

APPENDIX B

WORLD TUNA PURSE SEINER



Avel Vad, France

Specification

Type of Vessel	:	Tuna purse seiner
Home port	:	Victoria, Seychelles
Owners	:	Armaments Kuhn-Ballery, Brest; Le Garrec, Boulougne; CMB, Concarneau, France
Construction	:	Steel, aluminium superstructure
Length overall	:	67.30 metres
Depth to main deck	:	6.10 metres
Beam	:	12.40 metres
Deadweight	:	1,500 tonnes
Main engine	:	4,023hp (3,000kW) Wartsila 8R-32D diesel
Gear box	:	4.16:1 reduction CMD BES 630
Propulsion	:	5-bladed 3,300mm Lips controllable pitch
Speed	:	16 knots
Steering	:	Kerdranvat
Bow thruster	:	3.5-tonne 1,070mm
Aft thruster	:	3.5-tonne 1,070mm
Auxiliary motors	:	2 x 720hp Wartsila SACM 12V-UD25-54D diesels
Alternators	:	2 x 600kVA Leroy Somer
Fuel	:	350m ³
Fresh water	:	30m ³
Fish hold	:	1,200m ³ in 14 tanks
Refrigeration	:	Sabroe calcium chloride
Crew	:	22

APPENDIX B

WORLD TUNA PURSE SEINER



F.V. Txori-eder, Spain

Specification

Type of Vessel	:	Tuna Seiner
Home port	:	Berneio
Owner	:	Inpesca
Builder	:	Astilleros de Murueta
Length overall	:	106.50metres
Length, bp	:	91.50metres
Beam	:	16.00metres
Depth to main deck	:	7.70metres
Depth to upper deck	:	10.40metres
Draught	:	7.20metres
Tonnages	:	4,134GRT, 3,358dwt
Main engine	:	Wartsila 6L46B; 5,884kW at 500rpm
Gearbox	:	Wartsila SCV85; 3.4483:1 reduction
Propulsion	:	Wartsila controllable pitch propeller
Speed	:	19.20 knots
Bow thrusters	:	2 x Kamewa TT-1650k-BMS-CP; 368kW each
Stern thruster	:	Kamewa TT-1650k-BMS-CP; 368kW
Steering gear	:	Frydenbo RV 700-2; 67.7tm
Auxiliary engines	:	2 x Wartsila, 993kW at 1,000rpm each
Emergency generator	:	Guascor F 180 TA-SG; 294kW at 1,500rpm
Primary seine winch	:	WS 577I 587tonnes
Power sheave	:	PB 78; 78 tonnes
Refrigerated hold	:	2,900m ³
Fuel Capacity	:	1,600m ³
Lube oil	:	40m ³
Fresh water	:	180m ³
Crew	:	32

APPENDIX B WORLD TUNA PURSE SEINER



Hsiang hao no8, Taiwan

Specification

Type of Vessel	:	Purse Seiner
Owner	:	Hsiang Fa Fishery Co., Taiwan
Designer/builder	:	Jong Shyn Shipbuilding, Taiwan
Length Overall	:	88 metres
Length between p.p.	:	75 metres
Breadth moulded	:	14.60 metres
Depth moulded	:	8.50/5.80 metres
Tonnage	:	2,200 GT
Main engine	:	Daihatsu 6DKM-36L 3,400 kW x 600/166 rpm
Generator engine sets	:	2 x Daihatsu 6DK-20 470 kW, 1,125kVA; Daihatsu 5DK-20 670kW, 750kVA
Bow thruster	:	Nakashima TFN-300S 450PS
Speed	:	19 knots
Hydraulic deck machinery	:	Marine Hydrotec Co.
Electrical installation	:	Promotion enterprise Co., Taiwan
Electronic equipment&installation	:	Anchang Brothers Co.,
Crane	:	3 x 0.95t x 10.5 metres Unic URA584R
Refrigerating equipment	:	Nissin Refrigeration&Engineering
Condenser cooling pumps	:	2 x Daito SAD2-200 x 200 30kW 360 m ³ /h
NH3 Brine cooler	:	4 x 1124Ø x 2800EL
Brine pumps	:	4 x Daito VC-150M 22kW 180 m ³ /h
Hydraulic pump unit	:	6 x 132kW x 4P
Navigation equipment	:	Furuno
Gasoline	:	48.0m ³
Lubricating oil	:	19.0m ³
M/E sump tank	:	7.2m ³
Hydraulic oil (store)	:	6.8m ³
Brine hold	:	1575.0m ³
Fish hold	:	908.0m ³
Fuel oil	:	685.0m ³
Fresh water	:	102.0m ³

APPENDIX B WORLD TUNA PURSE SEINER



Tokiyamaru, Japan

Specification

Type of Vessel	:	Purse Seiner
In survey to	:	Japanese Government
Home port	:	Tokyo
Owner	:	Taiyo A&F
Builder	:	Watanabe Shipbuilding
Length overall	:	47.17 metres
Length, waterline	:	37.71 metres
Beam	:	8.10 metres
Depth	:	3.30 metres
Gross tonnage	:	135 tons
Construction	:	Steel
Main engine	:	Niigata converter
Propeller	:	kamome; fixed pitch 5 bladed
Maximum speed	:	15 knots
Service speed	:	13.5 knots
Side Thruster	:	Kamome TFA-20UN; 20 tonnes
Steering gear	:	Tokimec PR2202-HSSM-060S
Auxiliary engine 1,800rpm each	:	2 x Yanmar 6HAL2-HTN; 265kW at
Generators	:	2 x Taiyo FB; 225kVA
Watermaker	:	Sasakura; 5t/day
Radars	:	Furuno Fr-2125, FR-2155, FR-2165DS
GPS	:	Ruruno GP-500M2
Sounders	:	2 x Furuno FCV-1500, 2 x Furuno FCV-1500M
Sonars	:	Furuno CSH-81, CSH-23F, CSH-83.73
Radios	:	Furuno GMDSS
Fuel	:	66m ³
Fresh water	:	15m ³
Crew	:	25

APPENDIX B WORLD TUNA PURSE SEINER



F.R.V.Mahidol, Thailand

Specification

Overall Length	:	63m
Breadth	:	12.50m
Depth to upper deck	:	7.80m
Draft Designed	:	4.80m
Gross Tonnage	:	1,270ton
Net Tonnage	:	383ton
Trial Max.Speed	:	16.2knots
Sea Speed	:	15.0knots
Endurance	:	10,000 sea miles
Fuel oil Tank	:	370m ³
Fresh Water Tank	:	80m ³
Fish Hold	:	570m ³
Fishing Gear	:	Tuna Purse Seine with the dimension of float line length 1,800m. Depth 280m., Nylon and Knotless net with snaper purse rings.
Research Equipments	:	Oceanographic winch and Accessories Laboratory
Main Engine	:	4 cycle. Medium-Speed diesel engine, Yanmar, 3,200 ps x 720 RPM
Propeller	:	Highly skewed, 4 Blades Controllable Pitch Type.
Generator Engine	:	Yanmar 600ps x 1,000 RPM, 3 Sets
Bow Thruster	:	3 Tons, 4 Blades, 900mm.dia.

APPENDIX C

PRINCIPAL PARTICULARS

M.V. SEAFDEC

Length overall	65.02	m
Length between perpendiculars	57.00	m
Breadth, molded	12.00	m
Depth to superstructure deck, molded	7.10	m
Depth to upper deck, molded	4.70	m
Draft, molded	4.658	m
Service speed at 4.50 m draft	14.3	knots
Maximum sea trial speed (measured)	16.640	knots
Deadweight	744.42	t
Classification	NK, NS*, MNS*, Fisheries Training and Research Vessel	
Official number	35 09 0085 5	
Call Sign	HSHE	
Flag	Kingdom of Thailand	
Port of registry	Bangkok, Thailand	
Gross tonnage	1178	t
Net tonnage	354	t
Total complement	63P	
Ship operation part	33P	
Researcher	2P	
Instructor	2P	
Trainee	26P	
Fish hold capacity	(bale)	145.38 m ³
Freezing ability	(brine)	20 t/day
	(air blast)	1.6 t/36h
Tank capacity	fuel oil	428.96 m ³
	drink water	45.86 m ³
	fresh water	92.23 m ³
	lubricating oil	15.92 m ³
Keel laying	17th July 1992	
Launching	7th December 1992	
Delivery	10th February 1993	
Consultant	Fishing Boat Association of Japan	
Builder	Miho Shipyard Co., Ltd.	

APPENDIX C PRINCIPAL PARTICULARS M.V.SEAFFDEC

NAUTICAL INSTRUMENT

Radar	JMA-8513-9CA	1 set	JRC
	JMA-8613-CA	1 set	JRC
GPS navigation system	JLR-6000	3 sets	JRC
NOAA(APT) receiving system	NPS-1A	1 set	Nippon Hakuyo
Scientific echo sounder	FQ-70	1 set	Furuno
Fish finder	FCV-140ET	1 set	Furuno
	FE-W822S	1 set	Furuno
Doppler sonar current indicator	CI-30	1 set	Furuno
Color scanning sonar	CSH-20/80	1 set	Furuno
	CSH-80	1 set	Furuno
Radio direction finder	FD-120/FD-160	2 sets	Furuno
General weather observation system	FWS-9800-CD	1 set	Nippon Electric
Gyro-compass and auto-pilot	PR-2502-SP-W13	1 set	Tokimec

ENGINE ROOM MACHINERY

Main engine	6N330-UN 2800 x 620rpm	1 set	Yanmar Diesel
Reduction gear	YX-3500C	1 set	Yanmar Diesel
Generator engine	M200AL-UN 720ps x 1000rpm	2 sets	Yanmar Diesel
	generator AC385V 600kVA	2 sets	Shinko Electric
Emergency generator engine	MDG-40 46ps x 1500rpm	1 set	Mitui
	generator AC385V 35kVA	1 set	Taiyo Electric
Bow thruster	CPP type	1 set	Kamome Propeller
Hot water boiler	KSA-63SW	1 set	Takuma
Refrigerating system	R-22	1 set	Nissan Refrigeration
	Ref, machine SF-42	2 sets	Mayekawa
	Ref, machine motor 75kW	2 sets	Fuji Electric
Marine growth preventing plant	ND-50up	1 set	Nippon corrosion Engineering
	TF-80	1 set	Goko Seisakusho

DECK MACHINERY AND FISHING EQUIPMENT

Windlass	6.5t x 11m/min	1 set	Uchida Marine
Capstan	3.5t x 13 m/min	1 set	Sumitomo Heavy
Hoist	0.9t x 30m/min	1 set	Mitsubishi Electric
Steering gear	8..5t.m 65°/28sec.	1 set	Tokimec
Rudder	Flap rudder	1 set	Kamome
Deck crane	7.7t.m	1 set	Hiab
Purse winch	12t x 32m/min	1 set	Uchida Marine
Power block	6t x 70m/min	1 set	Uchida Marine
Line hauler	KG-18BF-ET	1 set	Izui Iron Work
Bran reel	BA-30-F-3A	1 set	Izui Iron Work
Deep sea pot winch	2.5t x 45m/min	1 set	Uchida Marine
Vertical line reel	50kg x 30m/min	6 sets	Moriyama
Ball roller	HB-300	1 set	Uchida Marine
Skiff boat	L = 9.0m 400ps	1 set	Miho Shipyard
Work boat	L = 6.2m 55ps	2 sets	Miho Shipyard

APPENDIX C

PRINCIPAL PARTICULARS

M.V. SEAFDEC

RADIO EQUIPMENT

MF/HF radio system	JSS-710	1 set	JRC
	transmitter NSD-71		JRC
	Receiver NRD-740		JRC
	DSC receiver NRD-720		JRC
All wave receiver with scanning unit	NRD-93, NDH-93	1 set	JRC
VHF radio	JHS-31	2 sets	JRC
SSB radio	JSB-410A	1 set	JRC
	JSB-176	1 set	JRC
Two way VHF radio telephone	JHS-7	3 sets	JRC
No.3 VHF radio telephone	JHM-202S25	1 set	JRC
DSB radio telephone	JHV-1152	5 sets	JRC
CB radio telephone		2 sets	Icom
Inmarsat A	JUE-45AM II	1 set	JRC
Inmarsat C	JUE-75A	1 set	JRC
Weather facsimile	JAX-90	2 sets	JRC
Public addresser	NVA-1920	1 set	JRC
NAVTEX receiver	NCR-300A	1 set	JRC

OBSERVATION SYSTEM

CTD system	with 2500m winch	1 set	SEA Corp.
GEK system	RIKEN Type	1 set	Honchigo
Salinometer	3-G	1 set	Tsurumi Seiki
XBT	MX-30	1 set	Sippican
Survey computer system		1 set	Sena
Underwater TV camera system		1 set	Kowa
Scientific echo sounder system	FQ-70	1 set	Furuno
Oceanographic winch		1 set	Tsurumi Seiki
Depth meter	RND-5220	1 set	Rigosha

OTHER EQUIPMENT

Computer LAN system		1 set	Sena
Monitoring TV camera system		3 sets	Sony

APPENDIX D

SAFETY RULES of PURSESEINER

The code of the safety for fisherman and fishing vessel part A. Safety and Health for skippers and crews, published on behalf of FAO, ILO and IMCO (International Organisation, Geneva 1970) contains the following 16 recommendations (Page 27 to 29) which should be kept well in mind by purse seining skippers and their crews.

1. To reduce the danger of fisherman stepping inside loop of purse seine bridles during setting of the net. The bridle should be coiled in the net or else stows in a separated box or compartment next to the 'clothspin' (rack or bar) from which the ring run out.

2. When setting is begun, the net should be so arranged that it is pulled out by buoy or skiff without crew having expose themselves to danger by going after or on the top of the net.

3. During setting of the net, the winch-man should take care not to allow the drum to turn faster than purse line run out, so as to avoid fouling the wire.


4. The extension rope attached to the tail end of the net should be coiled down in the separated box or compartment so that there is no danger for fishermen being caught into the loops during setting.

5. The sharpen knife always be kept handy near the net bin or the platform.

6. Fisherman should avoid standing below the power block or transfer block because of the dangerous of their being hit by heavy purse ring passing through the purse blocks, where such danger exists. Fisherman should ware protective helmet.

7. When hauling big catches it is essential to brail or pump the fish on board as quickly as possible to avoid an excessive weight of the dead fish in the net.

8. The sinker line and breast line of the bunt should be so attached to the vessel that can be quickly released if the fish lie too heavy in the net and endanger the stability of the vessel. Perferably, the breast line and the part of sinker line which is tie up to the bunt room and/or the railing of the vessel, during brailing or pumping should be fitted with the ring through which is released a wire, fixed to vessel at either and end with an easily-released sliphook.

APPENDIX D
SAFETY RULES of
PURSESEINER

9. When the netting is liberally hung in, the bunt may be still retain a heavy weight of fish even after the breast line and sinker line have been released, it is therefore, advisable to attach bridle to the bunt float-line so that it can be hoisted up to release the fish.

10. Should the vessel heel over dangerous, and if it is not possible to release the fish, the vessel should be driven ahead and turned toward the listing side. When it is not succeeded to right the vessel, the net should be slacked off immediately or cut.

11. Where the net is stacked in an expose place it is highly desirable to fit removable stanchions with guard ropes for prevent man falling over board.

12. Sea water in the fish hold causes the fish become fluid and shift. Care should be taken to separate sea water from teh fish during brailing or pumping before catch reaches the hold, using standing gratings leading to the hatches. Similarly, the blood water seeping from the fish should be pumped out frequently.

13. Fishes carry on deck should be covered by the double tarpaulins securely fixed, for instance by nailing wooden strips over the edges to outside the railing and to fix pounds board. On the steel vessel, a wooden plank should be bolt on for this purpose.

14. In the emergency, the skipper should be able to release the deck load through special ports by quick release the mechanism.

15. When fish are carried out on deck, life line should be rigged at suitable height.

16. Where the small auxiliary boat is used. It should always light and sound signal equipment in good working order and the crews should wear life jackets.



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The Secretariat coordinates and oversees the general policy and planning of the Center, and acts as the focal point for channeling and implementing the decisions and resolutions of the SEAFDEC Council of Directors. It organizes the annual meetings of the Council and the Program Committee, inter-departmental meetings, *ad hoc* consultative meetings with international organizations, as well as technical seminars and workshops. The Secretariat also coordinates the development and implementation of the Strategic Plan to guide all Departments towards the common goal.

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TD focuses on technology transfer in the marine fishery sector through training in marine engineering, navigation, fishing technology and extension methodologies; and through information dissemination, and extension work. TD also conducts research on fishing technologies, fishing gear improvements, fishing ground surveys, socio-economic profiles and a collaborative fishery resource survey program on the marine environmental system that sustains the fish stocks and their distribution in the South China Sea.

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MFRD specializes in fishery post-harvest technologies to optimize the utilization of marine catches through research into development of new products especially from unutilized fish, preservation, improved processing, packaging and shelf-life, and improvements in quality control and harmonization of quality standards. MFRD is also active in technology transfer through training and information dissemination, and work closely with seafood processors, handlers and consumers to achieve these objectives.

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AQD conducts research on the generation and improvement of aquaculture technologies, covering aspects of broodstock development, hatchery management, nursery operations, feed development, fish nutrition and disease management. The Department disseminates information through training, extension and other outreach activities, and works closely with universities in manpower and expertise development. AQD has already gained a reputation as a leading aquaculture research center in Southeast Asia.

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MFRDMD focusses on providing assistance to member countries on the development and management of marine fishery resources through resource exploration and stock assessment, applying modern technologies; investigations on fishery oceanography and the environmental conditions that sustain commercial fish stocks; migration of tuna; conservation of coral reefs and such endangered marine animals as marine turtles; as well as data management, training and information exchange on related common issues.



The Tuna Purse Seine Handbook



Produced by

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