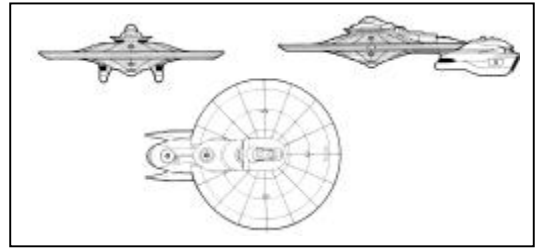


Flammarion Class VIII-IX Large Research Vessel



Construction Data

Model Numbers	Mk I	Mk III
Ship Class	VIII	IX
Date Entering Service	2267 (2/09)	2285 (2/22)
Number Constructed	130	47
Hull Data		
Superstructure Points	18	24
Damage Chart	C	C
Size		
Length	210 m	210 m
Width	165 m	165 m
Height	50 m	51 m
Weight	114,775 mt	126,918 mt

Cargo

Cargo Units	650 SCU	615 SCU
Cargo Capacity	32,000 mt	30,765 mt
Landing Capability	None	None

Equipment Data

Control Computer Type	M-4	M-4
Transporters		
standard 6-person	4	4
emergency 22-person	2	1
cargo	2	1

Other Data

Crew	210	184
Passengers	100	91
Troops	None	100
Shuttlecraft	6	7

Engines and Power Data

Total Power Units Available	24	38
Movement Point Ratio	3/1	4/1
Warp Engine Type		
Number	FWE-1	FWE-2
Power Units Available	2	2
Stress Charts	8	13
Maximum Safe Cruising Speed	G/K	G/K
Emergency Speed	Warp 7	Warp 6
Impulse Engine Type		
Power Units Available	Warp 9	Warp 8
	FIE-2	FIF-1
	8	12

Weapons and Firing Data

Beam Weapon Type		
Number	FH-1	FH-6
Firing Arcs	6 in 3 banks of 2	12 in 6 banks of 2
Firing Charts	2f, 2a/p, 2a/s	4f, 4p, 4s
Maximum Power	F	N
Damage Modifier	2	3
+2		(1-7)
+1		(8-13)
Beam Weapon Type		
Number	FH-4	FH-4
Firing Arcs	2 in 1 bank	2a
Firing Charts	Q	Q
Maximum Power	3	3
Damage Modifier		
+2		(1-8)
+1		(9-14)

Shields Data

Deflector Shield Type	FSD	FSK
Shield Point Ratio	1/2	1/2
Maximum Shield Power	6	15

Combat Efficiency

D--	57.7	81.3
WDF--	3.0	32.8
CE--	1.7	26.7

Notes:

The Federation has always placed a high value on basic scientific research and that means not just collecting samples of new and interesting lifeforms, minerals or what-have-you, but transporting scientists and their equipment to sites of special interest. To aid this purpose, the Federation has built or sponsored many kinds of research vessels, from special purpose, one-of-a-kind spacelabs to various sizes of general purpose ships. Among the most famous of these, as well as the largest, is the *Flammarion* class of large research vessels. *Flammarions* are rightly called the flagships of Federation spaceborne research facilities. The size of a standard light cruiser, *Flammarions* carry more personnel and more equipment devoted entirely to scientific study than any other class of ships in space.

The original specification for the *Flammarion* called for a large general purpose research vessel intended to operate in any quarter of the Federation, capable of sustaining both a purely scientific research staff and a separate ship's operating crew for up to 3 years without replenishment, entirely self-sustaining including the capability of repairing or resupplying all the advanced equipment it would carry, and fully navigable. Three shipbuilders submitted bids, and the Office of Research and Exploration selected Themis Shipyards of Aldebaran as prime contractor. Themis was then brand-new and their prior experience in shipbuilding had been limited to aircraft and in-system shuttles. To their credit, their design has proved durable, superior and very successful.

Themis built the *Flammarion* on two basic principles: the ship should have a complete but simple, efficient layout and engineering should be as maintenance-free and durable -and cost effective- as then-present technology could make it. The original *Flammarions* were built around the FWE-1 tandem mounted warp engines. Stodgy, not too powerful, but well built and forgiving, they proved an ideal powerplant for a vessel intended for operating in deep space far from repair yards. They provided quite respectable speed for their rather compact size as well, a consideration important to reduce transit time and operating costs. They were also cheap and plentiful, thanks to the Four Years War.

For maximum efficiency and ease of design, the standard Starfleet dish-shaped primary hull was copied, centered around the new and highly advanced M-4 computer system, augmented by 240 titabytes of additional memory with an additional spare backup processor dedicated entirely to supporting up to 240 networked, stand-alone computers and/or tricorders. Around the computer core, largely following the Starfleet example, are the labs, the specialized compartments and the crew quarters for the crew and scientists. A Starfleet rating would have no problem becoming familiar with the ship in minutes, realizing a great savings in cross-training time for crews.

The scientists and their staffs, who would be permanently assigned for the duration of a cruise or a project, would likewise have little trouble with the design. Space for over seventy labs, each dedicated to a different scientific discipline, is allocated on the same decks as their assigned personnel. Research staff and crew thus never trip over each other performing their normal day-to-day activities, avoiding friction and resentment too often present on such vessels.

The scientific accommodations are lavish. On top of the wide variety of labs, each fully equipped with the latest in machinery and data for their one particular specialty, each *Flammarion* comes complete with four large, amazingly precise environment simulators for the safe storage of captive lifeforms, including one purely for aquatic specimens. In addition, the ships carry four shuttlecraft capable of mounting internal or external sensors, samplers or other devices for space or planetside research beyond the hull. The design also includes 2 large cargo shuttles for the transport of portable shelters, life-support machinery and equipment for ground-based work and study. They can also be used to transport either one of the two 30 ton self-propelled wheeled Labmobiles carried aboard. Expense in outfitting has not been spared, not when the ship is to go hundreds of light-years away from civilization.

The primary mission of a *Flammarion* is long-term, multi-discipline investigation of large or at least important phenomena in space, whether planet, star-system, nebula, or other space object, force or region. The Office of Research and Exploration dispatches a vessel to one of these things which it deems worthy of long-term, full-press study and leaves the matter of duration and intensity of study to the Director of Research on board, who is also head of the scientific staff. The Starfleet crew and captain have no other duties than to run the ship, maintain all machinery and protect ship and staff from harm, accidental or intentional. It is soft and cushy duty, but not usually the way to higher command.

Flammarions have served with quiet distinction for many years in many out-of-the-way places. They have had, on a whole, a very respectable record, marred only by the occasional accident or alien attack. They have only two main sins, neither of them the fault of the ship itself. For one, the large size of the staff combined with the long-term nature of their mission has tended to produce rather ingrown scientific research teams, each with their own peculiar "personality", usually based on some particular interest or specialty of the Chief of Research. The Office of Research and Exploration has found that it must link *Flammarions* with research tasks very carefully, as each ship and staff will tend to focus rather more attention on its own high-priority areas at the expense of others. ORE tries hard to screen out potential Chiefs of Research with a point to prove or an intellectual axe to grind who might "pre-direct" the desired conclusion to research, but the problem remains.

For the other, the unexpected demise of the *Gagarin* class *USS Grissom* deep in Federation space near the so-called "Genesis planet" and the growing tensions between the Federation and the Klingon Empire have made large and lightly-armed vessels like the Mk I *Flammarion* a potential liability to Starfleet. Starfleet command, under the direction of Admiral Randolph Morrow, issued orders to the effect that such vessels as the *Flammarion* cannot be spared escorting armed vessels to protect them from attack. Nor would authorization to operate outside of the core worlds of the Federation be issued to such vessels, in view of the danger of loss.

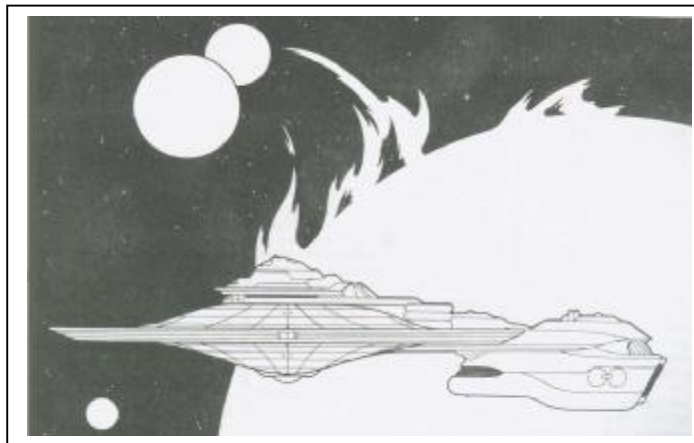
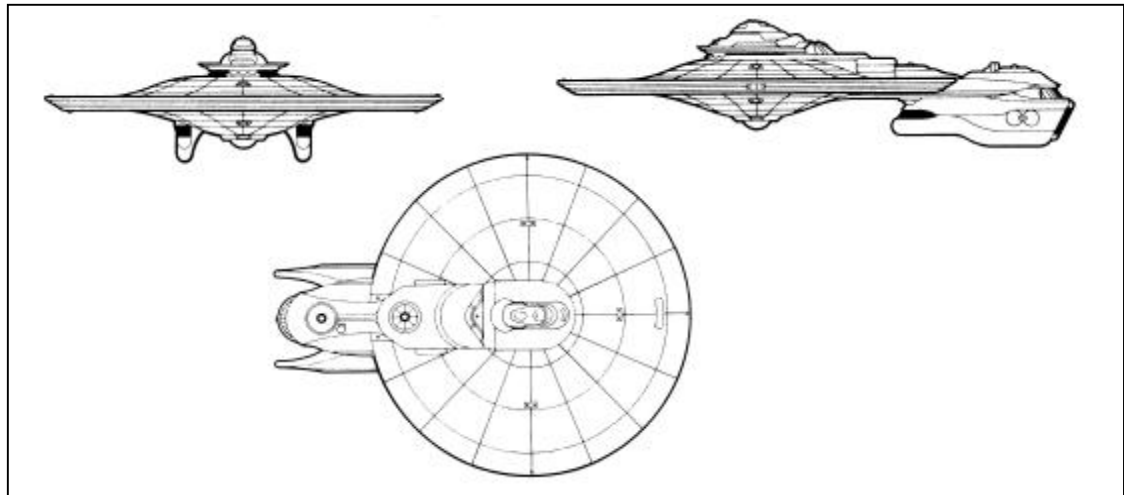
Themis Shipyards, to keep their lucrative contract, did some rapid redesign to equip each *Flammarion* with sufficient weapons and shields to make them combat-worthy, hence keeping them in Starfleet's inventory. The Mk III *Flammarion*, strengthened, up-engined, bumped to the next tonnage class and given more than twice the original armament, has now entered service. While it is in no way a warship, it has sufficient phaser power to pose a threat to any attacker approaching from any angle at close range. In addition some cargo space has been sacrificed to allow each vessel to carry a sizable contingent of Federation Marines complete with vehicles and their own armed shuttlecraft, sufficient to deal with threats on the ground as well as any boarding attempt.

The redesign has met with Starfleet's approval and older models of the ship are being converted at Aldebaran, Sol, and Alpha Centauri shipyards as fast as they come in. For every new Mk III Themis builds, four older *Flammarions* are upgraded to Mk IIIs. The combined production rate of new and refitted ships is 6 per year.

Of the 289 *Flammarions* built (including 112 Mk IIs almost identical to the Mk IIs), 238 remain in service. Of the remainder, 10 were transferred to Starfleet Intelligence Command, 7 were lost in operation to various causes, 3 were lost to hostile vessels, and 5 were lost to unknown reasons- disappeared in transit, or while doing non-hazardous research, with no surviving clues. Two were scrapped and 11 were sold to the private sector.

Because of the advanced computer system and their similarity to other Starfleet vessels, no *Flammarions* are sold to interests outside the Federation.

The vessel is named after ancient Terran astronomer Nicolas Camille Flammarion.



Updated from Stardate Vol. 3 Number 5 by Reluctant Publishing, Ltd., with additional material from Ship Construction Manual, 2nd edition by FASA. Edited by Lee Wood (FASAFan@hotmail.com). Compiled by Lee Wood. Version 3.13.