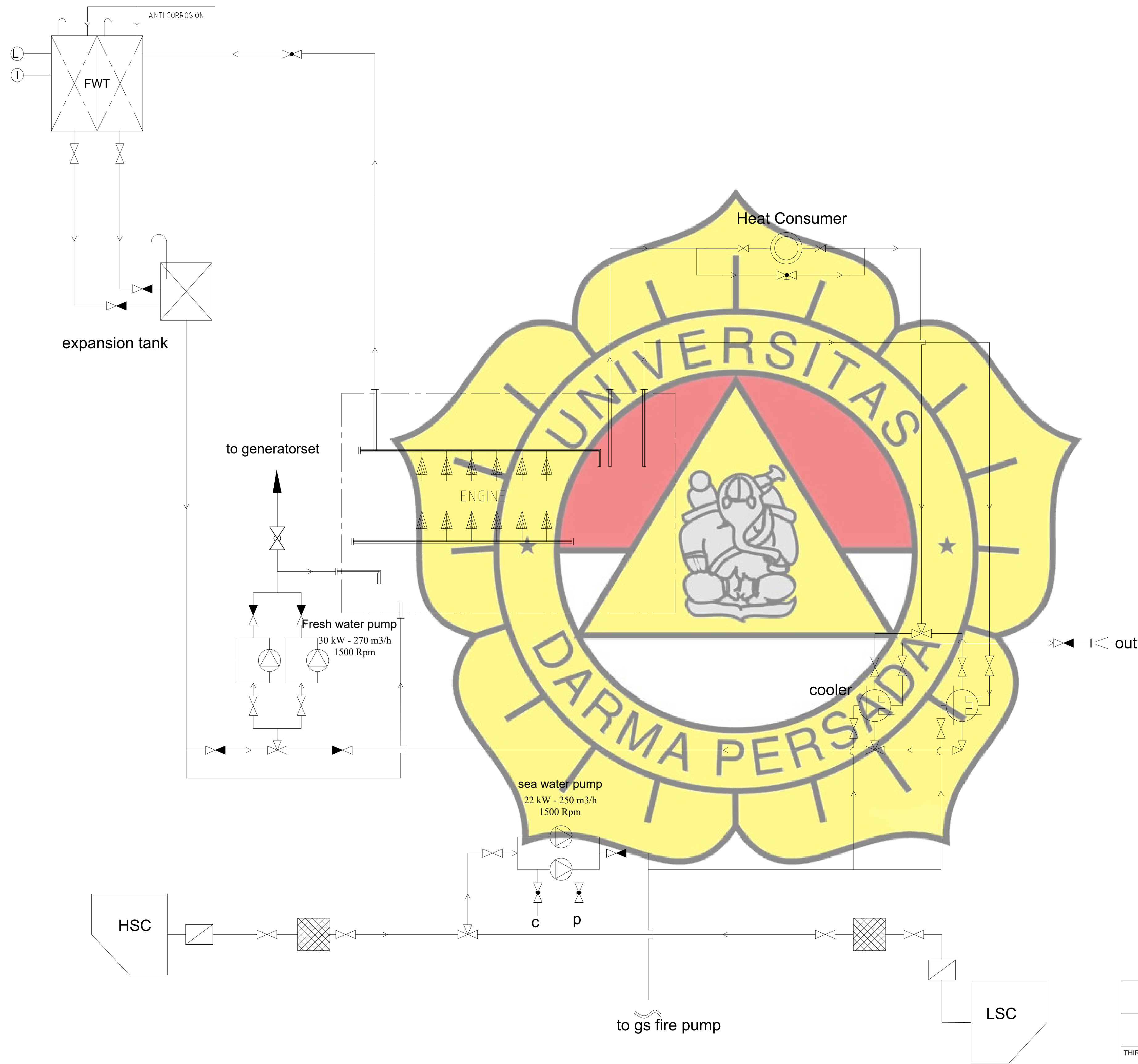


NO.	QTY	SIMBOL	KETERANGAN	CAPACITY
1.	2		L.O Transfer Gear Pump	5 m³/h
2.	2		L.O Supply Gear Pump	5 m³/h
3.	-		Arah Aliran	-
4.	1		Open Vent	-
5.	9		Gate Valve	-
6.	3		3-Way Valve	-
7.	1		Pompa	-
8.	6		Globe Valve	-
9.	1		Preheater	-
10.	3		Strainer	=
11.	1		Filter	-
12.	2		Pressure Indicator	-
13.	3		Temperature Indicator	-
14.	1		Separator	-
15.	14		Tee Pipe	-
16.	5		Not Connected Crossing Pipe	-
17.	3		Suction BellMouth	-

		PMK 2	
		JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA PERSADA	
LUBRICATING SYSTEM		SEMESTER GANJIL 2019/2020	
		DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004	PARAF
		PEMBIMBING: Ir. AYOM BUWONO, M.Si	PARAF
		PEMERIKSA: Ir. AYOM BUWONO, M.Si	PARAF
THIRD ANGLE PROJECT 		Drawing No.	Rev.
		26012019-BL-00	01

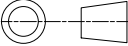
A
B
C
D
E
F

1 2 3 4 5 6 7 8 9



NO.	QTY	SIMBOL	KETERANGAN	CAPACITY
1.	1		Gear Pump	FW = 270 m³/h ; SW = 250 m³/h
2.	-		Arah Aliran	-
3.	2		Open Vent	-
4.	10		Gate Valve	-
5.	3		Non-Return Valve	-
6.	4		Change Over Valve	-
7.	4		Pompa	-
8.	2		Globe Valve	-
9.	1		Preheater	-
10.	1		Spring Gate Valve	-
11.	3		Strainer	-
12.	4		Filter	-
13.	1		Viscous Regulator	-
14.	1		Indicator	-
15.	1		Separator	-

A
B
C
D
E
F

		PERANCANGAN MESIN KAPAL			
		JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA PERSADA			
METRIC	COOLING SYSTEM (FW & SW)	SEMESTER GANJIL 2019/2020			
HYBRID METRIC / INCH		DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004	PARAF		
THIRD ANGLE PROJECT 		PEMBIMBING: Ir. AYOM BUWONO, M.Si	PARAF		
		PEMERIKSA: Ir. AYOM BUWONO, M.Si	PARAF		
		Skala	File	Drawing No.	Rev.
	1 : 5	—	42029704—SL—00	01	

1 2 3 4 5 6 7 8 9

A

B

C

D

E

F

A

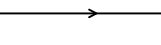
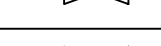
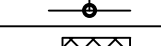
B

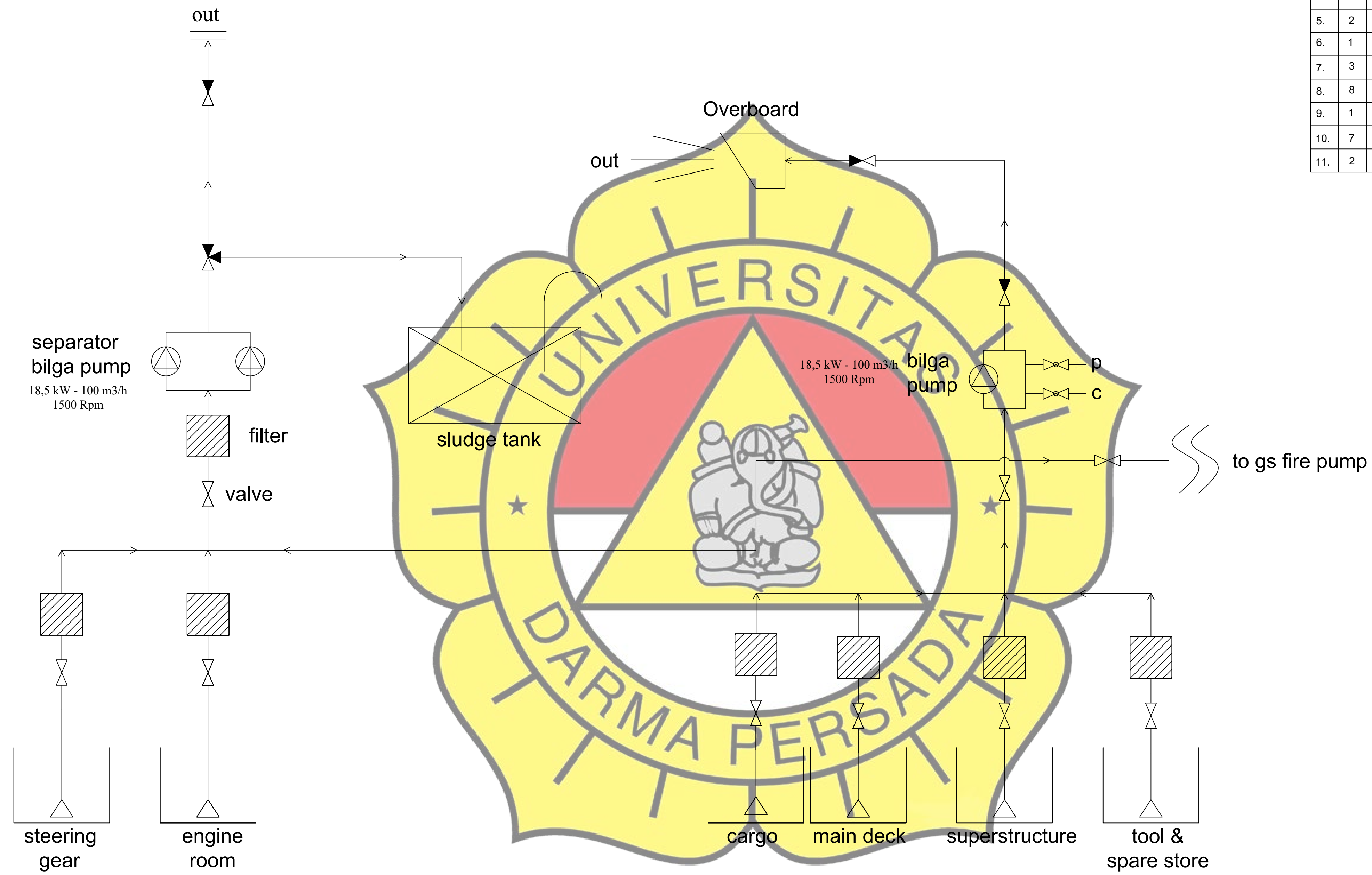
C

D

E

F

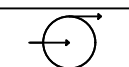
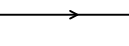
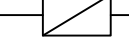
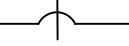
NO.	QTY	SIMBOL	KETERANGAN	CAPACITY
1.	4		Centrifugal Pump	100 m³/h
2.	-		Arah Aliran	-
3.	9		Gate Valve	-
4.	3		Non-Return Valve	-
5.	2		3-Way Valve	-
6.	1		Globe Valve	-
7.	3		Tee Pipe	-
8.	8		Filter	-
9.	1		Not Connected Crossing Pipe	-
10.	7		Suction BellMouth	-
11.	2		Open Vent	-



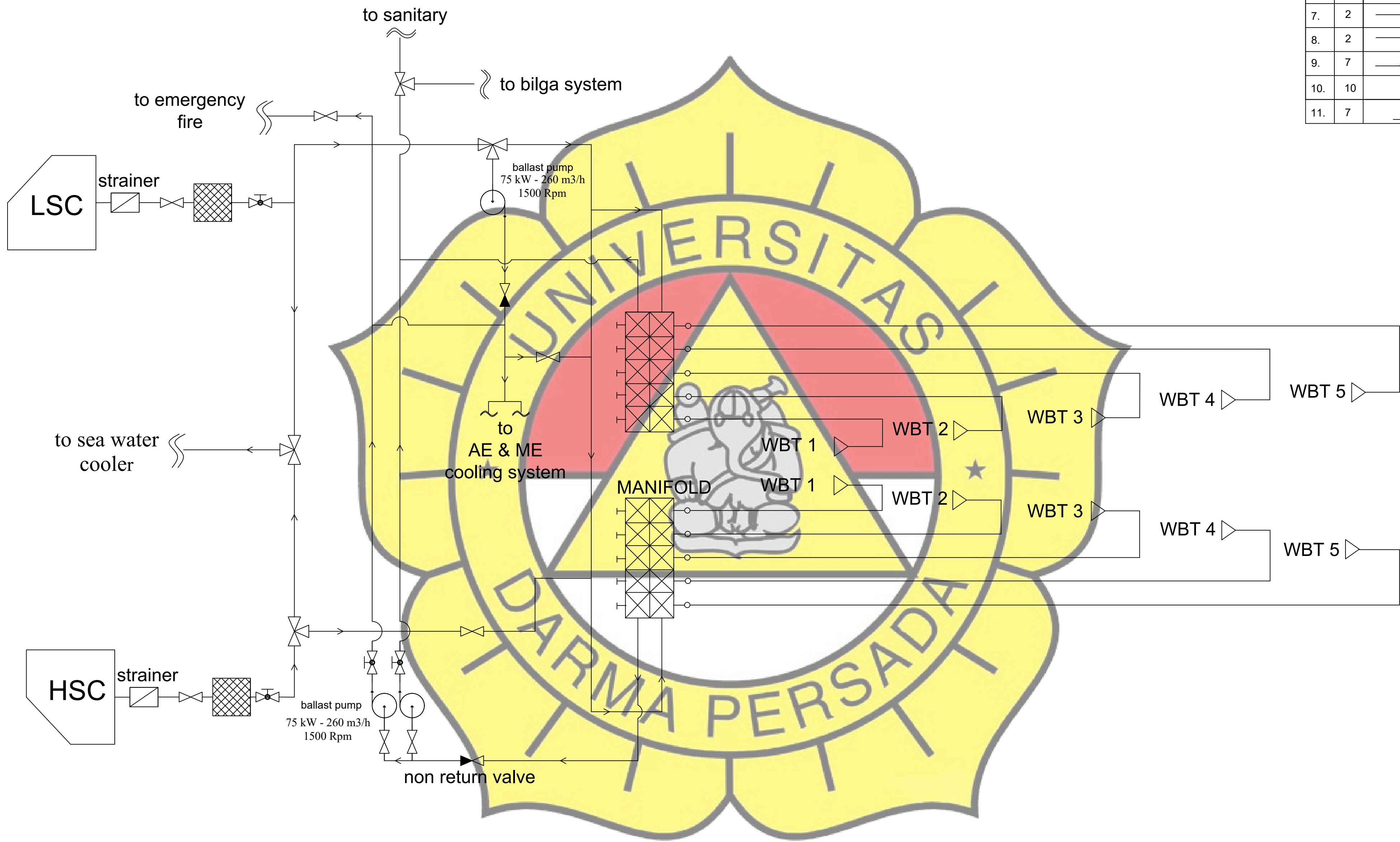
	PMK 2		
	JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA PERSADA		
	SEMESTER GANJIL 2019/2020		
	DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004		
BILGE SYSTEM	PEMBIMBING: Ir. AYOM BUWONO, M.Si		PARAF
	PEMERIKSA: Ir. AYOM BUWONO, M.Si		PARAF
	Drawing No.		Rev.
Skala	File	21012019-BL-00	01
1 : 5	-		

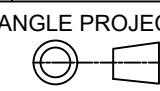
A
B
C
D
E
F

1 2 3 4 5 6 7 8 9

NO.	QTY	SIMBOL	KETERANGAN	CAPACITY
1.	3		Centrifugal Pump	260 m³/h
2.	-		Arah Aliran	-
3.	7		Gate Valve	-
4.	2		Non-Return Valve	-
5.	4		3-Way Valve	-
6.	4		Globe Valve	-
7.	2		Strainer	-
8.	2		Filter	-
9.	7		Not Connected Crossing Pipe	-
10.	10		Suction BellMouth	-
11.	7		Tee Pipe	-

A
B
C
D
E
F



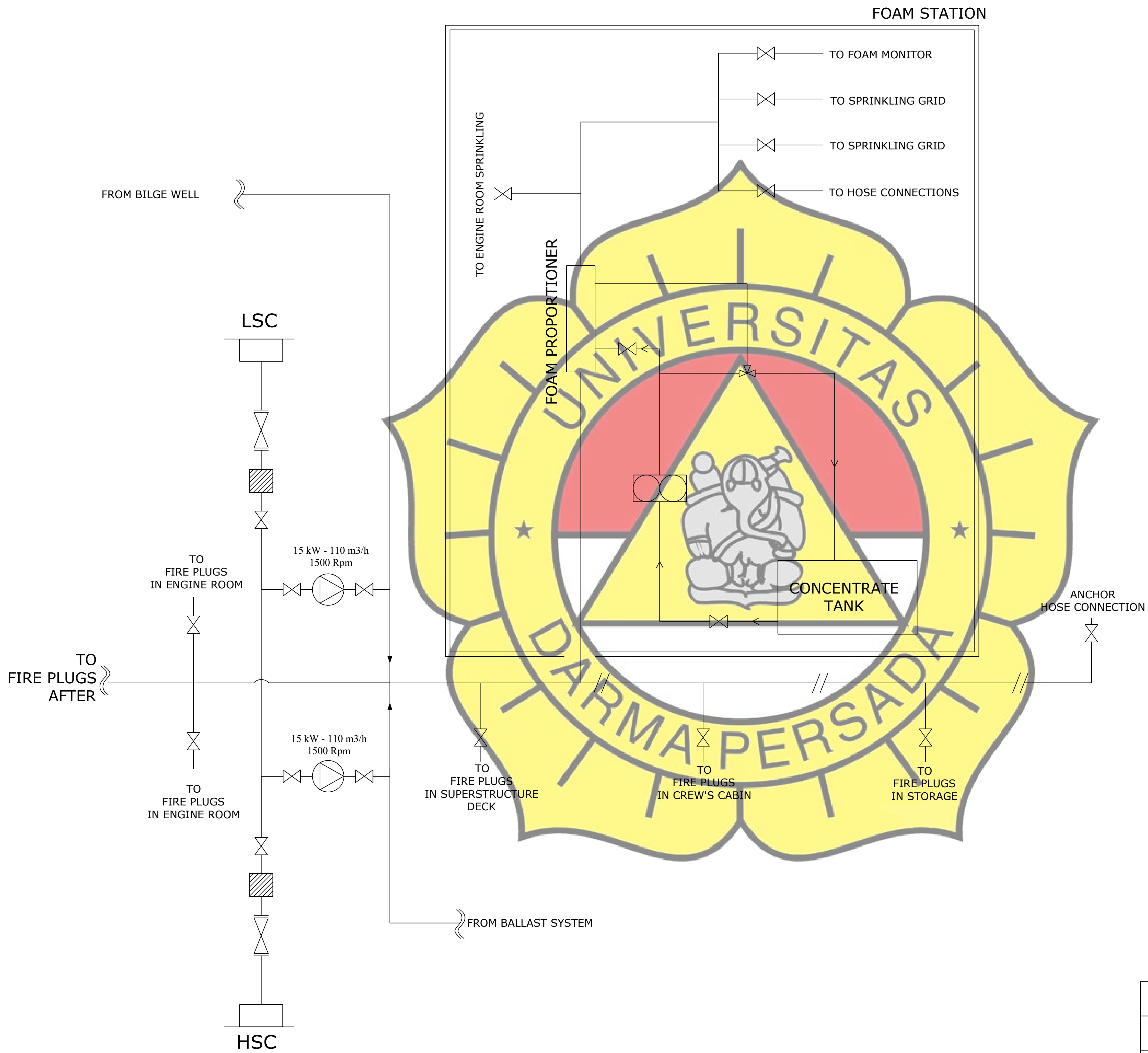
		PMK 2	
		JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA PERSADA	
	METRIC	BALLAST SYSTEM	SEMESTER GANJIL 2019/2020
	HYBRID		DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004
	MECTRIC / INCH		PEMBIMBING: Ir. AYOM BUWONO, M.Si
	THIRD ANGLE PROJECT		PEMERIKSA: Ir. AYOM BUWONO, M.Si
Skala		File	Drawing No.
1 : 5		-	20012019-BL-00
			PARAF
			Rev.
			01

1 2 3 4 5 6 7 8 9

F

A
B
C
D
E
F

1 2 3 4 5 6 7 8 9

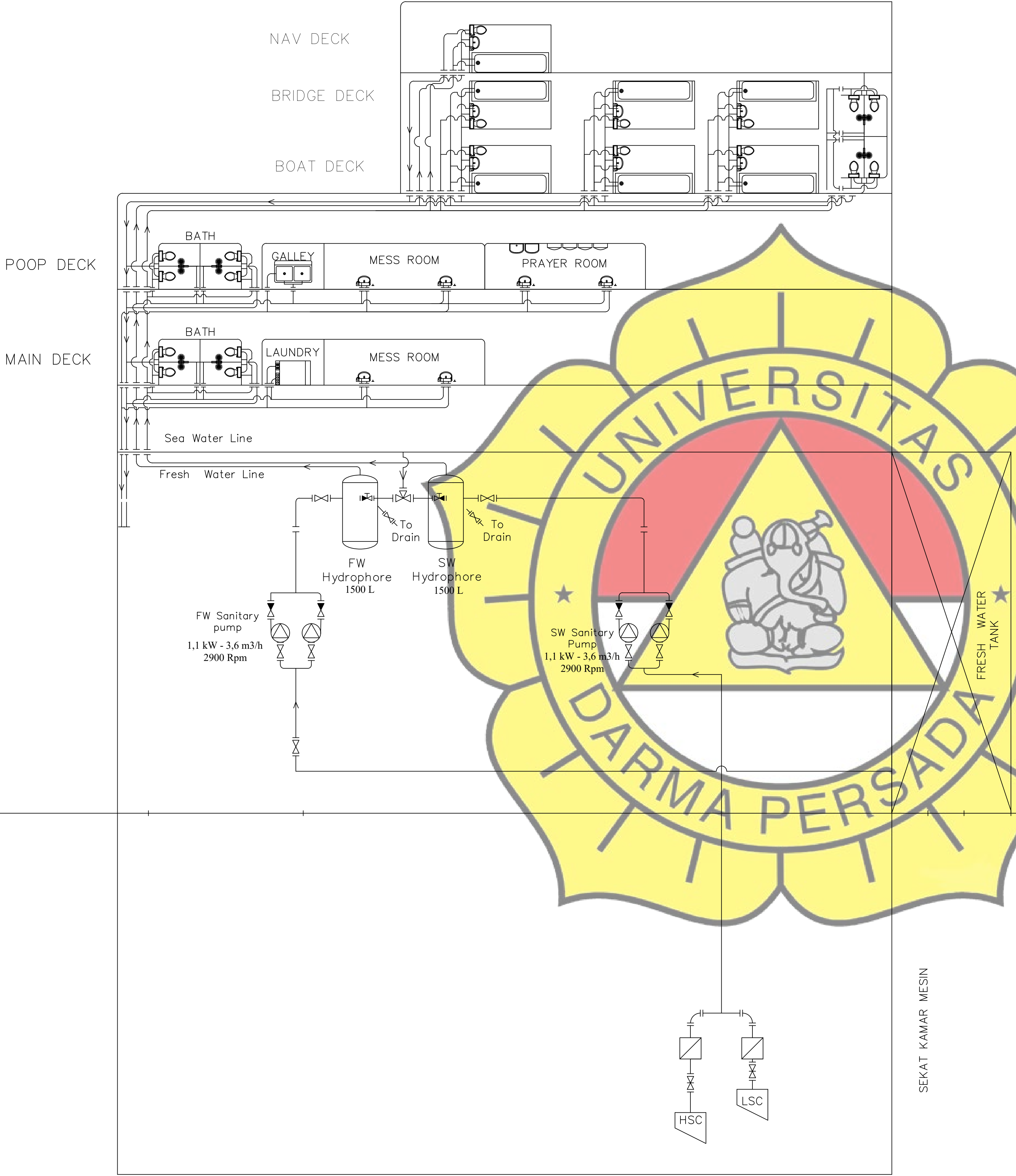


NO.	QTY	SIMBOL	KETERANGAN	CAPACITY
1.	4		Centrifugal Pump	110 m³/h
2.	-		Arah Aliran	-
3.	12		Gate Valve	-
4.	2		Non-Return Valve	-
5.	2		3-Way Valve	-
6.	10		4-Way Valve	-
7.	2		Strainer	-
8.	2		Filter	-
9.	1		Tee Pipe	-
10.	48		Sprinkler	-

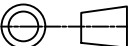
A
B
C
D
E
F

		PMK 2	
		JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA PERSADA	
 FIRE EMERGENCY SYSTEM		SEMESTER GANJIL 2019/2020	
		DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004	PARAF
		PEMBIMBING: Ir. AYOM BUWONO, M.Si	PARAF
		PEMERIKSA: Ir. AYOM BUWONO, M.Si	PARAF
Skala	File	Drawing No.	Rev.
1 : 5	—	30012019—BL—00	01

1 2 3 4 5 6 7 8 9



NO.	QTY	SIMBOL	KETERANGAN	CAPACITY
1.	1		Gear Pump	3,6 m³/jam
2.	-		Arah Aliran	-
3.	2		Open Vent	-
4.	10		Gate Valve	-
5.	3		Non-Return Valve	-
6.	4		Change Over Valve	-
7.	4		Pompa	-
8.	2		Globe Valve	-
9.	1		Preheater	-
10.	1		Spring Gate Valve	-
11.	3		Strainer	-
12.	4		Filter	-
13.	1		Viscous Regulator	-
14.	1		Indicator	-
15.	1		Separator	-
15.	1		2 Way Flow Direction	-
15.	1		Not Connected Crossing Pipe	-
15.	6		Suction BellMouth	-

		PMK 2				
		JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA PERSADA				
	METRIC	SANITARY SYSTEM		SEMESTER GANJIL 2019/2020		
	HYBRID METRIC / INCH			DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004		PARAF
THIRD ANGLE PROJECT 				PEMBIMBING: Ir. AYOM BUWONO, M.Si		PARAF
				PEMERIKSA: Ir. AYOM BUWONO, M.Si		PARAF
				Skala	File	Drawing No.
		1 : 5	—	42029704—SL—00	01	

A

B

C

D

E

F

A

B

C

D

E

F

DOUBLE BOTTOM



SYMBOL	DESCRIPTION
	THREE WAY COCK
	GATE VALVE
	NON RETURN VALVE
	BUTTERFLY VALVE
	ELBOW 90° WITH WELDED
	ELBOW 90° WITH FLANGE
	BULKHEAD CROSSING
	CROSSING PIPE NOT CONNECTED
	TEE CONECTION WITH FLANGE
	ELBOW 90° AIM VIEW
	ELBOW 90° AVOID VIEW
	FILTER
	STRAINER
	FLEXIBLE CONECTION
	FLEXIBLE CONECTION

CT.12.4	STRIPING CARGO PUMP	75 KW	262 m³/h
CT.12.3	STRIPING CARGO PUMP	75 KW	262 m³/h
CT.12.2	MAIN CARGO PUMP	75KW	849,6m³/h
CT.12.1	MAIN CARGO PUMP	75KW	849,6m³/h
ID	EQUIPMENT	Power	CAPACITY

		PMK 2	
		JURUSAN TEKNIK SISTEM PERKAPALAN	
		FTK-UNSADA	
CARGO TANK SYSTEM		SEMESTER GANJIL 2019/2020	
		DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004	PARAF
		PEMBIMBING: Ir. AYOM BUWONO, M.Si	PARAF
		PEMERIKSA: Ir. AYOM BUWONO, M.Si	PARAF
Skala	File	Drawing No.	Rev.
N/A	-	42029704-SL-00	05

A

B

C

D

E

F

1

2

3

4

5

6

7

8

9

A

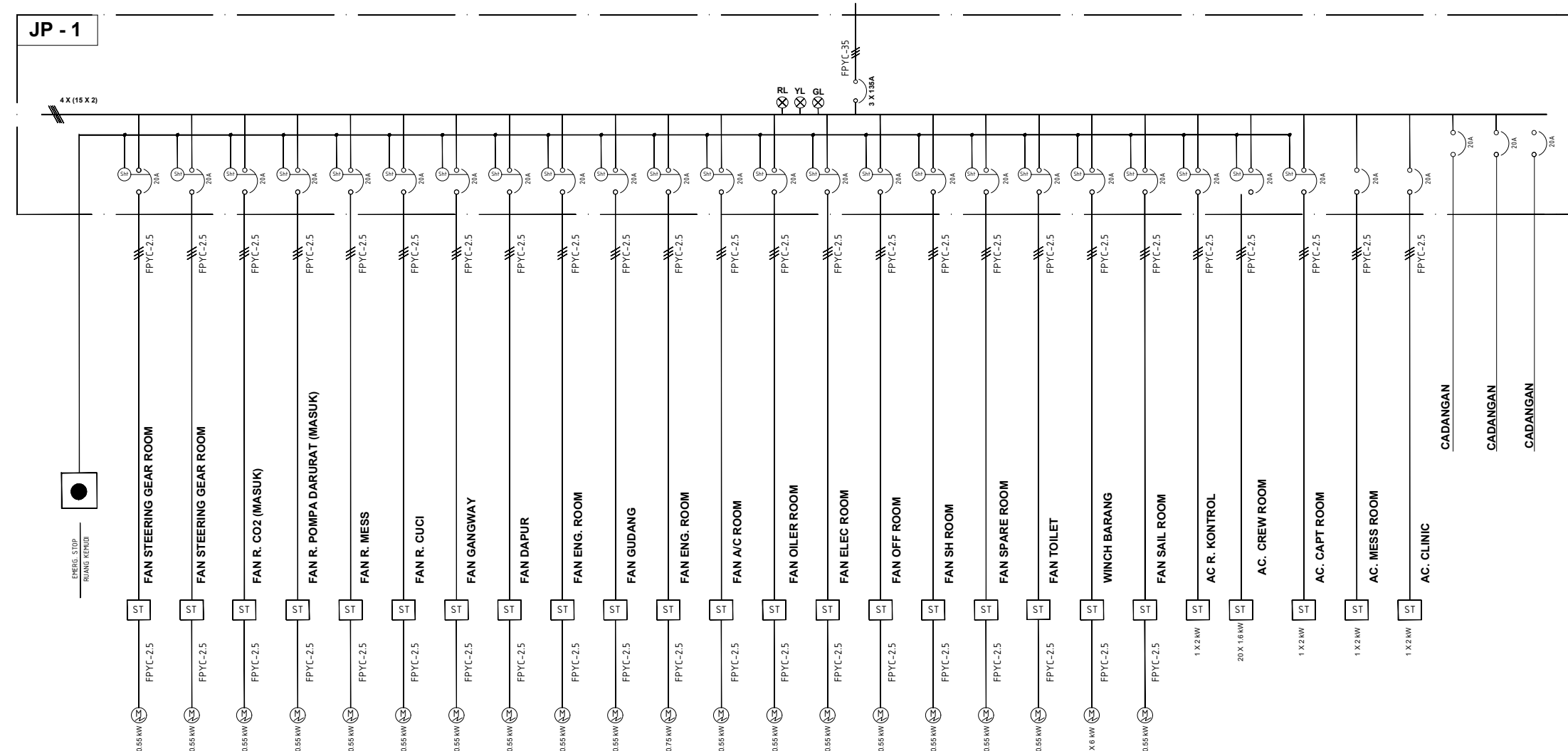
B

C

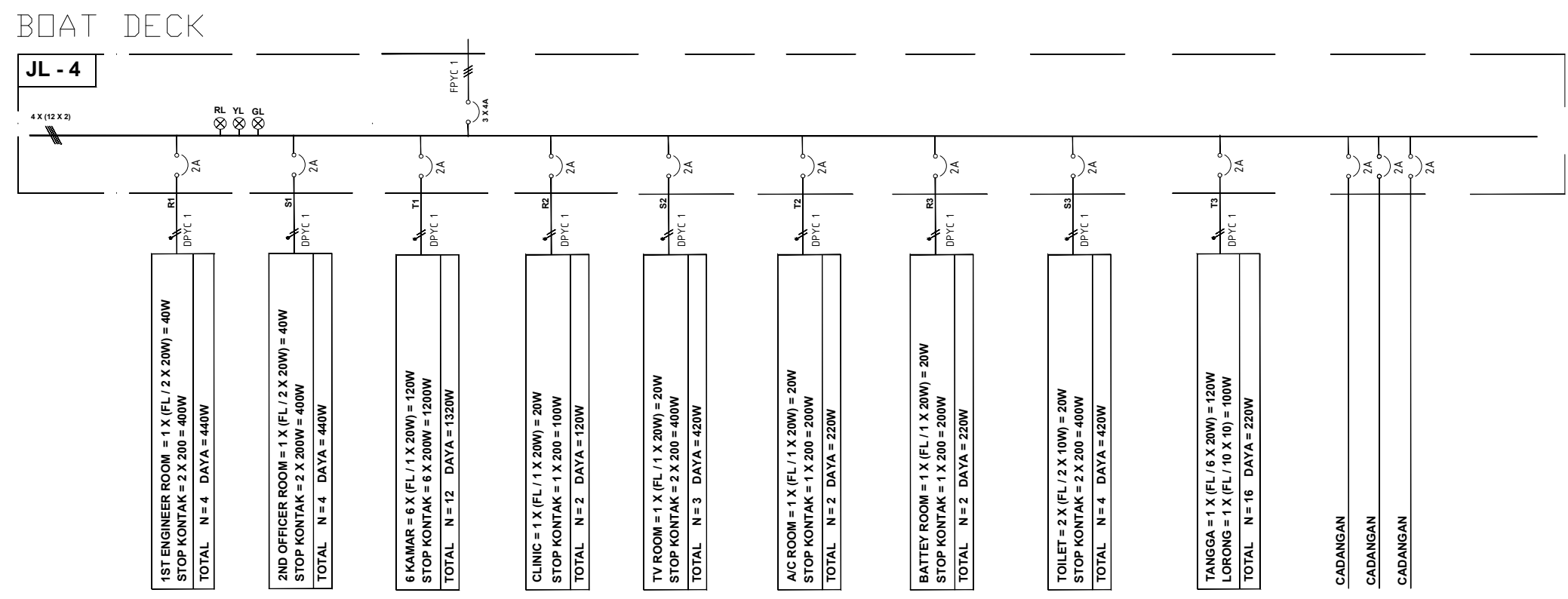
D

E

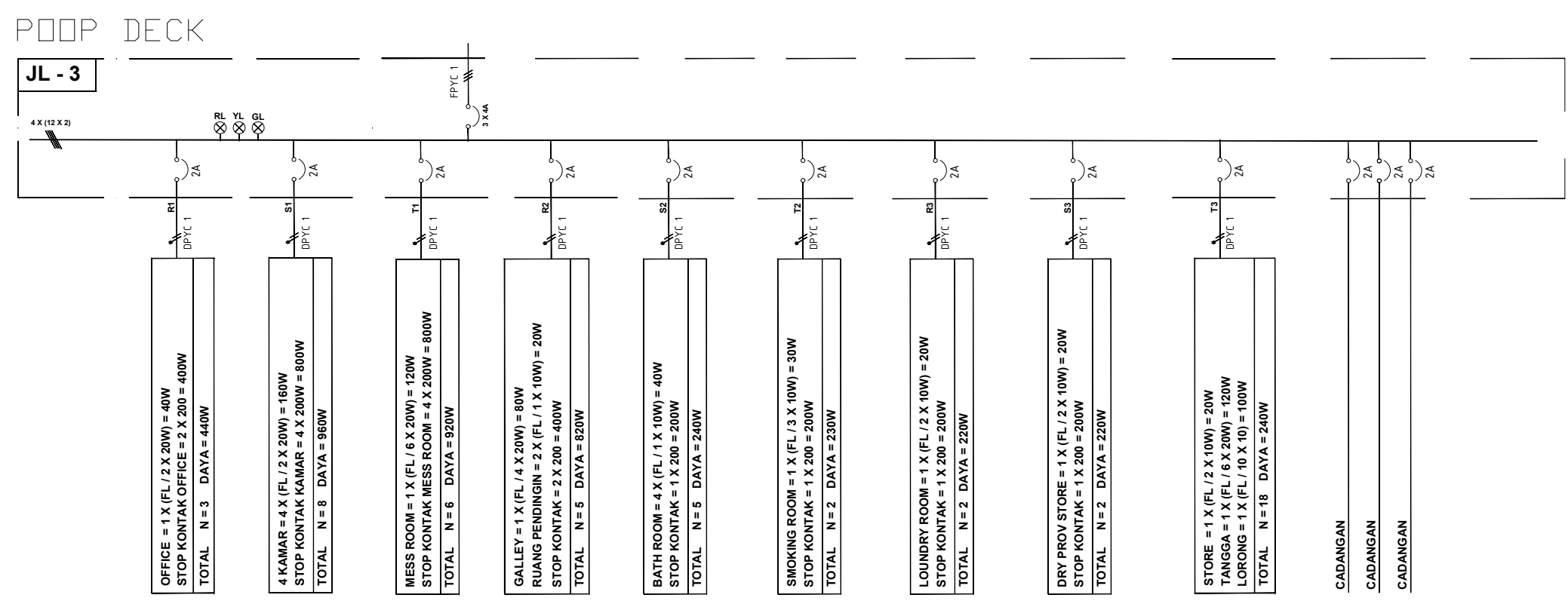
F



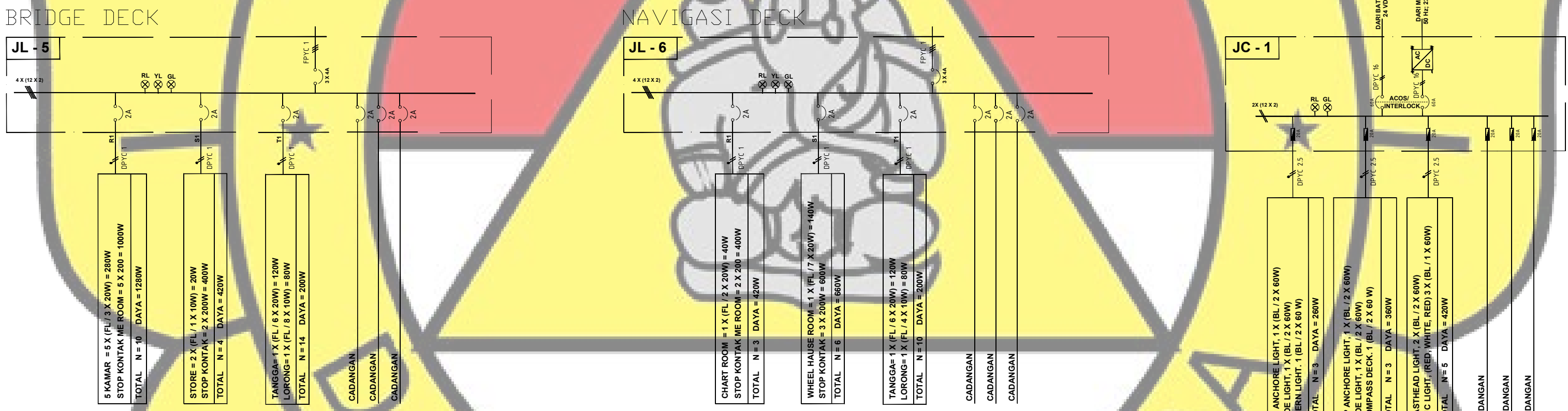
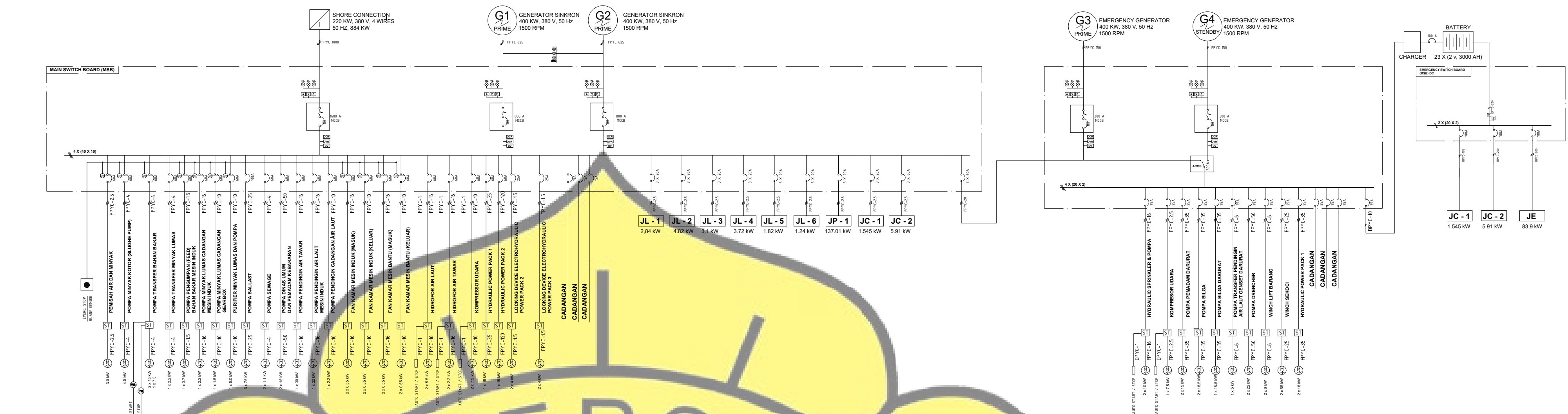
SISTEM PENDINGIN



PERALATAN LISTRIK, & LAMPU PENERANGAN



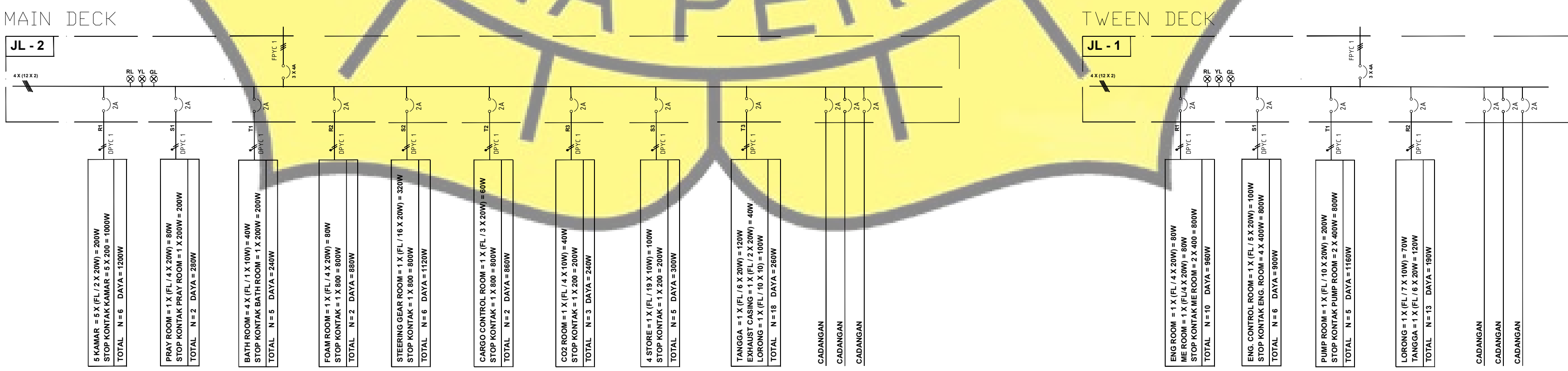
PERALATAN LISTRIK, & LAMPU PENERANGAN



PERALATAN LISTRIK, & LAMPU PENERANGAN

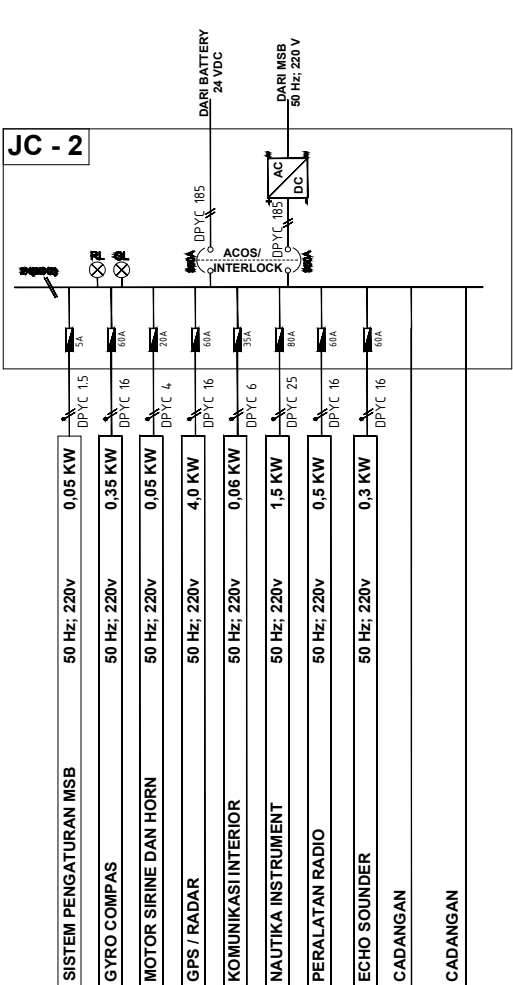
PERALATAN LISTRIK, & LAMPU PENERANGAN

MONITORING DAN LAMPU NAVIGASI



PERALATAN LISTRIK, & LAMPU PENERANGAN

PERALATAN LISTRIK, & LAMPU PENERANGAN



PERALATAN NAVIGASI DAN KOMUNIKASI

- ⊕ = MOTOR 3 PHASE
- ⊙ = GENERATOR 3 PHASA
- ⊔ = MINATURE YELLOW LAMP, GREEN LAMP (PHASE INDICATOR)
- KBL = KABEL 2 SALURAN
- ⬇ = KABEL 4 SALURAN
- ⬆ = AMPERE METER
- ⬇ = VOLT METER
- ⬆ = FREQUENCY METER
- ⬆ = OVER CURRENT RELAY
- ⬆ = FUSE
- ⬆ = BATTERY
- ⬆ = AUTOMATIC CHANGE OVER SWITCH
- ⊕ = SENSOR
- ⊕ = OVER VOLTAGE RELAT
- ⊕ = UNDER VOLTAGE
- KBL = MAIN SWITCHBOARD
- ⬆ = EMERGENCY SWITCHBOARD
- A.1 = JUNCTION LIGHTING 1
- A.2 = JUNCTION LIGHTING 2
- A.3 = JUNCTION LIGHTING 3
- A.4 = JUNCTION LIGHTING 4
- A.5 = JUNCTION LIGHTING 5
- A.6 = JUNCTION LIGHTING 6
- ⬆ = JUNCTION EMERGENCY
- ⬆ = RECTIFIER
- ⬆ = INVERTER

PRINCIPAL DIMENSION	
L.O.A	= 99.00 m
L.W.L	= 94.70 m
L.B.P	= 92.00 m
BREADTH (B)	= 16.00 m
DEPTH (H)	= 8.50 m
DRAFT (T)	= 7.00 m
Kecepatan	= 13.5 knot
Daya M/E	= 3150 kW

	PMK 2	
	JURUSAN TEKNIK SISTEM PERKAPALAN	
	FTK-UNSDA	
	SEMESTER GANJIL 2019/2020	
WIRING	DIKERJAKAN OLEH: AGI ALGHIFARI 2016320004	PARAF
	PEMBIMBING: Ir. AYOM BUWONO, M.Si	PARAF
	PEMERIKSA: Ir. AYOM BUWONO, M.Si	PARAF
Skala	File	Drawing No.
N/A	-	42029704-SL-00
		Rev.
		05

A

B

C

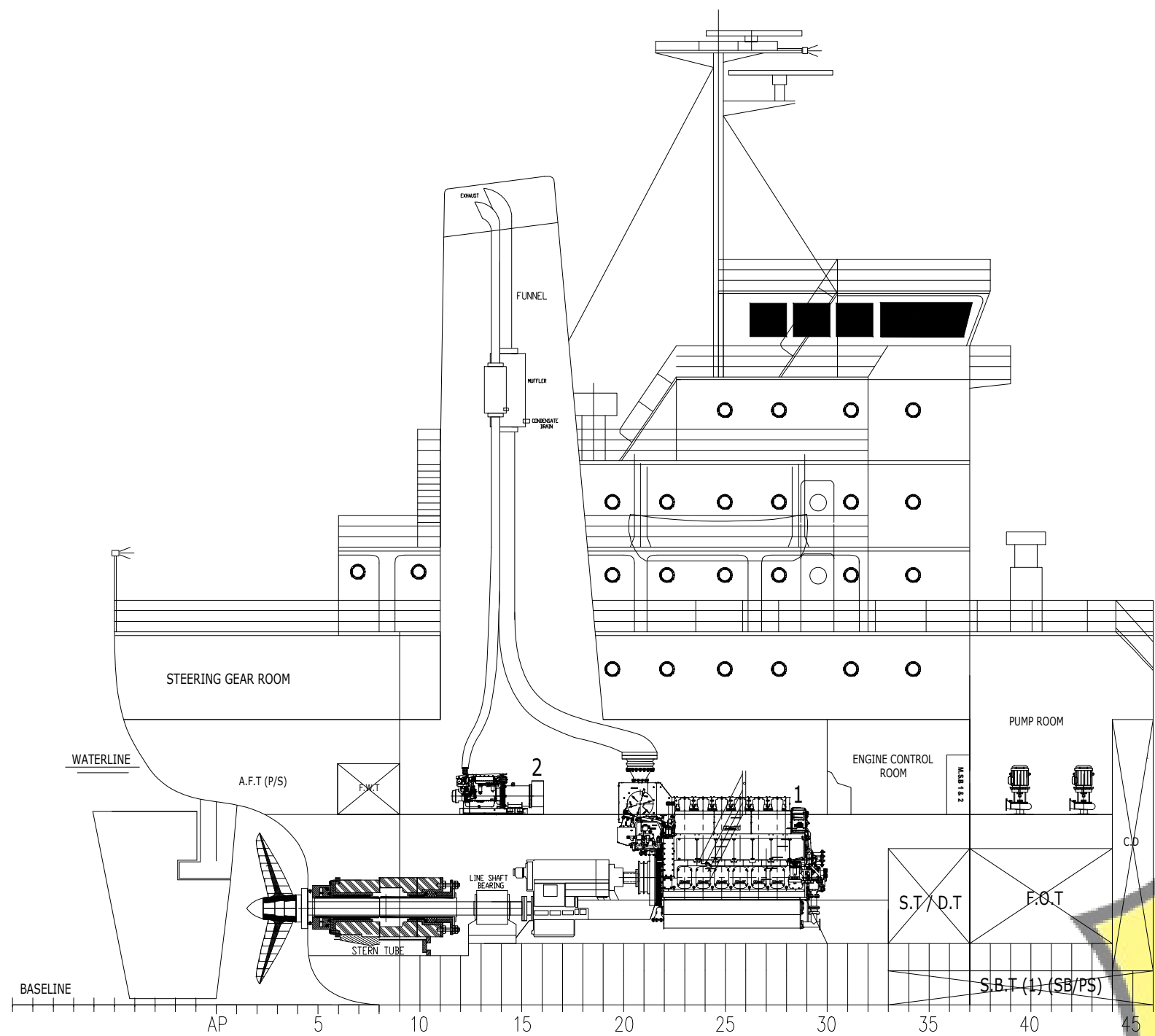
D

E

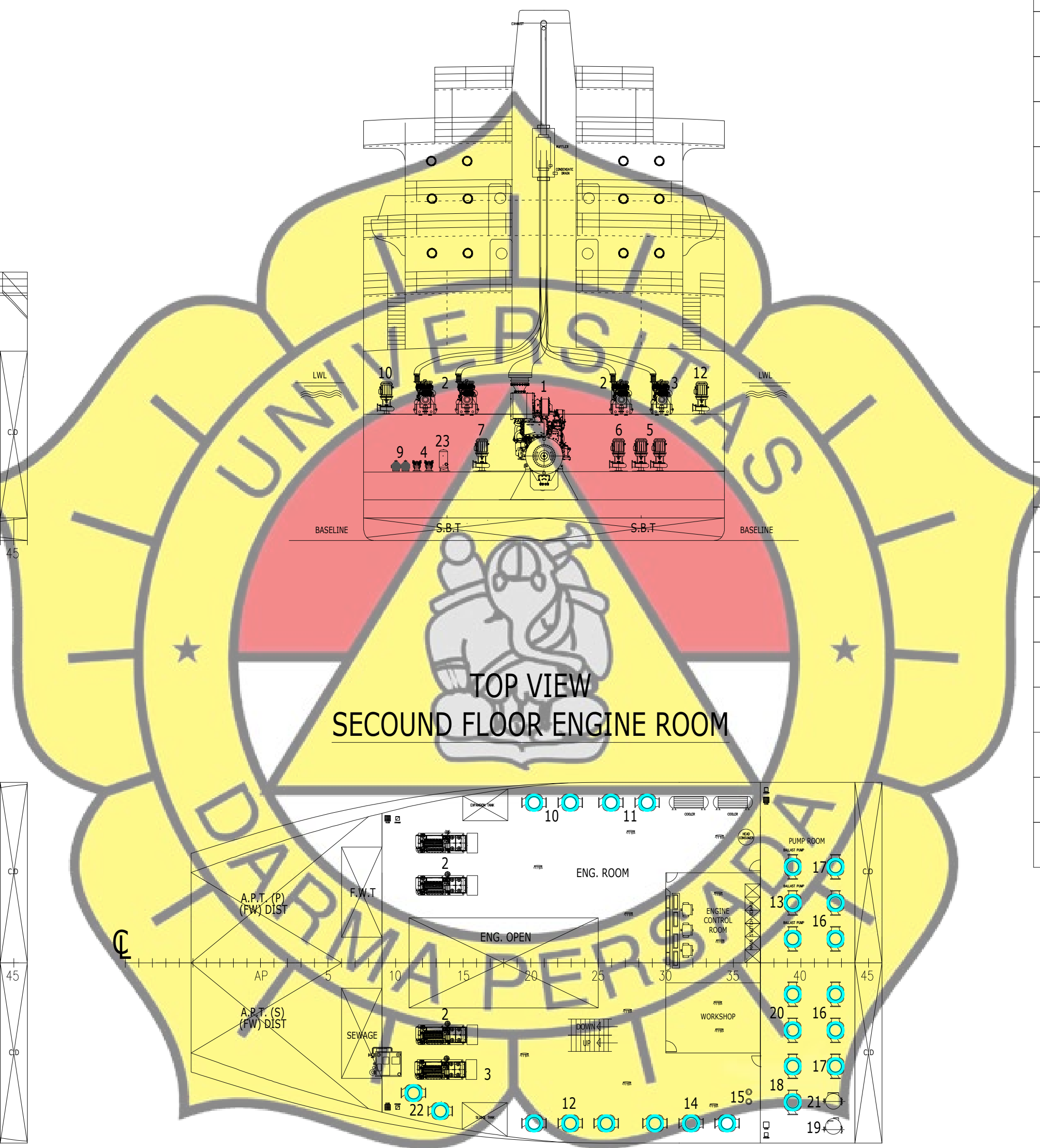
F

123456789

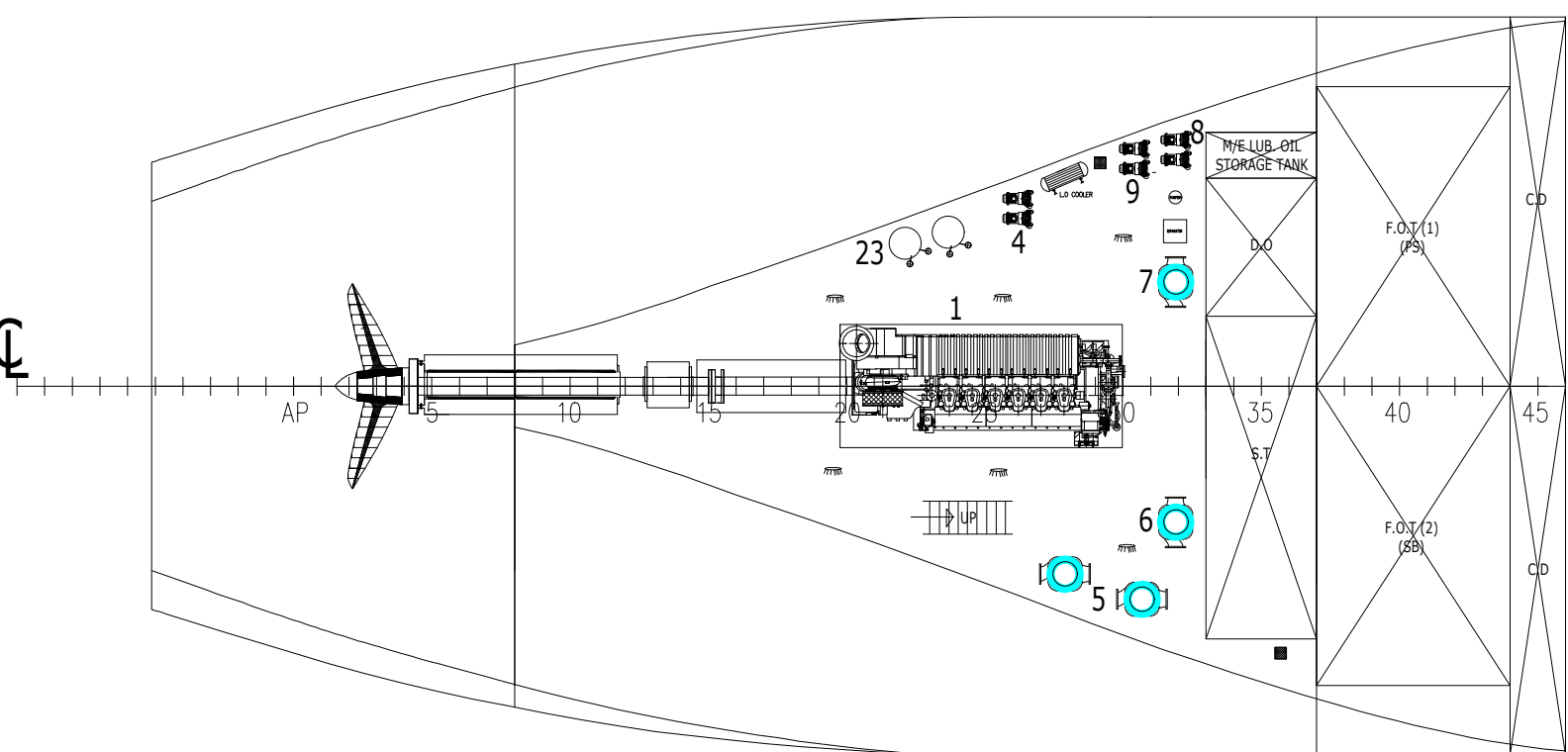
SIDE VIEW



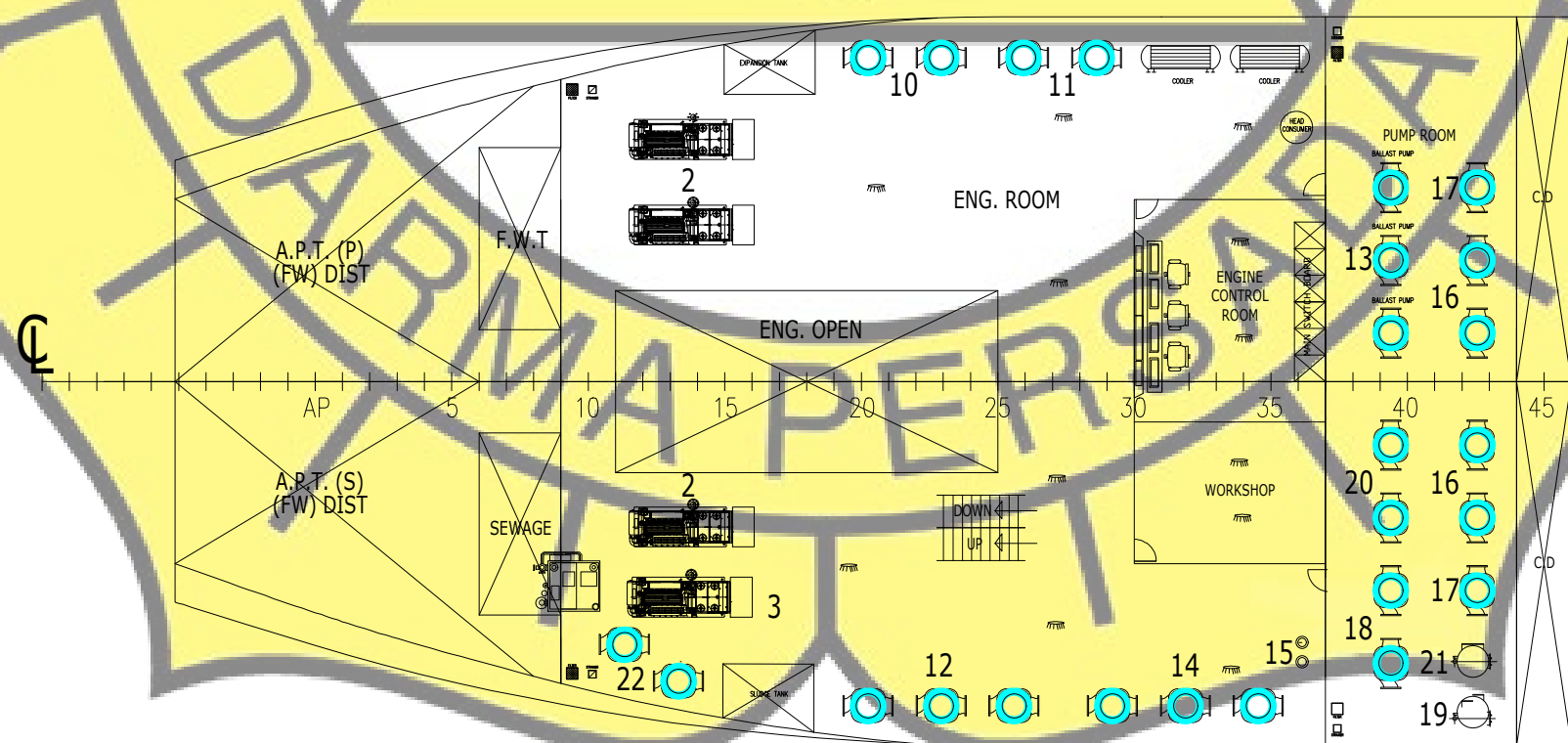
BACK VIEW



TOP VIEW
BASE FLOOR ENGINE ROOM



TOP VIEW
SECOND FLOOR ENGINE ROOM



LIST OF MACHINE

23	COMPRESSORS TUBE	1	1000 L
22	SEWAGE PUMP	2	CENTF, 3.6 M ³ /h, 1.1 kW, 2900 RPM
21	HYDROPHORE TANK F.W	1	1500 L, 2.2 kW
20	SANITARY F.W PUMP	2	CENTF, 3.6 M ³ /h, 1.1 kW, 2900 RPM
19	HYDROPHORE TANK S.W	1	1500 L, 5.5 kW
18	SANITARY S.W PUMP	2	CENTF, 3.6 M ³ /h, 1.1 kW, 2900 RPM
17	SLOP PUMP	2	CENTF, 300 M ³ /h, 30 kW, 1450 RPM
16	CARGO PUMP	4	CENTF, 720 M ³ /h, 75 kW, 1450 RPM
15	SPRINKLER PUMP	2	CENTF, 10 kW
14	FIRE PUMP	3	CENTF, 110 M ³ /h, 15 kW, 1500 RPM
13	BALLAST PUMP	3	CENTF, 260 M ³ /h, 75 kW, 1500 RPM
12	BILGE PUMP	3	CENTF, 100 M ³ /h, 18.5 kW, 1500 RPM
11	S.W COOLING PUMP	2	CENTF, 250 M ³ /h, 22 kW, 1500 RPM
10	F.W COOLING PUMP	2	CENTF, 270 M ³ /h, 30 kW, 1500 RPM
9	L.O SUPPLY PUMP	2	GEAR, 5 M ³ /h, 1.5 kW, 1500 RPM
8	L.O TRANSFER PUMP	2	GEAR, 5 M ³ /h, 2.2 kW, 1500 RPM
7	F.O SUPPLY PUMP	1	CENTF, 20 M ³ /h, 4 kW, 2900 RPM
6	F.O TRANSFER PUMP (S.T)	1	CENTF, 50 M ³ /h, 7.5 kW, 2900 RPM
5	F.O TRANSFER PUMP (F.O.T)	2	CENTF, 90 M ³ /h, 15 kW, 2900 RPM
4	AIR COMPRESSORS	2	33 M ³ /h, 7.5 kW, 1500 RPM
3	GENERATOR SET EMERGENCY	1	PRIME, 400 kW, 1500 RPM
2	GENERATOR SET	3	PRIME, 400 kW, 1500 RPM
1	MAIN ENGINE	1	3150 kW, 750 RPM

PRICIPEL PARTICULARS

LENGTH OVER ALL (LOA)	: 99 M	COEFFICIENT BLOCK (CB)	: 0.707
LENGTH WATER LINE (LWL)	: 94 M	COEFFICIENT MIDSHIP (CM)	: 0.986
LENGTH BETWEEN PARTICULLAR (LBP)	: 92 M	COEFFICIENT PRISMATIC (CP)	: 0.717
BREADTH (B)	: 16 M	COEFFICIENR WATERLINE (CW)	: 0.789
DRAFT (T)	: 7 M	DISCPLACEMENT	: 7467.051 T
HEIGHT	: 8.5 M	VOLUME DISPLACEMENT	: 7284.928 M ³
DWT	: 6300 T	VS	: 13,5 KNOTS



PMK 3
JURUSAN TEKNIK SISTEM PERKAPALAN UNIVERSITAS DARMA
PERSADA

SEMESTER GENAP 2019/2020

LAYOUT ENGINE ROOM
PRODUCT OIL TANKER

DIKERJAKAN OLEH:
AGI ALGHIFARI
2016320004

PARAF

PEMBIMBING:
MUSWAR MUSLIM, S.T., M.Sc

PARAF

PEMERIKSA:
MUSWAR MUSLIM, S.T., M.Sc

PARAF

Skala

1 : 100

File

-

Drawing No.

21012019-BL-00

Rev.

01

123456789

A

B

C

D

E

F

CATALOG -CATALOG YANG DIGUNAKAN

1. KOMPRESOR

Kompresor yang digunakan adalah:

- Merk = Atlas Copco
- Jenis = *Electrically Driven Compressors*
- Type = LT 10 - 30 KE
- Kapasitas = 33 m³/jam
- Frekuensi = 50 Hz
- Putaran = 1500 RPM
- Daya = 7,5 kW
- P x L x T = 1016 mm x 619 mm x 699 mm
- Berat = 166 Kg
- Jumlah = 2 buah

Electrically Driven Compressors



Technical specifications

Nominal working pressure	30 bar
Revolutions	1500 rpm (50 Hz) and 1800 rpm (60 Hz)
Sound level unsilenced	79-88 dB(A)
Sound level silenced version	63-68 dB(A)
Ambient temperature	50°C
Two cylinder-two stage air-cooled version	

Compressor type	FAD*	Bottle charging**	Power	Dimensions			Weight
	m ³ /h	m ³ /h	kW	L (mm)	W (mm)	H (mm)	kg
50 Hz							
LT 3-30 KE	9.10	10.5	3	827	553	620	94
LT 5-30 KE	15.8	19.5	4	827	553	620	115
LT 7-30 KE	23.40	28.5	5.5	1016	619	699	152
LT 10-30 KE	30.60	33	7.5	1016	619	699	166
LT 15-30 KE	33.40	43.5	11	1268	682	815	260
LT 20-30 KE	61.20	71	15	1268	682	815	290

2. Fuel Oil Transfer Pump (dari tangki penyimpanan ke tangki settling)

- Merk = SILI
- Type = 100CL-45 A
- Kapasitas = 90 m³/h
- Daya = 15 kW
- RPM = 2900 Rpm
- Jenis = Centifugal Pump
- Jumlah = 2 Buah



CL Vertical Sump Centrifugal Pump Catalogue

The SILI CL series centrifugal pump is similar to other vertical marine centrifugal pump, but just in **Sump Structure**. That means the pump is **vertical pedestal mounting installation**, just leaving the pump motor above the deck.

A supporting frame can be coupled with the motor flanges, so then it can save some installation space.

Pump casing/cover/impeller is in bronze material, and pump shaft in stainless steel material. Shaft seal can be in mechanical seal or soft packing.

Motor is in IEC standard, Y-H series especially for marine industry; both 50Hz and 60Hz are available.

The SILI CL pumps are suitable as seawater cooling pumps, bilge and ballast pumps, fire-fighting, general service pumps, and so on.



Pump specification:

For 50Hz pump, in 3phase/50Hz, speed 2900rpm(2 poles), 1450rpm(4 poles)

For 60Hz pump, in 3phase/60Hz, speed 3500rpm(2 poles), 1750rpm(4 poles)

Item	Model	50Hz				60Hz			
		Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)	Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)
1	25CL-30	3.6	30	2900	1.1	4.2	41.4	3500	2.2
2	50CL-30	20	30	2900	4	23.6	41.4	3500	7.5
3	50CL-30A	18	24.5	2900	3	21.2	33.8	3500	5.5
4	65CL-45	30	45	2900	7.5	35.4	62.1	3500	15
5	65CL-45A	27	37	2900	5.5	31.9	51.1	3500	11
6	80CL-30	50	30	2900	7.5	59.0	41.4	3500	15
7	80CL-30A	45.5	25	2900	5.5	53.7	34.5	3500	11
8	80CL-35	50	35	2900	7.5	59.0	48.3	3500	15
9	80CL-65	50	65	2900	18.5	59.0	89.7	3500	30
10	80CL-65A	46.5	56	2900	15	54.9	77.3	3500	22
11	80CL-65B	44	50	2900	15	51.9	69.0	3500	22
12	100CL-30	100	30	2900	15	118.0	41.4	3500	22
13	100CL-30A	90	24.5	2900	11	106.2	33.8	3500	18.5
14	100CL-45	100	45	2900	22	118.0	62.1	3500	35
15	100CL-45A	90	36.5	2900	15	106.2	50.4	3500	22
16	100CL-85	100	85	2900	45	118.0	117.3	3500	75
17	100CL-85A	92.5	73	2900	37	109.2	100.7	3500	55
18	100CL-85B	87	64	2900	30	102.7	88.3	3500	45
19	150CL-30	162	30	2900	22	191.2	41.4	3500	35
20	150CL-30A	148	25	2900	18.5	174.6	34.5	3500	30

3. Fuel Oil Transfer Pump (dari tangki settling ke tangki harian)

- Merk = SILI
- Type = 80CL-35
- Kapasitas = 50 m³/h
- Daya = 7,5 kW
- RPM = 2900 min-1
- Jenis = Centifugal Pump
- Jumlah = 1 Buah

SILI CL Vertical Sump Centrifugal Pump Catalogue

The SILI CL series centrifugal pump is similar to other vertical marine centrifugal pump, but just in **Sump Structure**. That means the pump is **vertical pedestal mounting installation**, just leaving the pump motor above the deck.

A supporting frame can be coupled with the motor flanges, so then it can save some installation space.

Pump casing/cover/impeller is in bronze material, and pump shaft in stainless steel material. Shaft seal can be in mechanical seal or soft packing.

Motor is in IEC standard, Y-H series especially for marine industry; both 50Hz and 60Hz are available.

The SILI CL pumps are suitable as seawater cooling pumps, bilge and ballast pumps, fire-fighting, general service pumps, and so on.

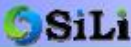


Pump specification:
 For 50Hz pump, in 3phase/50Hz, speed 2900rpm(2 poles), 1450rpm(4 poles)
 For 60Hz pump, in 3phase/60Hz, speed 3500rpm(2 poles), 1750rpm(4 poles)

Item	Model	50Hz				60Hz			
		Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)	Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)
1	25CL-30	3.6	30	2900	1.1	4.2	41.4	3500	2.2
2	50CL-30	20	30	2900	4	23.6	41.4	3500	7.5
3	50CL-30A	18	24.5	2900	3	21.2	33.8	3500	5.5
4	55CL-45	30	45	2900	7.5	35.4	62.1	3500	15
5	55CL-45A	27	37	2900	5.5	31.9	51.1	3500	11
6	80CL-30	50	30	2900	7.5	59.0	41.4	3500	15
7	80CL-30A	45.5	25	2900	5.5	53.7	34.5	3500	11
8	80CL-35	50	35	2900	7.5	59.0	48.3	3500	15
9	80CL-65	50	65	2900	18.5	59.0	89.7	3500	30
10	80CL-65A	46.5	56	2900	15	54.9	77.3	3500	22
11	80CL-65B	44	50	2900	15	51.9	69.0	3500	22
12	100CL-30	100	30	2900	15	118.0	41.4	3500	22
13	100CL-30A	90	24.5	2900	11	106.2	33.8	3500	18.5
14	100CL-45	100	45	2900	22	118.0	62.1	3500	35
15	100CL-45A	90	36.5	2900	15	106.2	50.4	3500	22
16	100CL-85	100	85	2900	45	118.0	117.3	3500	75
17	100CL-85A	92.5	73	2900	37	109.2	100.7	3500	55
18	100CL-85B	87	64	2900	30	102.7	88.3	3500	45
19	150CL-30	162	30	2900	22	191.2	41.4	3500	35
20	150CL-30A	148	25	2900	18.5	174.6	34.5	3500	30

4. Fuel Oil Supply Pump (dari tangki harian ke tangki mesin)

- Merk = SILI
- Type = 50CL-30
- Kapasitas = 20 m³/h
- Daya = 4 kW
- RPM = 2900 min-1
- Jenis = Centifugal Pump
- Jumlah = 1 Buah



CL Vertical Sump Centrifugal Pump Catalogue

The SILI CL series centrifugal pump is similar to other vertical marine centrifugal pump, but just in **Sump Structure**. That means the pump is **vertical pedestal mounting installation**, just leaving the pump motor above the deck.

A supporting frame can be coupled with the motor flanges, so then it can save some installation space.

Pump casing/cover/impeller is in bronze material, and pump shaft in stainless steel material. Shaft seal can be in mechanical seal or soft packing.

Motor is in IEC standard, Y-H series especially for marine industry; both 50Hz and 60Hz are available.

The SILI CL pumps are suitable as seawater cooling pumps, bilge and ballast pumps, fire-fighting, general service pumps, and so on.



Pump specification:
 For 50Hz pump, in 3phase/50Hz, speed 2900rpm(2 poles), 1450rpm(4 poles)
 For 60Hz pump, in 3phase/60Hz, speed 3500rpm(2 poles), 1750rpm(4 poles)

Item	Model	50Hz				60Hz			
		Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)	Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)
1	25CL-30	3.6	30	2900	1.1	4.2	41.4	3500	2.2
2	50CL-30	20	30	2900	4	23.6	41.4	3500	7.5
3	50CL-30A	18	24.5	2900	3	21.2	33.8	3500	5.5
4	55CL-45	30	45	2900	7.5	35.4	62.1	3500	15
5	55CL-45A	27	37	2900	5.5	31.9	51.1	3500	11
6	80CL-30	50	30	2900	7.5	59.0	41.4	3500	15
7	80CL-30A	45.5	25	2900	5.5	53.7	34.5	3500	11
8	80CL-35	50	35	2900	7.5	59.0	48.3	3500	15
9	80CL-65	50	65	2900	18.5	59.0	89.7	3500	30
10	80CL-65A	46.5	56	2900	15	54.9	77.3	3500	22
11	80CL-65B	44	50	2900	15	51.9	69.0	3500	22
12	100CL-30	100	30	2900	15	118.0	41.4	3500	22
13	100CL-30A	90	24.5	2900	11	106.2	33.8	3500	18.5
14	100CL-45	100	45	2900	22	118.0	62.1	3500	35
15	100CL-45A	90	36.5	2900	15	106.2	50.4	3500	22
16	100CL-85	100	85	2900	45	118.0	117.3	3500	75
17	100CL-85A	92.5	73	2900	37	109.2	100.7	3500	55
18	100CL-85B	87	64	2900	30	102.7	88.3	3500	45
19	150CL-30	162	30	2900	22	191.2	41.4	3500	35
20	150CL-30A	148	25	2900	18.5	174.6	34.5	3500	30

5. Lubricating Oil Transfer Pump

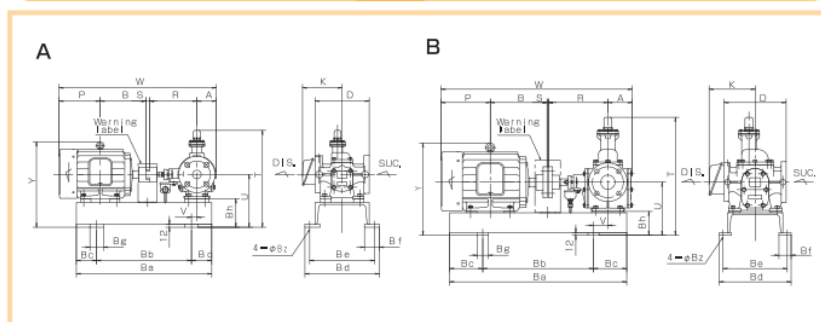
- Merk = Taiko
- Type = NHG-4
- Kapasitas = 5 m³/h
- Daya = 2,2 kW
- RPM = 1500 min⁻¹
- Jenis = Gear Pump
- Jumlah = 2 Buah

GEAR PUMP

NHG

寸法

Dimension



形番 Model No.	図 fig.	電動機 Motor (kW)		寸法 Dimension (mm)																				質量 Weight (kg)		軸継手 Coupling					
		GP	4P	A	B	D	K	P	R	S	T	U	V	W	Y	Ba	Bb	Bc	Bd	Be	Bf	Bg	Bh	Bz	ポンプ Pump		電動機 Motor Base				
NHG-0.3 0.5	A	0.4	0.75	80	140	180	145	122		150	13	340	185	15	505	270	505	350	75	275	240	55	50	105	15	8	14	11	AL090		
		0.75	1.5		140		145	122							535	285	535	350	75							12	15	11	CLO95		
1		0.4	0.75				140	145	122						535	280	535	350	75		275	240	55	50	105	15	11	19	11	AL090	
NHG-1.5 2		0.75	1.5	85	168.5	200	160	143	175	13	365	195	20	585	295	585	295	600	350	75							14	17	19	11	CLO95
		1.5	2.2		193		165	168.5		18					640	335	600	400	100									17	31	11	CL100
NHG-2.5 3	B	0.75	1.5	90	168.5	200	160	143	180	18	385	210	20	595	310	595	310	600	400	100	275	240	55	50	110	15	16	18	19	CLO95	
		1.5	2.2		193		165	168.5		18					650	350	600	400	100									31	11	11	CL100
NHG-3		1.5	2.2	95	200	160	165	168.5	220	3	435	210	35	680	350	680	600	400	100	275	240	55	50	98	15	22	18	31	11	A-125	
		2.2	3.7		193		175	176							694	370	600	400	100									17	41	11	
NHG-4		1.5	2.2		193		165	168.5							680	350	600	400	100	275	240	55	50	98	15	27	17	41	11	A-125	
NHG-5 6	B	2.2	3.7	95	200	160	165	168.5	220	3	440	210	35	680	350	600	400	100	275	240	55	50	98	15	27	17	41	11	A-125		
		3.7	5.5	239	190	207.5	250	3	515	240	45	805	415	805	700	450	125	325	290	55	50	108	15	37	28	58	11	A-140			
NHG-7.5 10		2.2	3.7	200	175	176	220	3	440	210	35	694	370	765	415	700	450	125	325	290	55	50	108	15	37	28	58	41	A-140		
		3.7	5.5	105	239	200	207.5	250	3	515	240	45	805	415	800	500	125	325	290	55	50	108	15	37	28	58	41	A-140			
		5.5	7.5	258	228.5	239	280	3	545	240	45	830	415	800	500	150	175	390	350	65	60	138	19	71	42	105	130	11	A-160		
NHG-12 15	B	3.7	5.5	239	200	207.5	250	3	515	240	45	805	415	800	500	125	325	290	55	50	108	15	37	28	58	41	A-140				
		5.5	7.5	110	258	280	290	3	545	240	45	830	415	800	500	150	175	390	350	65	60	138	19	71	42	105	130	11	A-160		
		7.5	11	323	265	292	320	3	575	270	45	958	485	900	550	175	390	350	65	60	138	19	71	42	105	130	11	A-160			
		5.5	7.5	258	228.5	239	280	3	545	240	45	830	415	800	500	150	175	390	350	65	60	138	19	71	42	105	130	11	A-160		
NHG-20 25		7.5	11	130	323	265	292	320	3	630	270	75	1028	485	1000	600	200	470	430	65	60	110	140	19	75	42	130	11	A-180		
	11	15		345	274	274	320	3	630	270	75	1028	485	1000	600	200	470	430	65	60	110	140	19	75	42	130	11	A-180			
NHG-30		15	—	145	351.5	320	265	274	320	3	630	270	90	1187	550	1000	600	200	470	430	65	60	110	140	19	75	42	130	11	A-180	
		11	—	145	351.5	320	265	274	320	3	630	270	90	1187	550	1000	600	200	470	430	65	60	110	140	19	75	42	130	11	A-180	
		15	—	145	351.5	320	265	274	320	3	630	270	90	1187	550	1000	600	200	470	430	65	60	110	140	19	75	42	130	11	A-180	

*電動機メーカー及び形番によりW,P,Y,K寸法及び質量が異なります。
Depend on motor manufacturer and model measurement of W,P,Y, K and weight maybe changed.

形番 Model No.	口径 Bore (mm) 吸込み×吐出し Suc. × Dis.	吐出し量 Capacity (m ³ /h)			
		60Hz		50Hz	
		1200min ⁻¹	1800min ⁻¹	1000min ⁻¹	1500min ⁻¹
NHG-0.3		0.3	0.45	0.25	0.37
NHG-0.5		0.5	0.75	0.41	0.62
NHG-1		1	1.5	0.8	1.2
NHG-1.5		1.5	2.2	1.2	1.8
NHG-2		2	3	1.6	2.5
NHG-2.5		2.5	3.7	2	3
NHG-3		3	4.5	2.5	3.7
NHG-4		4	6	3.3	5
NHG-5		5	7.5	4	6
NHG-6		6	9	5	7.5
NHG-7.5		7.5	11	6	9
NHG-10		10	15	8	12
NHG-12		12	18	10	15
NHG-15		15	22	12	18
NHG-20		20	30	16	25
NHG-25		25	—	20	30
NHG-30		30	—	25	—



大東機械工業株式会社
TAIKO GEAR PUMPS CO. LTD.

6. Lubricating Oil Supply Pump

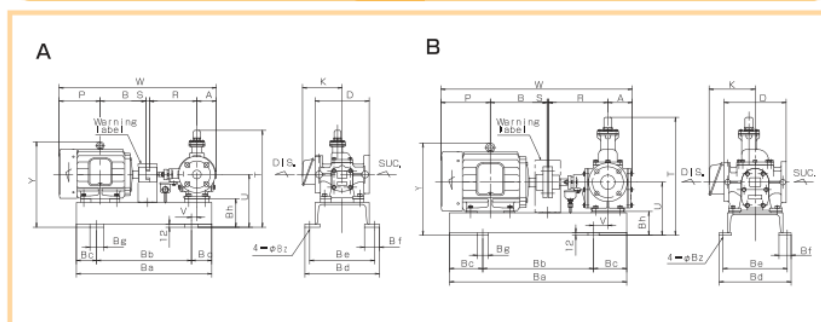
- Merk = Taiko
- Type = NHG-4
- Kapasitas = 5 m³/h
- Daya = 1,5 kW
- RPM = 1500 min⁻¹
- Jenis = Gear Pump
- Jumlah = 2 Buah

GEAR PUMP

NHG

寸法

Dimension



形番 Model No.	図 fig.	電動機 Motor (kW)		寸法 Dimension (mm)																				質量 Weight (kg)		軸継手 Coupling			
		GP	4P	A	B	D	K	P	R	S	T	U	V	W	Y	Ba	Bb	Bc	Bd	Be	Bf	Bg	Bh	Bz	ポンプ Pump		電動機 Motor Base		
NHG-0.3 0.5	A	0.4	0.75	80	140	180	145	122		150	13	340	185	15	505	270	505	350	75	275	240	55	50	105	15	8	14	11	AL090
		0.75	1.5		140		145	122							535	285	535	350	75						12	15	11	CL095	
1		0.4	0.75				140	145	122						535	280	535	350	75	275	240	55	50	105	15	14	17	19	AL090
NHG-1.5 2		0.75	1.5	85	168.5	200	160	143	175	13	365	195	20	585	295	585	350	75								14	17	19	CL095
		1.5	2.2		193		165	168.5		18					640	335	600	400	100								17	31	CL100
NHG-2.5 3	B	0.75	1.5	90	168.5	200	160	143	180	18	385	210	20	595	310	600	400	100	275	240	55	50	110	15	16	18	19	CL095	
		1.5	2.2		193		165	168.5		18					650	350	600	400								18	31	CL095	
NHG-3		1.5	2.2	95	200	165	168.5	220	3	435	210	35	680	350	680	600	400	100	275	240	55	50	98	15	22	18	31	A-125	
		2.2	3.7		193		175	176							694	370	600	400								17	41		
NHG-4		1.5	2.2		193		165	168.5							680	350	600	400	100	275	240	55	50	98	15	22	18	31	A-125
NHG-5 6	B	2.2	3.7	95	200	175	176	220	3	440	210	35	694	370	680	350	600	400	100	275	240	55	50	98	15	27	17	41	A-125
		3.7	5.5		193		165	168.5							680	350	600	400							18	31			
		2.2	3.7		239		190	207.5							765	415	700	450	125	325	290	55	50	108	15	28	58	A-140	
		2.2	3.7		200		175	176							734	400										28	41	A-125	
		3.7	5.5	105	239	250	190	207.5	250	3	515	240	45	805	415	800	500	150	325	290	55	50	108	15	37	28	58	A-140	
NHG-7.5 10	B	5.5	7.5		258		207.5								843											32	70		
		3.7	5.5		239		207.5								800	500	150	325	290	55	50	108	15	37	28	58			
		5.5	7.5	110	258	280	190	207.5	280	3	545	240	45	830	415	800	500	150	325	290	55	50	108	15	47	31	70	A-140	
		7.5	11		323		265	292							938	485	900	550	175	390	350	65	60	138	19	41	105	A-160	
		5.5	7.5		258		190	226.5							45	938	445	900	550	175						40	70		
NHG-20 25	B	7.5	11	130	323	320	265	292	320	3	630	270	75	1028	485	1000	600	200	390	350	65	60	110	19	71	42	105	A-160	
		11	15		345		274								1072											42	130		
		15	—		—		265	274	320	3	630	270	90	1087	485	1000	600	200	470	430	65	60	110	19	75	42	130	A-160	
NHG-30		11	—	145	351.5	320	265	274	320	3	660	300	90	1114	550	1000	600	200	470	430	65	60	140	19	75	64	175	A-180	

*電動機メーカー及び形番によりW,P,Y,K寸法及び質量が異なります。
Depend on motor manufacturer and model measurement of W,P,Y, K and weight maybe changed.

形番 Model No.	口径 Bore (mm) 吸込み×吐出し Suc. × Dis.	吐出し量 Capacity (m ³ /h)			
		60Hz		50Hz	
		1200min ⁻¹	1800min ⁻¹	1000min ⁻¹	1500min ⁻¹
NHG-0.3		0.3	0.45	0.25	0.37
NHG-0.5		0.5	0.75	0.41	0.62
NHG-1		1	1.5	0.8	1.2
NHG-1.5		1.5	2.2	1.2	1.8
NHG-2		2	3	1.6	2.5
NHG-2.5		2.5	3.7	2	3
NHG-3		3	4.5	2.5	3.7
NHG-4		4	6	3.3	5
NHG-5		5	7.5	4	6
NHG-6		6	9	5	7.5
NHG-7.5		7.5	11	6	9
NHG-10		10	15	8	12
NHG-12		12	18	10	15
NHG-15		15	22	12	18
NHG-20		20	30	16	25
NHG-25		25	—	20	30
NHG-30		30	—	25	—



大興機械工業株式会社
TAIKO GEAR PUMPS CO. LTD.

7. Fresh Water Cooling Pump

- Merk = SILI
- Model = EMC-250C-30
- Kapasitas = 270 m³/jam
- Daya = 30 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 21,00 m
- Speed = 1500 rpm
- Jumlah = 2 Buah



CENTRIFUGAL PUMP
EMC



Application
Cooling Fresh Water Pump
Cooling Sea Water Pump
Sea Water Service Pump

Feature
Vertical Shaft
Single Stage
Single Suction
Closed Coupling Type

SILI PUMP.
Your reliable one-stop supplier of marine pumps.

Shanghai SILI PUMP Industry Co., Ltd.
Add: No.128, Jinyuan Road, 201315, Shanghai, China (Jinyuan Industry Area)
Tel: 0086-21-39109967, Fax: 0086-21-39109967
Web: www.silipump.com, E-mail: sales@silipump.com
(The company reserves the right to make alteration without notice)

● THE CAPABILITY TABLE OF THE EMC-TYPE WITH 50Hz

TYPE		CAPACITY		TOTAL HEAD (m)	SPEED (rpm)	POWER KW		MOTOR-TYPE
		m ³ /h	l/min			SHAFT POWER	MATCHING POWER	
EMC-100C	-7.5	30	500	23.00	1500	3.76	7.5	YH132M-4V1
		50	833	21.50		4.88		
		60	1000	18.50		5.21		
	-5.5	27	450	21.50	1500	3.22	5.5	YH132S-4V1
		45	750	17.50		3.70		
		54	900	16.50		4.11		
	-4	25	417	17.50	1500	2.65	4	YH112M-4V1
		42	700	15.00		3.01		
		50	833	13.00		3.22		
EMC-125C	-11	48	800	24.00	1500	5.37	11	YH160M-4V1
		80	1333	21.00		6.85		
		96	1600	17.50		7.15		
	-7.5	42	700	22.00	1500	4.75	7.5	YH132M-4V1
		70	1167	20.00		5.69		
		84	1400	18.00		6.15		
	-5.5	42	700	17.50	1500	3.85	5.5	YH132S-4V1
		70	1167	15.00		4.28		
		84	1400	12.00		4.78		
EMC-150C	-11	65	1083	22.00	1500	7.79	11	YH160M-4V1
		108	1800	21.00		9.20		
		130	2167	18.00		9.80		
	-7.5	66	1100	17.00	1500	5.50	7.5	YH132M-4V1
		110	1833	15.00		6.81		
		132	2200	12.00		7.05		
EMC-200C	-15	96	1600	23.50	1500	10.97	15	YH160M-4V1
		160	2667	21.00		12.89		
		192	3200	18.50		13.07		
	-11	78	1300	19.50	1500	7.81	11	YH160M-4V1
		130	2167	17.50		8.60		
		156	2600	16.00		9.20		
EMC-250C	-30	162	2700	25.00	1500	17.23	30	YH200L-4V1
		270	4500	21.00		20.50		
		324	5400	19.00		24.30		
	-22	150	2500	19.00	1500	13.32	22	YH180L-4V1
		250	4167	18.00		17.51		
		300	5000	17.50		20.34		

8. Sea Water Cooling Pump

- Merk = SILI
- Model = EMC-250C-22
- Kapasitas = 250 m³/jam
- Daya = 22 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 18,00 m
- Speed = 1500 rpm
- Jumlah = 2 Buah



CENTRIFUGAL PUMP
EMC



Application
Cooling Fresh Water Pump
Cooling Sea Water Pump
Sea Water Service Pump

Feature
Vertical Single-stage Small Inlet
Closed Coupling Type

SILI PUMP.
Your reliable one-stop supplier of marine pumps.
Shanghai SILI PUMP Industry Co., Ltd.
Add: No.128, Jiyuan Road, 201315, Shanghai, China (Jiyuan Industry Area)
Tel: 0086-21-39103987, Fax: 0086-21-39103987
Web: www.silipump.com, E-mail: sales@silipump.com
(The company reserves the right to make alteration without notice)

● THE CAPABILITY TABLE OF THE EMC-TYPE WITH 50Hz

TYPE		CAPACITY		TOTAL HEAD (m)	SPEED (rpm)	POWER KW		MOTOR-TYPE
		m ³ /h	l/min			SHAFT POWER	MATCHING POWER	
EMC-100C	-7.5	30	500	23.00	1500	3.76	7.5	YH132M-4V1
		50	833	21.50		4.88		
		60	1000	18.50		5.21		
	-5.5	27	450	21.50	1500	3.22	5.5	YH132S-4V1
		45	750	17.50		3.70		
		54	900	16.50		4.11		
	-4	25	417	17.50	1500	2.65	4	YH112M-4V1
		42	700	15.00		3.01		
		50	833	13.00		3.22		
EMC-125C	-11	48	800	24.00	1500	5.37	11	YH160M-4V1
		80	1333	21.00		6.85		
		96	1600	17.50		7.15		
	-7.5	42	700	22.00	1500	4.75	7.5	YH132M-4V1
		70	1167	20.00		5.69		
		84	1400	18.00		6.15		
	-5.5	42	700	17.50	1500	3.85	5.5	YH132S-4V1
		70	1167	15.00		4.28		
		84	1400	12.00		4.78		
EMC-150C	-11	65	1083	22.00	1500	7.79	11	YH160M-4V1
		108	1800	21.00		9.20		
		130	2167	18.00		9.80		
	-7.5	66	1100	17.00	1500	5.50	7.5	YH132M-4V1
		110	1833	15.00		6.81		
		132	2200	12.00		7.05		
EMC-200C	-15	96	1600	23.50	1500	10.97	15	YH160M-4V1
		160	2667	21.00		12.89		
		192	3200	18.50		13.07		
	-11	78	1300	19.50	1500	7.81	11	YH160M-4V1
		130	2167	17.50		8.60		
		156	2600	16.00		9.20		
EMC-250C	-30	162	2700	25.00	1500	17.23	30	YH200L-4V1
		270	4500	21.00		20.50		
		324	5400	19.00		24.30		
	-22	150	2500	19.00	1500	13.32	22	YH180L-4V1
		250	4167	18.00		17.51		
		300	5000	17.50		20.34		

9. Bilge Pump

- Merk = SILI
- Model = VSN-S-150-18,5
- Kapasitas = 100 m³/jam
- Daya = 18,5 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 40 m
- Speed = 1500 rpm
- Jumlah = 3 Buah



CENTRIFUGAL PUMP VS-S



Application
Fire & G.D. Pump
Bilge & Ballast Pump

Feature
Vertical Two-stage Single-suction
Cast-iron Type

SILI PUMP,
Your reliable one-stop supplier of marine pumps.
Shanghai SILI PUMP Industry Co., Ltd.
Add: No.120 Jiyuan Road, 201510, Shanghai, China (Linyuan Industry Area)
Tel: 0086-21-39103967, Fax: 0086-21-39103967
Web: www.silipump.com e-mail: sales@silipump.com
(The company reserves the right to make alterations without notice)

● THE CAPABILITY TABLE OF THE VSN-S-TYPE WITH 50Hz

TYPE		CAPACITY		TOTAL HEAD (m)	SPEED (rpm)	POWER (KW)		MOTOR-TYPE
		m ³ /h	l/min			SHAFT POWER	MATCHING POWER	
VSN-S-150	-18.5	60/120	1000/2000	50/25	1500	14	18.5	YH180M-4V1
		100/200	1667/3333	40/20		16		
VSN-S-300	-55	120/240	2000/4000	30/15	1500	18	55	YH250M-4V1
		140/280	2334/4667	56/28		37		
		240/480	4000/8000	50/25		47		
		280/560	4667/9333	45/22.5		49		
	-37	120/240	2000/4000	48/24	1500	29	37	YH225S-4V1
		200/400	3333/6667	40/20		32		
		240/480	4000/8000	37/17.5		34		
	-30	90/180	1500/3000	46/23	1500	21	30	YH200L-4V1
		150/300	2500/5000	38/19		23		
		180/360	3000/6000	30/15		23		

10. Ballast Pump

- Merk = SILI
- Model = VSN-250B-75
- Kapasitas = 260 m³/jam
- Daya = 75 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 55 m
- Speed = 1500 rpm
- Jumlah = 3 Buah



CENTRIFUGAL PUMP VS



Application
Fire & G.S. Pump
Bilge & Ballast Pump

Feature
Vertical Two-stage Single-suction
Split-casing Type

SILI PUMP.
Your reliable one-stop supplier of marine pumps.

Shanghai SILI PUMP Industry Co., Ltd.
Add: No.128 Jinyuan Road, 201518, Shanghai, China (Jinyuan Industry Area)
Tel: 0086-21-39105967 Fax: 0086-21-39105967
Web: www.silipump.com e-mail: sales@silipump.com
(The company reserves the right to make alteration without notice)

THE CAPABILITY TABLE OF THE VSN-TYPE WITH 50Hz

TYPE		CAPACITY		TOTAL HEAD (m)	SPEED (rpm)	POWER (KW)		MOTOR-TYPE
		m ³ /h	l/min			SHAFT POWER	MATCHING POWER	
VSN-200	-30	80.00	1333	57.00	1500	24.00	30	YH200L-4V1
		130.00	2167	50.00		28.50		
		160.00	2667	42.00		29.50		
	-30	85.00	1417	46.00	1500	21.00	30	YH200L-4V1
		140.00	2333	40.00		25.00		
		170.00	2833	35.00		27.00		
VSN-250	-45	85.00	1417	42.00	1500	19.50	22	YH180L-4V1
		140.00	2333	35.00		21.00		
		170.00	2833	29.00		21.00		
	-37	145.00	2417	48.00	1500	34.50	45	YH225M-4V1
		240.00	4000	40.00		38.50		
		290.00	4833	30.00		35.00		
	-30	245.00	2417	44.00	1500	32.00	37	YH225S-4V1
		240.00	4000	36.00		36.00		
		290.00	4833	27.00		34.50		
	-75	145.00	2417	37.00	1500	26.00	30	YH200L-4V1
		240.00	4000	30.00		28.00		
		290.00	4833	17.00		22.00		
VSN-250B	-110	180.00	3000	87.00	1500	90.00	110	YH315S-4V1
		300.00	5000	75.00		85.00		
		360.00	6000	66.00		90.00		
	-90	155.00	2583	74.00	1500	82.00	90	YH280M-4V1
		260.00	4333	65.00		65.00		
		310.00	5167	60.00		72.00		
	-75	155.00	2583	64.00	1500	45.00	75	YH280S-4V1
		260.00	4333	55.00		56.50		
		310.00	5167	49.00		60.00		
	-55	155.00	2583	59.00	1500	43.50	55	YH250M-4V1
		260.00	4333	45.00		47.00		
		310.00	5167	37.00		47.00		
	-45	145.00	2416	51.00	1500	35.00	45	YH225M-4V1
		240.00	4000	40.00		40.00		
		290.00	4833	32.00		39.00		

11. Fire Pump

- Merk = SILI
- Model = VSN-150-15
- Kapasitas = 110 m³/jam
- Daya = 15 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 30 m
- Speed = 1500 rpm
- Jumlah = 3 Buah



CENTRIFUGAL PUMP VS



Application
Fire & G.S. Pump
Bilge & Ballast Pump

Feature
Vertical Two-stage Single-suction
Split-casing Type

SILI PUMP.
Your reliable one-stop supplier of marine pumps.

Shanghai SILI PUMP Industry Co., Ltd.
Add: No.128 Jinyuan Road, 201518, Shanghai, China (Jinyuan Industry Area)
Tel: 0086-21-39105967 Fax: 0086-21-39105967
Web: www.silipump.com e-mail: sales@silipump.com
(The company reserves the right to make alteration without notice)

THE CAPABILITY TABLE OF THE VSN-TYPE WITH 50Hz

TYPE		CAPACITY		TOTAL HEAD (m)	SPEED (rpm)	POWER (KW)		MOTOR-TYPE
		m ³ /h	l/min			SHAFT POWER	MATCHING POWER	
VSN-100	-11	20.00	333	57.00	1500	7.80	11	YH160M-4V1
		35.00	583	50.00		9.50		
		40.00	667	45.00		9.80		
	-7.5	20.00	333	42.00	1500	5.70	7.5	YH132M-4V1
		35.00	583	35.00		6.70		
		40.00	667	30.00		6.50		
VSN-125	-15	45.00	750	44.00	1500	9.80	15	YH160L-4V1
		75.00	1250	40.00		12.50		
		90.00	1500	35.00		14.00		
	-11	40.00	667	39.00	1500	8.00	11	YH160M-4V1
		65.00	1083	35.00		9.80		
		80.00	1333	30.00		11.00		
VSN-150	-22	70.00	1167	49.00	1500	16.00	22	YH180L-4V1
		115.00	1917	40.00		18.50		
		140.00	2333	32.00		19.00		
	-18.5	65.00	1083	41.00	1500	13.00	18.5	YH180M-4V1
		110.00	1833	35.00		16.00		
		130.00	2167	30.00		17.00		
	-15	65.00	1083	37.00	1500	12.00	15	YH160L-4V1
		110.00	1833	30.00		14.00		
		130.00	2167	26.00		14.50		
VSN-150B	-37	70.00	1167	74.00	1500	25.50	37	YH225S-4V1
		120.00	2000	60.00		30.00		
		140.00	2333	50.00		32.00		
	-30	70.00	1167	67.00	1500	23.50	30	YH200L-4V1
		120.00	2000	52.00		27.50		
		140.00	2333	43.00		28.00		
	-30	70.00	1167	59.00	1500	21.00	30	YH200L-4V1
		120.00	2000	45.00		24.00		
		140.00	2333	35.00		23.00		
	-22	70.00	1167	54.00	1500	20.00	22	YH180L-4V1
		120.00	2000	38.00		20.50		
		140.00	2333	28.00		19.50		

12. Sprinkler Pump

- Merk = Wilo
- Model = K 86S-2C
- Daya = 10 kW
- Jumlah = 2 Buah

Motor data								
Wilo-EMU...	Type of motor	Rated power	Rated current	Starting current - direct	Starting current - star-delta	Installation	Material code	
		P_2 kW	I_N	A			A	C
					I_A			
K 86-2a	NU 611-2/18	18	39	205	69	V+H	•	•
K 86S-2b	NU 611-2/15	14	30.5	160	54	V+H	•	•
K 86S-2c	NU 611-2/11	10	22	121	40.5	V+H	•	•

For star/delta starting, max. current peak during the switching phase; after reducing the compensatory processes and a switching phase of 80 ms. Please request a starting diagram when configuring power generators!

Pioneering for You

wilo

Range Leaflet – Edition 03/2016 – 50 Hz

Wilo-EMU sprinkler pumps



13. Cargo Pump

- Merk = SILI
- Model = 300CL-30A
- Kapasitas = 720 m³/jam
- Daya = 75 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 25 m
- Speed = 1450 rpm
- Jumlah = 4 Buah



CL Vertical Sump Centrifugal Pump Catalogue

The SILI CL series centrifugal pump is similar to other vertical marine centrifugal pump, but just in **Sump Structure**. That means the pump is **vertical pedestal mounting installation**, just leaving the pump motor above the deck.

A supporting frame can be coupled with the motor flanges, so then it can save some installation space.

Pump casing/cover/impeller is in bronze material, and pump shaft in stainless steel material. Shaft seal can be in mechanical seal or soft packing.

Motor is in IEC standard, Y-H series especially for marine industry; both 50Hz and 60Hz are available.

The SILI CL pumps are suitable as seawater cooling pumps, bilge and ballast pumps, fire-fighting, general service pumps, and so on.



Pump specification:

For 50Hz pump, in 3phase/50Hz, speed 2900rpm(2 poles), 1450rpm(4 poles)

For 60Hz pump, in 3phase/60Hz, speed 3500rpm(2 poles), 1750rpm(4 poles)

Item	Model	50Hz				60Hz			
		Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)	Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)
21	200CL-30	300	30	1450	37	354.0	41.4	1750	55
22	200CL-30A	262	23.5	1450	30	309.2	32.4	1750	45
23	250CL-25	486	25	1450	45	573.5	34.5	1750	75
24	250CL-25A	443	20	1450	37	522.7	27.6	1750	55
25	300CL-30	792	30	1450	90	934.6	41.4	1750	145
26	300CL-30A	720	25	1450	75	849.6	34.5	1750	125

14. SLOP Pump

- Merk = SILI
- Model = 200CL-30
- Kapasitas = 300 m³/jam
- Daya = 30 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 30 m
- Speed = 1450 rpm
- Jumlah = 2 Buah



CL Vertical Sump Centrifugal Pump Catalogue

The SILI CL series centrifugal pump is similar to other vertical marine centrifugal pump, but just in **Sump Structure**. That means the pump is **vertical pedestal mounting installation**, just leaving the pump motor above the deck.

A supporting frame can be coupled with the motor flanges, so then it can save some installation space.

Pump casing/cover/impeller is in bronze material, and pump shaft in stainless steel material. Shaft seal can be in mechanical seal or soft packing.

Motor is in IEC standard, Y-H series especially for marine industry; both 50Hz and 60Hz are available.

The SILI CL pumps are suitable as seawater cooling pumps, bilge and ballast pumps, fire-fighting, general service pumps, and so on.



Pump specification:

For 50Hz pump, in 3phase/50Hz, speed 2900rpm(2 poles), 1450rpm(4 poles)

For 60Hz pump, in 3phase/60Hz, speed 3500rpm(2 poles), 1750rpm(4 poles)

Item	Model	50Hz				60Hz			
		Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)	Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kw)
21	200CL-30	300	30	1450	37	354.0	41.4	1750	55
22	200CL-30A	262	23.5	1450	30	309.2	32.4	1750	45
23	250CL-25	486	25	1450	45	573.5	34.5	1750	75
24	250CL-25A	443	20	1450	37	522.7	27.6	1750	55
25	300CL-30	792	30	1450	90	934.6	41.4	1750	145
26	300CL-30A	720	25	1450	75	849.6	34.5	1750	125

15. Sanitary Sea Water Pump

- Merk = SILI
- Model = 25CL-30
- Kapasitas = 3,6 m³/jam
- Daya = 1,1 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 30 m
- Speed = 2900 rpm
- Jumlah = 2 Buah



CL Vertical Sump Centrifugal Pump Catalogue

The SILI CL series centrifugal pump is similar to other vertical marine centrifugal pump, but just in **Sump Structure**. That means the pump is **vertical pedestal mounting installation**, just leaving the pump motor above the deck.

A supporting frame can be coupled with the motor flanges, so then it can save some installation space.

Pump casing/cover/impeller is in bronze material, and pump shaft in stainless steel material. Shaft seal can be in mechanical seal or soft packing.

Motor is in IEC standard, Y-H series especially for marine industry; both 50Hz and 60Hz are available.

The SILI CL pumps are suitable as seawater cooling pumps, bilge and ballast pumps, fire-fighting, general service pumps, and so on.



Pump specification:
 For 50Hz pump, in 3phase/50Hz, speed 2900rpm(2 poles), 1450rpm(4 poles)
 For 60Hz pump, in 3phase/60Hz, speed 3500rpm(2 poles), 1750rpm(4 poles)

Item	Model	50Hz				60Hz			
		Capacity (m ³ /hr)	Head (m)	Speed (rpm)	Power (kW)	Capacity (m ³ /hr)	Head (m)	Speed (rpm)	Power (kW)
1	25CL-30	3.6	30	2900	1.1	4.2	41.4	3500	2.2
2	30CL-30	20	30	2900	4	23.6	41.4	3500	7.5
3	50CL-30A	18	24.5	2900	3	21.2	33.8	3500	5.5
4	65CL-45	30	45	2900	7.5	35.4	62.1	3500	15
5	65CL-45A	27	37	2900	5.5	31.9	51.1	3500	11
6	80CL-30	50	30	2900	7.5	59.0	41.4	3500	15
7	80CL-30A	45.5	25	2900	5.5	53.7	34.5	3500	11
8	80CL-35	50	35	2900	7.5	59.0	48.3	3500	15
9	80CL-65	50	65	2900	18.5	59.0	89.7	3500	30
10	80CL-85A	46.5	56	2900	15	54.9	77.3	3500	22
11	80CL-85B	44	50	2900	15	51.9	69.0	3500	22
12	100CL-30	100	30	2900	15	118.0	41.4	3500	22
13	100CL-30A	90	24.5	2900	11	106.2	33.8	3500	18.5
14	100CL-45	100	45	2900	22	118.0	62.1	3500	35
15	100CL-45A	90	36.5	2900	15	106.2	50.4	3500	22
16	100CL-85	100	85	2900	45	118.0	117.3	3500	75
17	100CL-85A	92.5	73	2900	37	109.2	100.7	3500	55
18	100CL-85B	87	64	2900	30	102.7	88.3	3500	45
19	150CL-30	162	30	2900	22	191.2	41.4	3500	35
20	150CL-30A	148	25	2900	18.5	174.6	34.5	3500	30

16. Hydrophore Tank Sea Water

- Merk = Taiko
- Model = UH-1.5-2R
- Kapasitas = 1500 Liter
- Daya = 5,5 kW



TAIKO

HYDROPHORE TANK UNIT UH

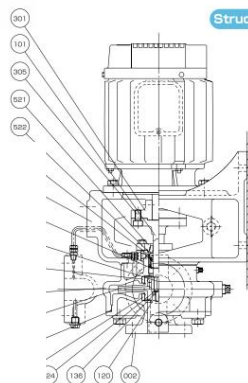
Application

Fresh Water
Sanitary Water
Drinking Water

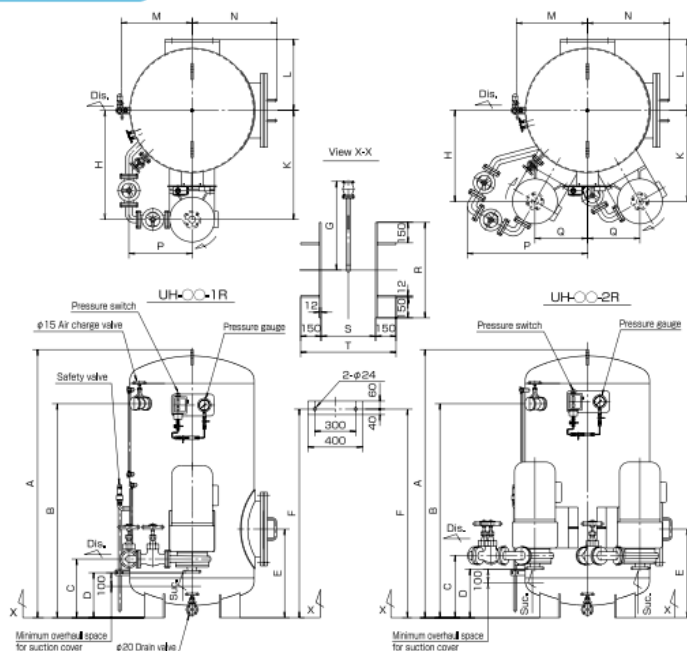
Feature

F.W. & Sanitary

Structure & Material



Dimension



※ mark is based on the bore size of attached pump.

Model No.	Bore		Tank Volume (mm)	Dimension (mm)																
	Suc.	Dis.		A	B	C	D	E	F	G	H	K	L	M	N	P	Q	R	S	T
UH-0.5-1R	※	50	600	1198	805	450	350	600	795	625	680	680	495	520	595	290	—	700	400	700
UH-0.5-2R	※	50	600	1198	880	450	350	600	795	625	589	589	495	520	595	560	340	700	400	700
UH-1.0-1R	※	50	1000	1967	1570	450	350	650	1620	650	720	720	520	520	620	240	—	700	400	700
UH-1.0-2R	※	50	1000	1967	1570	450	350	650	1620	650	720	720	520	520	620	240	—	700	400	700
UH-1.5-1R	※	50	1500	1956	1530	450	350	700	1520	750	820	820	620	650	715	240	—	800	500	800
UH-1.5-2R	※	50	1500	1956	1530	450	350	700	1520	750	820	820	620	650	715	240	—	800	500	800
UH-2.0-1R	※	50	2000	2170	1700	450	350	750	1690	800	950	950	670	700	785	290	—	900	600	900
UH-2.0-2R	※	50	2000	2170	1700	450	350	750	1690	800	950	950	670	700	785	290	—	900	600	900

17. Sanitary Fresh Water Pump

- Merk = SILI
- Model = 25CL-30
- Kapasitas = 3,6 m³/jam
- Daya = 1,1 kW
- Hz = 50 Hz
- Jenis = Centrifugal Pump
- Head = 30 m
- Speed = 2900 rpm
- Jumlah = 2 Buah



CL Vertical Sump Centrifugal Pump Catalogue

The SILI CL series centrifugal pump is similar to other vertical marine centrifugal pump, but just in **Sump Structure**. That means the pump is **vertical pedestal mounting installation**, just leaving the pump motor above the deck.

A supporting frame can be coupled with the motor flanges, so then it can save some installation space.

Pump casing/cover/impeller is in bronze material, and pump shaft in stainless steel material. Shaft seal can be in mechanical seal or soft packing.

Motor is in IEC standard, Y-H series especially for marine industry; both 50Hz and 60Hz are available.

The SILI CL pumps are suitable as seawater cooling pumps, bilge and ballast pumps, fire-fighting, general service pumps, and so on.



Pump specification:

For 50Hz pump, in 3phase/50Hz, speed 2900rpm(2 poles), 1450rpm(4 poles)

For 60Hz pump, in 3phase/60Hz, speed 3500rpm(2 poles), 1750rpm(4 poles)

Item	Model	50Hz				60Hz			
		Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kW)	Capacity (m ³ /h)	Head (m)	Speed (rpm)	Power (kW)
1	25CL-30	3.6	30	2900	1.1	4.2	41.4	3500	2.2
2	30CL-30	20	30	2900	4	23.6	41.4	3500	7.5
3	50CL-30A	18	24.5	2900	3	21.2	33.8	3500	5.5
4	65CL-45	30	45	2900	7.5	35.4	62.1	3500	15
5	65CL-45A	27	37	2900	5.5	31.9	51.1	3500	11
6	80CL-30	50	30	2900	7.5	59.0	41.4	3500	15
7	80CL-30A	45.5	25	2900	5.5	53.7	34.5	3500	11
8	80CL-35	50	35	2900	7.5	59.0	48.3	3500	15
9	80CL-65	50	65	2900	18.5	59.0	89.7	3500	30
10	80CL-85A	46.5	56	2900	15	54.9	77.3	3500	22
11	80CL-85B	44	50	2900	15	51.9	69.0	3500	22
12	100CL-30	100	30	2900	15	118.0	41.4	3500	22
13	100CL-30A	90	24.5	2900	11	106.2	33.8	3500	18.5
14	100CL-45	100	45	2900	22	118.0	62.1	3500	35
15	100CL-45A	90	36.5	2900	15	106.2	50.4	3500	22
16	100CL-85	100	85	2900	45	118.0	117.3	3500	75
17	100CL-85A	92.5	73	2900	37	109.2	100.7	3500	55
18	100CL-85B	87	64	2900	30	102.7	88.3	3500	45
19	150CL-30	162	30	2900	22	191.2	41.4	3500	35
20	150CL-30A	148	25	2900	18.5	174.6	34.5	3500	30

- ## HYDROPHORE TANK UNIT

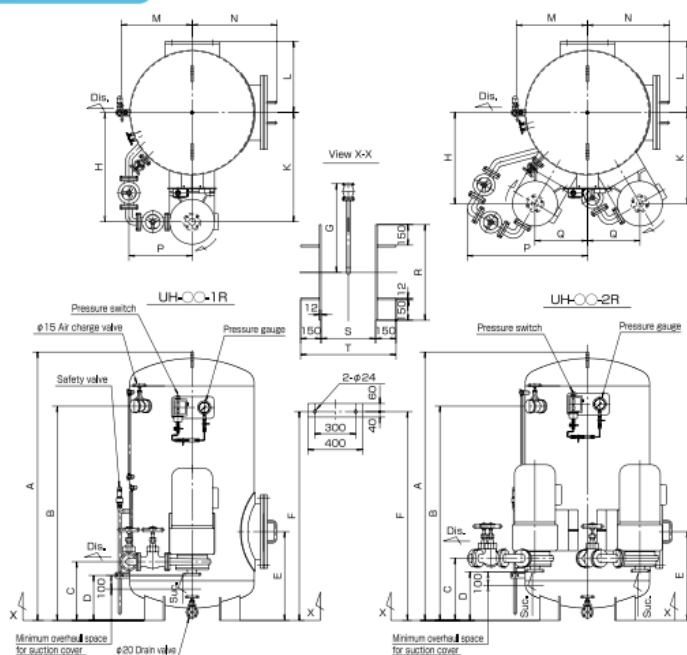


Fresh Water
Sanitary Water
Drinking Water

F.W. & Sanitary

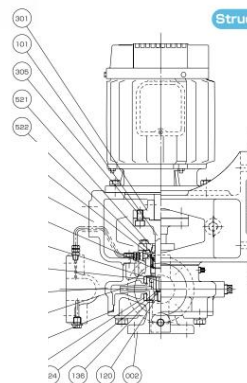
Structure & Material

Supplies 100 / 100



*mark is based on the bore size of attached pump.

Model No.	Bore		Tpk Vale	Dimension (mm)																Link is based on the bore size of attached pump				
	Suc.	Dis.		A	B	C	D	E	F	G	H	K	L	M	N	P	Q	R	S	T				
WH-05-1R	ø	50	600	1198	805	450	350	600	795	625	680	680	495	520	595	260	-	700	400	700				
WH-10-1R	ø	50	500	1198	880	450	350	600	795	625	589	589	485	520	595	560	340	700	400	700				
WH-12-1R	ø	50	500	1267	1570	450	350	650	1620	650	730	730	520	520	520	620	240	-	760	400	760			
			1998																					
WH-15-1R	ø	50	1500	1565	1530	450	350	700	1520	750	820	820	620	650	715	240	-	800	500	800				
WH-15-2R	ø	50	1600	1958	1530	450	350	700	1560	750	710	710	620	650	715	630	410	800	500	800				
WH-20-1R	ø	50	1700	2170	1700	450	350	750	1600	800	820	820	620	650	780	620	480	800	500	800				
WH-25-1R	ø	50	2000	2170	1700	450	350	750	1600	800	820	830	670	700	785	235	480	800	800	800				

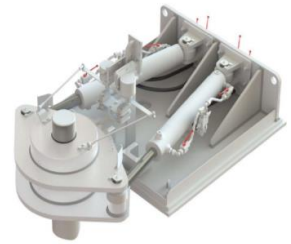


19. Mesin Kemudi (*Steering Gear*)

- Merek = Macgregor
- Tipe = HATLAPA Piston type NEPTUNE 300
- Power = 2 x 32,2 kW
- P x L x T = 2909 mm x 1710 mm x 900 mm

Steering gear

HATLAPA Piston type NEPTUNE



Structural features

- Electro-hydraulic driven
- 2 differential piston type cylinder
- Working torque: 25 – 850 kNm
- For 2x 35°/ 2x 45° rudder angle (larger rudder angle on demand)
- Support and stopper unit welded to the deck
- Independent pump unit with fix or variable displacement
- Connection to rudder stock by conical hydraulic shankfit or cylindrical clamping device
- Application for single screw or for twin screw vessels
- For twin rudder electrical or mechanical synchronization possible

On request we can deliver

- Motor starters
- Alarm
- Rudder control
- Rudder angle indicator systems

Special design

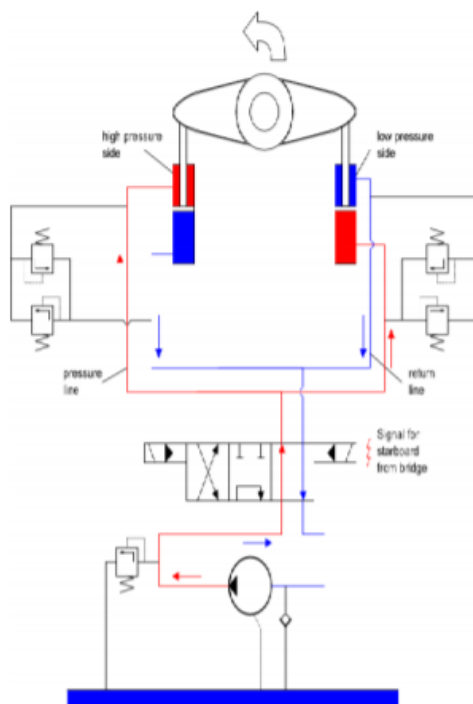
- Available on request, for example NEPTUNE steering gear for rudder angle up to +40 degrees

Technical data



Type		25	30	40	50	80	100	130	160	250	300	550	730	850	950
Working torque*	kNm	24	29	39	47	80	98	130	159	248	302	550	730	850	950
Length	L [mm]	1700	1700	2100	2100	2200	2200	2400	2400	2800	2500	2909	3295	3348	3348
Width	B [mm]	1000	1000	1000	1000	1250	1250	1350	1300	1600	1500	1710	1900	1900	1900
Height	H1 [mm]	600	600	750	750	800	800	850	850	900	900	1254	1395	1415	1415
El. motor output** at 50/60 Hz	[kW]	2 x 2.1	2 x 2.6	2 x 3.3	2 x 4.5	2 x 6.2	2 x 7.7	2 x 11.5	2 x 12.2	2 x 23	2 x 23.5	2 x 32.2	2 x 42	2 x 49.5	2 x 53.9
Rudder angle		45°	35°	45°	35°	45°	35°	45°	35°	45°	35°	35°	35°	35°	35°

* according to IEC 92-204: duty S6-25%

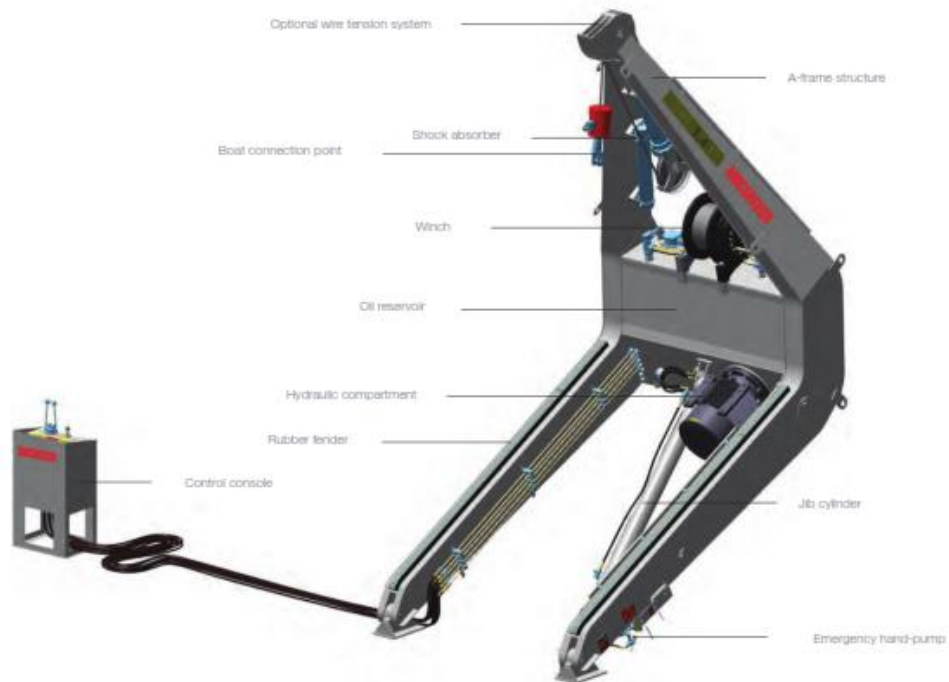


Features

- Pump is switched on (bridge panel, starter cabinet)
- Without a control signal the directional valve is in the neutral (middle) position
- According to the control signal the directional valve is switching in the working position
- The hydraulic oil will delivered to one cylinder piston side and one cylinder rod side (red)
- One piston is getting out and one is getting in. The oil from the opposites will be delivered back to the pump (blue, close-loop)
- The to and fro going movement of the piston will be transferred via the ram pin into a rotating movement of the tiller

20. Mesin Sekoci (Boat Winch)

- Merek = Macgregor
- Tipe = HMD A25
- *Lifting Capacity* = 25 kN / 2500 Kg
- Power = 55 kW
- Berat = 2700 Kg



Main technical specifications for A-davits

	HMD A25	HMD A34	HMD A38	HMD A45	HMD A55 TUG	HMD A82
Lifting capacity (SWL)	25 kN / 2500 kg	34 kN / 3400 kg	38 kN / 3800 kg	45 kN / 4500 kg	55 kN / 5500 kg	82 kN / 8200 kg
Number of wire falls	1	1	1	1	1	1
Holding speed	0-50 m/min	0-50 m/min	0-50 m/min	0-50 m/min	0-50 m/min	0-50 m/min
Lift / lpm, max	20°/ksl/10°/lpm	20°/ksl/10°/lpm	20°/ksl/10°/lpm	20°/ksl/10°/lpm	20°/ksl/10°/lpm	20°/ksl/10°/lpm
Outreach	~2.50 m	~3.40 m	~3.40 m	~3.30 m	~2.16 m	~2.68 m
Wire diameter	N/A	N/A	N/A	N/A	N/A	N/A
Power consumption	~55 kW	~62 kW	~68 kW	~75 kW	~90 kW	~135 kW
Voltage	380V-690V / 50 or 60 Hz	380V-690V / 50 or 60 Hz	380V-690V / 50 or 60 Hz	380V-690V / 50 or 60 Hz	380V-690V / 50 or 60 Hz	380V-690V / 50 or 60 Hz
DOL start current	Upon request	Upon request	Upon request	Upon request	Upon request	Upon request
Star / Delta start current	Upon request	Upon request	Upon request	Upon request	Upon request	Upon request
Min installation	~3.0 m	~3.60 m	~3.60 m	~3.45 m	~3.75 m	~4.10 m
Min height (stowed position)	~3.25 m	~5.45 m	~5.45 m	~4.67 m	~5.45 m	~5.40 m
Total weight	~2700 kg	~3600 kg	~3600 kg	~3900 kg	~3900 kg	~5500 kg

Sekoci yang digunakan:

- Merek = *Palfinger Marine tipe LBT 25 - 2*
- Panjang sekoci = 5,18 m
- Lebar sekoci = 1,83 m
- Tinggi sekoci = 0,715 m
- Berat sekoci = 508 kg
- Berat total orang = 1050 kg
- Berat perlengkapan = 152 kg
- Total berat = 1710 kg



(FAST) RESCUE BOAT DAVITS



PRHE SERIES

- Hydraulic pivoting and electric hoisting
- Easy to install (plug and play)
- Provided with self-contained stainless steel HPU
- Easy to maintain
- Optional Ro-Ro certificate (PRH-H)
- Optional light weight version
- H Series = Hydraulic hoisting/lowering
- Foldable davit arm for easy transportation



NPDS SERIES

- Easy to install (plug and play)
- Totally enclosed system
- All components protected from wear and tear
- Innovative design
- Optional Ro-Ro certificate (NPDS 3500H)



NTDS SERIES

- Roof mounted telescopic davit
- Space-saving option
- All components protected from wear and tear
- Easy to install
- Totally enclosed system

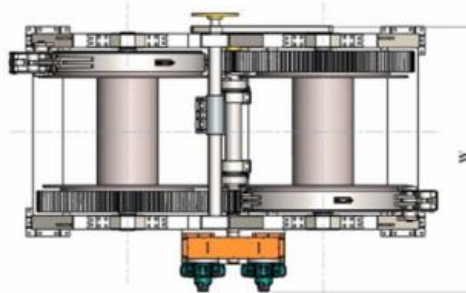
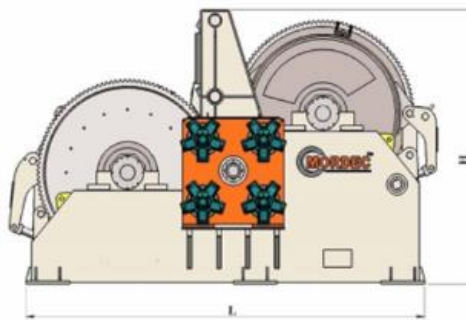
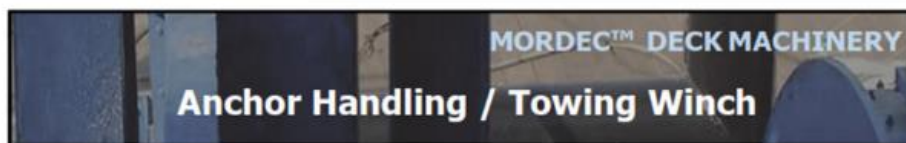
Type	Safe Working Load (SWL)	Max Boat Weight	Hoisting	Operation
A-FRAME (FAST) RESCUE BOAT DAVITS				
PRH 30 ⁽¹⁾	30 kN	3059 kg	0–48 m/min (Hydraulic)	Hydraulic
PRHE 25 H 2	27.5 kN	2549 kg	0–18 m/min (Electric)	Hydraulic
PRHE 25-2	27.5 kN	2549 kg	0–18 m/min (Electric)	Electric
PRH 35 H ⁽¹⁾	37.5 kN	3823 kg	0–48 m/min (Hydraulic)	Hydraulic
PRH 35 AP ⁽¹⁾	37.5 kN	3823 kg	0–48 m/min (Hydraulic)	Hydraulic
PRH 25 H ⁽¹⁾	27.5 kN	2804 kg	0–18 m/min (Hydraulic)	Hydraulic
PRHE 20	20 kN	2549 kg	0–18 m/min (Electric)	Electric
PRHE 35-2	35.3 kN	3600 kg	0–18 m/min (Hydraulic)	Electric
SINGLE ARM TOTALLY ENCLOSED DAVIT				
NPDS 3500H / NPDS 3500HFR ⁽¹⁾⁽²⁾	31.4 kN	3200 kg	0–18/50 m/min (Hydraulic)	Hydraulic
NPDS 4000 / NPDS 4000HFR ⁽¹⁾	39.2 kN	4000 kg	0–18/50 m/min (Hydraulic)	Hydraulic
NPDS 6000H ⁽¹⁾	58.8 kN	6000 kg	0–48 m/min (Hydraulic)	Hydraulic
TELESCOPIC DAVITS				
NTDS 1800 H	17.6 kN	1800 kg	0–18/50 m/min (Hydraulic)	Hydraulic
NTDS 3500 H	31.4 kN	3500 kg	0–18/50 m/min (Hydraulic)	Hydraulic

⁽¹⁾ High speed, optional constant tensioning plus shock absorber | ⁽²⁾ Ro-Ro fast rescue boat davit

FEATURES AND OPTIONS

21. Mesin Jangkar (Windlass)

- Merk = MORDEC™
- Type = MD-AHTW-400WF
- Work Load = 400 kN
- Mooring Pull = 90 kW
- Mooring Speed = 9 m / min
- Daya :=90 kW

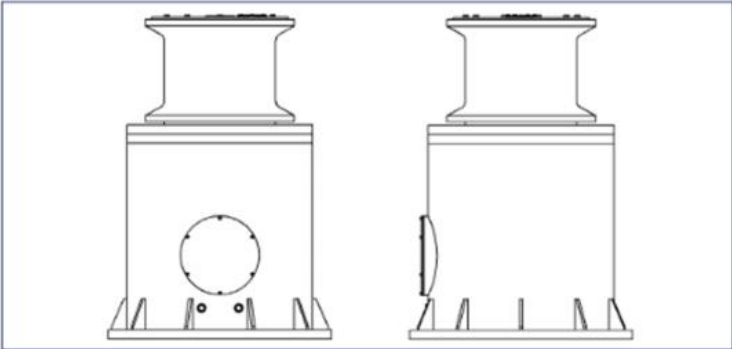


Model No.	Drum Capacity	Rated Pull @ 1st Layer	Brake Hold- ing	Main Dimension			Weight	Power Required
				L	W	H		
MD-AHTW-400WF	ø42MM DIA. X 1000MTR	400kN X 8M/MIN	90KN	5320	3240	3860	32 Ton	90KW
MD-AHTW-600WF	ø48MM DIA. X 1000MTR	600kN X 9M/MIN	120KN	5700	3335	3860	35 Ton	150KW
MD-AHTW-750WF	ø52MM DIA. X 1000MTR	750kN X 8M/MIN	150KN	5700	3415	3860	36 Ton	150KW
MD-AHTW-1000WF	ø52MM DIA. X 1200MTR	1000kN X 6M/MIN	180KN	5700	3640	3860	39 Ton	180KW

22. Mesin Capstan

- Merk = Schoellhorn
- Type = SA1817-20-30
- Daya = 20 HP = 14,914 kW

Specifications



MODEL NUMBER	MOTOR HP	BARREL SIZE	STARTING PULL (LBS)	RUNNING PULL (LBS)	FFM
SA1817-15-30	15	18	45,000	15,000	30
SA2424-15-30	15	24	36,000	12,500	30
SA1817-20-30	20	18	52,500	17,500	30
SA2424-20-30	20	24	60,000	20,000	30
SA1817-25-30	25	18	67,000	22,500	30
SA2424-25-30	25	24	75,000	25,000	30
SA1817-30-30	30	18	82,000	27,500	30
SA2424-30-30	30	24	90,000	30,000	30
SA2424-40-30	40	24	94,000	37,500	30
SA3030-40-30	40	30	100,000	40,000	30
SA2424-50-30	50	24	118,000	47,500	30
SA3030-50-30	50	30	125,000	50,000	30

Product details and specifications are subject to change without notice.

For additional information, drawings, and specifications, contact factory.

2 SPEED UNITS AVAILABLE.

CONTACT FACTORY FOR BOLLARD PULL RATINGS & VARIOUS LINE SPEEDS.

www.schoellhorn-albrecht.com

www.schoellhorn-albrecht.com

Deck-Mounted Capstans

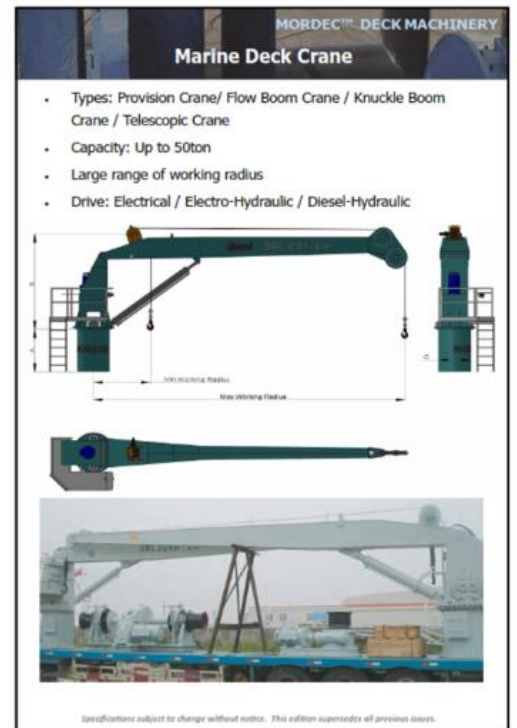
- Used by U.S.N., U.S.C.G., U.S.A.C., Commercial Shipyard, Maritime
- Capstan & Reel Duty Motors (High Starting Torque)
- Weatherproof Motor & Magnetic Disc Brake 250,000 HP
- Barrel Diameters: 18", 24" & 30"
- Available in Electric, Hydraulic & Explosion Proof
- Standard & Custom Control Packages
- Marine Pacing Systems Available



23. Provision Crane

- Merek = MORDEC™
- Tipe = HPC-07-08
- SWL = 7 ton
- Power = 37 kW
- Berat = 8100 kg (8,1 ton)

MORDEC™ DECK MACHINERY												
Marine Deck Crane												
MODEL	SWL TON	WORK RADIUS		HOSTING SPEED (M/ MIN)	LUFFING SPEED (SEC)	SLEWING SPEED (RPM)	ELECTRIC MOTOR (KW)	A	B	C	T	WEIGHT (KG)
		MAX (M)	MIN (M)					(MM)	(MM)	(ø M)	(MM)	
HPC-06-12	6	12	2.5	10	65	0.5	30	1700	1575	1100	16	9155
HPC-06-14	6	14	2.9	10	70	0.5	30	1700	1575	1250	16	9905
HPC-06-16	6	16	3.2	10	77	0.5	30	1700	1950	1250	16	10660
HPC-06-18	6	18	3.6	10	84	0.5	30	1700	2350	1432	16	12160
HPC-06-20	6	20	3.9	10	91	0.5	30	1700	2350	1518	18	12910
HPC-06-22	6	22	4.3	10	99	0.5	30	1700	2650	1518	18	13660
HPC-06-24	6	24	4.6	10	107	0.5	30	1700	2650	1518	18	14400
HPC-07-08	7	8	1.8	10	55	0.5	37	1800	2186	1100	16	8100
HPC-07-10	7	10	2.2	10	60	0.5	37	1800	2186	1100	16	9000
HPC-07-12	7	12	2.5	10	65	0.5	37	1800	2186	1250	16	9900
HPC-07-14	7	14	2.9	10	70	0.5	37	1800	2350	1250	16	10800
HPC-07-16	7	16	3.2	10	77	0.5	37	1800	2350	1432	16	11700
HPC-07-18	7	18	3.6	10	84	0.5	37	1800	2623	1432	16	12600
HPC-07-20	7	20	3.9	10	91	0.5	37	1800	2623	1518	16	13500
HPC-07-22	7	22	4.3	10	99	0.5	37	1800	2950	1518	18	14400
HPC-07-24	7	24	4.6	10	107	0.5	37	1800	2950	1595	18	15300
HPC-07-26	7	26	5.0	10	115	0.5	37	1800	3123	1595	18	16200
HPC-08-08	8	8	1.8	10	55	0.5	37	1800	2186	1250	16	9000
HPC-08-10	8	10	2.2	10	60	0.5	37	1800	2186	1250	16	9900
HPC-08-12	8	12	2.5	10	65	0.5	37	1800	2186	1432	16	10800



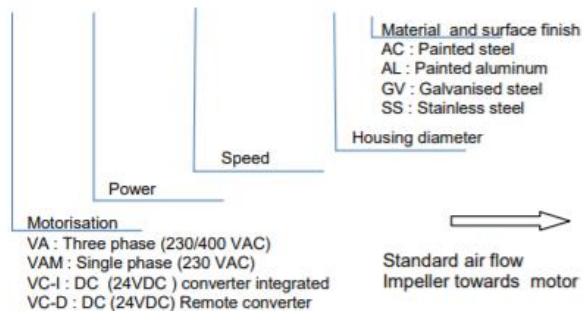
24. Exhaust Blower Fan Engine Room

- Merek = ENAG
- Tipe = VA/VC 60-19
- Kapasitas = 6000 m³/h
- Daya = 0,75 kW
- Speed = 1500 Rpm



Part number :

VA - 0.37KW 3000 RPM ø320 AC



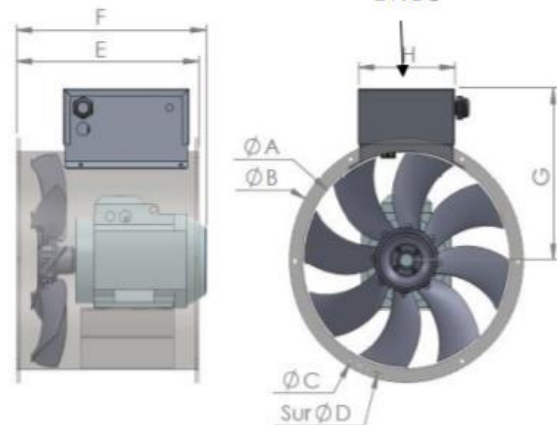
Int ø 1700mm max (larger, please consult us)

VA : AC fan
VC : DC fan

Marine fans

Axial marine fan range

Integrated converter for 24VDC



Marine fans

Axial marine fan range

VA : AC fan
VC : DC fan

1500RPM		Correspondance Previous type	Low limits		High limits		DIMENSIONS								
Housing Diameter	Power		Flow (m³/h)	Pressure (mm.Wg)	Flow (m³/h)	Pressure (mm.Wg)	A	B	C	D	E	F VA	F VC	G	H
Ø355	0,37kW *	VA/VC 15-10	1500 - 10		2600 - 1		355	410	6xØ9	385	310	310		310	185
Ø405	0,37kW *	VA/VC 20-14	2800 - 12		4600 - 1		405	460	6xØ9	435	320	320		335	185
Ø455	0,37kW *	VA/VC 35-17	3500 - 17		6700 - 1		455	515	6xØ9	490	400	400	400	365	215
	0,55kW *	VA/VC 50-15	5000 - 17		6000 - 1							400	400	365	215
	0,75kW *	VA/VC 55-17	5500 - 17		9500 - 1							400	400	365	215
Ø505	0,75kW *	VA/VC 60-19	6000 - 19		10300 - 1		505	565	8xØ9	540	420	420	420	390	215
Ø555	0,75kW *	VA/VC 60-20	6000 - 20		10500 - 1		555	615	8xØ9	590	450	450	450	420	215
	1,1kW *	VA/VC 80-19	8000 - 22		13100 - 1							450	450	420	215
	1,5kW *	VA/VC 100-20	7000 - 28		13300 - 1							450	450		
Ø606	1,5kW*	VA/VC 100-25	8500 - 25		16300 - 1		606	680	8xØ9	645	470	470	470	445	215
	2,2kW*	VA/VC 120-25	9000 - 31		15700 - 1							470	475	445	215
	3kW	VA 125-28	12200 - 31		18200 - 1							470			

* Exists as both VC-I and VC-D (24V)

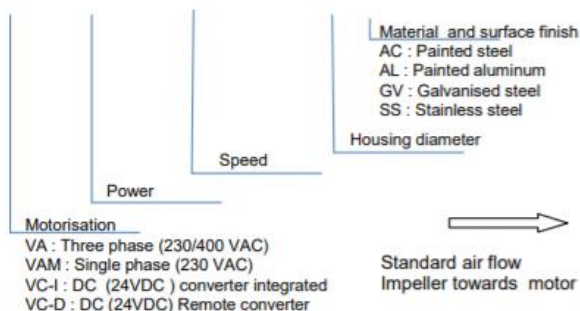
25. Supply Blower Fan Engine Room

- Merek = ENAG
- Tipe = VA/VC 60-19
- Kapasitas = 6000 m³/h
- Daya = 0,75 kW
- Speed = 1500 Rpm



Part number :

VA - 0.37KW 3000 RPM ø320 AC



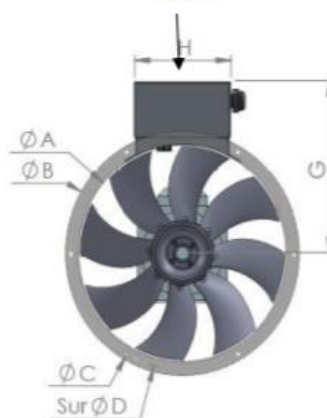
Int ø 1700mm max (larger, please consult us)

VA : AC fan
VC : DC fan

Marine fans

Axial marine fan range

Integrated converter for 24VDC



Marine fans

Axial marine fan range

VA : AC fan
VC : DC fan

1500RPM		Correspondance Previous type	Low limits		High limits		DIMENSIONS								
Housing Diameter	Power		Flow (m³/h)	Pressure (mm.Wg)	Flow (m³/h)	Pressure (mm.Wg)	A	B	C	D	E	F VA	F VC	G	H
Ø355	0,37kW *	VA/VC 15-10	1500 - 10		2600 - 1		355	410	6xØ9	385	310	310		310	185
Ø405	0,37kW *	VA/VC 20-14	2800 - 12		4600 - 1		405	460	6xØ9	435	320	320		335	185
Ø455	0,37kW *	VA/VC 35-17	3500 - 17		6700 - 1		455	515	6xØ9	490	400	400	400	365	215
	0,55kW *	VA/VC 50-15	5000 - 17		6000 - 1							400	400	365	215
	0,75kW *	VA/VC 55-17	5500 - 17		9500 - 1							400	400	365	215
Ø505	0,75kW *	VA/VC 60-19	6000 - 19		10300 - 1		505	565	8xØ9	540	420	420	420	390	215
Ø555	0,75kW *	VA/VC 60-20	6000 - 20		10500 - 1		555	615	8xØ9	590	450	450	450	420	215
	1,1kW *	VA/VC 80-19	8000 - 22		13100 - 1							450	450	420	215
	1,5kW *	VA/VC 100-20	7000 - 28		13300 - 1							450	450		
Ø606	1,5kW*	VA/VC 100-25	8500 - 25		16300 - 1		606	680	8xØ9	645	470	470	470	445	215
	2,2kW*	VA/VC 120-25	9000 - 31		15700 - 1							470	475	445	215
	3kW	VA 125-28	12200 - 31		18200 - 1							470			

* Exists as both VC-I and VC-D (24V)

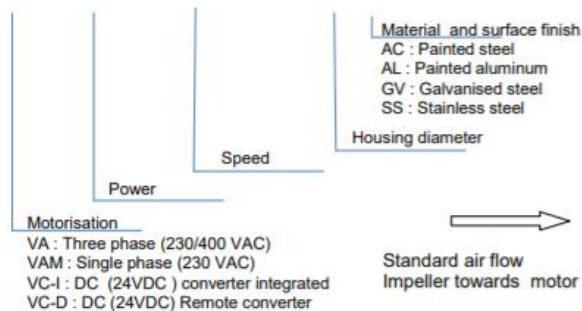
26. Exhaust Blower Fan Ruang Akomodasi

- Merek = ENAG
- Tipe = VA/VC 50-15
- Kapasitas = 5000 m³/h
- Daya = 0,55 kW
- Speed = 1500 Rpm



Part number :

VA - 0.37KW 3000 RPM 320 AC



Int 1700mm max (larger, please consult us)

VA : AC fan
VC : DC fan

Marine fans

Axial marine fan range



Marine fans

Axial marine fan range

VA : AC fan
VC : DC fan

1500RPM		Correspondance Previous type	Low limits		High limits		DIMENSIONS								
Housing Diameter	Power		Flow (m³/h)	Pressure (mm.Wg)	Flow (m³/h)	Pressure (mm.Wg)	A	B	C	D	E	F VA	F VC	G	H
Ø355	0,37kW *	VA/VC 15-10	1500 - 10		2600 - 1		355	410	6xØ9	385	310	310		310	185
Ø405	0,37kW *	VA/VC 20-14	2800 - 12		4600 - 1		405	460	6xØ9	435	320	320		335	185
Ø455	0,37kW *	VA/VC 35-17	3500 - 17		6700 - 1		455	515	6xØ9	490	400	400	400	365	215
	0,55kW *	VA/VC 50-15	5000 - 17		6000 - 1							400	400	365	215
	0,75kW *	VA/VC 55-17	5500 - 17		9500 - 1							400	400	365	215
Ø505	0,75kW *	VA/VC 60-19	6000 - 19		10300 - 1		505	565	8xØ9	540	420	420	420	390	215
	0,75kW *	VA/VC 60-20	6000 - 20		10500 - 1							450	450		
Ø555	1,1kW *	VA/VC 80-19	8000 - 22		13100 - 1		555	615	8xØ9	590	450	450	450	420	215
	1,5kW *	VA/VC 100-20	7000 - 28		13300 - 1							450	450		
Ø606	1,5kW*	VA/VC 100-25	8500 - 25		16300 - 1		606	680	8xØ9	645	470	470	470	445	215
	2,2kW*	VA/VC 120-25	9000 - 31		15700 - 1							470	475	445	215
	3kW	VA 125-28	12200 - 31		18200 - 1							470			

* Exists as both VC-I and VC-D (24V)

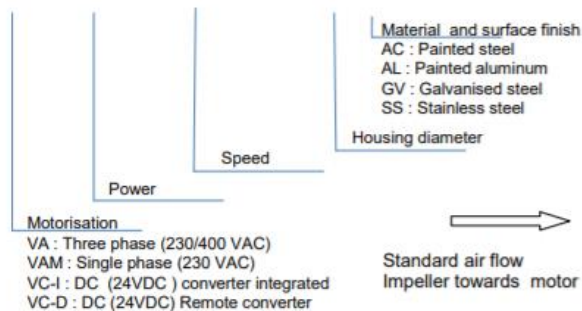
27. Supply Blower Fan Ruang Akomodasi

- Merek = ENAG
- Tipe = VA/VC 50-15
- Kapasitas = 5000 m³/h
- Daya = 0,55 kW
- Speed = 1500 Rpm



Part number :

VA - 0.37KW 3000 RPM ø320 AC



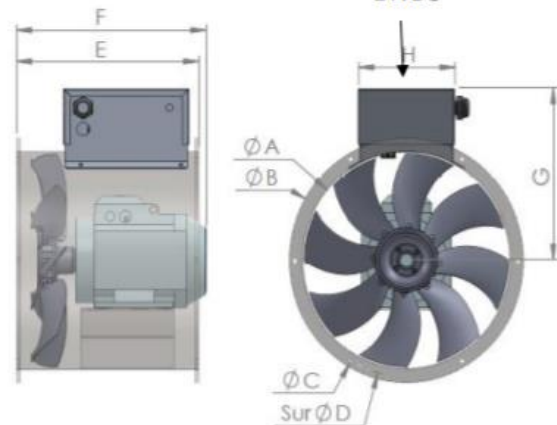
Int ø 1700mm max (larger, please consult us)

VA : AC fan
VC : DC fan

Marine fans

Axial marine fan range

Integrated converter for 24VDC



Marine fans

Axial marine fan range

VA : AC fan
VC : DC fan

1500RPM		Correspondance Previous type	Low limits		High limits		DIMENSIONS								
Housing Diameter	Power		Flow (m³/h)	Pressure (mm.Wg)	Flow (m³/h)	Pressure (mm.Wg)	A	B	C	D	E	F VA	F VC	G	H
Ø355	0,37kW *	VA/VC 15-10	1500 - 10		2600 - 1		355	410	6xØ9	385	310	310		310	185
Ø405	0,37kW *	VA/VC 20-14	2800 - 12		4600 - 1		405	460	6xØ9	435	320	320		335	185
Ø455	0,37kW *	VA/VC 35-17	3500 - 17		6700 - 1		455	515	6xØ9	490	400	400	400	365	215
	0,55kW *	VA/VC 50-15	5000 - 17		6000 - 1							400	400	365	215
	0,75kW *	VA/VC 55-17	5500 - 17		9500 - 1							400	400	365	215
Ø505	0,75kW *	VA/VC 60-19	6000 - 19		10300 - 1		505	565	8xØ9	540	420	420	420	390	215
	0,75kW *	VA/VC 60-20	6000 - 20		10500 - 1							450	450		
Ø555	1,1kW *	VA/VC 80-19	8000 - 22		13100 - 1		555	615	8xØ9	590	450	450	450	420	215
	1,5kW *	VA/VC 100-20	7000 - 28		13300 - 1							450	450		
Ø606	1,5kW*	VA/VC 100-25	8500 - 25		16300 - 1		606	680	8xØ9	645	470	470	470	445	215
	2,2kW*	VA/VC 120-25	9000 - 31		15700 - 1							470	475	445	215
	3kW	VA 125-28	12200 - 31		18200 - 1							470			

* Exists as both VC-I and VC-D (24V)

28. Mesin Pendingin

- Merk = Donghwa
- Tipe = CMS-75A
- Daya = 5,5 kW
- Speed = 1000 rpm
- Frekuensi = 50 Hz
- Pressure = 30 kg/cm²

2 STAGE, WATER COOLED, STARTING AIR COMPRESSOR

CMS-54(E) / CMS-75A(E)
CMS-85 / CMS-92A
CMH-111 / CMH-114A

PRESSURE : 30 kg/cm² (2.94 MPa)
CAPACITY : 3.7-65 m³/h
MOTOR : 2.2-19 kW
TYPE : 1 cylinder, vertical

- Long service life.
- Suitable for small & medium vessel (15,000 DWT below).
- Compact size and small installation area.
- Easy combine with diesel engine (emergency starting).



CMH-114A



CMS-75E

SPECIFICATION

MODEL	CYLINDER	SPEED (RPM)	CAPACITY F.A (m ³ /h)	PRESSURE kg/cm ² (MPa)	MOTOR or ENGINE		AIR OUTLET
					Hz	kW	
CMS-54	1 CYLINDER	1000	3.7	30 (2.94)	50	2.2	30K-15A
CMS-54E*		1200	4.5	30 (2.94)	60	-	
CMS-54E*		1500	5	30 (2.94)	-	10PS	
CMS-75A	1 CYLINDER	1000	12	30 (2.94)	50	5.5	30K-15A
CMS-75E*		1200	15	30 (2.94)	60	-	
CMS-75E*		1200	15	30 (2.94)	-	10PS	
CMS-85	1 CYLINDER	1000	21	30 (2.94)	50	7.5	30K-25A
CMS-85		1200	26	30 (2.94)	60	-	
CMS-92A	1 CYLINDER	1000	27	30 (2.94)	50	11	
CMS-92A		1200	32.5	30 (2.94)	60	-	
CMH-111	1 CYLINDER	1000	44	30 (2.94)	50	15	
CMH-111		1200	53	30 (2.94)	60	-	
CMH-114A	1 CYLINDER	1000	54	30 (2.94)	50	19	
CMH-114A		1200	65	30 (2.94)	60	-	

* Mark means diesel engine driven type.

* F.A (free air), tolerance ± 5%.

« Some specifications in this catalogue may change without notice.

NEWLY DEVELOPED, DONGHWA PNEUTEC MARINE AIR COMPRESSOR SERIES FOR STARTING USE.

29. Air Handle Unit (AHU)

- Merk = Teknotherm
- Tipe = CECE052
- Daya = 5,5 kW
- Frekuensi = 50 Hz



AIR HANDLING UNIT – AHU

73-11-000
2013

TECHNICAL SPECIFICATION & DIMENSIONS

Static pressure: 1000Pa

AHU type	Air flow [m³/h]	Fan type	Fan speed [1/min]	El. motor speed [1/min]	El. motor nominal power [kW]	El. motor power consumption [kW]	Nom. current [A]
3x400V/50Hz							
CECE035	2400-4200	GXHB-025	4340	2925	3,0	2,5	6,2
CECE052	3500-6200	GXHB-028	4140	2910	5,5	3,7	10,4
CECE070	5400-9500	GXHB-031	3930	2910	7,5	6,1	14,0
CECE105	6800-12000	GXHB-040	2770	2910	11,0	6,7	20,1
CECE140	10000-18000	GXHB-045	2620	2930	15,0	10,7	27,2
CECE175	12000-21500	GXHB-050	2270	1470	15,0	12,0	28,5
CECE210	16000-28500	GXHB-056	2100	1480	22,0	16,5	40,8
CECE211	15000-26500	GXHB-056	2030	1480	18,5	15,0	34,5
CECE260	19000-33000	GXHB-063	1780	1480	22,0	18,9	40,8
CECE280	20000-36000	GXHB-063	1850	1480	30,0	21,5	55,1
CECE315	24000-41000	GXHB-071	1552	1480	30,0	23,0	55,1
CECE350	29000-51000	GXHB-080	1390	1480	37,0	28,0	65,9
3x440V/60Hz							
CECE035	2400-4200	GXHB-025	4340	3440	3,5	2,5	6,6
CECE052	3500-6200	GXHB-028	4140	3468	4,7	3,7	8,5
CECE070	5400-9500	GXHB-031	3930	3480	8,7	6,1	14,9
CECE105	6800-12000	GXHB-040	2770	3480	8,7	6,7	14,9
CECE140	10000-18000	GXHB-045	2620	3528	12,8	10,7	21,3
CECE175	12000-21500	GXHB-050	2270	1740	17,5	12,0	30,0
CECE210	16000-28500	GXHB-056	2100	1740	21,5	16,5	36,3
CECE211	15000-26500	GXHB-056	2030	1740	21,5	15,0	36,3
CECE260	19000-33000	GXHB-063	1780	1764	25,6	18,9	43,1
CECE280	20000-36000	GXHB-063	1850	1764	25,6	21,5	43,1
CECE315	24000-41000	GXHB-071	1552	1764	34,9	23,0	58,1
CECE350	29000-51000	GXHB-080	1390	1764	34,9	28,0	58,1

30. *Radio Equipment*

- Merk = JSS
- Tipe = JSS-2500
- Daya = 0,5 kW
- Frekuensi = 50 Hz

Name	MF/HF Radio equipment		
Model	JSS-2150	JSS-2250	JSS-2500
IMO type approved		✓	
Output power	150W	250W	500W
Regurations	IMO A.806(19), A.694(17), MSC68(68), MSC/Circ.862, IEC 60945 Ed.4 2002-08		
Transmission frequency	1605.0 ~ 27500.0kHz(100Hz steps)		
Reception frequency	90.0 ~ 29999.9kHz(100Hz steps)		
Frequency stability	Within ±10Hz		
DSC watch keeping frequency	2187.5kHz, 4207.5kHz, 6312.0kHz, 8414.5kHz, 12577.0kHz, 16804.5kHz		
Type of emission	J3E, F1B, A1A, H2B, J2D, H3E(receiving only)		
User programmable channel	Up to 400 (20 channels x 20 groups)		
ITU preset channel	1722ch		
Channel switching time	15sec or less		
Communication method	Push to talk (simplex, semi-duplex)		
Reception attenuation(ATT)	4 steps : 6dB, 12dB, 18dB, OFF		
Display	3.8 inch LED Backlit (320 by 240 pixels)		
Microphone input	-54dBm		
Audio output	Loud speaker : 5W(8Ω), Handset phone : 1mW(150Ω)		
Interface	IEC61162-1(GPS/AME/RMS)		
Compass safe distance	2.0m		
Receiving system	Double superhetelodyne		
Sensitivity(SINAD 20dB)	J3E : ≤2.5μV, F1B : ≤0.7μV, A1A : ≤1.4μV		
RMS interface	Built in		
Transmitter output 1.6 - 4MHz	DC : 100Wpep	DC : 100Wpep, AC : 200Wpep	DC : 100Wpep, AC : 400Wpep
Transmitter output 4 - 27.5MHz	DC : 150Wpep	DC : 150Wpep, AC : 250Wpep	DC : 150Wpep, AC : 500Wpep
Power DC	21.6 to 31.2V		
AC	option(90 to 132V, 180 to 264V)	90 to 132V, 180 to 264V	

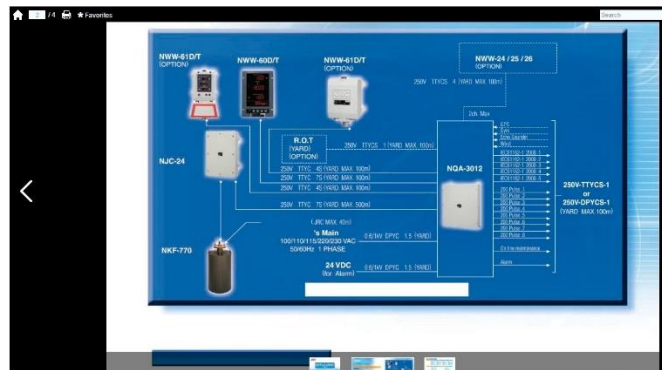
31. Giro Kompas dan Pilot

- Merk = Alphonse Marine
- Tipe = JRC
- Daya = 0,35 kW
- Frekuensi = 50 Hz



32. Echo Sounder

- Merk = Alphetron Marine
- Tipe = JRC
- Daya = 0,3 kW
- Frekuensi = 50 Hz



Furuno LS6100 Echosounder 50/200Khz 300-Watt

By Furuno

Be the first to review this item

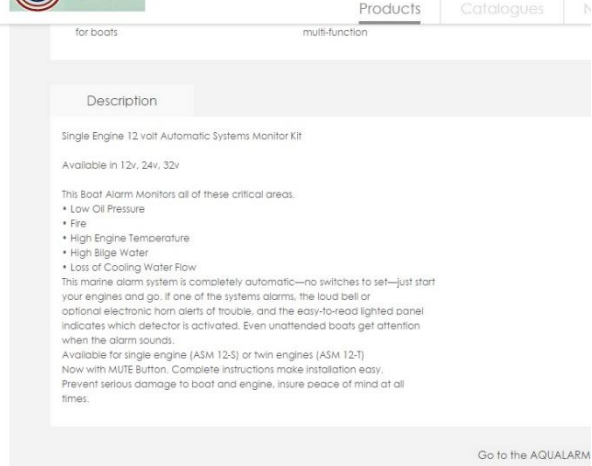
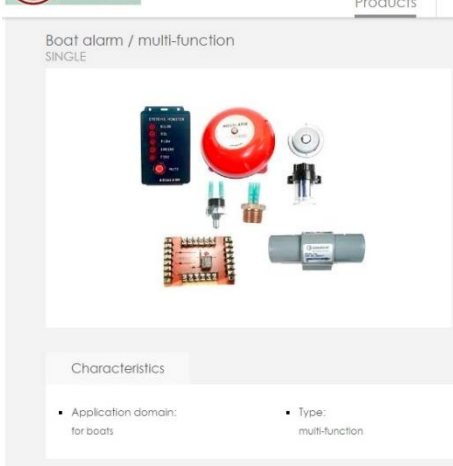
Currently unavailable.

We don't know when or if this item will be back in stock.

- Furuno LS6100 Echosounder
- High quality, made of durable materials.
- Manufacturer Part Number: LS6100

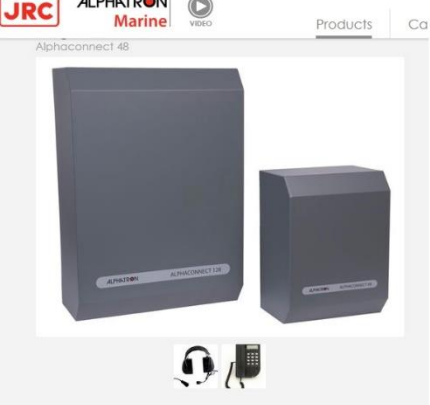
33. General Alarm

- Merk = Aqualarm
- Tipe = Boat alarm / multi-fuction - single
- Daya = 0,5 kW
- Frekuensi = 50 Hz



34. Interior Communication

- Merk = Alphontron Marine
- Tipe = JRC
- Daya = 0,06 kW
- Frekuensi = 50 Hz



The AlphaConnect adapts plain analogue worldwide standardized telephones.

AlphaConnect telephone exchange	Features
- Robust cabinet 8 - 256 analogue telephone lines 2 trunk lines (extendable)	- Integrated Telephone and Talk Back system - Public address connection - Time distribution via display telephones
Telephone system	Public Address (Optional)
- Enables calls between locations on board - Covering all standard telephone functions with telephone systems such as; calls, call transfer, priority and wake up calls - Calls via Satcom, GSM etc. - Integrated Talk-Back system	- Integrated via a unique distributed power amplifier concept with 8 Ω speakers using the telephone line - Integrated 100 V / 60 Watt amplifier to drive 100 Volt PA speakers - Music distribution - Public address via telephones

35. Radar

- Merk = JMA
- Tipe = JMA 1030
- Daya = 4 kW
- Frekuensi = 50 Hz



	JMA-1032	JMA-1034
Display type	Raster scan PPI	
Scanners	NKE-1066	NKE-2044
Antenna length	1.5 ft (450 mm radome)	2 ft (620 mm radome)
Output power	4 kW	4 kW
Transmitting frequency	9410 $\pm$ 30MHz	
Beam width	Horizontal 5.2°, Vertical 25°	Horizontal 4°, Vertical 25°
Rotation speed	16, 20, 24, 27, 30, 36, 42, 48 rpm	
Pulse width	0.08 μ s/4000Hz, 0.08 μ s/2250Hz 0.13 μ s/1700Hz, 0.25 μ s/1700Hz 0.5 μ s/1200Hz, 0.8 μ s/750Hz	0.08 μ s/4000Hz, 0.08 μ s/2250Hz, 0.13 μ s/1700Hz, 0.25 μ s/1700Hz, 0.5 μ s/1200Hz, 0.8 μ s/750Hz, 1.0 μ s/650Hz
Range scale	0.0625, 0.125, 0.25, 0.5, 0.75, 1.5, 3, 6, 12, 24, 48*1 NM	
Adding range scale	1, 2, 4, 8, 16, and 32*1 NM	
Display	7-inch wide VGA (WVGA) color LCD touch display (800 by 480 pixels)	
Operation	Touch, buttons and push/rotary knob	
Presentation mode	RM: Head/North/Course-up, TM: North/Course-up	
Trail indication	15 sec to 15 min, 30 sec to 30 min, 1 min to 1 hr, 30 min to 24 hr, continuous	
Off center	Move to 4 pre-defined coordinates from the default center position	

36. Masthead Light

- Merk = Wiska
- Tipe = 760 Series
- Daya = 0,04 kW
- Frekuensi = 50 Hz



Products

Ship navigation light / stern / masthead / red
760 SERIES



WISKA-No.	Type	Power	Voltage	Colour	Lampholder	Signal range	Sector
50103354	SSb-760-GR-24-PB	40 W	24 V	Green	P28s	3nm	112,5°
50103079	SSb-760-GR-230-PB	65 W	230 V	Green	P28s	3nm	112,5°
50103355	SBb-760-RD-24-PB	40 W	24 V	Red	P28s	3nm	112,5°
50103078	SBb-760-RD-230-PB	65 W	230 V	Red	P28s	3nm	112,5°
50103152	T-760-WH-24-PB	40 W	24 V	white	P28s	6nm	225°
50103361	T-760-WH-230-PB	65 W	230 V	white	P28s	6nm	225°
50103356	H-760-WH-24-PB	40 W	24 V	white reduced	P28s	3nm	135°
50103246	H-760-WH-115-PB	60 W	115 V	white reduced	P28s	3nm	135°
50103086	H-760-WH-230-PB	65 W	230 V	white reduced	P28s	3nm	135°
50103359	AS-760-RD-24-PB	40 W	24 V	Red	P28s	3nm	360°
50101032	AS-760-RD-230-PB	65 W	230 V	Red	P28s	3nm	360°
50101537	AS-760-RD-S01-PB	-	-	Red	P28s	3nm	360°
50103360	AS-760-GR-24-PB	40 W	24 V	Green	P28s	3nm	360°
50100443	AS-760-GR-230-PB	65 W	230 V	Green	P28s	3nm	360°
50103154	AS-760-WH-24-PB	40 W	24 V	white reduced	P28s	3nm	360°
50101033	AS-760-WH-230-PB	65 W	230 V	white reduced	P28s	3nm	360°

37. For Anchor

- Merk = Eval
- Daya = 0,01 kW
- Frekuensi = 50 Hz



Products



Περιγραφή

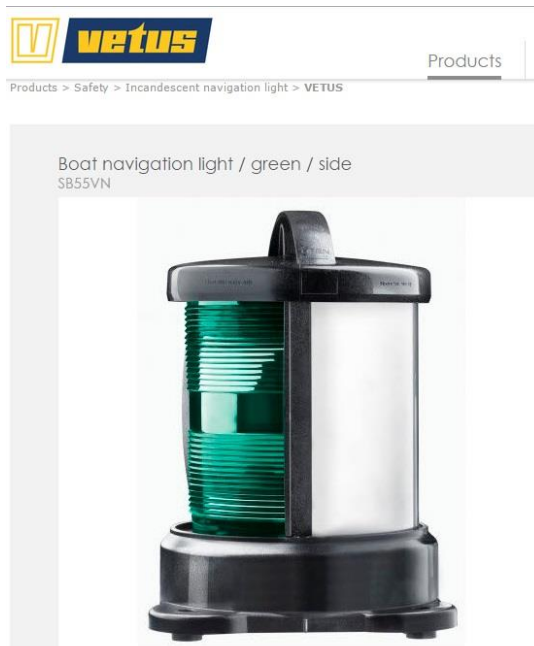
ΤΡΙΦΩΤΟ ΦΑΝΟΣ ΝΑΥΣΤΙΓΛΟΙΑΣ
Τριφύωτο φανός ναυστιγλίας με ισχύ κατάλληλη για σκάφη με συνολικά μήκος ως 12μ. Αναδίδονται, κατασκευασμένοι από πολυκαρμπονát και ενσωματωμένο πολυκρυσάλινο και είναι εγκατεστημένοι σύμφωνα με COLREG72, τον Διεθνή Κανονισμό για την αποφυγή συγκρούσεων στη θάλασσα. Περικυβάνονται ιδίωτα 12V - 10W. Εγκειναιώνι από: MCA Maritime Coastguard Agency, MMF French Maritime Administration, HMM Hellenic Ministry of Merchant Marine.

ΦΑΝΟΣ ΤΡΙΦΩΤΟΣ ΣΤΙΑΣΤΟΣ ΑΚΥΒΕΡΝΗΣΙΑΣ - ΑΓΚΥΡΟΒΟΛΙΟΥ ΑΝΟΞΕΙΩΤΟΣ ΜΕ ΒΑΘΗ ΝΑΥ/ΟΝ

Κατασκευασμένος σύμφωνα με τις νέες απαιτήσεις του Υπ. Ναυτιλίας. Ο λευκός φανός αποτελεί ένδειξη αγκυροβολίου και οι δύο κόκκινοι αναγοποιούνται ξεχωριστά σε περίπτωση αμβλεντίας του σκάφους 12V/10W.

38. Green Starboard Side Light

- Merk = Vetus
- Tipe = SB55VN
- Daya = 0,025 kW
- Frekuensi = 50 Hz



- [Technical specifications](#)

Additional Information

Voltage (V) No
Power consumption (W) 25

Find VETUS products near you

39. Stern Anchor Light

- Merk = Perko
- Tipe = 1344
- Daya = 0,13 kW
- Frekuensi = 50 Hz



- "Reduced Glare" Design
- White Polymer Top with Clear Fluted Lens & Frosted Globe
- Fixed Mount White Polymer Base
- Uses Less than Half the Energy Draw of Standard Lights
- Low Heat

- LED: 12 Volt
- Pole: 3/4" Diameter Anodized
- Base Dimensions: 1" x 2-5/8"
- Screw Size: #8

40. Red Portside Side

- Merk = Osculat
- Tipe = 11.448.xx Series
- Daya = 0,0008 kW
- Frekuensi = 50 Hz

OSCULATI

Products | Cata

Boat navigation light / red / LED / <12 m
11.448.XX SERIES



	Code	Foto Articolo	Body	Type	LED Included	volt	watt
	11.448.11		white	112.5° left	14.300.40	12/24	0.8
	11.448.12		white	112.5° right	14.300.41	12/24	0.8
	11.448.14		white	135° stern	14.300.41	12/24	0.8
	11.448.01		black	112.5° left	14.300.40	12/24	0.8
	11.448.02		black	112.5° right	14.300.41	12/24	0.8
	11.448.04		black	135° stern	14.300.41	12/24	0.8

41. Fire and smoke Det.

- Merk = NK
- Daya = 0,2 kW
- Frekuensi = 50 Hz

NK

Green Promises for the People



EXHAUST PLATE MONITOR

INHALING PIPE

FIRE INDICATION DEVICE

SMOKE SENSING MONITORING PANEL

Characteristics

- Type: fire
- Application domain: for boats

42. Stern Light

- Merk = Wiska
- Tipe = 760 Series
- Daya = 0,13 kW
- Frekuensi = 50 Hz

WISKA
make power smile

Products C

Ship navigation light / stern / masthead / >50 m
760 SERIES



WISKA-No.	Type	Power	Voltage	Colour	Lampholder	Signal range	Sector
50102582	DSSb-760-GR-24/24-PB	80 W	24 V	Green	P28s	3nm	112.5°
50100438	DSSb-760-GR-230/230-PB	130 W	230 V	Green	P28s	3nm	112.5°
50101035	DSSb-760-GR-24/230-PB	65 W	-	Green	P28s	3nm	112.5°
50105281	DSSb-760-GR-115/115-PB	120 W	115 V	Green	P28s	3nm	112.5°
50102583	DSSb-760-RD-24/24-PB	80 W	24 V	Red	P28s	3nm	112.5°
50100437	DSSb-760-RD-230/230-PB	130 W	230 V	Red	P28s	3nm	112.5°
50103349	DSSb-760-RD-24/230-PB	65 W	-	Red	P28s	3nm	112.5°
50105280	DSSb-760-RD-115/115-PB	120 W	115 V	Red	P28s	3nm	112.5°
50102584	DAS-760-WH-24/24-PB	80 W	24 V	white reduced	P28s	3nm	360°
50100440	DAS-760-WH-230/230-PB	130 W	230 V	white reduced	P28s	3nm	360°
50103352	DAS-760-WH-24/230-PB	65 W	-	white reduced	P28s	3nm	360°
50102769	DAS-760-WH-24/24-SC-PB	80 W	24 V	white reduced	P28s	3nm	180°
50105283	DAS-760-WH-115/115-PB	120 W	115 V	white reduced	P28s	3nm	360°
50101034	DT-760-WH-24/24-PB	80 W	24 V	white	P28s	6nm	225°
50100436	DT-760-WH-230/230-PB	130 W	230 V	white	P28s	6nm	225°
50103350	DT-760-WH-24/230-PB	65 W	-	white	P28s	6nm	225°
50105278	DT-760-WH-115/115-PB	120 W	115 V	white	P28s	6nm	225°
50102581	DH-760-WH-24/24-PB	80 W	24 V	white reduced	P28s	3nm	135°
50100439	DH-760-WH-230/230-PB	130 W	230 V	white reduced	P28s	3nm	135°
50105279	DH-760-WH-115/115-PB	120 W	115 V	white reduced	P28s	3nm	135°
50102580	DHS-760-YE-24/24-PB	80 W	24 V	Yellow	P28s	3nm	135°
50102585	DAS-760-RD-24/24-PB	80 W	24 V	Red	P28s	3nm	360°



43. Spesifikasi Generator Set

- Merk = Hantech
- Tipe = HG400CS-M
- Rating = Prime
- Daya = 400 kW
- Speed = 1500 rpm
- Voltase = 380 V
- Frekuensi = 50 Hz
- *Cylinder* = 159 mm (Bore), 159 mm (Stroke)
- Dimensi
 - = - Panjang = 3170 mm
 - Lebar = 1000 mm
 - Tinggi = 1905 mm
- Jumlah = 2 Unit



44. Spesifikasi Generator Set Darurat

- Merk = Hantech
- Tipe = HG400CS-M
- Rating = Prime
- Daya = 400 kW
- Speed = 1500 rpm
- Voltase = 380 V
- Frekuensi = 50 Hz
- *Cylinder* = 159 mm (Bore), 159 mm (Stroke)
- Dimensi
 - = - Panjang = 3170 mm
 - Lebar = 1000 mm
 - Tinggi = 1905 mm
- Jumlah = 2 Unit



45. Battery

- Merk = Hi - Sea
- Tipe = NP2-3000Ah
- Voltage = 2 volt
- Kapasitas = 3000 AH
- Berat = 195 kg
- Dimensi = 710 x 352 x 342 (mm)
- Jumlah = 23 unit



Marine Battery for Emergency Usage Application

Marine Battery for Emergency Usage can be used in Control systems, Electric toys, Emergency lamp, Power tools, Medical treatment equipment, Alarm system, Emergency light system, Standby power supply, UPS and computer standby power supply, Power system, Telecommunication system, Firefighting equipment standby power supply, Railway system, Power station, Ship equipment, Military equipment, Telephone switching system.

Marine Battery for Emergency Usage Characteristics

1. Excellent safety performance: No electrolyte leakage, battery swelling and cracking under normal use.
2. Good discharging performance: With smooth discharging voltage and mild discharging platform.
3. Good shock-proof performance: The fully charged and completely fixed battery, with 4mm amplitude and 16.7Hz frequency do have a normal open circuit voltage without leakage, batteries swelling or cracking problem after one-hour vibration.
4. Good impact-proof performance: The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking after dropping three times from 20cm height naturally to a 1 cm-thick hardwood board.
5. Good resistance to over-discharge: In temperature of 25 degrees Celsius, the fully charged battery discharges with fixed resistance which is equivalent to the one required by 1 CA discharge of the battery for three weeks, and it can restore capacity over 75%.
6. Good resistance to overcharge: The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking in temperature of 25 degrees Celsius after charging at 0.1 CA for 48 hours, and the capacity maintain over 95%.
7. Good resistance to high current: The fully charged battery is proved to be without conductive part melted or any appearance deformation after discharging at 2 CA for 5 minutes or 10 CA for 5 seconds.

Marine Battery for Emergency Usage Specifications

Model NO.	Nominal Voltage(V)	Rated Capacity(AH) 20hrs/25℃	Approx. Weight(kg)	Dimensions(mm)				Terminal Type
				Length	Width	Height	Total Height	
NP12-22Ah	12	22	8.5	196	131	155	180	T16/T6
NP2-50Ah	2	50	2.9	160	49	166	176	T12
NP2-100Ah	2	100	5.6	171	71	207	227	T6
NP2-150Ah	2	150	8	172	102	207	227	T6
NP2-200Ah	2	200	13.5	172	111	329	356	T20
NP2-300Ah	2	300	18.8	171	151	330	366	T20
NP2-400Ah	2	400	26.7	210	176	329	366	T20
NP2-500Ah	2	500	31	241	172	331	366	T20
NP2-600Ah	2	600	38	301	175	331	366	T20
NP2-800Ah	2	800	53	410	175	330	365	T20
NP2-1000Ah	2	1000	63	475	175	330	356	T20
NP2-1200Ah	2	1200	69	475	175	330	356	T20
NP2-1500Ah	2	1500	101	401	351	342	369	T20
NP2-1800Ah	2	1800	120	401	351	342	369	T20
NP2-2000Ah	2	2000	132	491	351	343	369	T20
NP2-2500Ah	2	2500	165	710	352	342	369	T20
NP2-3000Ah	2	3000	195	710	352	342	369	T20

Related products for "Marine Battery for Emergency Usage" 12 Products found

 CCS Certified Marine VFD	 Accumulator for Yacht	 Multiple Function Marine	 Valve Regulated Lead Acid	 Battery for Sightseeing boat
---	--	---	---	---

46. Main Engine

- *Merk* = **MAK**
- *Type* = **9 M 25 E**
- *Daya* = 3.150 KW (4.222 HP)
- *Cylinders* = 6
- *Cylinder Stroke* = 400 mm
- *Cylinder bore* = 255 mm
- *Speed* = 750 rpm
- *SFOC* = 187 g/KWh
- *P x L x T* = 6130 mm x 2670 mm x 2230 mm

ENGINE DESCRIPTION

01

1.1 Definitions

Fig. 1-1 9 M 25 E

	6 M 25 E	8 M 25 E	9 M 25 E
Output [kW]	2,100	2,800	3,150