

12<sup>th</sup> January 2016 (WEF 78-008)  
Version #48

## **Fleming 78 - Pilothouse Motor Yacht** **SPECIFICATIONS**

### **GENERAL DESCRIPTION**

LOA (hull): 77' 8" (23.66m)

LOA (including swim step  
and anchor platform): 81' 6" (24.84m)

LWL: 72' 4" (22.05m)

Beam: 21' 5 (6.5270m)

Draft: 5' (1.52m)

Air draft (to top of radar arch): 21' 8" (6.60m) (without mast)  
Height from bottom of keel to top of radar arch 26'8" ((without mast)

#### **Displacements**

Minimum Operating Condition: 165,048 Lbs. (74,865kg)

Loaded Condition: 197,800 Lbs. (89,721kg)

Main Engines: Twin MAN V12-1550 HP

Transmissions: ZF 2050A or Twin Disc MGX6599A with  
electric shift and troll valves

Reduction Ratio: 2.467:1 (ZF) or 2.48:1 (TD)

Engine Controls: Glendinning EEC3 (with back-up system)

Generators: Two Onan eQD 32 Kw 220v, 60Hz  
(European model 27Kw 230v 50Hz)

Stabilizers: ABT TRAC 12 Sq. Ft fins with winglets  
300 model actuators

Fuel Tanks: 3,000 USG (11,356 Liters)  
in four Fiberglass tanks

Water Tanks: 440 USG (1,665 Liters)

Black Water Tank: 230 USG (870 Liters)

Grey Water Tank: 230 USG (870 Liters)

Lube Oil Tanks (2) 95 USG (359 Liters)

## **SPECIFICATIONS BY AREA OR GROUP**

### ***HULL***

Solid laminate construction, commensurate for hull size, made in female mold.  
Black Gel coated boot stripe  
Vinylester resin used for outer laminations  
Full-length stringers and athwartships frames laminated over foam  
Simulated planking grooves  
Gel coated finish  
Five coats of epoxy barrier coat below waterline  
One coat etch primer & two coats epoxy primer on below waterline metals  
Two coats of Black Petit 1088 GA antifouling paint  
Integrally molded guard with stainless steel rub strip  
Keel extends below running gear  
Keel space filled and sealed across top  
Solid stainless steel rudders with Aqualoy 22 Hi-strength stocks  
CE-approved stainless steel portlights  
Stainless steel keel shoe  
ZF Faster I struts  
Shaft Tunnels – draft 5ft (1.52m)  
Hull extends underneath swim step

### ***DECK AND SUPERSTRUCTURE CONSTRUCTION***

All parts made from molds.  
Corecell Cored construction  
Cook gel coat “Fleming White”  
Vinylester resin used for outer laminations

## **EXTERIOR**

Stainless steel trim around roofs, on forward teak cap rail, and guard  
Italian made exterior locks  
Hella LED navigation lights in accordance with relevant regulations  
Exterior seating with EZ-Dri foam, Sunbrella upholstery, and mesh backs for drainage  
Stainless steel Fleming & “F” Logo

## **AFT DECK AREA**

Powered large central lazarette hatch, Flush with teak deck. Gaskets, lock & gutters with drains. Toggle switch operation.  
Watertight, locking engine room/crew access door with portlight  
Walk-in access to engine-room and crew's quarters  
Covered California deck with seating, table and serving counter  
Cockpit with teak decks  
FRP Swim step, with molded white non-skid surface and Stainless steel rub rail  
Powered hatch into bustle, with toggle switch operation  
Stainless steel telescopic swim ladder, can be deployed by swimmer  
Wide teak coaming around cockpit and transom gate  
FRP skirt inboard of teak cap  
Electric warping winches port & stbd  
Engine-room air intakes behind skirt and inside bulwarks  
Curved oval-section Stainless steel ladder to flybridge boat deck with teak treads  
Sliding doors to salon. Aluminum with FRP skin, glass windows & Stainless steel weather strips  
Seadog style latches for doors  
Hot & cold shower fittings on inside of transom adjacent to door, with quick release shower head and flexi hose  
Salt water 316 Stainless steel faucet  
Fresh Water 316 Stainless steel faucet  
Smartplug shorepower inlets for 220v, 60Hz, 50A (European model 230v, 50 Hz, 32A)  
Overhead lighting with dimmer control  
LED rope lighting under coaming skirt  
Chocks at hull sides and transom (4)  
Six 15" heavy duty Stainless steel cleats secured to plates inside bulwarks  
Deck scuppers piped out through transom at bootstripe  
Integrally molded seats  
316 grade Stainless steel handrails across transom  
Courtesy LED "F" logo lights  
CCTV Camera with full pan, tilt & zoom, connected to central monitoring system

## **SIDE-DECKS**

Wide side decks along both sides of boat with teak decks  
316 grade stainless steel handrails along house-side  
Teak rail cap on bulwarks  
Bulwark doors opening inboard with Seadog style latches and bolts  
Stainless steel overhead lights  
Courtesy LED "F" logo lights at steps up to Portuguese deck  
Stainless steel handrails at side deck steps.  
Steps to Portuguese Bridge deck with teak treads

House side windows with tinted, tempered glass and FRP frames  
Two sets of spring-line roller chocks per side  
Five 15" heavy duty Stainless steel cleats per side, recessed into bulwarks  
Non-spill fuel fills in steps port and stbd, with custom stainless steel "F" logo lids.  
Can fill all fuel tanks from port or stbd fills

### ***PILOT-HOUSE DECK LEVEL***

Teak decks  
Portuguese Bridge  
Teak rail cap  
Locker doors in aft face of Portuguese bridge, access to large vented storage with Dri-Deck flooring  
316 grade stainless steel handrail around forward side of pilot house.  
316 grade stainless steel handrails at side of pilothouse Port & Stbd  
Sliding Aluminum pilothouse doors with Stainless steel weather seals  
Hinged doors Port & Stbd through Portuguese bridge to foredeck with stainless steel gas spring retainers  
Individual Screen wash and heavy duty self-parking wipers on windshield  
Clear, tempered 10mm glass, in forward facing windshields  
Pilothouse windows are fixed and have FRP frames  
Inward opening doors on Portuguese Bridge side decks Port & Starboard  
Galley cooktop and microwave vent

### ***FOREPEAK***

Accessed through hatch on forward deck  
Twin chain bins each with capacity of 400 ft. (120 meters) of ½" chain  
Chain and rope lockers with removable stainless steel access plate, chain pipes & rollers  
Watertight collision bulkhead  
Forepeak drains directly overboard.  
Bitter end fittings  
Hatch scuppers  
High gloss poly paint finish  
Overhead LED waterproof light  
Access to hydraulic windlass mechanism  
Chain wash solenoid  
Dri-Deck flooring

## **FWD DECK**

Beige color non-skid deck  
Cabin trunk with white non-skid finish and one large CE approved stainless steel skylight to forward cabin  
Vented deck lockers in cabin trunk  
Stainless steel handrail on cabin trunk  
Teak rail cap on bulwarks increasing in width going forward  
Stainless steel stanchions to support teak handrail  
Teak hand rail  
Deck lockers forward either side of anchor platform with white non-skid finish  
FRP anchor platform with integrally molded white non-skid and two sets of rollers  
Two 24v DC Maxwell RC12, windlasses with pendant control and remotes at both stations (P/H & F/B)  
176 Lbs. (80Kg) S/S Ultra Anchor with Stainless steel Ultra Swivel, Ultra Chain hook & bridle  
400ft ½" ACCO Hi-Test Chain  
Anchor platform with twin anchor rollers and chain stopper  
Chain stoppers and devils claw  
Eight 15" heavy duty Stainless steel cleats  
Stainless steel roller chocks  
316 grade stainless steel pulpit. Welds ground and polished.  
Foredeck LED "F" logo lights at steps through gates thru Portuguese bridge.  
Hatch to forepeak  
Two Smartplug shorepower inlets for 220v, 60Hz, 50A (European model 230v, 50 Hz, 32A)  
Salt water 316 Stainless steel faucet inside foredeck lockers  
Fresh water 316 Stainless steel faucet inside foredeck lockers  
Plug in for windlass control  
Deck drains plumbed to boot-stripe to prevent black streaks  
Stainless steel, CE-approved portlights  
Foot switch for chain wash system  
Teak burgee pole

## **FLYBRIDGE**

Two-level arrangement  
Upper level includes L-settee, small FRP table, two forward facing Stidd bench seats either side of helm and a single Stidd helmseat on the centerline  
Lower level has straight & L-settees and large FRP table with Corian or granite counter top  
Beige color non-skid deck  
Entertainment center with electric BBQ, sink, refer, and icemaker  
Control station with electronic engine controls  
Powered Electro-hydraulic steering with destroyer-type wheel

Rudder angle indicator with light and dimmer  
Retractable electronics console  
LED rope lighting inside console  
Lexan venturi with Stainless steel rail  
FRP Radar arch with spreader lights  
Flybridge cushions on settees with EZ-Dri foam, Sunbrella upholstery and mesh backs for drainage  
Perfix snaps for attaching cushions  
Kahlenberg D-330 Air horn with twin trumpets, P449-25 Compressor/reservoir, V-149K 24v Solenoid valve  
Stainless steel signal mast with bow and anchor lights, and aft facing floodlight  
Stainless steel railings with mid safety rail  
Stainless steel safety rail by sliding hatch  
Fire system repeater alarm  
CCTV Camera with full pan, tilt & zoom feature connected to central monitoring system  
15" color touch-screen central monitoring system including MAN engine instrumentation  
Dri-Deck flooring in storage areas and under seating  
Watertight, locking access door to pilothouse with portlight  
Two Mastervolt 24v to 12v DC-DC converters with 12v battery back-up system.

### ***BOAT DECK***

Integrally molded beige non-skid on deck  
Integrated deck drains with gutter system  
316 grade Stainless steel handrails  
1,500 lb capacity Steelhead ES1500 davit with powered luffing, hoisting, telescopic boom, and rotation  
Hinged hatch to cockpit ladder  
GFCI 110v AC outlet (European model 230v RCD protected)  
Boat deck with access from flybridge and from California deck  
Fresh Water 316 stainless steel faucet  
Stainless steel saddles for tender rails (supplied loose)  
Aluminum plate located inside deck for tender tie down  
Teak flag pole with internal stainless steel reinforcement

## **TECHNICAL SPACES**

### **LAZARETTE**

Accessed through single large powered hatch in cockpit  
Steering gear  
Hypro Marine hydraulic power pack on anti-vibration mounts with FRP drip tray  
Deck and hatch scuppers  
Hull finished with gloss white polyurethane paint  
LED overhead lights  
440 USG (1,665 liters) total capacity in polyethylene fresh water tanks with sight gages  
Fresh water tanks isolation valves  
Aft shorepower inlet circuit breakers  
Starboard platforms and sole boards with s/s lifters  
Cablemasters with 85ft. of cable port & stbd  
Sounddown noise reducing tiles installed on top of prop tunnels

### **MACHINERY SPACE (ACCESSED FROM FORWARD LOBBY)**

Two 20 USG Torrid water heaters  
Black water tank 230 USG (870 Liters)  
Black water AC powered discharge pump  
Black water DC powered discharge pump  
Gianneschi Sea water pump  
Grey water tank 230 USG (870 Liters)  
Grey water discharge pump  
Storage lockers  
Two stacked Outback 3,500 watt Inverters with by-pass system  
Bowthruster and associated hydraulics  
AC and DC (LED) lighting  
Bilge pump  
House battery bank Lifeline AGM type. 12 pcs GPL-L16T (1200 A/H's @ 24v)  
Battery bank auto controlled ventilation fan  
AC system & shorepower control equipment  
Two Charles Isolation-boosting transformers  
Air conditioning equipment for cabins including VFD for pilothouse aircon compressor  
Fire detection and suppression systems  
Machinery space is ventilated and sound proofed  
Sump pump  
Air-Conditioning for Machinery Space  
CCTV Camera with full pan, tilt & zoom feature connected to central monitoring system

## **ENGINE ROOM**

Accessed from aft lobby via stairs down from port side-deck  
Full standing headroom  
MAN V12-1550 Engines with 220v block heaters  
Electric fuel priming pumps for main engines  
Aquadrive CV Joints and thrust bearings  
Shaft brushes  
Fiberglass drip pans with LED lighting  
Two 32Kw Onan generators  
Work bench with Stainless steel top and storage drawers  
Spare parts storage bins  
Bilge pump  
Sump pump  
Dual Gianneschi Fresh water pumps  
Fresh water system (debris) filter  
Crew 10 USG (37 Liters) water heater  
Exhaust system using U.S-made components  
Fuel transfer system with pump, filter and fuel flow totalizer  
Lube oil tanks (2) and lube oil transfer system  
Fire detection and suppression system with auto engines/genset/blowers/air intakes shutdown  
Freshwater fill hose  
Stabilizer actuators & associated hydraulic controls  
Engine/generator start batteries – Lifeline AGM type GPL-8DL (4)  
Fire retardant FRP fuel tanks (4). 3,000 USG total capacity, with sight gages  
Heavy duty sound insulation covered with perforated aluminum  
Groco raw water strainers for engines gensets aircon and all seawater intakes  
Equipment platforms  
Bilges painted with glossy white poly paint  
Hinged shaft covers  
Sole board covered with Lonseal vinyl.  
AC (LED) and DC (LED) lighting  
110v GFI electrical outlets (European model 230v RCD protected)  
Double platform Anti-vibration soft mounts for genset  
Stainless steel mirror finished plates on inboard face of aft fuel tanks  
Stainless steel mirror finished engine stringer caps  
Airtight FRP door with dog down latch with viewing port  
Starboard platforms and sole boards  
Lead foam sound insulation  
Air-conditioning compressor and VFD for salon compressor  
16,000 BTU Air-conditioning for engine room  
Two CCTV cameras with full pan, tilt & zoom feature connected to central monitoring system  
Two Delstar 200 amp 24v heavy duty brushless auxiliary alternators with Ample Power regulator and dual alternator controller

## **INTERIOR**

### **GENERAL**

Accommodation with three staterooms & crew cabin  
Teak and holly soles throughout – hand-laid solid timber (not plywood)  
LED Recessed lighting throughout  
LED mood rope lighting  
Wood blinds with teak retainers  
Ultra-leather or Ultrasuede headliner  
All interior lights, locker pulls and hinges to be Stainless steel finish  
Raised teak panels on all cabinet doors throughout (including crew cabin)  
Raised teak panels on cabin doors in accommodation  
Headroom 6' 6" (1.97m) minimum throughout  
Interior seating, upholstered with standard beige fabric  
Vimar light switches and AC outlets with Graphite Grey Silk Faceplates  
All drawers constructed with dovetail joints

### **PILOTHOUSE**

Chart table with double-guide drawers and stops  
Chart light on flexible arm  
Overhead and lower consoles with ample space for full range of electronics  
Backlit electrical panels  
Boning/Fleming Central monitoring system with 15" color touch-screen  
Glendinning electronic controls with back-up system  
Stidd 500XL low back Helm Seat with Chrome Package, footrest, drink holder, and black Ultraleather upholstery  
Remote control unit mounted in stbd arm of Stidd seat  
L-settee on raised platform with large teak table  
Day head with toilet, washbasin and opening portlight  
Stairs down to galley  
File drawer with heavy duty Stainless steel sliders  
Pilothouse air-conditioning which can run on inverters  
Windshield glass, clear, tempered, 10 mm thick  
Self-parking, heavy-duty windscreen wipers with multi-speed/intermittent controls & individual fresh water wash on forward-facing windows  
ABT TRAC-LINK color touchscreen control panel for stabilizers and hyd pump selection  
Dismountable control console with space for owner supplied electronics  
Electronic engine controls. Glendinning EEC 3 with synchronizer and troll  
Back-up electronic engine controls (gear and throttle)  
Hypro Marine electronic, powered hydraulic steering with Destroyer type steering wheel  
Back-up Steering control panel with back-up rudder angle indicator

Ritchie Compass with light & dimmer (specify required hemisphere)  
Overhead electronics console  
Ultrasuede or Ultraleather headliner  
Demister blower on forward facing windows  
Control for bow thruster  
Wiring routes to facilitate equipment installation  
Overhead LED lighting with dimmer  
LED red and white dimmable bridge lights in upper console  
Generator digital control panels with start/stop  
Windlass up/down switch & control circuit breaker  
Fire system remote panel  
Bilge and sump pump control on advisory panel  
Pre-wired for intercom/phone system  
Dimmer for instrument lighting  
Main engine sea water flow alarms

### ***Pilothouse Day-Head***

Porcelain wash basin in granite counter top  
Locker and medicine cabinet with mirror  
Planus toilet  
Intake and discharge head vent fans  
Ultrasuede or Ultraleather headliner  
Air-conditioning outlet

### **GALLEY**

Granite (or Corian) countertops  
Under-mount black composite double sink  
Insinkerator waste disposal unit  
Instahot dispenser for instant hot and cold filtered water  
Miele oven  
Miele 18" wide Dishwasher  
Convection over-the-range microwave oven with cooktop overboard vent  
Refrigerator/freezer  
Trash compactor  
Four-burner flush induction cooktop  
Custom removable Stainless steel pot holders  
Ample drawers and lockers  
Overhead storage lockers with hinged doors  
Storage cabinet under sink with automatic LED lighting  
Swivel faucet with removable spray head  
110v AC GFCI outlets (European model 230v RCD protected)

## **SALON**

Fixed windows in house sides with medium grey tinted, tempered, glass.  
Entertainment centre with cabinets and bookshelves along stbd side  
TV cabinet at starboard aft corner with TV Lift, Bennett hydraulic type (TV not included)  
L-settee to port  
Bar cabinet with granite counter, sink, combo fridge/icemaker, and bottle storage  
Teak coffee table with storage locker  
Ultraleather or Ultrasuede headliner  
Aft sliding doors open to covered California deck at same level as salon  
Overhead LED lighting on dimmers  
Pre-wired for intercom/phone system  
Teak joinery with satin varnish hand-rubbed finish  
Granite (or Corian) countertops  
Teak valance over windows with LED rope lighting  
Overhead LED lighting on dimmers  
Access hatch to allow for engine removal  
Cruisair reverse cycle air-conditioning  
FRP sandwich with honeycomb composite sole

## **ACCOMMODATION**

### **GENERAL**

Teak and holly soles  
Teak paneling and Ultra-suede wall coverings  
Ultra-leather or Ultra-suede headliners  
Beveled edge mirrors  
All staterooms en-suite  
Hanging lockers with LED auto-light and louvered doors  
CO detectors installed in all cabins (including crew) and salon  
Lead foam sound insulation in all accommodation bulkheads  
Arched interior doors  
Custom Stainless Steel fold down bookshelf fiddles

### **HEADS**

Ventilation blowers – Manrose type with light  
Fiber-glassed shower enclosures with glass and Stainless steel partitions  
Marble or granite shower pans  
Temperature and pressure-compensated shower mixer valves  
Marble or granite countertops with under-mount ceramic basins and designer faucets

Medicine cabinets  
Stainless steel towel rails  
Planus heads  
Trident Premium Sanitation hose  
Holding tank full indicator  
110v AC GFCI outlet (European model 230v RCD protected)

## **FORWARD LOBBY**

Reached from pilothouse by stairs which shelve and increase in width as they descend  
Security Stainless steel vertical post  
Hatch to machinery space  
Access doors into master, VIP and guest staterooms  
Stacked Washing machine and Dryer

## **MASTER STATEROOM**

Master has a tapered king bed which opens hydraulically for storage under  
Walk-in closet  
Sliding door to en-suite head and shower  
Four Stainless Steel CE-approved Port lights with removable insect screens  
Tapered King-sized bed with hydraulic lift  
Foam mattress  
Upholstered Headboard  
Teak lockers either side of bed  
LED Rope lighting under bed  
Two hanging lockers. Teak faced with double louvered doors and automatic interior lights  
TV space on bulkhead  
Drawers with center guides and stops  
Beveled-edge European sourced mirrors  
Door stops and holders.  
Doors with raised teak panels, and teak frame with arched top  
Bulkheads with teak to waist height with Ultrasuede above  
LED overhead lighting on dimmers  
Berth reading lights.  
CO detector  
Vanity on stbd side  
Custom Stainless Steel fold down bookshelf fiddles  
Drapes  
Ultrasuede or Ultraleather headliner  
Cruisair reverse cycle air-conditioning

## **GUEST STATEROOM - (PORT)**

Available with twin beds or one double  
Stainless Steel CE-approved port lights with removable insect screens  
Sliding door to ensuite head  
Hanging locker with louvered door & auto-light.  
110v AC outlets (European model 230v RCD protected)  
Foam mattresses  
Upholstered Headboards  
LED overhead lighting.  
Berth reading lights  
LED Rope lighting and drape tracks at portlight openings.  
Full height beveled-edge European sourced mirror  
CO detector  
Custom Stainless Steel fold down bookshelf fiddles  
Drapes  
Ultrasuede or Ultraleather headliner  
Cruisair reverse cycle air-conditioning

## **VIP STATEROOM (FORWARD)**

Tapered Queen bed with storage under  
Four Stainless Steel CE-approved Port lights with removable insect screens  
CE approved skylight providing light, ventilation and emergency exit  
Oceanaire sliding Insect and black-out screens for skylight  
Tapered queen-sized bed with hydraulic lift and manual slide  
Foam mattress  
Upholstered Headboard  
Teak lockers either side of bed  
LED Rope lighting under bed and steps  
Two hanging lockers. Teak faced with double louvered doors and automatic interior lights  
TV space on bulkhead  
Drawers with center guides and stops  
Beveled-edge European sourced mirrors  
Door stops and holders.  
Doors with raised teak panels, and teak frame with arched top  
Bulkheads with teak to waist height with Ultrasuede above  
LED overhead lighting on dimmers.  
Berth reading lights.  
CO detector  
Drapes  
Ultrasuede or Ultraleather headliner

## **CREW'S QUARTERS**

Accessed from aft lobby via stairs from port side-deck  
Two berths  
Twin hanging lockers  
Drawers  
Desk with mirror  
Toilet room with Planus head, shower and washbasin  
Escape hatch  
Air Conditioning  
Boning/Fleming Central monitoring system with 15" color touch-screen

## **SYSTEMS**

### **STEERING**

Hypro Marine electronic steering (ECS), with electronic helm units at Pilothouse and Flybridge. Hydraulic power assisted with DC back-up pump and pre-plumbed and wired DC reversing autopilot pump.  
Back lit rudder angle indicators at pilothouse and flybridge stations  
Solid Stainless steel rudders of axe-blade type with Aqualloy 22 high-strength stocks  
Destroyer type steering wheels at flybridge and pilothouse  
Pilothouse steering wheel has teak grips  
Rudder tubes extend above waterline

### **ENGINE CONTROLS**

Glendinning EEC 3 electronic engine controls with troll, and synchronizer at pilothouse and flybridge.  
Back up engine controls system in pilothouse (gear and throttle)

### **PROPULSION AND TRANSMISSION SYSTEM**

Twin Common Rail MAN V12-1550 HP marine diesel engines  
Transmissions ZF 2050A or Twin Disc MGX 6599A with electric shift and troll valves 2.467:1 reduction ratio  
4-blade Nickel Aluminum bronze propellers  
Shafts Aqualloy 22 Hi-strength

Aquadrive anti-vibration system  
Shaft seals cast bronze of traditional type using Buck Algonquin dripless packing system  
Groco sea strainers on engines and gensets  
Recessed I-struts in tunnels with cutlass-type bearings  
Underwater exhaust at transom

## **FUEL SYSTEM**

3,000 USG total fuel capacity. (11,356 Liters)  
2,500 USG in one internally-divided FRP tank  
500 USG in two FRP side tanks  
All fuel tanks have fire retardant coating  
All fuel tanks have sumps  
Fuel tank sumps and drains with shut-off valves on all tanks  
Fuel management panel for engine/genset fuel supply/return selection  
High capacity 24v DC Fuel Transfer pump with suction & delivery manifolds  
Digital fuel flow totalizer  
Monitoring system displays contents of all tanks in pilothouse in USG gals/Liters and percentage  
Pressure type fuel tank level sensors connected to central monitoring system  
Twin Racor 1000 model filters with change-over valve and vacuum gage for main engines, drip pans under filters  
Racor 500 model filters for gensets  
Fuel tank float switches and Hi-level alarm with transfer pump shut-off feature  
Sight glasses on all fuel tanks with self-closing safety valves  
Electric fuel priming pumps for both main engines

## **LUBE OIL TRANSFER SYSTEM**

Reverso oil change pumps on port and stbd sides of engine room connected to transmissions, main engines and gensets  
Quick-release fittings for flexible operation

## **PLUMBING**

### **SANITARY**

Planus Arctic Plus (white) heads in each of three staterooms, dayhead and crew head  
All toilets flush to 230 USG (870 Liters) holding tank  
Toilets can be flushed with Seawater or Freshwater

Anti-odor charcoal filters on black tank vents port and stbd to promote cross flow ventilation

Two Black water tank high capacity discharge pumps

Tank level indicator and pump control on Boning central monitoring system

Plastic lined pressure accumulator tank

Black water tank suction deck fittings port and stbd side

Black water tank seawater flushing system, with self closing safety valve

## **GREY WATER SYSTEM**

230 USG (870 Liters) grey water tank with Headhunter discharge pump

Tank level indicator on Boning central monitoring system

Basins and showers drain to individual sumps each with own pump

Each pump has 3-way valve to drain overboard or into grey water tank

Anti-odor filters port and stbd on tank vents

## **FRESH WATER SYSTEM**

440 USG (1,665 Liters) in three tanks in lazarette

Sight glasses on water tanks

Dual Gianneschi 24v DC freshwater pumps, inlet filter & flow sensor

Two 20 USG (75 Liters) Torrid water heaters with drain valve, pressure relief valves and mixer safety valve

Hot water heating of both main water heaters with 220v AC heating elements and heat exchanger coils, drain & pressure/temp relief valves.

Heat exchanger system and circulation pump for heating domestic water from port main engine via heat exchanger, circulation pump runs automatically when engine is running

Forward and aft fresh water washdown outlets

10 USG (37 Liters) Crew water heater in engine room

Whale plumbing system

Fresh water coil hose in engine room

Pressure type water tank level sensor connected to central monitoring system

## **SEA WATER SYSTEM**

Gianneschi 24V seawater pump and strainer

Plumbing to chain wash solenoid

Salt water 316 Stainless Steel faucet on foredeck

Salt water 316 Stainless Steel faucet in cockpit

Sea water flush line connected to black water tank, with self closing safety valve

Whale brand plumbing

Groco intake strainers for main engines, generator and sea water system

## **BILGE SYSTEM**

3 pcs 3,700 GPH Rule electric bilge pumps with auto/man control  
1 pc 2,000 GPH Rule electric bilge pumps with auto/man control (bustle)  
2 Whale gulper sump pumps  
USS type bilge pump/high level alarm float switches in bustle, lazarette, engine room, and forward bilge - connected to central monitoring system

## **ELECTRICAL**

### **AC**

Two 32 Kw 220v, 60Hz Onan eQD (27Kw 230v 50Hz) generators  
Two Smartplug shorepower inlets forward  
Two aft shorepower inlets with Glendinning Cablemasters, each with 85 ft. of cable  
Shore supply connected to two Charles Iso-boost transformers with remote indication panels.  
Digital AC meters at source select panels, volts, amps, frequency and watts  
Panels back lit  
Tinned copper wire used throughout  
Dedicated inverter compliant buss  
Hinged panel for serviceability  
Vimar AC outlets with Graphite Grey Silk Faceplates

### **DC**

Main ships system is 24V DC  
12V DC available via two 20 amp DC-DC converters & 12V battery backup on flybridge  
Remote controlled Battery Master switches  
House battery bank consisting of 12pcs 6 volt Lifeline AGM batteries connected in series parallel to provide 1200 A/H's capacity at 24 volts.  
Two stacked 3500 watt Outback pure sine-wave inverters with 170 amp (@ 24 volts) battery charging capacity (European model is 3,000 watts)  
Inverter remote control panel in pilothouse.  
Two Delstar 200 amp 24v heavy duty brushless auxiliary alternators with Ample Power regulator and dual alternator controller  
Additional 24V DC battery banks for each engine/genset charged by MAN original alternators plus additional dedicated battery charger  
Remote Switching allows paralleling of battery banks  
Outback FlexnetDC Battery Monitor for house bank with data displayed on Outback Mate remote panel in pilothouse  
DC load distribution panel with breakers and meters back-lit with dimmer

Hinged panel for serviceability  
Vimar light switches with Graphite Grey Faceplates  
Imtra LED lighting and dimmers.

## **ELECTRICAL BONDING**

Copper strap or cable connecting all thru-hulls, underwater fittings, pulpit and flybridge rails – (equipotential bonding system)  
Shaft brushes  
Zincs on transom (2)  
Zincs on shafts (2)  
Copper strapping system in engine room, flybridge and pilothouse for SSB radio counterpoise

## **HYDRAULIC SYSTEM**

American Bowthruster central hydraulic system using variable displacement pumps on both engines  
This dual pump system powers:  
12 sq. ft. stabilizer fins with winglets and model 300 actuators  
60 hp 16" diameter bow thruster  
Twin Maxwell RC12 anchor windlasses  
Hydraulically operated stabilizer locking pins, hydraulically driven sea water cooling pump, with pre-plumbed back-up pump

## **BONING/FLEMING CENTRAL MONITORING SYSTEM**

15" color touchscreen located in Pilothouse  
15" color touchscreen located on Flybridge  
15" color touchscreen located in Crew Cabin  
Home page with "Ready for Sea checklist"  
Digital switching of AC & DC loads, with feedback and status monitoring  
SMS remote alarm system (system sends text messages)  
Remote control panel located in Stidd seat arm rest  
iPad remote access

System monitors/displays the following parameters:

All MAN engine data and alarms - analog, digital and graphic view  
Navigation lights (monitoring and control) with back-up control panel  
Bilge pumps  
Sump pumps  
High bilge level alarms  
Fire system – Cylinder pressure  
Heat detectors  
Smoke detectors  
Black water tank level and control of discharge pump  
Fuel Tank levels using pressure type sensors  
Water tanks level using pressure type sensor  
Port and Stbd engine room air intake shutters  
Engine room, sea water & exterior ambient air temperature  
Fresh water system pressure  
Fresh water system flow  
Seawater system pressure  
Seawater system flow  
Engine room blowers  
Engine room door  
Cockpit hatch  
Cablemaster (in/out)  
Passarelle (in/out)  
Engine room lights  
Steering pump  
Back-up steering pump  
Engine controls  
Watermaker (if installed)  
Main engines seawater flow sensing  
Hydraulic cooling seawater flow sensing (if installed)  
Genset engine data  
Wind speed & direction  
GPS (SOG, COG & Position)  
Range

DC voltage (24v and 12v battery banks)  
Fwd & aft Shorepower voltage, frequency and current draw  
Inverter voltage, frequency and current draw  
Genset/s voltage, frequency and current draw

### ***MISCELLANEOUS OUTFIT***

eFIT – (Electronic Fleming Information Tablet) all technical documentation is supplied on an Apple iPad including, a comprehensive Owner's Manual with system descriptions, schematics, wiring diagrams, product manuals and equipment list.

Cruisair reverse cycle air-conditioning throughout using REU model quiet blowers and SMX HT controls  
Sump and condensate pump for air-conditioning in forward cabin  
Ball-type seacocks on all through hulls at or below waterline  
Sika-Flex deck Caulking  
5/8" thick teak deck

Pre wiring with coax, CAT 5 and speaker cables throughout as follows:-

- CAT 5 - 2 x from salon stereo cabinet to behind FB inboard panel, PH console & each cabin
- Speaker wire - 2 x from salon stereo cabinet to FB radar arch port and stbd, PH console, each cabin, laz or aft deck overhead
- COAX - 1 x from salon stereo cabinet to behind FB inboard panel, PH console, and each cabin
- COAX - 4 x from salon stereo cabinet to FB stbd settee near davit base

## **CONSTRUCTION STANDARDS**

All Fleming Yachts are built to comply with the appropriate marine and environmental regulations for the area in which the yacht is delivered

**USA** - NMMA Certified Manufacturer fully complying with: ABYC, USCG and EPA regulations.

**European** - Built to CE-RCD Category "A" Ocean Standard using the relevant ISO standards.

**Australia** - Australian Standard 1799.1-2009

**Canada** - Transport Canada TP1332E 04/2010

## **MANAGEMENT & ENVIRONMENT**

Fleming Yachts Construction (HK) Ltd management and environmental systems have met and been approved by ISO 9001:2008 Quality Management Systems and ISO 14001:2004 Environmental Management Standards.

## **AFTERWORD**

The question most manufacturers ask themselves when considering a new feature is whether it is necessary to include it in order to sell the boat. In the case of the Fleming, we ask only whether its inclusion will make the boat safer, better or more convenient. That is why we have introduced literally hundreds of refinements since we started construction in 1985 and why we continue the process today.

For that reason Fleming Yachts reserves the right to make changes to specifications and equipment without notice.