

Paddle avisos (1st class, 160 nhp, launched 1829-40)

SPHINX class (launched 1829-39)

TENARE (launched 1840)

SPHINX class paddle aviso (1st class)

Displacement:	910t
Dimensions:	151ft 9in wl, 158ft 2in deck x 26ft 3in mld, 26ft 9in wl, 8.20 max x 12ft 6in mean, 12ft 10in max. Depth 9ft 10in
Same, meters:	<u>46.25, 48.20 x 8.00, 8.16 x 3.80, 3.90m. 3.00m</u>
Machinery:	160nhp (Builders below). Side-lever, low pressure, 320ihp, 8kts. Exceptions: <u>Ardent</u> and <u>Vautour</u> : high pressure; <u>Castor</u> : only 120nhp. Coal 140t
Hull material:	Wood
Armament:	Typically 6-24p carr. (early ships), 2 or 4-16cm shell (later ships). See below.
Complement:	100

<u>Name</u>	<u>Builder</u>	<u>Laid down</u>	<u>Launched</u>	<u>Commiss.</u>	<u>Fate</u>
SPHINX	Rochefort/1	6.28	31.8.29	1.3.30	Lost 6.7.45
ARDENT	Brest/2	12.10.29	22.5.30	21.3.31	Stk. 24.10.60
CASTOR	Indret/3	1.7.29	26.5.31	16.9.31	Stk. 22.10.53
CROCODILE	Indret/4	9.29	10.10.32	5.12.32	Stk. 3.3.56
VAUTOUR	Indret/4	10.30	7.7.34	11.7.34	Stk. 9.5.63
CHIMERE	Indret/5	7.31	29.10.33	16.1.34	Stk. 9.1.61
SALAMANDRE	Indret/5	1831	26.12.33	15.3.34	Lost 26.12.35
FULTON	Rochefort/6	21.2.32	6.4.33	17.11.33	Stk. 7.3.67
STYX	Indret/4	6.32	17.9.34	1834	Stk. 25.7.67
METEORE	Rochefort/6	1.1.33	28.10.33	1.3.34	Stk. 15.4.67
PHARE	Indret/4	6.33	14.3.35	14.3.35	Stk. 29.4.65
CERBERE	Indret/4	2.34	16.2.36	17.2.36	Stk. 22.12.64
PAPIN	Indret/7	2.34	3.2.36	3.2.36	Lost 6.12.45
TARTARE	Indret/5	5.34	14.7.36	15.7.36	Stk. 15.7.67
ACHERON	Rochefort/6	21.1.35	18.12.35	5.10.36	Stk. 15.11.69

ETNA	Indret/5	2.35	28.7.36	29.7.36	Lost 20.1.47
COCYTE	Indret/4	2.35	7.4.37	14.4.37	Stk. 31.1.67
PHAETON	Indret/6	4.36	28.10.37	1.11.37	Stk. 18.12.49
TONNERRE	Indret/5	9.3.36	24.2.38	24.2.38	Stk. 21.10.59
EUPHRATE	Indret/4	15.1.37	28.4.39	1.5.39	Stk. 27.2.62
BRANDON (I)	Lorient/8	1837	20.12.39	16.1.41	Lost 26.12.41
GRONDEUR	Lorient/9	7.37	16.3.39	22.6.39	Stk. 8.6.60
GREGEOIS	Cherbourg/4	2.38	17.1.39	1.11.39	Stk. 26.10.65

Class. Problems with the machinery of the French navy's early steamers led the navy to want to get an example of the best British technology. In 1827 one of the senior engineers at Rochefort, Hubert, was ordered to design a steamer on the lines and dimensions of the British merchantman Leeds, which had just visited Bordeaux. At the same time, he was ordered to go to England to purchase a set of engines to power the ship and to serve as a model for engines to be built in France. Hubert purchased engines of 160nhp from Fawcett and Preston in Liverpool, and in 10.28 completed the plans for the ship to receive them, Sphinx. Sphinx proved to be completely successful, and she also became famous when she brought the first news of the conquest of Algiers in 1830 back to France. Her hull and machinery were copied exactly in most of the later ships of the class. Experiments did continue--two of the ships, Ardent and Vautour, received engines using high pressure steam, one, Castor, received English-built machinery of 120nhp (making her a 2nd class aviso), and one, Papin, received a new British-model engine in the mid-1830s. The main results of the navy's steamer program in the 1830s, however, was a large homogeneous class of ships and the development of three substantial steam engine builders in France, the private firms of Cavé and Hallette and the navy's own facility at Indret. Styx replaced in the building program a ship named Phénix which, with Fulton, was originally to have been begun at Indret in 1830. Ships built at Indret—the state engine-building factory—often received their engines and were placed in commission within a month of being launched.

The builders of the engines in this large class are indicated in the above table by numbers following the builders' names: (1) Fawcett & Preston, Liverpool; (2) Frimot, Landerneau; (3) Emile Martin, Fourchambault (who imported engines built by Maudslay); (4) Indret; (5) Cavé, Paris; (6) Hallette, Arras; (7) Fenton, Murray, & Jackson, Leeds, U.K.; (8) R. de Villack, Charenton; (9) Sudds, Adkins & Barker, Rouen. Of the two experimental high-pressure engines, those of Ardent were a disaster which led to a decade of litigation while those of Vautour were generally satisfactory but required excessive repairs. New experimental low-pressure engines by Reech with experimental boilers by Beslay were ordered from Indret for Ardent in 1841--the boilers were not a success, and new ones were ordered in 1845. (Ardent was never placed in full commission, instead being in reduced commission as a service craft.) Tartare and Cocyte may have later received engines by Indret and Lorient respectively. The original rig of the class was three masts with a sail area of 891 sq.yd., but Papin was completed with two masts and others were similarly altered in the 1840s. The beam over the paddle boxes was 46ft 3in.

The ships were probably designed to displace 777t at 10ft 10in mean draft and to carry 3-24p cannons and 6 or 8-24p carronades. Most actually carried relatively light armaments (initially 6-24p carronades) appropriate to their normal aviso duties. In the mid-1830s some were given more ambitious armaments. The first of these was Météore, which in 1835 was given 3-22cm shell guns and 6-24p carronades for surveillance duty on the Spanish coast. Others, including Tonnerre, Cerbère, and Papin, received 3-22cm shell guns and 2-30p No.1. In the 1840s most of these ships reverted to lighter armaments, generally 2 or 4-16cm shell. A few continued to be armed as combatants--Tonnerre received 2-22cm and 4-16cm shell in a major refit in 1844. (She also received a brig rig in place of her original three masts.) On 6.7.54 Vautour was ordered converted to a steam bomb vessel with 2-32cm mortars and 2-30p No.3. She participated in the bombardment of Kinburn in 10.55.

Disposals. Sphinx was wrecked at Cape Matifou on the Algerian coast. Ardent was a hulk until BU 1881. Castor was sent under sail to Cayenne 1854 for service as a hospital and prison and was BU c1865. Crocodile was hulked in the Antilles. Vautour became a careening hulk at Martinique and was BU 1866. Chimère became a prison hulk in French Guiana in 1861 and was BU 1871. Salamandre was lost on the Algerian coast near Mostaganem. Fulton and Styx were BU 1867. Météore became a hospital hulk at Gabon in 1867 and was BU 1872. Phare was BU 1866 at Lorient. Cerbère became the storage hulk Gardien in 1864 and was BU 1866. Papin was lost on the Moroccan coast. Tartare was BU 1867 and Achéron was BU 1872. Etna was wrecked near Cape Ténès, Algeria. The engines of Cocyte were removed in 1858 and she became a 500t capacity sail transport. She became a storage hulk at Guadeloupe in 1867 and was BU 1875. Phaéton was sent to the Marquesas Islands in 1843. Her boilers were worn out by 1846, and she was hulked in 1849. Tonnerre became a coal hulk at Lorient in 1859, was renamed Charbonnier 5.2.73, and was BU 1878. Brandon was lost at the entrance to Mahon, Minorca. Grondeur became a prison hulk in French Guiana and was BU 1875. Grégeois was BU 1865.

TENARE paddle aviso (1st class)

Displacement:	906t
Dimensions:	157ft 6in wl x 26ft 3in mld x 11ft 11in mean
Same, meters:	48.00 x 8.00 x 3.63m
Machinery:	160nhp (From <u>Nageur</u>)
Hull material:	Wood
Armament:	4-16cm shell
Complement:	100

<u>Name</u>	<u>Builder</u>	<u>Laid down</u>	<u>Launched</u>	<u>Commiss.</u>	<u>Fate</u>
TENARE	Toulon	7.37	3.3.40	16.5.40	Stk. 2.5.61

Class. This, the last ship of the Sphinx class, was lengthened slightly to receive the engines from Nageur. In 1853-4 these were replaced with the engines from the corvette Espadon which, with new smaller boilers, were rerated at 180nhp. In 8.54 she was ordered converted to a steam mortar vessel, and she participated in the bombardment of Kinburn in 10.55.