

## Fast screw ships of the line (3rd class)

NAPOLEON class (launched 1850-64)

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Displacement:	5120t
Dimensions:	233ft 8in wl, 234ft 5in deck x 53ft 3in mld, 55ft 1in ext x 25ft 9in mean, 27ft 1in max. <u>Ville de Nantes</u> : 235ft 5in wl, 238ft 0in deck. <u>Ville de Lyon</u> : 234ft 2in wl, 236ft 3in deck x 54ft 11in.
Same, meters:	<u>71.23, 71.46 x 16.22, 16.80 x 7.86, 8.26m</u> . <u>Ville de Nantes</u> : <u>71.76, 72.55m</u> . <u>Ville de Lyon</u> : <u>71.37, 72.00 x 16.75m</u>
Machinery:	<u>Napoléon</u> : 960nhp (Indret). 2 cylinders, geared, 12.14kts sustained on trials. Replaced in 1861 by 900nhp engines (Mazeline), direct, 1798ihp, 12.94kts. <u>Algésiras</u> : 900nhp (Toulon). 2 cylinders, direct, return connecting rod, 2057ihp, 13.014kts sustained on trials. <u>Ville de Nantes</u> : 900nhp (Cherbourg). Direct. <u>Intrépide</u> : 900nhp (Indret). Trunk, trials 2204ihp = 12.24kts. Others: 900nhp (Indret). 4 cylinders, direct
Hull material:	Wood
Armament:	( <u>Napoléon</u> , 1852) GD 32-30p No.1, 4-22cm No.1 shell; UD 26-30p No.2, 4-22cm No.2 shell; SD 14-16cm shell, possibly also 10 carronades. ( <u>Algésiras</u> , <u>Arcole</u> , <u>Redoutable</u> , <u>Impérial</u> , 1856-61) GD 18-36p, 16-22cm No.1 shell; UD 34-30p No.2; SD 20-16cm shell or ( <u>Arcole</u> and <u>Redoutable</u> ) 20-30p No.4, 2-16cm rifles. ( <u>Ville de Bordeaux</u> , <u>Ville de Lyon</u> , 1861-2) GD 34-16cm M1858 MLR; UD 34-30p No.2; SD 20-16cm shell (12-30p No.3 in <u>V. de Lyon</u> ), 2-16cm M1858 MLR. ( <u>Napoléon</u> , by 1862) GD 36-16cm rifles; UD 34-30p No.2; SD 20-16cm shell. ( <u>Ville de Nantes</u> , 1863) GD 24-30p No.1, 10-16cm rifles; UD 24-30p No.2, 10-22cm No.2 shell; SD 4-16cm rifles, 6-16cm shell.
Complement:	913

<u>Name</u>	<u>Builder</u>	<u>Laid down</u>	<u>Launched</u>	<u>Commiss.</u>	<u>Fate</u>
NAPOLEON	Toulon	7.1.48	16.5.50	1.5.52	Stk. 6.11.76
ALGESIRAS	Toulon	4.53	4.10.55	10.4.56	Stk. 20.11.01
ARCOLE	Cherbourg	4.3.53	20.3.55	8.5.56	Stk. 11.4.70
REDOUTABLE	Rochefort	11.4.53	25.10.55	24.11.56	Stk. 15.11.69
IMPERIAL	Brest	19.8.53	15.9.56	20.2.58	Stk. 15.11.69
INTREPIDE	Rochefort	2.9.53	17.9.64	8.5.65	Stk. 6.12.89
VILLE DE NANTES	Cherbourg	20.6.54	7.8.58	25.10.60	Stk. 28.11.72
VILLE DE BORDEAUX	Lorient	26.6.54	21.5.60	5.11.60	Stk. 14.1.79
VILLE DE LYON	Brest	30.3.55	26.2.61	4.11.61	Stk. 28.6.83

**Class.** On 9.12.46 the minister asked the ports to develop plans for installing screw machinery in several ships of the line and frigates then on the ways. Dupuy de Lôme felt that such conversions were a good way of using existing hulls, but also felt that a much more radical advance could be made if a new steam battleship were designed from scratch. While his colleagues prepared plans for sailing ships with auxiliary steam power, he designed a true steamer which also had all the combat strength of 90-gun sailing ships of the line. The only thing he sacrificed was endurance--because the ship would have to replenish its coal supply fairly often, he reduced its supply of provisions and water to 2 months from the 4-6 months carried by sailing ships. The converted ships underwent a similar reduction, which effectively limited the new ships to operations in European waters. Dupuy de Lôme's plans were approved on 11.1.48 and construction of one ship was ordered.

Napoléon was launched as 24 Février but was renamed on 17.5.50. Her trials were regarded as a sensational success--on 30.8.52 during a run from Toulon to Ajaccio she averaged 12.14 knots over a distance of 119 miles and reached 13 knots for short periods. Her armament was redistributed several times in the 1850s as the navy experimented with its new standard type of battleship. Her engines were highly successful on trials, but their gearing (as in most early geared screw machinery) created maintenance problems and new direct-drive engines were ultimately fitted. She was the only French ship of the line with two funnels.

Napoléon's first two sisters, Algésiras and Arcole, replaced four 550nhp frigates in the building program in 5.52 and were ordered in 11.52. The later ships were ordered as rapidly as possible between 2.53 and 4.54. All but Napoléon and Algésiras had hoisting screws. The class received the rig of a sail 80-gun ship (Jupiter, etc.), and the sail area of Napoléon was 3411 sq.yd. The height of the battery above the water was 6ft 4in. The ships were reclassified as 2nd class ships of the line in 1855 because of their length and speed. In 1856 Dupuy de Lôme designed a follow-on 90-gun ship which was practically identical to the Napoléon class except for a displacement of 5720t, a length of 251ft 10in wl (76.76m), and a slightly reduced draft. Its proposed armament was GD 18-36p No.1, 18-22cm No.1 shell; MD 36-36p No.1 "lightened"; SD 22-36p No.3, 2-16cm rifles. The advent of the ironclad made this design obsolete before any ships were ordered.

Ville de Bordeaux was commissioned unusually early in the fitting-out process, and her machinery was not fully installed until 9.61. (Normally, French steamers began to go into commission no more than five months before their machinery installation was complete.) Intrépide was completed belatedly as a transport. Her original engines were ordered from Rochefort in 1853. Designed by Sabattier, they had 4 cylinders and were on Penn's system (presumably trunk engines). They were later split for use in two frigates (Circé and Flore) and replaced by a new set of 900nhp trunk engines from Indret. Algésiras became a transport in 1869 (when she gained an additional deck and a poop) and became torpedo school ship at Toulon in 1888.

**Disposals.** Napoléon was BU 1886 at Brest. Algésiras became an accomodation ship for torpedo apprentices and burned accidentally 25.11.06. Arcole was BU 1871-72 at Cherbourg and Redoutable was BU 1871 at Brest. Impérial became a barracks hulk at Toulon, was renamed Jupiter 19.9.70, and was BU 1897. Intrépide relieved the former Valmy as the naval school hulk at Brest and assumed the name Borda in 1890. Retired in 1912, she was BU c1914. Ville de Nantes was BU 1887 at Cherbourg. In 1.80 Ville de Bordeaux relieved Bretagne as the school hulk for novices and apprentice seamen at Brest and assumed the name Bretagne. She was BU 1894. Ville de Lyon was BU 1885 at Brest.