



aluminumnow

G R O U P
Maritime Solutions

Superior Pleasure & Commercial Vessels with Breakthrough Technology



High Speed Catamaran Ferries

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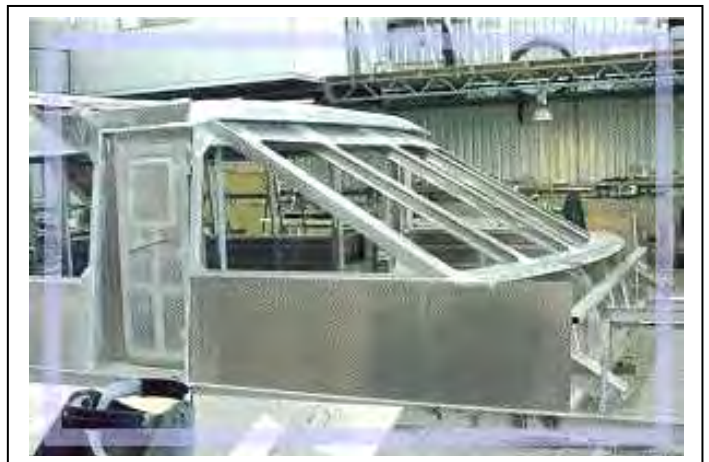
15m to 112m

Passenger & Passenger/Vehicle Ferries

“The Ultimate Solution”

AluminumNow are experienced in the management and construction of new builds of light weight, high performance aluminum catamarans and mono hulls for the Passenger and/or Vehicle Ferry Market & associated Marine Industries

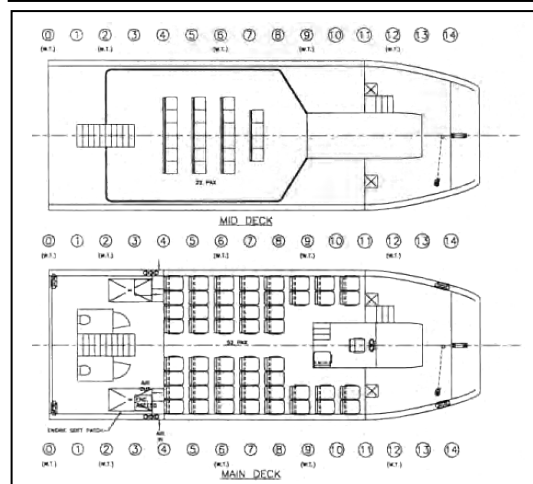
All vessels constructed to class as per client's requirements such as:- Lloyds, Bureau Veritas, ABS etc.



Each Vessel Semi-Custom designed to meet the client's requirements
Feasibility Studies undertaken at the clients request to ascertain the optimum size and design to suit the requirements and monetary concerns.

New Ferry Designs based on the Following tested units.
AluminumNow K15 – 15M Medium Speed Passenger Ferry

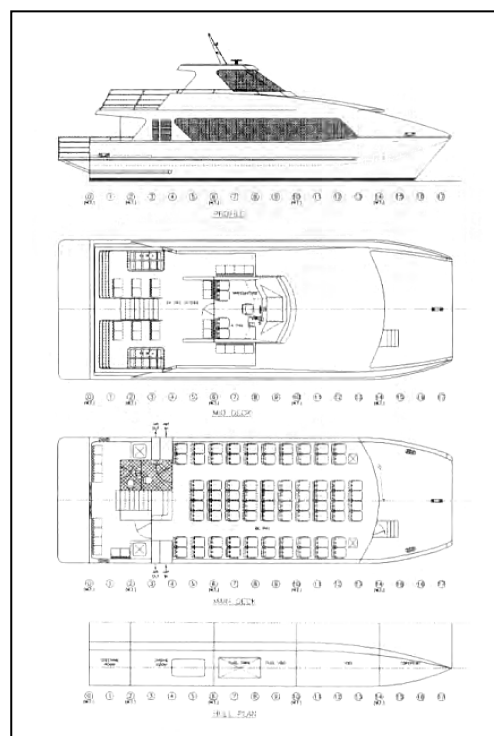
Length Overall	15 Metres
Beam	5.3 Metres
Draft	0.7 Metres
Construction	Marine Grade Alum.
Hull Form	Round Bilge
Main Engines	2x 165 kW
Propellers	2x NI AL Bronze
Speed	
Maximum:	20 Knots
Cruising:	16 Knots
Passenger Capacity	74 Passengers
Tank Capacities	
Fuel	2x 600 litres
Fresh Water	1x 400 litres
Sullage	1x 200 litres



AluminumNow K17 – 17.5m High Speed Passenger Ferry



Length Overall	17.5 Metres
Waterline Length	15.7 Metres
Beam	6.2 Metres
Draft	1.2 Metres
Construction	Marine Grade Alum.
Displacement	20 tonnes
Main Engines	2x 221kW @ 2500rpm
Gear Boxes	2x Twin Disc, 2.43:1 Ratio
Crew	3
Propellers	2x 4 Blade Ni Al Bronze
Speed	25 Knots
Passenger Capacity	84
In Survey to	USL
Tank Capacities	
Fuel	2x 1000 litres
Fresh Water	200 litres



AluminumNow K20 – 20M High Speed Passenger Ferry/Day Trip Vessel



Length overall	19.60 m
Length waterline	17.90 m
Beam overall	7.46 m
Survey	US Coast Guard
Construction	Aluminium
Draft (hull)	0.9 m
Main engines	2x550hp Cummins N-14
Fuel	2650 Litres
Fresh water	500 Litres
Passengers	100
Continuous speed	Full load 25 knots

This Crowther Multihulls High Speed Ferry was first built for the US Market and has performed according to design expectations and represents another success for the company.

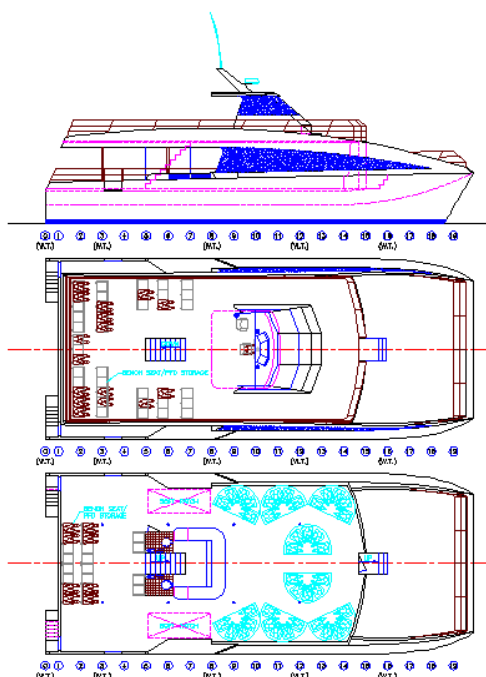
Measuring 19.60m overall with a 7.46m beam, this passenger transit ferry has already been put through its paces. After completion of sea trials in Seattle, the aluminium vessel travelled to Hawaii encountering fierce Northern Pacific Storms which it weathered with ease.

The first vessel of this design is now operating out of Port Allen on the Island of Kauai, in Hawaii. The vessel is rated for 100 passengers on scheduled snorkelling and whale watch day trips. In the evenings she will serve catered meals for up to 40 sit down diners. The main deck house is open to the aft with front and side windows providing shelter while the stern are is open. The top deck carries the pilot house and additional open seating. Ladders for diver access being provided on the stern of each hull.

The Cat is powered by a pair of Cummins' new N-14 engines, each developing 525hp at 2100 rpm. The engines drive through Twin Disc gears with a 1.92:1 ratio to turn 2.5 inch Aquamet-19 shafts with 26 inch stainless steel propellers.

The AluminumNow Crowther Cat with its speed and sea-keeping ability will allow us to offer a fine vessel for Ferry and/or Excursions/Dive Vessel.

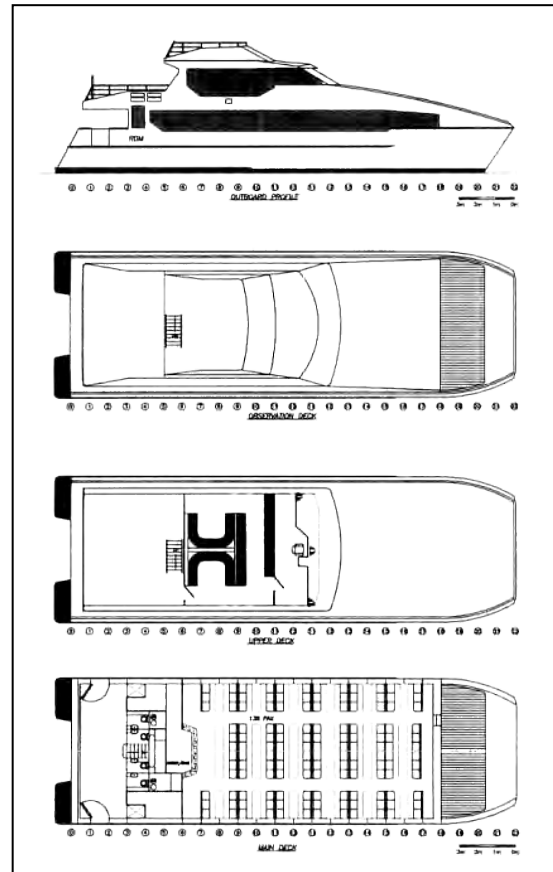
General Arrangements



AluminumNow K24 – 24M Medium Speed Passenger Ferry/Day Trip Vessel



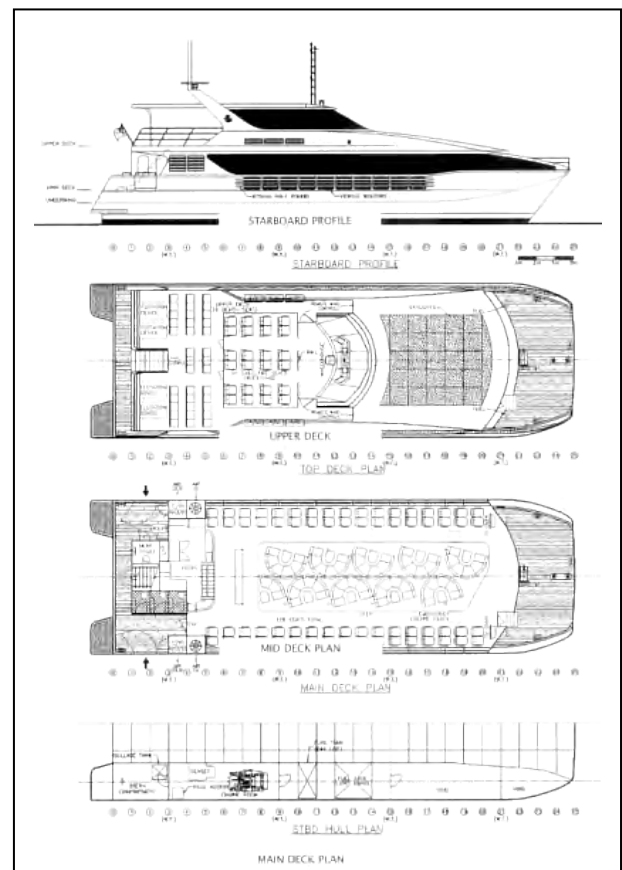
Length Overall	24 Metres
Beam	8 Metres
Draft (Loaded)	1.5 Metres
Construction	Marine Grade Alum.
Hull Form	Round Bilge
Main Engines	2x 820kW @ 2100rpm
Gear Boxes	2.5:1 Ratio
Gensets	Perkins 27 KVA
Propellers	5 Blade Ni Al Bronze
Speed	30 Knots
Passenger Capacity	160 to 200
Classification	USL
Tank Capacities	
Fuel	2x 2000 litres
Fresh Water	1x 700 litres



AluminumNow K24B – 24.75m High Speed Passenger Ferry



Length Overall	24.75 Metres
Waterline Length	23 Metres
Beam	8.5 Metres
Draft	1.8 Metres
Construction	Marine Grade Alum.
Hull Form	Round Bilge
Hull Beam	1.9 Metres
Main Engines	2x 820kW @ 2300rpm
Gear Boxes	2x Twin Disc, Ratio 2.45:1
Gensets	1x 47 Perkins KVA
Propellers	2x 5 Blade Ni Al Bronze
Speed	30 Knots
Passenger Capacity	160 to 200
Classification	USL
Tank Capacities	
Fuel	6000 litres
Fresh Water	1000 litres
Sullage	1000 litres
Crew	3

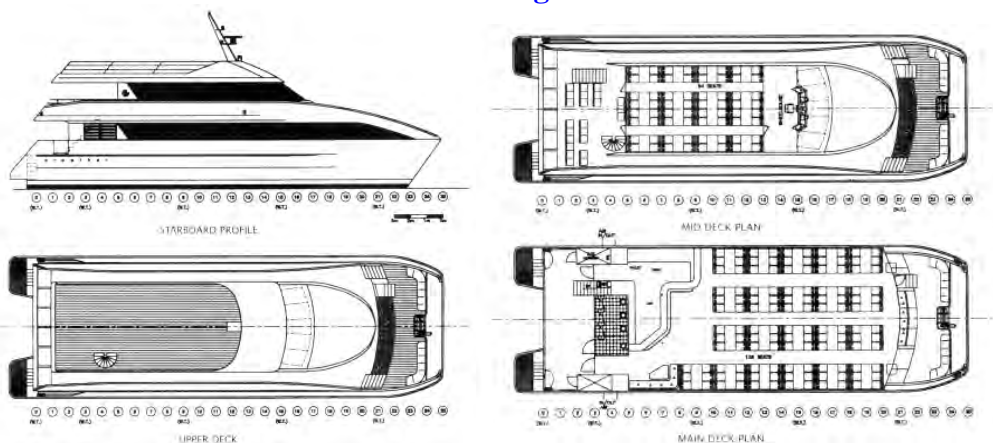


AluminumNow K25 - 25m High Speed Passenger Ferry/Day Trip Vessel



Length Overall	25 Metres
Beam	8 Metres
Draft	1.6 Metres
Construction	Marine Grade Alum.
Hull Form	Round Bilge
Main Engines	2x 820kW @ 2100rpm
Gear Boxes	2.57:1 Ratio
Genset	2x Perk./Stan. 41 KVA
Propellers	2x 5 NI AL Bronze
Speed	31 Knots
Passenger Capacity	200
Classification	DNV 1A1 R4 HSLC
Tank Capacities	
Fuel Oil	6000 litres
Fresh Water	1000 litres
Sullage	800 litres
Hull Beam	2.2 Metres
Crew	3

General Arrangements



AluminumNow K28 – 28M High Speed Passenger Ferry/Day Trip Vessel

VESSEL TYPE:

28m Fast Catamaran

CONSTRUCTION:

Marine Grade Aluminum

MARINE AUTHORITY:

As specified by Client

DELIVERY:

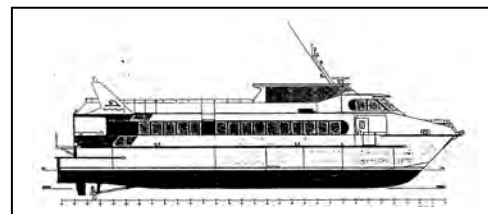
As per contract

PROPULSION:

Diesel Engine/Gearbox/Propeller

DIMENSIONS:

Length Overall:	28.3m
Length on Waterline:	25.6m
Beam (moulded):	8.8m
Approx. Max. Hull Draft:	1.0M
Approx. Max. Draft:	1.85m



TANKAGE:

Diesel Fuel (normal tankage): 8000 Litres
 Fresh Water: 1000 Litres
 Sullage: 1000 Litres
 Lube Oil: 200 Litres

PASSENGER TOTAL:

Main Deck Internal: 169
 Upper Deck External: 100
 Total: 269

MACHINERY:**OPTION 1**

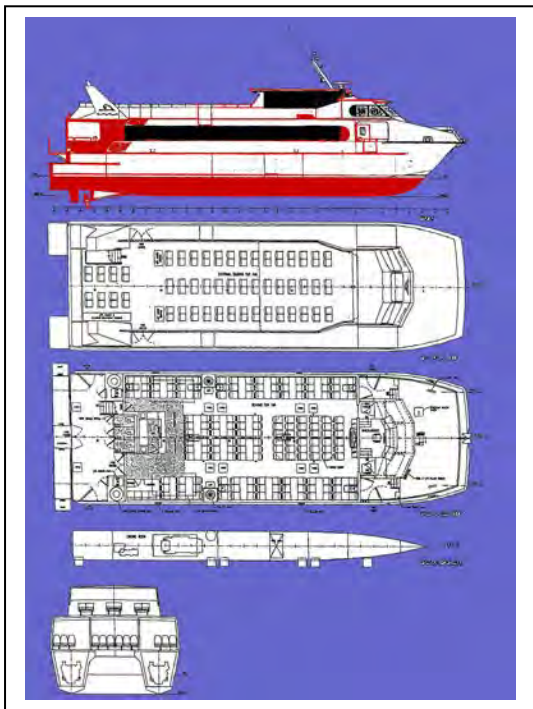
Engine: 2 x MTU 16V 2000 M70
 Continuous Rating: 1050 kW @ 2100 rpm
 (45 degree centigrade air, 32 degree centigrade water)
 Gearbox: ZF BW 255
 Fuel Consumption: 208 g/kWh or approximately 527 litres/hour
 Propulsion: 2 x Five Bladed Propeller
 Generator Set: 1 x Cummins 4BT 3.9G2 @ 1500 rpm
 (Approx. 7 litres/hr Fuel Consumption)
 Performance: Guaranteed Speed 30.75 knots @
 21.5 tons deadweight

OPTION 2

Engine: 2 x MTU 12V 2000 M70
 Continuous Rating: 788 kW @ 2100 rpm
 (45 degree centigrade air, 32 degree centigrade water)
 Gearbox: ZF BW 255
 Fuel Consumption: 202 g/kWh or approximately 381 litres/hour
 Propulsion: 2 x Five Bladed Propeller
 Generator Set: 1 x Cummins 4BT 3.9G2 @ 1500 rpm
 (Approx. 7 litres/hr Fuel Consumption)
 Performance: Guaranteed Speed 26.75 knots @
 21.5 tons deadweight

OPTION 3

Engine: 2 x MWM 12V 616
 Continuous Rating: 720 kW @ 2100 rpm
 (45 degree centigrade air, 32 degree centigrade water)
 Gearbox: ZF BW 190
 Fuel Consumption: 199 g/kWh or approximately 367 litres/hour
 Propulsion: 2 x Five Bladed Propeller
 Generator Set: 1 x Cummins 4BT 3.9G2 @ 1500 rpm
 (Approx. 7 litres/hr Fuel Consumption)
 Performance: Guaranteed Speed 25.75 knots @
 21.5 tons deadweight

**GENERAL ARRANGEMENT****APPOINTMENTS:**

Comprehensive Fire and Smoke Detection, CO2 Flooding,
 Aircraft Style Interiors and TV/Video System.

SEATING SPECIFICATIONS:

Main Deck: Ocean Tourist A
 Upper Deck: Sebel Hobnobs

AluminumNow K37 - 37m Wave Piercing Catamaran Passenger Ferry



Eurocat Designs

Deep sea 150 Miles from Port.

Length overall: 37.00 metres

Beam: 15.60 metres

GRT/NRT: 309 / 122

Main Engines:

As per Clients requirements

Economical cruise: 22 - 32 knots

Maximum cruise: 25 - 38 knots

Class: BV I 3/3(E) Passenger ship Light ship

Seating for: 350 passengers

Decks: 3

Crew: 4 - 9

Deadweight: 145.0 tonnes

Generators:

2 x Perkins 1004 driving Stamford 47 kVA each

Fresh Water: 2900 litres

Fuel:- 29 m3 MGO

Equipment Indications

Comms: GMDSS Area A1 standard, 406 EPIRB, 2 x VHF, 2 x SART

Radar: 1 x Kodon 3731T or similar

Compass: 1 x Magnetic Silva type with Wagner SE autopilot

GPS: 2 x Furuno 0r similar

Echo sounder: JRCIF30 or similar

LSA: 12 x RFD/DSB liferafts (mixture of sizes from 25 to 65 man)

Rescue Boat: 1 x aluminium with flotation chambers and 25 hp outboard suspended on davit

Anchors: 1 Danforth on electric windlass and 115 metres chain/cable and 1 spare Danforth on removable davit

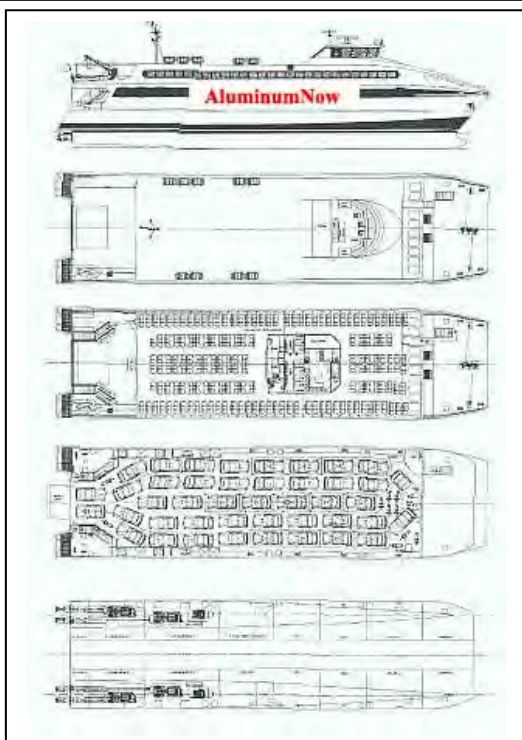
Fire pumps: 2 x clutch driven Jabsco type 10488

Bilge pumps: 240v submersible in each of five compartments in each hull

Note:- 1)Speed indications depend on machinery specified.

2)Equipment to be as specified by Client.

AluminumNow K56 – 56m High Speed Catamaran Car Passenger Ferry



Principle Dimensions

Length Overall:	56.0M
Length Waterline:	49.8M
Beam (Moulded);	14.0M
Hull Depth (Moulded);	5.0M
Maximum Draft;	2.7M

Payload & Capacities

Passengers:	430
Crew:	Bridge 3 Other 8
Vehicles:	Cars 43
Car Bay Size	4.5m x 2.25m x 2.8m(LxBxH)
Maximum Axle Load	1.5Tons

Propulsion

Main Engines:	4 X MTU 16V 4000 M70
Fuel Consumption @ 90%MCR:	206g kWh
Gear Boxes:	4 x Reintjes / ZF
WaterJets:	4 x KaMeWa 71 SII
Ride Control:	Seastate "T" foils forward and variable interceptors aft

Performance

Speed(130T DWT 90%MCR)	34.5Knots
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Classification

Germanischer Lloyd

Deadweight	Baggage	50 kg/pax	22.16 tonnes
	Cars (max 1.5t per axle)	43 @ 1200 kg	51.60 tonnes
	Crew and Effects	16 @ 100 kg	1.60 tonnes
	Fuel	11.85 tonnes	
	Fresh Water	100%	5.00 tonnes
	Lube Oil	100%	0.36 tonnes
	Hydraulic Oil	100%	0.18 tonnes
	Stores & Consumables		<u>5.00 tonnes</u>
	Total		130.00 tonnes

Full load displacement = Lightship + 130.00 tonnes

Tankage

Diesel Fuel	50,000 litres
Fresh Water	1 x 5,000 litres
Sewage	1 x 1,500 litres
Sludge	1 x 900 litres
Lube Oil	2 x 200 litres
Hydraulic Oil	2 x 100 litres

Bilge Holding Tank

1,600litres



AluminumNow K60 – 60M High Speed Passenger/Vehicle Ferry

General Arrangement	60 meter Auto Express	
Principal Dimensions	Length Overall	59.90 m
	Length Waterline	51.20 m
	Beam Moulded	17.50 m
	Hull Depth Moulded	6.65 m
	Hull Draft (approx) with T foil ride control	3.25m
Passengers	Bridge Deck	60
	Upper Deck	<u>390</u>
		450
Vehicles	Buses	5
	Cars	54
	Vehicle Deck Height	4.4 m
	Lane Width	2.2 m
	Vehicle Deck Strength	1.0 t/axle
Crew	Bridge	3
	Facility for others	approx 10
Main Engines	2x 6500 kW @ 1250 rpm MTU20V 1163 TB73L	
Waterjets	2x steerable, reversible KaMeWa 112 SII	
Gearboxes	2x, non reversing, trailing lube pump Reintjes VLJ 4431	
Performance	173 tonne deadweight 100% MCR	34.5 knots
	173 tonne deadweight 90 % MCR	32.5 knots
Tankage	Refer Section 6 - Piping & Plumbing	
Deadweight	Passengers (450 @ 75 kg)	33.75 t
	Baggage (10kg/passenger)	4.50 t
	Cars (94 @ 1.20 t)	112.80 t
	Crew and Effects (16 @ 100 kg)	1.60 t
	Fuel 80% (19200L)	15.94 t
	Fresh Water 100% (2,000L)	2.00 t
	Stores & Consumables	1.50 t
	Sewage 50% (1,000L)	1.00 t
	Lube Oil (spare) (200L)	0.17 t
	Hydraulic Oil (spare) (100L)	<u>0.08 t</u>
		173.34 t
Classification	Germanischer Lloyd	

AluminumNow K74 - 74m Wave Piercing Catamaran Car Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 74m generation of wave piercing catamaran, some design variations are not listed.



General Particulars:

Class Society: Det Norske Veritas
Certification: DNV +1A1 HSLC Ri Car Ferry "A" EO NAUT B
Length overall: 73.60m
Length waterline: 59.90m
Beam: 26.00m
Beam of Hull: 4.33m
Draft: 3.10m
Speed: 37 knots

Capacities:

Max Deadweight -200 tonnes (estimate based on building specification).
Total persons -up to 600 persons
Vehicle Capacity -84 cars ~ 4.5m x 2.3m
Vehicle Deck Access- 2 x stern doors/ramps and 1 x bow visor/ramp approximately 3.8m wide each.
Axle loads- 2.0 tonnes main vehicle deck and 0.8 tonnes outer vehicle deck.
Fuel Capacity -2 x 16.4m³ integral aluminium tank and additional long-range tank capacity provided in each hull.
Fresh Water- 1 x 2.5 m³ aluminium tank.
Sewage - 1 x 2.5 m³ aluminium tank

Construction:

Design -Two slender, aluminum hulls connected by two main bridging beams and intermediate transverse sections with centre bow structure at fwd end.

Subdivision -Each hull is divided into eight watertight compartments divided by transverse bulkheads. One compartments in each hull prepared as short-range fuel tanks and one as a long-range fuel tank.

Fabrication -Welded aluminium construction using longitudinal stiffeners supported by transverse web frames and bulkheads.
Aluminum plate grade 5083 Hi 16 and aluminium extrusions grade 6082 T6 and 5083 Hi 12.

Life Saving and Evacuation:

Escape -Via two Marine Evacuation Stations and two external stairs aft. The two forward MES serve a total of 200 persons each and aft stairs serving 100 persons each. A maximum of 8 x 100 person rafts fitted.

Rescue -2 x SOLAS inflatable rescue dinghy with 30 hp motor and approved launch / recovery method. Lifejackets -Lifejackets with lights for full compliment fitted under seats and in storage cabinets.

Safety Equipment -Lifebuoys with lights and lines, smoke flares, Immersion suits, flares and lines throwing device fitted in accordance with international regulations.

Fire Safety:

Fire Detection -An addressable fire detection system covers at minimum all high and moderate risk spaces (other than the wheelhouse) with alarm panel situated in the wheelhouse. CCTV system covers at a minimum, engine rooms, ante rooms, vehicle spaces, jet rooms, MES and Liferrafts stations (serving as mooring cameras) with monitors in the wheelhouse.

Fire Sprinklers-Vehicle deck and passenger cabin are protected by drencher systems with overhead sprinklers. Pump control is from the wheelhouse and anterooms.

General Equipment -Portable fire extinguishers, Fireman's outfits and equipment, water fog applicators, breathing apparatus, international connections and fire control plans fitted in accordance with international regulations.

Machinery Installations:

Main Engines- 4 x resiliently mounted Ruston 16RK270 marine diesel engines.

Water Jets -4 x Lips 1 15DX waterjets configured for steering and reverse. Transmission — direct drive.

Ride Control -A Maritime Dynamics' active ride control system is fitted to maximize passenger comfort. The system combines active trim tabs aft and optional T-foil with active fins located at the forward end of each hull.

Monitoring -An electronic alarm and monitoring system with central VDU displays, keyboards and printerfitted in the wheelhouse. Alarm and monitoring to meet the requirements of the HSC Code, the HSLC Rules and EO requirements.

Passenger Accommodation:

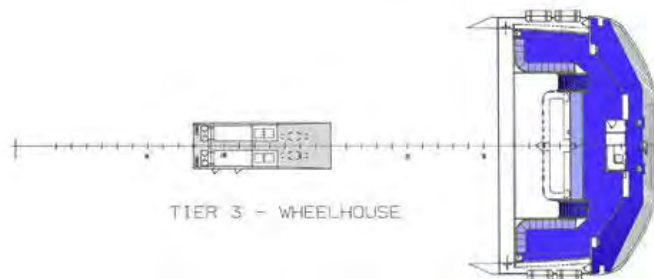
Superstructure .Passenger accommodation supported above the vehicle deck on anti-vibration mounts. Outfit—All materials comply with MO standards for fire, low flame spread, smoke and toxicity. Public Address- Builder's standard, marine, public address system supplied and fitted to cover all passenger and crew areas, vehicle decks, stairwells and ante rooms. Colour televisions fitted throughout seated view of safety messages and video the passenger cabin to enable they serve.

Electrical Installations:

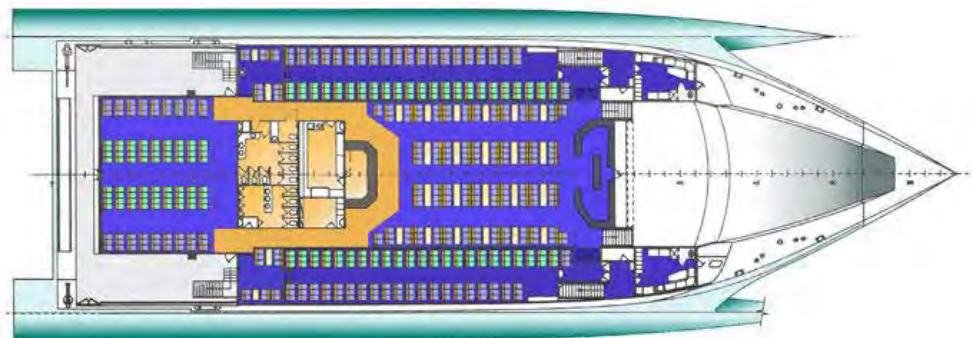
Alternators -4 x Caterpillar 3306 142kw (nominal) marine, brushless, self-excited alternators.

Distribution - 415V, 50Hz. 3 phase. 4 wire distribution with neutral earth allowing 240 volt supply using one phase and, one neutral. Distribution via distribution boards adjacent to or within the space

General Arrangements



TIER 3 - WHEELHOUSE



TIER 2 - PASSENGER DECK

AluminumNow K78 - 78m Wave Piercing Catamaran Car Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 78m generation of wave piercing catamaran, some design variations are not listed.



General Particulars

Class Society	Det Norske Veritas
Certification	DNV +1A1 HSLC R1 Car Ferry "A"
EO	NAUT B
Length overall	77.46m
Length waterline	63.90m
Beam	26.00m
Beam of Hulls	4.33m
Draft	3.50m
Speed	35 knots at 250t deadweight at 100% MCR, exc. T-Foils.

Capacities

Max Deadweight - 250 tonnes (estimate based on building specification).

Total persons - up to 600 persons

Vehicle Capacity - 145 cars @ 4.5m x 2.3m

Vehicle Deck Access - 2 x stern doors/ramps and 1 x bow door/ramp approximately 3.8m wide each.

Axle loads - 2.0 tonnes main vehicle deck and 0.8 tonnes outer vehicle deck.

Fuel Capacity - 4 x 8930 litre integral aluminium tanks and 2 x 146,620 litre long-range tanks.

Fresh Water - 1 x 5000 litre aluminium tank.

Sewage - 2 x 2000 litre aluminium tanks.

Construction

Design - Two slender, aluminum hulls connected by two main bridging beams and intermediate transverse sections with centre bow structure at fwd end.

Subdivision - Each hull is divided into eight watertight compartments divided by transverse bulkheads. One compartments in each hull prepared as short-range fuel tanks and one as a long-range fuel tank.

Fabrication - Welded aluminium construction using longitudinal stiffeners supported by transverse web frames and bulkheads. Aluminum plate grade 5083 H321 or H116 and aluminium extrusions grade 6082 T6 and 5083 H112.

Life Saving and Evacuation

Escape - Four Marine Evacuation Stations and two external stairs aft. The MES units serving 100 persons each and aft stairs serving up to 200 persons each. A maximum of 8 x 100person rafts fitted.

Rescue - Two SOLAS inflatable rescue dinghy with 30 hp motor and approved launch / recovery method.

Lifejackets with lights for full compliment fitted under seats and in storage cabinets.

Safety Equipment - Lifebuoys with lights and lines, smoke flares, Immersion suits, flares and lines throwing device fitted in accordance with international regulations.

Fire Safety

Fire Detection - An addressable fire detection system covers at minimum all high and moderate risk spaces (other than the wheelhouse) with alarm panel situated in the wheelhouse. CCTV system covers at a minimum, engine rooms, ante rooms, vehicle spaces, jet rooms, MES and Liferafts stations (serving as mooring cameras) with monitors in the wheelhouse.

Fire Sprinklers - Vehicle deck and passenger cabin are protected by drencher systems with overhead sprinklers. Pump control is from the wheelhouse and anterooms.

General Equipment - Portable fire extinguishers, Fireman's outfits and equipment, water fog applicators, breathing apparatus, international connections and fire control plans fitted in accordance with international regulations.

Machinery Installations

Main Engines - 4 x resiliently mounted Ruston 16RK270 or Caterpillar 3616 marine diesel engines, rated at 4320 kW.

Water Jets - 4 x Lips 115DLX waterjets configured for steering and reverse.

Transmission – direct drive.

Ride Control - A 'Maritime Dynamics' active ride control system is fitted to maximise passenger comfort. The system combines active trim tabs aft and optional bolt on T-foils with active fins located at the forward end of each hull.

Monitoring - An electronic alarm and monitoring system with central VDU displays, keyboards and printer fitted in the wheelhouse. Alarm and monitoring to meet the requirements of the HSC Code, the HSLC Rules and EO requirements.

Passenger Accommodation

Superstructure - Passenger accommodation supported above the vehicle deck on anti-vibration mounts.

Outfit – All materials comply with IMO standards for fire, low flame spread, smoke and toxicity.

Public Address - Builder's standard, marine, public address system supplied and fitted to cover all passenger and crew areas, vehicle decks, stairwells and ante rooms. Colour televisions fitted throughout the passenger cabin to enable seated view of safety messages and video.

Electrical Installations

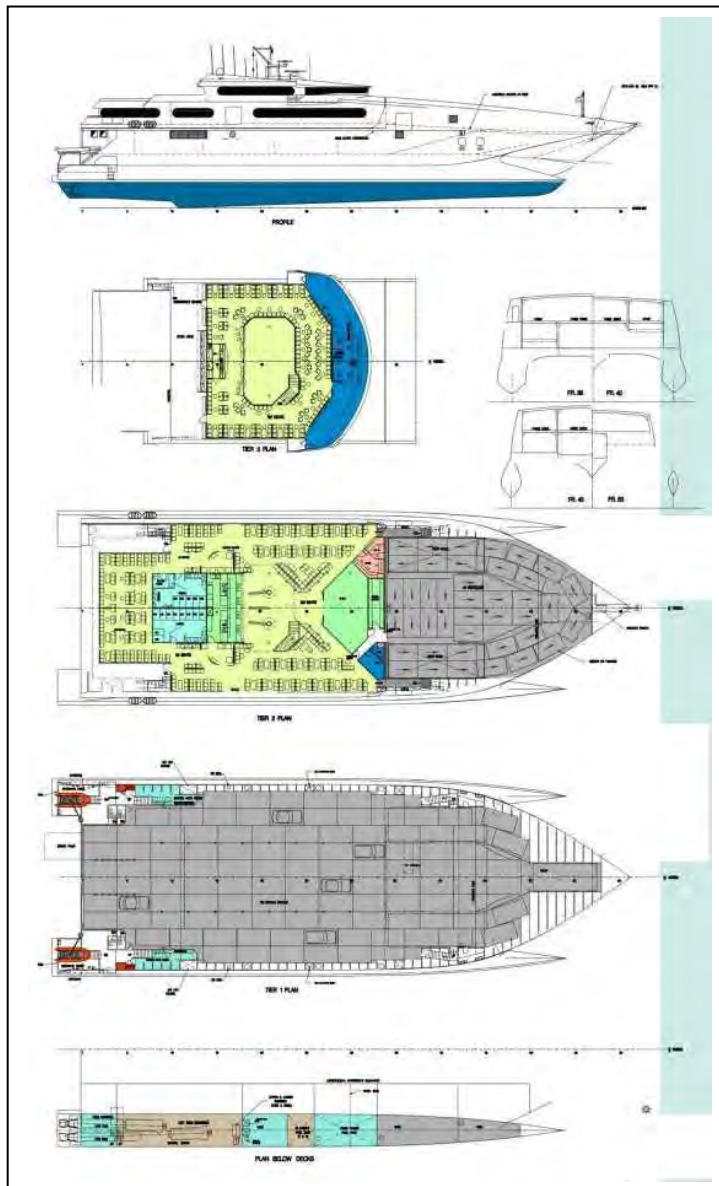
Alternators - 4 x Caterpillar 3306 145kw (nominal) marine, brushless, self-excited alternators.

Distribution - 415V, 50 Hz. 3 phase. 4 wire distribution with neutral earth allowing 240 volt supply using one phase and one neutral. Distribution via distribution boards adjacent to or within the space they serve.

Summary

The 78 metre was a logical progression from the successful 74 metre vessels, and provided substantially improved economies to the operator. A mezzanine deck was introduced in the 78 m generation, providing a significant increase in the number of vehicles carried.

General Arrangement



AluminumNow K50 - 80m High Speed Passenger/Vehicle Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the K50 80m generation of high speed catamaran, some design variations are not listed.



At AluminumNow we have moved the boundaries, opening the frontier of fast freight by sea to operators worldwide.

The **K50** Class Catamaran is designed to operate at very high speeds on relatively sheltered waters. Over the past 4 years K Class Catamarans have proved to be enormously successful, offering unsurpassed comfort, speed, reliability and economy.

The **K50** is built to the requirements of Det Norske Veritas HSLC Rules and is classed DNV+1A1 HSLC R2 Car Ferry "B" EO. The vessel meets the technical requirements of the IMO HSC Code Category A Craft. The vessel is constructed from marine grade aluminium alloys.

The interior of the **K50** is outfitted with a stylish, luxurious, yet practical layout that is well suited for the demands of an intensive passenger ferry service. All interior materials, including seats, carpets and wall coverings are selected not only to produce an integrated and harmonious interior, but also to comply with the most stringent IMO standards for fire, smoke and toxicity. The functional layout facilitates rapid turnarounds times.

With the market expectation of fast sea transport the **K50** can deliver speeds up to 53 knots lightship and 47 knots fully loaded (167 tonnes deadweight).

Class Society	-	Det Norske Veritas
Applicable Regulations	-	DNV HSLC Rules current at the date of contract
	-	IMO HSC Code and applicable IMO Regulations at date of contract
Certification	-	DNV □1A1 HSLC R2 Car Ferry "B" EO Certificate
Length overall	-	80.10m
Length waterline	-	72.30m
Beam	-	19.00m
Beam of Hulls	-	5.00m
Draft	-	2.16m approx. in salt water
Speed	-	47.0 knots @ 167 tonnes deadweight
	-	53.0 knots @ Lightship

*Note. All speeds quoted at 100% MCR (4 x 5500kw) and excluding T-foil

Capacities

Max Deadweight	-	167 tonnes
Total persons	-	400 persons (maximum 450 persons utilizing open top reversible liferafts, subject to Flag and Port State approval)
Vehicle Capacity	-	89 cars at 4.5m length x 2.3m width
Axle loads	-	Transom to Frame 11 - 8 tonnes per single axle group
	-	Forward of Frame 11 - 1 tonne per single axle group
Fuel Capacity	-	4 x 12m ³ integral aluminum tanks
Fresh Water	-	1 x 2.5 m ³ GRP tank
Sewage	-	1 x 2.5 m ³ GRP tank
Paint	-	Hulls, topsides and superstructure painted with a marine grade two-pack paint.
	-	Hulls below waterline painted with self polishing anti-fouling paint.

Structures

Design	-	Two slender, aluminum hulls connected by two major beams and a series of minor beams with center bow structure at fwd end.
Subdivision	-	Each hull is divided into eight vented, watertight compartments divided by transverse bulkheads. One compartment in each hull prepared with short range fuel tanks and one compartment as a long range fuel tank.
Fabrication	-	Welded aluminium construction using aluminum plate grade of 5083 H116 or 5383 H116 and extrusion grade 6082 T6 and 6060 T5. Longitudinal stiffeners supported by transverse web frames and bulkheads.

Passenger Accommodation and Escape

Wall Coverings	-	Painted composite board and anodised aluminium sheet.
Floor Coverings	-	80:20 tufted carpet (60ozs/sq yd) to Incat standard range and colours adhered to decks.
	-	Selected chlorine-free vinyl type flooring adhered to decks with epoxy adhesive.
Ceilings	-	Luxalon 180B aluminium linear ceiling, cotton white, with painted composite board fascias and trenches.
Windows	-	Combination of Incat "Glass Only" window installation system with toughened glass and aluminium framed sliding windows where required.
Lighting	-	Recessed fluorescent lights and recessed low voltage 12v 50W downlights with dichoric lamps.
Air Conditioning	-	Sanyo reverse cycle throughout capable of maintaining between 22 deg C and 50% RH with a full passenger loads and ambient temperature of 32 deg C and 50% RH
Ventilation System	-	Supply fans will provide fresh air into the Pax area at a rate of 3 air changes per hour. Kiosk, Bar, Pantry and Toilet exhaust fans provide 30 air changes per hour within the space. Purge and exhaust fans will purge the air from the Pax space at the rate of 8 air changes per hour
Aircraft Seating	-	Beurteaux Ocean Contour reclining seats with enclosed arm rests, magazine holders, folding meal table, under-seat life jacket holders and wool fabric upholstery with leather trim.
Passenger Access	-	Two stairways from the Tier 1 passenger deck offer entry to Passenger area.
	-	Shore access via 2 dedicated passenger gangway positions on the pax level aft.
Public Address	-	Builder's standard, marine, public address system supplied and fitted to cover all passenger and crew areas, vehicle decks, stairwells and ante rooms. Colour televisions fitted throughout the passenger cabin to enable seated view of safety message televisions are configured to receive video, safety messages and input from the electronic chart system.
Alarm	-	Two tone general alarm (seven short and one long) signal generator activated from wheelhouse.

Fire Safety

Fire Detection	-	An addressable fire detection system covers at minimum all high and moderate risk spaces (other than the wheelhouse) with alarm panel situated in the wheelhouse.
	-	CCTV system covers at a minimum, engine rooms, ante rooms, vehicle spaces, jet rooms, MES and liferafts stations (serving as mooring cameras) with six monitors in the wheelhouse.
Fire Protection	-	Lightweight structural fire protection protects all moderate and high risk spaces.
ER Fire Control	-	CO2 system for each engine room together with second shot cross connection.
	-	A manually operated drencher system feed from the hydrant loop offers back up and cooling to engine room.
Drenchers	-	Vehicle deck is protected by a drencher system with overhead sprinklers and deck-soaker pipes. Pump control is from the wheelhouse and anterooms.
	-	Pax area is protected by a dry, closed bulb sprinkler system interconnected via control valves to the vehicle deck drencher system.
Hydrants	-	Two electric motor driven pumps, one in Void 2 port and stbd, feed into a common loop which feed fire hydrants distributed throughout the ship.
General Equipment	-	Portable fire extinguishers, Fireman's outfits and equipment, water fog applicators, breathing apparatus, international connections and fire control plans included to meet rule requirements.

Life Saving Appliance and Arrangements

Escape	-	Escape is via two LSA Marine Evacuation Stations, one port and one stbd, each serving 200 persons. A total of five 100person LSA rafts are fitted.
	-	1 x SOLAS inflatable dinghy with 30 hp motor and approved launch / recovery method.
Lif jackets	-	Lif jackets with lights for full compliment fitted under seats and in storage cabinets.
Equipment	-	Lifebuoy s with lights and lines, smoke flares, Immersion suits fitted in accordance with international regulations.
	-	Flares and Lines Throwing Device stored in pyrotechnics locker near wheelhouse.
	-	3 x Hunsun 3110 hand held radio transceivers with charges.
	-	‘Francis’ Daylight signal lamp.

Machinery Installations

Main Engines	-	4 x resiliently mounted Ruston 16 RK270 marine diesel engines, developing up to 5500kw each, driving four transom mounted water jets through reduction gearing.
Water Jets	-	4 x KAMEWA S8011 waterjets configured for steering and reverse.
Transmission	-	Direct coupled shafts using keyless hydraulic shaft couplings.
Hydraulics	-	Three hydraulic power packs, one forward and two aft, for running of mooring capstans, anchor winch, ride control, steering/reverse and rescue boat cranes.
Bilge System	-	Each hull void fitted with a submersible bilge pump except forepeak fitted with drain plug. Pump control adjacent to void access. Forepeak
Oily Water System	-	Air driven oily water pump for suction from machinery spaces and discharge into oily bilge tank or long range void. Discharge ashore via connection in vehicle deck save-all.
Starting System	-	Main engines and alternators are air started. Air compressor and receiver fitted in each hull.
	-	‘Dead Start’ capable using hand operated air compressor and storage cylinder in each engine room.
Fuel System	-	Each of the four, integral fuel tanks are fitted with a sounding pipe and an air vent to the open deck. Each suction line fitted with water separators, duplex filters and remote operated, mechanical/pneumatic quick closing valves.
	-	Fuel filling at midship bunker stations sized to allow flow rate of 36m ³ /hr.
Lube Oil System	-	Aluminium storage trailer with four 205l drum for supply and discharge \
Exhaust System	-	Resiliently mounted exhaust pipe and silencers discharge through underside of bridge structure via water cooled shrouds.
Ride Control	-	A ‘Maritime Dynamics’ active ride control system is fitted to maximise passenger comfort. This system comprises of active trim tabs aft and optional bolt-on T-Foils fwd. The structural abutment to receive optional bolt on T-foils fitted as standard to the vessel.
Trim Tabs	-	A hydraulically operated trim tab is hinged at the aft end of each hull.
Monitoring	-	An electronic alarm and monitoring system with dual central VDU displays, keyboards and printer fitted in the wheelhouse. Alarm and monitoring to meet the requirements of the HSC Code, the HSLC Rules and EO requirements.
Communication	-	A ‘David Clark’ system is fitted to allow communication between any of the following points: Central wheelhouse helm position. Aft vehicle deck, Anchor area, Anterooms, Jet rooms, Engine rooms, T-foil void. All points have call facilities to the wheelhouse via headset stations with volume control.

Electrical Installations

Alternators	-	2 x Volvo Penta TAMD 240KW (nominal) marine, brushless, self-excited alternators.
Distribution	-	415V, 50 Hz. 3 phase. 4 wire distribution with neutral earth allowing 240 volt supply using one phase and one neutral. Distribution via distribution boards adjacent to or within the space they serve.
Switchboards	-	Main switchboards fitted with a load preferential trip system which automatically sheds non essential loads whilst still maintaining one alternator as a standby set. Each switchboard fitted with a bus coupler breaker to allow the main bus bars to be split in the event of a fault condition.

Essential Distribution	-	Distribution to essential services from independent distribution boards supplied from both switchboards.
Shore Power	-	50 amp 415V 3 phase outlet fitted in stbd anteroom.
24v DC Systems	-	Separate systems for automation and to power ship's radio communication.
Essential Lighting	-	10% of the main light fittings are powered from the essential services distribution board. Essential lights and exit signs fitted as required and indicated by red dot.
Navigation Lights	-	Dual power supply (Main and Essential services) controlled from the wheelhouse for all navigation lights including NUC and anchor lights.
Cathodic Protection	-	Sea inlets and jet area protected by high capacity anodes.
	-	Hull potential monitoring system, alarmed to the wheelhouse fitted.

Navigation Equipment

GPS	-	Magnavox MX 200 GPS
Radars	-	Kelvin Hughes Nucleus II 5000 Autotrack X Band 10kw
	-	Kelvin Hughes Nucleus II 5000 Autotrack X Band 5kw
Autopilot	-	C-Plath Naviplot V5
Gyro Compass	-	C-Plath Navigat X
Magnetic Compass	-	C-Plath Jupiter (transmitting)
Electronic Chart System	-	Oceanvision – High Speed Ferry
Echo Sounder	-	Skipper DGS101 including remote
Speed / Distance Log	-	Walker 4040
Wind Speed/Direction	-	Walker 2060
Weather Fax / Navtex	-	JRC JAX 9A
Barometer / Clock	-	Builders standard
Air Horn	-	Ibuki – A100E
Search Light	-	DHR Remote

Radio Communications

Note. To comply with GMDSS Sea Area 1 and 2

MF / HF / VHF Station	-	Hunsun 2100 control unit TX1 6-30Mhz Rx 100 kHz – 30 Mhz
	-	Hunsun 2130 Transmitter 1.6 30 Mhz, 24v DC supply
	-	Hunsun 2110 Antenna Tuner Unit
	-	Hunsun 2074 loudspeaker with volume switch
	-	Hunsun 501 2182 kHz Watchkeeping receiver, 24v DC
	-	2 x Hunsun 2074 Full duplex VHF radio telephones
	-	Hunsun N420 24/12v DC Power supply unit
	-	3 x Hunsun 3110 Hand held transceivers inc. chargers
EPIRB	-	Locata 402A 406 Mhz GMDSS
SART	-	2 x Graseby Nova RT – 400 9 GHz

Operating Compartment

Operation	-	There are two forward facing seats around the centre line. Console contains all required navigation, communication and monitoring equipment.
Visibility	-	All round visibility is provided.
	-	Solar blinds on three forward, central wheelhouse windows.
	-	Window demisters fitted to maintain clear visibility.
Control	-	Main helmsman position located forward end of wheelhouse, off centreline to starboard.
	-	'Docking Station located at aft end of wheelhouse on centreline.
Communication	-	The three onboard communication systems are operable from the wheelhouse, enabling communication to all machinery, mooring and passenger spaces.

18. Operational Requirements

Certificates	-	See Chapter One for list of certificates
	-	Permit to Operate High Speed Craft (POHSC) is the responsibility of the Buyer/Operator.
Manuals/Dwgs.	-	A set of Drawings, Craft Operating Manuals and Equipment Manuals are issued with vessel.
	-	The Craft Operating Manual, The Route Operational Manual and The Training Manual are the responsibility of the operator. (Refer HSC Code Chapter 18)

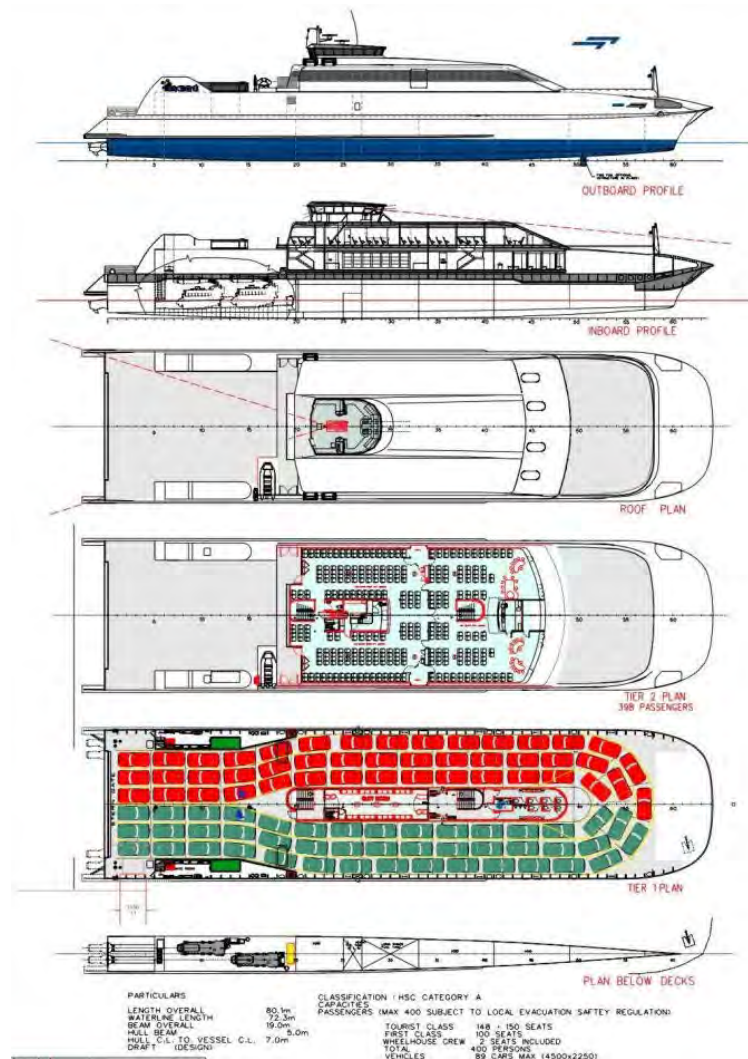
19: Summary

The K Class Catamaran is designed to operate at very high speeds on relatively sheltered waters. Over the past 4 years K Class Catamarans have proved to be enormously successful, offering unsurpassed comfort, speed, reliability, and economy.

The K Class is built to the requirements of Det Norske Veritas HSLC Rules and is classed DNV+1A1 HSLC R2 Car Ferry "B" EO. The vessels meet the technical requirements of the IMO HSC Code Category A Craft. The vessels are constructed from marine grade aluminium alloys.

The interior of the K Class is outfitted with a stylish, luxurious, yet practical layout that is well suited for the demands of an intensive passenger ferry service. All interior materials, including seats, carpets and wall coverings are selected not only to produce an integrated and harmonious interior, but also to comply with the most stringent IMO standards for fire, smoke and toxicity. The functional layout facilitates rapid turnarounds times

General Arrangements



AluminumNow K81 - 81m Wave Piercing Catamaran Car Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 81m generation of wave piercing catamaran, some design variations are not listed.



General Particulars

Class Society	Det Norske Veritas
Certification	DNV +1A1 HSLC R1 Car Ferry "B" EO
Length overall	81.15m
Length waterline	66.30m
Beam overall	26.00m
Beam of Hulls	4.33m
Draft	3.00m approx. in salt water
Service Speed	38 knots
Lightship Speed	44 knots

*Note - All speeds quoted at 100% MCR (4 x 7080kw @ 1030 rpm) and excluding T-foil.

Capacities

Max Deadweight - 320 tonnes (approximate dependent on building specification).

Total persons - up to 700 persons

Vehicle Capacity - 181 cars at 4.5m length x 2.3m wide.

Axle loads - Transom to Frame 14 - 9 tonnes per axle group, Frame 14 - 35 2 tonnes per axle group and fwd of Frame 35 and vehicle ramps 0.8 tonnes per axle group.

Fuel Capacity - 4 x 12.0m³ integral aluminium tank and additional long-range tank provided in each hull.

Fresh Water 1 x 5000 litre GRP tank.

Sewage 1 x 5000 litre GRP tank.

Construction

Design - Two slender, aluminum hulls connected by a bridging section with center bow structure at fwd end. Each hull is divided into eight vented, watertight compartments divided by transverse bulkheads. One compartment in each hull prepared as short-range fuel tanks and one as a long-range fuel tank.

Welded and bonded aluminium construction using longitudinal stiffeners supported by transverse web frames and bulkheads. Aluminum plate grade 5383 H321 or H116. Aluminium extrusions grade 6082 T6 and 5083 H112.

Life Saving and Evacuation

Escape - Four Marine Evacuation Stations, two port and two starboard, and two external stairs aft. The MES serve a total of 100 persons each and aft stairs serving up to 200 persons each. A total of 8 x 100 person rafts are fitted.

Rescue - Two SOLAS inflatable rescue dinghy with 30 hp motor and approved launch / recovery method.

Lifejackets with lights for full compliment fitted under seats and in storage cabinets.

Safety Equipment - Lifebuoys with lights and lines, smoke flares, Immersion suits, flares and lines throwing device fitted in accordance with international regulations.

Fire Safety

Fire Detection - An addressable fire detection system covers at minimum all high and moderate risk spaces (other than the wheelhouse) with alarm panel situated in the wheelhouse.

CCTV system covers at a minimum, engine rooms, ante rooms, vehicle spaces, jet rooms, MES and liferafts stations (serving as mooring cameras) with monitors in the wheelhouse.

Fire Sprinklers - Vehicle deck and passenger cabin are protected by drencher systems with overhead sprinklers. Pump control is from the wheelhouse and anterooms.

General Equipment - Portable fire extinguishers, Fireman's outfits and equipment, water fog applicators, breathing apparatus, international connections and fire control plans fitted in accordance with international regulations.

Machinery Installations

Main Engines - 4 x resiliently mounted Ruston 16RK270 marine diesel engines.

Water Jets - 4 x Lips LJ135D waterjets configured for steering and reverse.

Transmission - 4 x Reintjes VLJ4431 gearboxes, approved by the engine manufacturer, with reduction ratio suited for optimum jet shaft speed.

Ride Control - A 'Maritime Dynamics' active ride control system is fitted to maximise passenger comfort. The system combines active trim tabs aft and optional bolt-on T-foil located at the forward end of each hull.

Superstructure - Passenger accommodation supported above the vehicle deck on anti-vibration mounts.

Outfit - All materials comply with IMO standards for fire, low flame spread, smoke and toxicity.

Public Address - Builder's standard, marine, public address system supplied and fitted to cover all passenger and crew areas, vehicle decks, stairwells and ante rooms. Colour televisions fitted throughout the passenger cabin to enable seated view of safety messages and video.

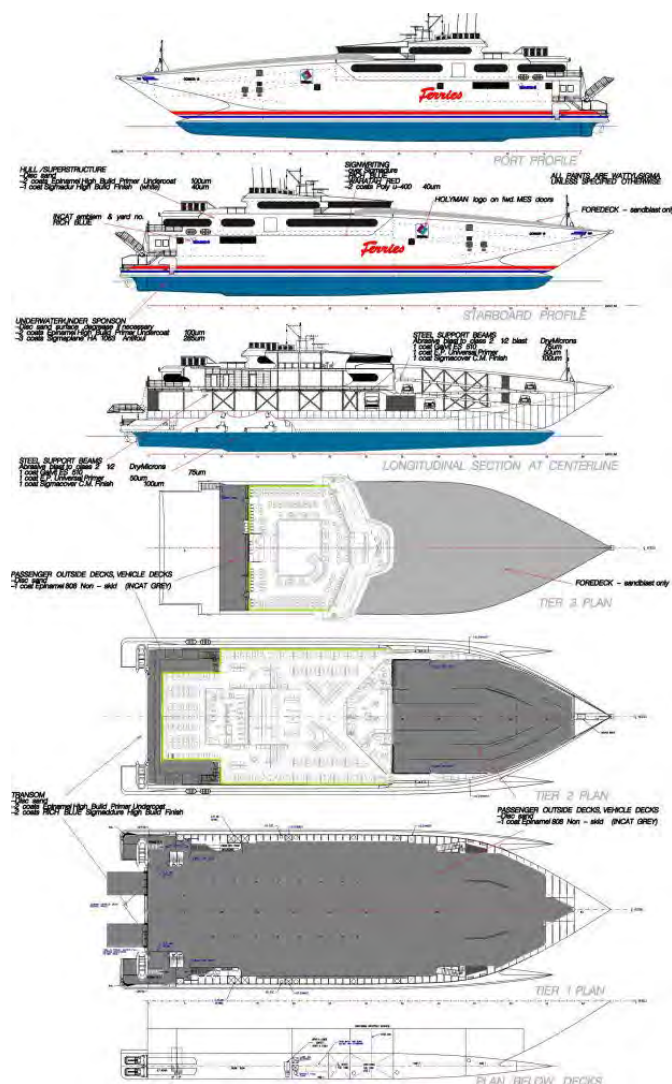
Electrical Installations

Alternators – 4 x Caterpillar 3306B 165kw (nominal) marine, brushless, self-excited alternators.

Distribution - 415V, 50 Hz. 3 phase. 4 wire distribution with neutral earth allowing 240 volt supply using one phase and one neutral. Distribution via distribution boards adjacent to or within the space they serve.

Summary

Successful wave piercing technology was further developed in the design of the 81 metre generation. Evacuation trials were ground breaking, with 700 people evacuated in under 12 minutes. Hull 041 replaced three conventional ferries and two jet foils on her England to Belgium route, proving that AluminumNow vessels are advanced well beyond the competition.



AluminumNow K86 - 86m Wave Piercing Catamaran Car Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 86m generation of wave piercing catamaran, some design variations are not listed.



General Particulars

Class Society	Det Norske Veritas
Certification	DNV +1A1 HSLC R1 Car Ferry "B"
	EO
Length overall	86.62m
Length waterline	76.41m
Beam overall	26.00m
Beam of Hulls	4.33m
Draft	3.50m approx. in salt water
Service Speed	approx 40 knots
Lightship Speed	approx 48 knots
*Note - All speeds quoted at 100% MCR (4 x 7080kw @ 1030 rpm) and excluding T-foil.	

Capacities

Max Deadweight - 415 tonnes (maximum dependent on building specification).

Total persons - up to 900 persons

Vehicle Capacity - 200 cars at 4.5m length x 2.3m wide or combination of cars and up to 4 buses.

Axle loads - Transom to Frame 14 - 9 tonnes per axle group, Frame 14 - 35 2 tonnes per axle group and fwd of Frame 35 and vehicle ramps 0.8 tonnes per axle group.

Fuel Capacity - 4 x 12.5m³ integral aluminium tank and additional long-range tank provided in each hull.

Fresh Water 1 x 5000 litre GRP tank.

Sewage 1 x 5000 litre GRP tank.

Construction

Design - Two slender, aluminum hulls connected by a bridging section with center bow structure at fwd end. Each hull is divided into eight vented, watertight compartments divided by transverse bulkheads. One compartment in each hull prepared as short-range fuel tanks and one as a long-range fuel tank.

Welded and bonded aluminium construction using longitudinal stiffeners supported by transverse web frames and bulkheads. Aluminum plate grade 5383 H321 or H116. Aluminium extrusions grade 6082 T6 and 5083 H112.

Life Saving and Evacuation

Escape - Four Marine Evacuation Stations, two port and two starboard, and two external stairs aft. The two forward MES serve a total of 100 persons each, the two mid MES serving a total of 200 persons each and one aft stair serving 200 persons and one aft stair serving 100 persons. A total of ten x 100 person rafts are fitted.

Rescue - Two SOLAS inflatable rescue dinghy with 30 hp motor and approved launch / recovery method.

Lifejackets with lights for full compliment fitted under seats and in storage cabinets.

Safety Equipment - Lifebuoys with lights and lines, smoke flares, Immersion suits, flares and lines throwing device fitted in accordance with international regulations

Fire Safety

Fire Detection - An addressable fire detection system covers at minimum all high and moderate risk spaces (other than the wheelhouse) with alarm panel situated in the wheelhouse. CCTV system covers at a minimum, engine rooms, ante rooms, vehicle spaces, jet rooms, MES and liferafts stations (serving as mooring cameras) with monitors in the wheelhouse.

Fire Sprinklers - Vehicle deck and passenger cabin are protected by drencher systems with overhead sprinklers. Pump control is from the wheelhouse and anterooms.

General Equipment - Portable fire extinguishers, Fireman's outfits and equipment, water fog applicators, breathing apparatus, international connections and fire control plans fitted in accordance with international regulations.

Machinery Installations

Main Engines - 4 x resiliently mounted Ruston 20RK270 marine diesel engines.

Water Jets - 4 x Lips LJ145D waterjets configured for steering and reverse.

Transmission - 4 x Renk ASL60 gearboxes, approved by the engine manufacturer, with reduction ratio suited for optimum jet shaft speed.

Ride Control - A 'Maritime Dynamics' active ride control system is fitted to maximise passenger comfort. The system combines active trim tabs aft and optional bolt-on T-foil located at the forward end of each hull.

Passenger Accommodation

Superstructure - Passenger accommodation supported above the vehicle deck on anti-vibration mounts.

Outfit - All materials comply with IMO standards for fire, low flame spread, smoke and toxicity.

Public Address - Builder's standard, marine, public address system supplied and fitted to cover all passenger and crew areas, vehicle decks, stairwells and ante rooms. Colour televisions fitted throughout the passenger cabin to enable seated view of safety messages and video.

Electrical Installations

Alternators – 4 x Caterpillar 3406B 230kw (nominal) marine, brushless, self-excited alternators.

Distribution - 415V, 50 Hz. 3 phase. 4 wire distribution with neutral earth allowing 240 volt supply using one phase and one neutral. Distribution via distribution boards adjacent to or within the space they serve.

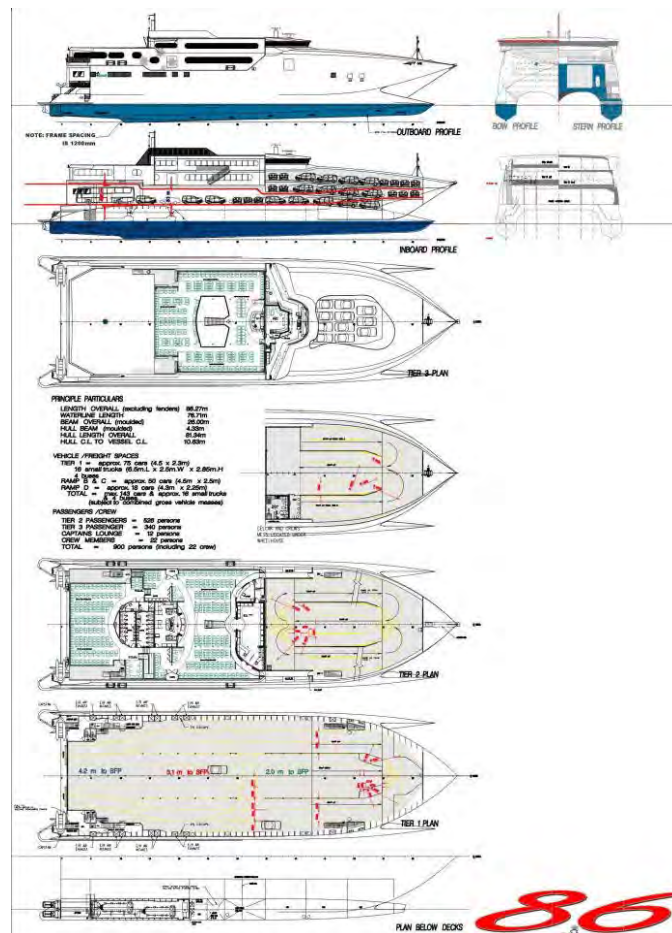
Summary

The 86m generation of wave piercers were the first to carry coaches, heralding the future inclusion of freight capacity. The 86 metre vessels set new international standards for speed economy, ride control and passenger comfort. Yard 045 broke ground in 1999, becoming the first wave piercing catamaran to be chartered by military interests for an extended period of time, and the first to be used in active service.



Military Version available for immediate delivery

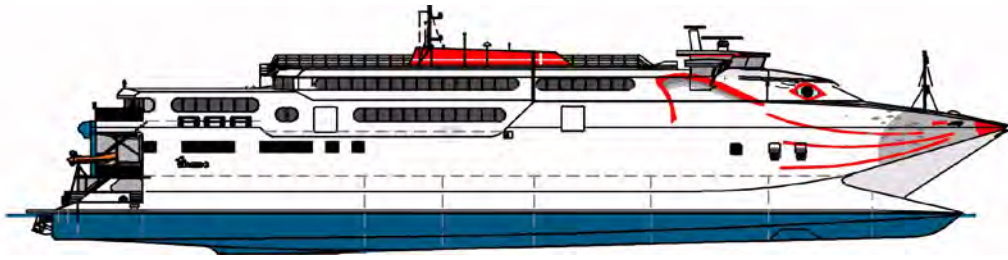
General Arrangements



AluminumNow K91 - 91m Wave Piercing Catamaran Car Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 91m generation of wave piercing catamaran, some design variations are not listed.



General Particulars

Class Society	Det Norske Veritas
Applicable Regulations	DNV HSLC Rules current at the date of contract. IMO HSC Code and applicable IMO Regulations at date of contract.
Certification	DNV <input type="checkbox"/> 1A1 HSLC R1 Car Ferry "A" EO Certificate
Length overall	91.27m
Length waterline	81.33m
Beam	26.36m
Beam of Hulls	4.50m
Draft	3.73m approx in salt water
Service Speed	42 knots
Lightship Speed	48 knots
Note - All speeds quoted at 100% MCR 4 x 7080 KW @ 1030 rpm excluding T-foil.	

Capacities

Deadweight	approx 500 tonnes
Total persons	up to 900 maximum
Vehicle Deck Capacity	220 cars or combination of cars and up to four buses
Axle loads	Transom to Frame 14 - 9 tonnes per axle group, Frame 14 - 35 2 tonnes per axle group and fwd of Frame 35 Ramp A to D 0.8 tonnes per axle group.
Fuel Capacity (operating)	4 x 16,692 litres.
Fuel Capacity (delivery)	2 x 250,000 litre tanks in addition to above.
Fresh Water	1 x 5000 litre GRP tank.
Sewage	1 x 5000 litre GRP tank.

Construction

Design - Two slender, aluminum hulls connected by a bridging section with center bow structure at fwd end. Each hull is divided into eight vented, watertight compartments divided by transverse bulkheads. One compartment in each hull prepared as short-range fuel tanks and one as a long-range fuel tank.

Welded and bonded aluminium construction using longitudinal stiffeners supported by transverse web frames and bulkheads. Aluminum plate grade 5383 H321 or H116. Aluminium extrusions grade 6082 T6 and 5083 H112.

Life Saving and Evacuation

Escape - Four Marine Evacuation Stations, two port and two starboard, and two external stairs aft. The two forward MES serve a total of 100 persons each, the two mid MES serving a total of 200 persons each and one aft stair serving 200 persons and one aft stair serving 100 persons. A total of ten x 100 person rafts are fitted.

Rescue - Two SOLAS inflatable rescue dinghy with 30 hp motor and approved launch / recovery method.

Lifejackets with lights for full compliment fitted under seats and in storage cabinets.

Safety Equipment - Lifebuoys with lights and lines, smoke flares, Immersion suits, flares and lines throwing device fitted in accordance with international regulations

Fire Safety

Fire Detection - An addressable fire detection system covers at minimum all high and moderate risk spaces (other than the wheelhouse) with alarm panel situated in the wheelhouse. CCTV system covers at a minimum, engine rooms, ante rooms, vehicle spaces, jet rooms, MES and liferafts stations (serving as mooring cameras) with monitors in the wheelhouse.

Fire Sprinklers - Vehicle deck and passenger cabin are protected by drencher systems with overhead sprinklers. Pump control is from the wheelhouse and anterooms.

General Equipment - Portable fire extinguishers, Fireman's outfits and equipment, water fog applicators, breathing apparatus, international connections and fire control plans fitted in accordance with international regulations.

Machinery Installations

Main Engines - 4 x resiliently mounted Ruston 20RK270 marine diesel engines.

Water Jets - 4 x Lips LJ145D waterjets configured for steering and reverse.

Transmission - 4 x Renk ASL60 gearboxes, approved by the engine manufacturer, with reduction ratio suited for optimum jet shaft speed.

Ride Control - A 'Maritime Dynamics' active ride control system is fitted to maximise passenger comfort. The system combines active trim tabs aft and optional bolt-on T-foil located at the forward end of each hull.

Superstructure - Passenger accommodation supported above the vehicle deck on anti-vibration mounts.

Public Address - Builder's standard, marine, public address system supplied and fitted to cover all passenger and crew areas, vehicle decks, stairwells and ante rooms. Colour televisions fitted throughout the passenger cabin to enable seated view of safety messages and video.

Alternators – 4 x Caterpillar 3406B 230kw (nominal) marine, brushless, self-excited alternators.

General Arrangements



AluminumNow K96 - 96m Wave Piercing Catamaran Car Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 96m generation of wave piercing catamaran, some design variations are not listed.



Yard No.	-	051
Class Society	-	Det Norske Veritas
Applicable Regulations	-	DNV HSLC Rules current at the date of contract.
	-	IMO HSC Code and applicable IMO Regulations at date of contract.
Certification	-	DNV □1A1 HSLC R1 Car Ferry B" EO Certificate
Length overall	-	95.47m
Length waterline	-	86.00m
Beam overall	-	26.60m
Beam of Hulls	-	4.50m
Draft loaded	-	4.03m
Speed	-	38 knots at 868 tons deadweight
	-	47 knots at Lightship
*Note - All speeds quoted at 100% MCR 4 x 7080 KW @ 1030 rpm excluding T-foil.		
Max Deadweight	-	868 tonnes
Total persons	-	750 maximum
Vehicle Deck Capacity	-	330 truck lane metres at 3.1m wide x 4.0m/4.35m clear height plus 80 cars at 4.5m length x 2.3m width or maximum 230 cars only.
Axle loads	-	Transom to Frame 47 - 10 tonnes per dual wheel axle or axle groups to suit European standards. Fwd of Frame 47 Ramp A to D and Optional Mezzanine Decks - 0.8 tonnes per axle.
Fuel Capacity	-	4 x 43,720 litre integral aluminium tanks and 2 x 196,428 litre long-range tanks.
Fresh Water	-	1 x 5000 litre GRP tank.
Sewage	-	1 x 5000 litre GRP tank.
Lube Oil	-	2 x 465 litre aluminium tanks.

Structures

Design	-	Two slender, aluminum hulls connected by a bridging section with center bow structure at fwd end.
Subdivision	-	Each hull is divided into eight vented, watertight compartments divided by transverse bulkheads. Two compartments in each hull prepared as short range fuel tanks and one as a long range fuel tank.
Fabrication	-	Welded and bonded aluminum construction, with longitudinal stiffeners supported by transverse web frames and bulkheads. Aluminum plate grade 5383 H116 or 5518 H116 and extrusion grade 6082 T6 and 5083 H112.

Passenger Accommodation and Escape

Wall Coverings	-	Ayrlite 2005 laminated pre-finished composite board.
Floor Coverings	-	80:20 tufted carpet and selected chlorine-free vinyl type flooring adhered to decks with epoxy adhesive.
Ceilings	-	Luxalon 300C aluminium linear ceiling, cotton white, with 75mm semi-circular trim between every three panels or Luxalon 180 B aluminium linear ceiling.
Windows	-	Combination of Custom "Glass Only" window installation system with toughened glass and aluminium framed sliding windows where required.
Lighting	-	Peirlite 18W PL tube recessed downlights and Staff recessed low voltage 12v 50W downlight with dichoric lamps.

Air Conditioning	-	Sanyo model SPW-XC 483 throughout capable of maintaining between 20-22 deg C and 50% RH with a full passenger loads and ambient temperature of 32 deg C and 50% RH
Ventilation System	-	Supply fans will provide fresh air into the Pax area at a rate of 3 air changes per hour. Pantry, Kiosk, Bar, and Toilet exhaust fans provide 30 air changes per hour within the space. Purge and exhaust fans will purge the air from the Pax space at the rate of 6 air changes per hour
Aircraft Seating	-	Beurteaux Ocean Tourist high back reclining and fixed seats with open arm rest, magazine holders, folding meal table, under-seat life jacket holders and wool fabric upholstery with leather trim.
Lounges	-	Beurteaux Tub seats with wool fabric upholstery and leather trim.
Bar Stools	-	Custom Bar stools with selected wool fabric upholstery, stainless steel pillar and footrest.
Passenger Access	-	Four stairways from the vehicle deck offer entry to Pax area. Two fwd and two amidships plus disability access ramp from forward vehicle deck.
	-	Shore access via two dedicated passenger gangway gates port and stbd at the pax level aft.
Public Address	-	Builder's standard public address system to cover all passenger and crew areas, vehicle decks, stairwells and anterooms. Colour televisions fitted throughout the passenger cabin configured to receive video, safety messages and input from the electronic chart system.
Alarm	-	Two tone general alarm (seven short and one long) signal generator activated from wheelhouse.
Escape	-	Escape is via Four Marine Evacuation Stations, two port and two stbd. A total of nine 100person rafts are fitted.
	-	2 x SOLAS inflatable dinghy with 30 hp motor and approved launch / recovery method.
Fire Safety		
Fire Detection	-	An addressable fire detection system covers at minimum all high and moderate risk spaces (other than the wheelhouse) with alarm panel situated in the wheelhouse with CCTV cameras.
Fire Protection	-	Lightweight structural fire protection protects all moderate and high risk spaces.
ER Fire Control	-	CO2 system for each engine room together with second shot cross connection.
Drenchers	-	Vehicle deck is protected by a zoned drencher system capable of operating two zones simultaneously. Pump control is from the wheelhouse and anterooms.
	-	Pax area is protected by a zoned, dry closed bulb drencher system interconnected with control valves to a single vehicle deck drencher pump.
Hydrants	-	Two electric motor driven pumps, one in Void 2 port and stbd, feed into a common loop which feed fire hydrants distributed throughout the ship.
General Equipment	-	Portable fire extinguishers, Fireman's outfits and equipment, water fog applicators, breathing apparatus, international connections and fire control plans included to meet rule requirements.
Machinery Installations		
Main Engines	-	4 x resiliently mounted Ruston 20RK270 marine diesel engines, each rated at over 7080 kW at 1030 rpm.
Water Jets	-	4 x Lips LJ150D waterjets configured for steering and reverse.
Transmission	-	4 x Reintjes VLJ 6831 gearboxes, approved by engine manufacturer, with reduction ratio suited for optimum jet shaft speed.
Hydraulics	-	Three hydraulic power packs, one forward and two aft, for running of mooring capstans, anchor winch, ride control, steering/reverse and rescue boat cranes.
Ride Control	-	A 'Maritime Dynamics' active ride control system is fitted to maximize passenger comfort. This system combines, active trim tabs aft and optional fold-down T-foil located at aft end of center bow fitted with active fins. The structural abutment, electrical and hydraulic services to receive the fwd T-foil will be fitted as standard to the vessel.
Trim Tabs	-	A hydraulically operated trim tab is hinged at the aft end of each hull.
Monitoring	-	An electronic alarm and monitoring system with dual central VDU displays, keyboards and printer fitted in the wheelhouse. Alarm and monitoring to meet the requirements of the HSC Code, the HSLC Rules and EO requirements.
Communication	-	A 'David Clark' system is fitted to allow communication between the Wheelhouse helm position, Aft vehicle deck, Anchor area, Anterooms, Jet rooms, Engine rooms, T-foil void. All points have call facilities to the wheelhouse via headset stations with volume control.
Electrical Installations		
Alternators	-	4 x Caterpillar 3406B 245 kW (nominal) marine, brushless, self-excited alternators.

AluminumNow EV10 Wave Piercing Catamaran Vehicle/Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 96m generation of wave piercing catamaran, some design variations are not listed.



General Particulars

Class Society	Det Norske Veritas Certification	DNV +1A1 HSLC R1 Car Ferry “B” EO		
Length overall	96.00m	Length waterline 86.00m	Beam overall	26.60m
Beam of Hulls	4.50m	Draft	4.00m approx. in salt water	
Speed	38 knots @ 1650 tons displacement			
	42 knots @ 1400 tons displacement			

*Note - All speeds quoted at 100% MCR (4 x 7080kw @ 1030 rpm) and excluding T-foil.

Capacities

Max Deadweight 675 tons (estimate based on building specification).

Total persons up to 900 persons

Vehicle Capacity 380 truck lane metres at 3.1m wide x 4.35m clear height plus 90 cars at 4.5m length x 2.3m wide or 260 cars only using optional mezzanine decks.

Axle loads - Transom to Frame 47 - 10 tons per dual wheel axle or axle groups to suit European standards. Forward of Frame 47 - Ramp A to D and Optional Mezzanine Decks - 0.8 tons per axle.

Fuel Capacity - 4 x 40m3 integral aluminum tank and additional long-range tank of minimum 170m3 capacity provided in each hull.

Fresh Water 1 x 5.0 m3 GRP tank.

Sewage 1 x 5.0 m3 GRP tank

Construction

Design - Two slender, aluminum hulls connected by a bridging section with center bow structure at fwd end. Each hull is divided into eight vented, watertight compartments divided by transverse bulkheads. Two compartments in each hull prepared as short-range fuel tanks and one as a long-range fuel tank.

Welded and bonded aluminium construction using longitudinal stiffeners supported by transverse web frames and bulkheads. Aluminum plate grade 5383 H116 or 5518 H116. Aluminium extrusions grade 6082 T6 and 5083 H112.

Air Conditioning

Sanyo model SPW-XC 483 throughout capable of maintaining between 20-22 deg C and 50% RH with a full passenger loads and ambient temperature of 32 deg C and 50% RH

Evacuation

Escape is via Four Marine Evacuation Stations, two port and two starboard, and two external stairs aft. The two forward MES serve a total of 200 persons each (4 x 100), the two mid MES serve a total of 200 persons each (4x100) and one aft stair serving 100 persons. A total of ten x 100 person rafts are fitted.

2 x SOLAS inflatable dinghy with 30 hp motor and approved launch / recovery method.

Machinery Installations

Main Engines - 4 x resiliently mounted Ruston 20RK270 or Caterpillar 3618 marine diesel engines

Water Jets - 4 x Lips LJ150D waterjets configured for steering and reverse.

Transmission - 4 x Reintjes gearboxes, approved by the engine manufacturer, with reduction ratio suited for optimum jet shaft speed.

Hydraulics - Three hydraulic power packs, one forward and two aft, all alarmed for low level, high temperature and filter clog and low pressure. One pressure line filter and two return line filters fitted. An off-line filter / pump provided.

Ride Control - A 'Maritime Dynamics' active ride control system is fitted to maximize passenger comfort. This system combines active trim tabs aft and optional fold-down T-foil located at aft end of center bow fitted with active fins. The structural abutment, electrical and hydraulic services to receive the fwd T-foil will be fitted as standard to the vessel.

Electrical Installations

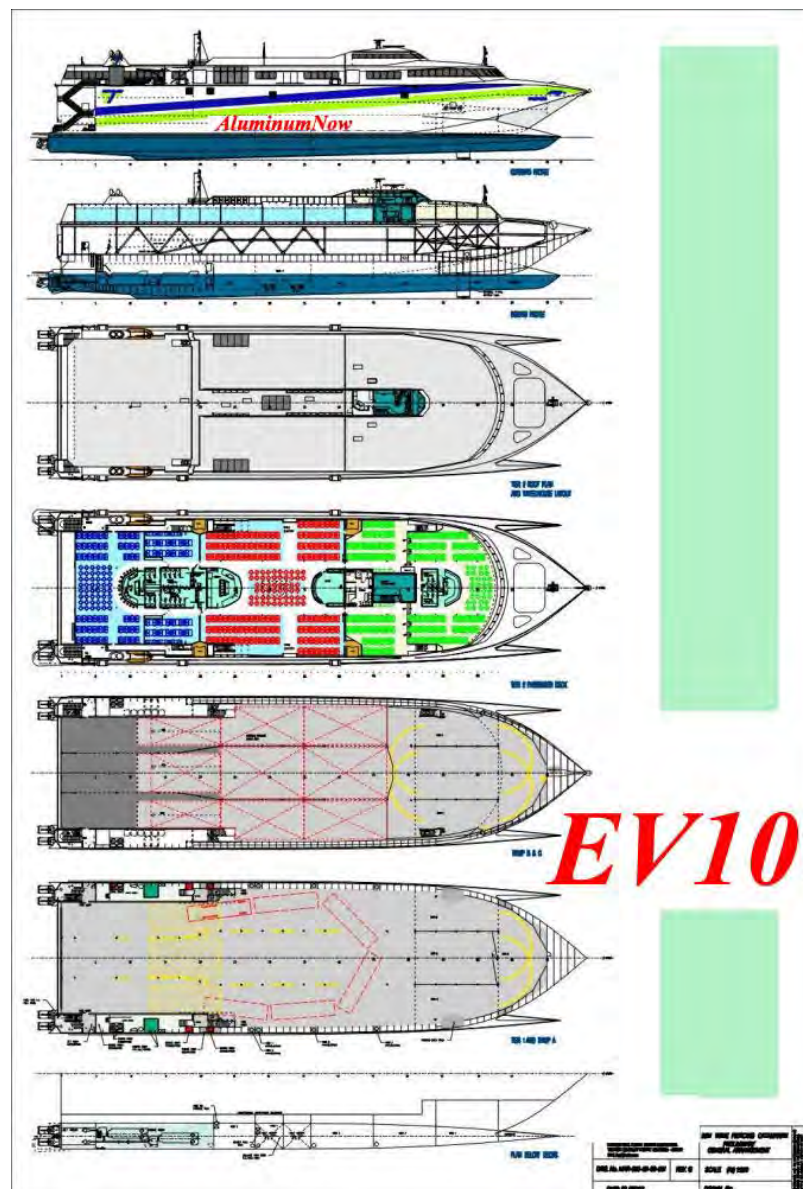
Alternators – 4 x Caterpillar 3406B 230kw (nominal) marine, brushless, self-excited alternators.

Distribution - 415V, 50 Hz. 3 phase. 4 wire distribution with neutral earth allowing 240 volt supply using one phase and one neutral. Distribution via distribution boards adjacent to or within the space they serve.

EVOLUTION 10 - 96m Ro/Pax Wave Piercing Catamaran

AluminumNow continually pushes the boundaries, opening new frontiers for fast sea freight to operators worldwide.

General Arrangements



AluminumNow EV10B Wave Piercing Catamaran Vehicle/Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 98m generation of wave piercing catamaran, some design variations are not listed.



General Particulars

Class Society	Det Norske Veritas Certification		DNV +1A1 HSLC R1 Car Ferry “B” EO		
Length overall	97.22m	Length waterline	92.00m	Beam overall	26.60m
Beam of Hulls	4.50m	Draft	3.42m maximum		
Speed	36 knots @ 750 tons deadweight				
	40 knots @ 375 tons deadweight				

*Note - All speeds quoted at 100% MCR (4 x 7080kw @ 1030 rpm) and excluding T-foil.

Capacities

Max Deadweight - 750 tons (to be confirmed at time of contract)

Total persons - up to 900 persons

Vehicle Capacity - 380 truck lane metres at 3.1m wide x 4.35m clear height plus 80 cars at 4.5m length x 2.3m wide or 260 cars only using optional mezzanine decks.

Axle loads – Transom to Frame 49 - 10 tons per dual wheel axle or axle groups to suit European standards. Forward of Frame 49 - Ramp A to D and Optional Mezzanine Decks - 0.8 tons per axle.

Fuel Capacity - 4 x 40m³ integral aluminum tank and additional long-range tank of minimum 170m³ capacity provided in each hull.

Fresh Water 1 x 5.0 m³ GRP tank.

Sewage 1 x 5.0 m³ GRP tank

Construction

Design - Two slender, aluminum hulls connected by a bridging section with center bow structure at fwd end. Each hull is divided into nine vented, watertight compartments divided by transverse bulkheads. Two compartments in each hull prepared as short-range fuel tanks and one as a long-range fuel tank. Welded and glued aluminum construction using longitudinal stiffeners supported by transverse web frames and bulkheads. Aluminum plate grade 5383 H116 or 5518 H116. Aluminium extrusions grade 6082 T6 and 5083 H112.

Air Conditioning

Sanyo model SPW-XC 483 throughout capable of maintaining between 20-22 deg C and 50% RH with a full passenger loads and ambient temperature of 32 deg C and 50% RH

Evacuation

Escape is via Four Marine Evacuation Stations, two port and two starboard, and two external stairs aft. The two forward MES serve a total of 200 persons each, the two mid MES serve a total of 200 persons each and one aft stair serving 100 persons. A total of ten 100person rafts are fitted.

2 x SOLAS inflatable dinghy with 30 hp motor and approved launch / recovery method.

Machinery Installations

Main Engines - 4 x resiliently mounted Ruston 20RK270 or Caterpillar 3618 marine diesel engines, each rated at 7080 KW.

Water Jets - 4 x Lips 120E waterjets configured for steering and reverse.

Transmission - 4 x Reintjes gearboxes, approved by the engine manufacturer, with reduction ratio suited for optimum jet shaft speed.

Hydraulics - Three hydraulic power packs, one forward and two aft, all alarmed for low level, high temperature and filter clog and low pressure. One pressure line filter and two return line filters fitted. An off-line filter / pump provided.

Ride Control - A 'Maritime Dynamics' active ride control system is fitted to maximize comfort. This system combines active trim tabs aft and optional fold-down T-foil located at aft end of center bow fitted with active fins. The structural abutment, electrical and hydraulic services to receive the fwd T-foil will be fitted as standard to the vessel.

Electrical Installations

Alternators – 4 x Caterpillar 3406B 230kw (nominal) marine, brushless, self-excited alternators.

Distribution - 415V, 50 Hz. 3 phase. 4 wire distribution with neutral earth allowing 240 volt supply using one phase and one neutral. Distribution via distribution boards adjacent to or within the space they serve.

EVOLUTION 10_B - 98m Ro/Pax Wave Piercing Catamaran AluminumNow continually pushes the boundaries, opening new frontiers for fast sea freight to operators worldwide

General Arrangements



AluminumNow EV112 Wave Piercing Catamaran Vehicle/Passenger Ferry

The proven Wave Piercer Design from the world's most experienced high speed ferry builder, is the ideal solution.

Note that while the following specifications are representative of the 112m generation of wave piercing catamaran, some design variations are not listed.



General Particulars

Class Society	Det Norske Veritas Certification	DNV	□ A1 HSLC R1 Car Ferry “B” EO
Length overall	112.63 m Length (hulls)	105.60 m Beam (moulded)	30.20 m
Beam (hulls)	5.80 m	Draft	3.30m approx. in salt water
Speed	40 knots @ 1000 tons deadweight		
	45 knots @ 500 tons deadweight		

*Note - All speeds quoted at 100% MCR (4 x 9000 kW) and excluding T-foil.

Capacities

Deadweight - 1000 tons (1500 tons 'cargo only' at reduced speed).

Passengers capacity - up to 1000 persons

Vehicle Capacity - 589 truck-lane metres at 3.5m wide plus 50 cars at 2.3m wide or 321 cars only.

Vehicle Deck Clear Heights - 6.30m center vehicle deck, 5.95m mezzanine decks raised, 2.10m upper mezzanine decks and 3.90m under mezzanine decks.

Axle loads - 12 tons per single axle (European standard) transom to frame 63/72, 0.8 tons per axle forward of frame 63 outboard and 0.8 tons on mezzanine decks.

Fuel Capacity - Six integral aluminium tanks (three in each hull) to provide short and long range capacity.

Fresh Water - 5000 litres

Construction

Design - Two slender, aluminum hulls connected by a bridging section with center bow structure at fwd end. Each hull is divided into nine vented, watertight compartments divided by transverse bulkheads. Three compartments in each hull prepared as fuel tanks with additional strengthening on each of the end bulkheads and intermediate tank top. Welded aluminium construction using predominantly aluminium grade of 5383-H116 or 5518-H321, and extrusion grade 6082-T6, 5083-H112, 5383-H112 or 5518-H112. Longitudinal stiffeners supported by transverse web frames and bulkheads.

Air Conditioning

Sanyo ceiling mounted reverse cycle units capable of maintaining between 20-22 deg C and 50% RH with a full passenger loads and ambient temperature of 32 deg C and 50% RH

Evacuation

Escape - Four Marine Evacuation Stations, two port and two starboard, and two external stairs aft. The two forward MES serve a total of 200 persons each (4 x 100), the two mid MES serve a total of 200 persons each (4 x 100) and one aft stair serving 200 persons. A total of eleven 100-person Liferafts are fitted.

Rescue - Two SOLAS inflatable dinghy with 30 hp motor and approved launch / recovery method.

Machinery Installations

Main Engines - Four resiliently mounted Ruston 20RK280 each rated at 9000kW at 100% MCR at 25 deg C ambient temperature.

Water Jets - Four Lips 150E waterjets configured for steering and reverse.

Transmission - Four Gearboxes approved by the turbine manufacturer, with reduction ratio suited for optimum jet shaft speed.

Ride Control - A 'Maritime Dynamics' active ride control system is fitted to maximize passenger comfort. This system combines, active trim tabs aft and optional fold-down T-foil located at aft end of center bow fitted with active fins. The structural abutment, electrical and hydraulic services to receive the fwd T-foil will be fitted as standard to the vessel.

Distribution - 415V, 50 Hz 3 phase 4-wire distribution system with neutral earth allowing 240 volt supply, using one phase and one neutral. Distribution via distribution boards adjacent to or within the space they serve.

General Arrangements



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Skype:- Alunow