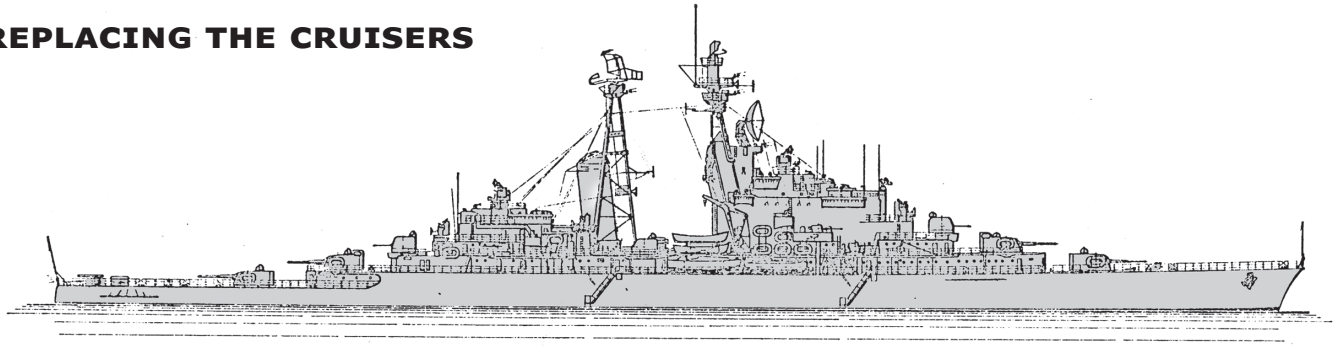
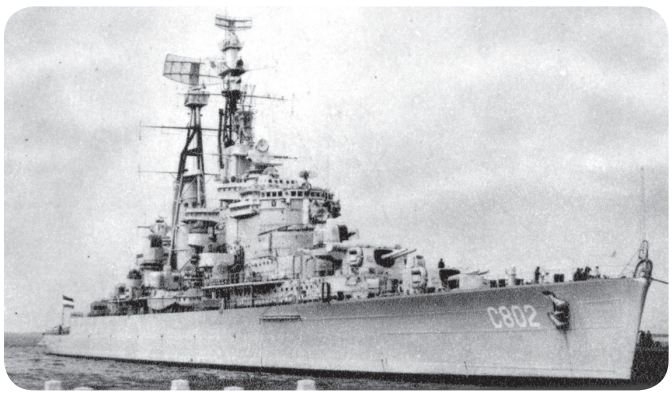
GUIDED MISSILE FRIGATE TROMP

REPLACING THE CRUISERS



HNLMS *De Ruyter* and *De Zeven Provinciën* were the last cruisers of the Royal Netherlands Navy. In a period most ships were transferred from abroad (UK and USA), they were the largest post-war naval ships of Dutch manufacture. For years they were besides aircraft carrier *Karel Doorman* flagships. Construction of both ships started before World War II, but they did not enter service until 1953. After twenty years of service they were sold to Peru.

In May 1973 *De Ruyter* was renamed *Almirante Grau*. Modernizations 1985-88 and 1993-96. Decommissioned September 2017 (served 44 years with the Armada Peruana) to become a museum ship.



In August 1976 *De Zeven Provinciën* was renamed *Aguirre*. RIM-2 Terrier SAM removed, replaced by a hangar with large flight deck for three ASH-3D Sea King helicopters. Decommissioned 1999.

Cruisers De Ruyter and De Zeven Provinciën (in 1953)	
Displacement	11,850 tons (fl)
Dimensions oa.	*Length:* *De Ruyter* 187.32 m (614½ ft) had Atlantic (clipper) bow *De Zeven Provinciën* 185.70 m (609 ft) Beam: 17.25 m (56½ ft) Draught: 6.40 m (21 ft)
Machinery	4 Werkspoor-Yarrow three-drum boilers 2 De Schelde Parsons geared steam turbines 85,000 shp
Max. Speed	32 kts
Complement	926 -973
Armament	8 × 152 mm twin turrets, 1942 model Bofors 8 × 57 mm AA guns (4x2) Bofors 8 × 40 mm AA guns Bofors 2x DC racks 1 x 10.3 cm illumination rocket launcher

TROMP

INTRODUCTION

In 1964 new plans were developed concerning the structure of the fleet within the first six years of the seventies.
The intention was to decommission the carrier and replace the cruisers by two or four guided missile frigates. They would be equipped with an automated force AAW weapon-system TARTAR. Their coordination system consisting of the 3D radar and an automatic Combat Information Processing and Distribution System (DAISY)* with automated inter-ship data-links. In October 1970 an order was placed with KM De Schelde in Vlissingen (Flushing) for the delivery of two GM**-frigates.

* The Tactical Data Handling System was called **DAISY,** the acronym stands for:**D**igitaal **A**utomatisch **I**nformatieverwerkend **SY**steem

** GM-frigates = Guided Missile frigate (FFG), in Dutch: GW-fregatten, GW = Geleide Wapen

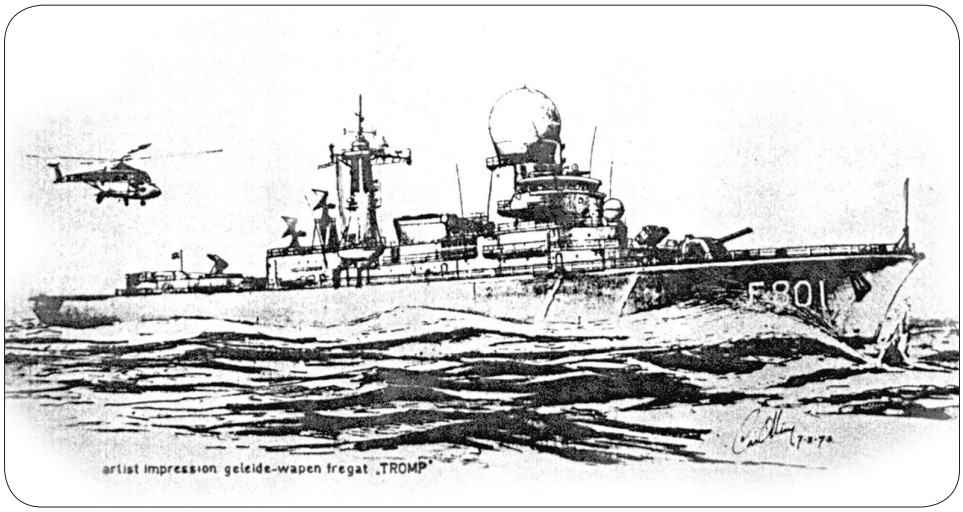

F 801

Guns or missiles?

A fundamental change was the rise of self-propelled missiles, which alter the relationship between the power of the weapon and the demands it placed on the launching ship. Self-propulsion eliminates the need for elaborate launching equipment (i.e. heavy guns) and recoil effects. It is fair to put that the balance of costs shifted from a relatively inexpensive round fired by an expensive weapon equipped with an elaborate fire control system, to the opposite: an expensive single round requiring, often, rather inexpensive investment in acquiring launcher and fire control (upon the extent to which the missile is self-guiding).

Missiles provide small warships with the firepower of the capital ship of the past.

Short response time became necessary. The new threat required changes in the build up of the fleet and its armaments.
A decision had to be taken to modernize or replace the large ships of the fleet, the latter being chosen for cost reasons. Technological developments also played a role. In the new design automation was saving space. The development of gas turbines for propulsion was one of these. It resulted in a personnel reduction. Gas turbines were immediately operational and increased readiness (not raising steam). The machinery was remote controlled.
The development of a 3D radar in combination with an automatic combat information system (DAISY) was another innovation that appealed to the Royal Netherlands Navy. With the 3D radar, it became possible to establish, besides bearing and distance, also the altitude of incoming objects in the air and report these contacts to fire control (WM-25).



Impression drawn by C. Olling (1973). Note the different shape of the large radome.

June 1986. Early in the misty morning dressed for the Navy Days.

To answer the threat, Cold War in the sixties

By mid-sixties the Soviet threat was twofold. Soviet ballistic missiles and cruise missiles could be launched by submarines. While the first were targeting on land, the second could be used against ships. A Soviet submarine could store 4 to 8 missiles but needed to surface about 10 minutes for launching. The known missiles had a range of 350 and 650 miles and carried nuclear or conventional charges of 1000 to 2000 pounds. Most threatening to ships were cruise-missiles at an altitude of 1000 to 3000 feet. Only when the missile came within 10 miles range it could be detected by the ships radar. Leaving 60 seconds to react!
Requiring earlier detection and rapid reaction. New generation refined radars and electronics had to be developed.

Under the Forth Bridge across the Firth of Forth.

Predecessors of Tromp

1 1777 - 1796

A 54 gun ship of the line of the Admiralty of the Maze (Meuse) in Rotterdam. Its full name was *Maerten Harpertz Tromp,* joining the fleet in 1782.
In 1784 some German ships tried to enforce the river Scheldt. Being on Flushing roads the ship intercepted and challenged the intruders. Appointed to a task group and sent to Netherlands Indies in February 1796. These ships surrendered to the British on 17 August 1796. *Tromp* was confiscated and enrolled in the Royal Navy. Sold for scrap in 1813.

Tromp 1877-1904. Dutch classification Screw Steamship 1st Class. In May 1893: Frigate.

2 1804 - 1826

Gunboat / schooner number 22 carried 7 guns, built as *Admiraal Cornelis Tromp* in 1804. The ship took part in countering the Walcheren Campaign of the British in 1805. Sold for scrap in 1826.

3 1808 - 1823

Ship of the line of 64/68 guns *Maarten Harpertszoon Tromp*. Laid down in 1808 and commissioned on 5 May 1811. Departed Flushing on 16 March 1817. Sailing via Rio de Janeiro to Netherlands Indies, arriving 13 September at Anjer. Joining the expedition against the British lieutenant-governor Sir Thomas Stamford Raffles who still occupied the north of Sumatra. On 28 November 1818 the British handed over the area. In 1819 *Tromp* joined the expedition against Banka and in 1820 against Palembang. Later that year she was considered unfit for service and transferred to the Colonial Navy. Scrapped in 1823.

4 1850 -1867

A 74 gun ship of the line. Although the construction started in 1830, it took 20 years before launching. The ill fated project came to an end in 1867. The ship never sailed and was scrapped in 1872.

5 1877 - 1904

Ship-rigged unprotected cruiser with sheathed iron hull built in Amsterdam. *Tromp* was commissioned on 30 May 1879. Leaving in October 1882 for Netherlands Indies, returning one year later. While sailing home she received orders to head for the Kongo river estuary where native Africans attacked a Dutch trading station.

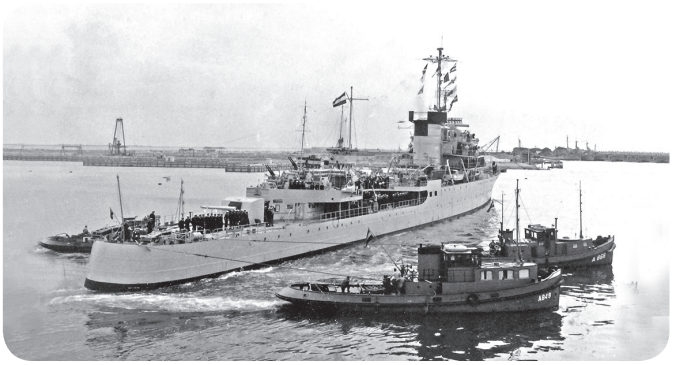
When the ship arrived, the situation was already under control.
In 1885 she sailed to the Indies. Home bound she recorded the fastest speed ever made by a R.Neth. Navy ship. Between 1888 and 1890 journeys were made to Norway, South-Africa and West Indies. Again to the East in 1893.
Involved in various operations and returned in 1897. In 1899 she was appointed flagship of the Atjeh-division until this was dissolved in January 1902. Before returning the ship transferred 6 guns, ammunition and stores to establish a stronghold. She returned to Den Helder in 1902 and sold for scrap in 1904.

6 1904 - 1933

Coast Defence Ship *Marten Harpertszoon Tromp* was built at the Rijkswerf in Amsterdam. Commissioned on 5 April 1906. In June she sailed to Norway to witness the coronation of King Haakon VII. Departed in 1906 to Netherlands Indies where she was flagship of the Indies squadron. In April 1908 she sailed with the squadron to suppress armed resistance in Kloengkoeng (Bali).

Right: *Marten Harpertszoon Tromp 1904-1933.*

Sailed in 1909 in company with *Koningin Regentes* and *De Ruyter* to China and Japan before returning to the Netherlands. Late 1910 again employed in the Netherlands Indies. Enforcing neutrality until 1917.
Her last turn in the East was from 1919 to 1922. Once returned she became an instruction vessel and several training journeys were made to the Baltic, Canary- and Mediterranean waters. Decommissioned for the last time in 1927 and sold for scrap in 1933.



Tromp 1937-1969

7 1937 - 1969 (Warship No. 1)

Light cruiser, commissioned in 1938. Throughout 1940/41, she carried out patrol and escort duties with the Netherlands East Indies Squadron. Following the outbreak of WWII in the Pacific, she was assigned to the Combined Striking Force, ABDA Command. On 18 February 1942 *Tromp* was badly damaged off Bali (Badung Strait) and directed to Australia for repairs. Convoy duties. In February 1943, assigned to the US Seventh Fleet. In January 1944, *Tromp* joined the British Eastern Fleet based at Colombo (Ceylon), and stationed at naval base Trincomalee. Carried out raids on Sabang in April and Surabaya in May 1944. In the final months of the war, *Tromp* provided gun fire support preceding Allied landings at Balikpapan to recapture Borneo. Joined the British Pacific Fleet and in September 1945 deployed to Batavia where she landed marines who re-occupied the governor's residence. She remained in Sydney until February 1946 when she sailed for the Netherlands to repatriate ex-POW's. Arriving in May 1946, the ship underwent a significant refit which lasted until mid-1948. From 1949 onwards *Tromp* was a training ship. Since 1955 accommodation vessel, stricken from the list 1968. In 1969 sold and broken up.

8 1975 - 1999 (Warship No. 12)

Subject of this book.

9 2003 -

Frigate of *De Zeven Provinciën* class, commissioned 14 March 2003.

Maerten - Marten - Maarten
His Christian name was "Maerten", sometimes written"Marten" but in the last century more often "Maarten"

As easy to recognize the ships often used to promote the navy. Some stickers that appeared over the years.

Navy Days 1984 and 1989 (right)

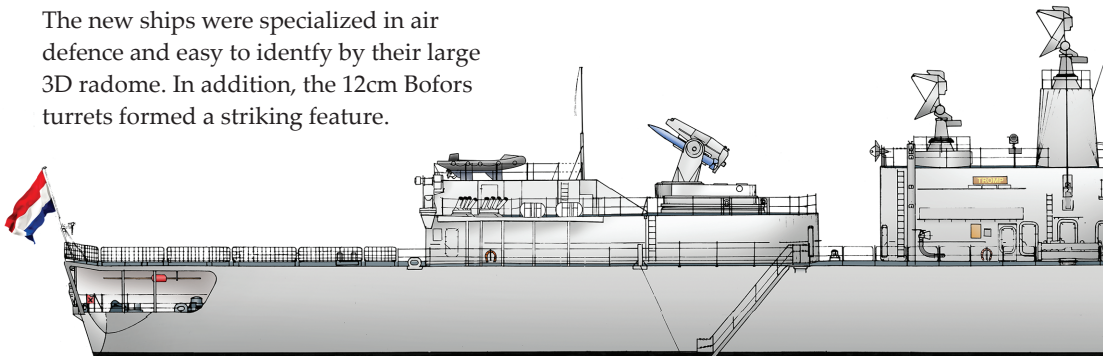
1988 / 1989

3D MTTR (multi target tracking) Long range air surveillance. Range 390 km (210 nm) Frequency Band: S. Weight aerials in radome: 3500 kg (7700 lbs). Basic architecture of the rotating antenna system consists of two parabolic search aerials (back to back) and two planar aerials (back to back) for the tracking function. 3D radar data was processed by computer and projected on screens.

Technical data	
Displacement:	3,724 tons standard / 4,377 tons fl
Length:	138.4 m (454 ft)
Beam:	14.8 m (48 ft 7 in)
Draught:	4.6 m (15 ft 2 in)
Machinery:	COGOG: 2x Rolls-Royce Olympus TM3B gas-turbines (44.000 shp (32.4 MW)) 2x Rolls-Royce Tyne RM1A gas-turbines (8.000 shp (5.9 MW))
Speed:	2 shafts, 28 kts maximum / 18 kts cruising
Range:	5,000 nm (9,300 km) at cruising speed
Complement:	306 (1975)
Armament:	1 × Mk 13 launcher for Standard SAM (40 missiles) 1 × Mk 29 launcher (octuple) Sea Sparrow SAM (16 missiles) 8 × Mk 141 launcher for RGM-84 Harpoon SSM 2 × 12 cm Bofors guns, twin turret 2 x Mk 32 triple anti-submarine torpedo tubes (324 mm) 1 × 30 mm Goalkeeper CIWS (1990 *De Ruyter* / 1995 *Tromp*) 2 x 20 mm Oerlikon gun
Helicopter:	1 × Westland WG-13 Lynx

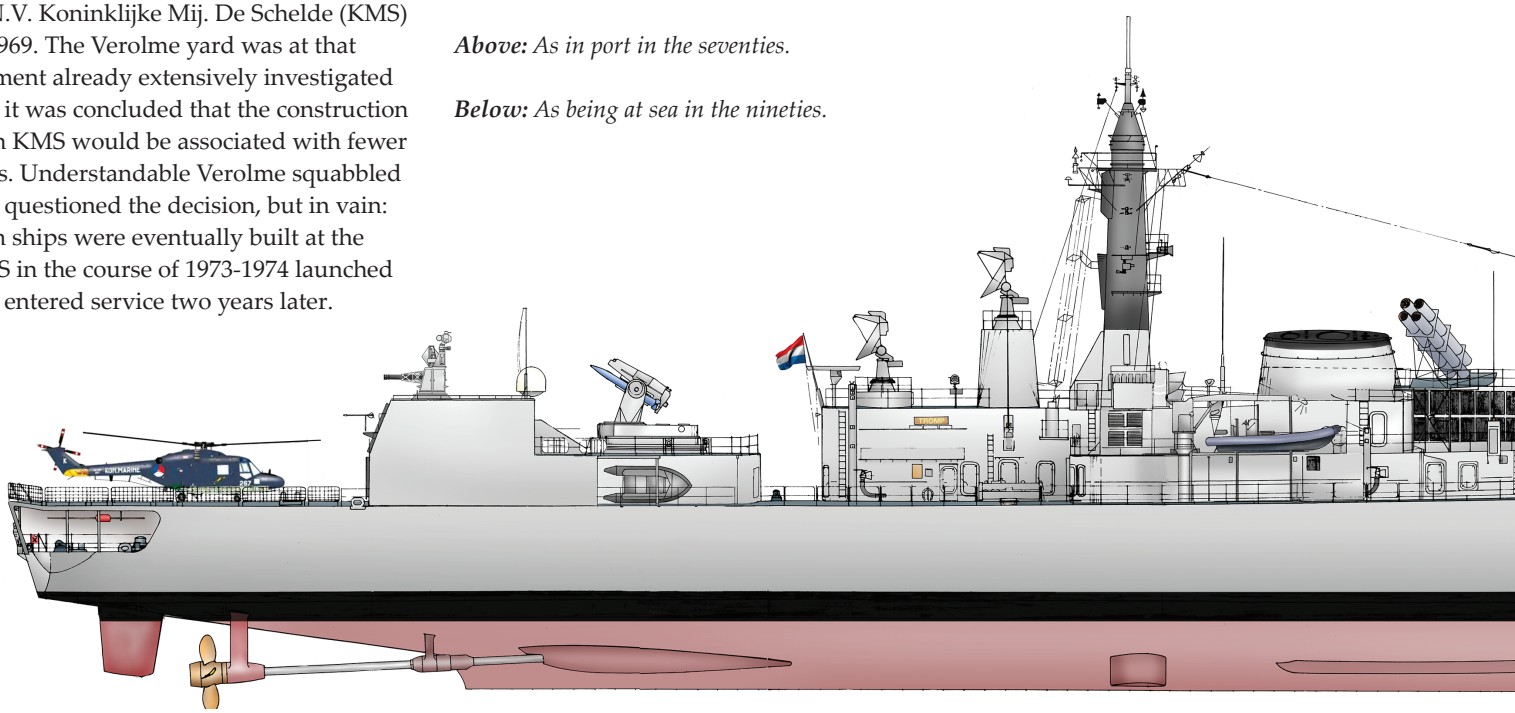
By 1965 the Royal Netherlands Navy announced the intention to build new ships. The concept called 'Frigates 1965' following a design by Ir. J.E. Los of the department 'Materieel van het ministerie van Marine'. The project-coordinator was Captain G.W.A. Langenberg. Early 1970, the specifications were completed and offers were requested from the shipyards Rijn-Schelde and Verolme. This yielded an embarrassing situation because the R. Neth. Navy had already granted the order to N.V. Koninklijke Mij. De Schelde (KMS) in 1969. The Verolme yard was at that moment already extensively investigated and it was concluded that the construction with KMS would be associated with fewer risks. Understandable Verolme squabbled and questioned the decision, but in vain: both ships were eventually built at the KMS in the course of 1973-1974 launched and entered service two years later.

The new ships were specialized in air defence and easy to identfy by their large 3D radome. In addition, the 12cm Bofors turrets formed a striking feature.



Above: *As in port in the seventies.*

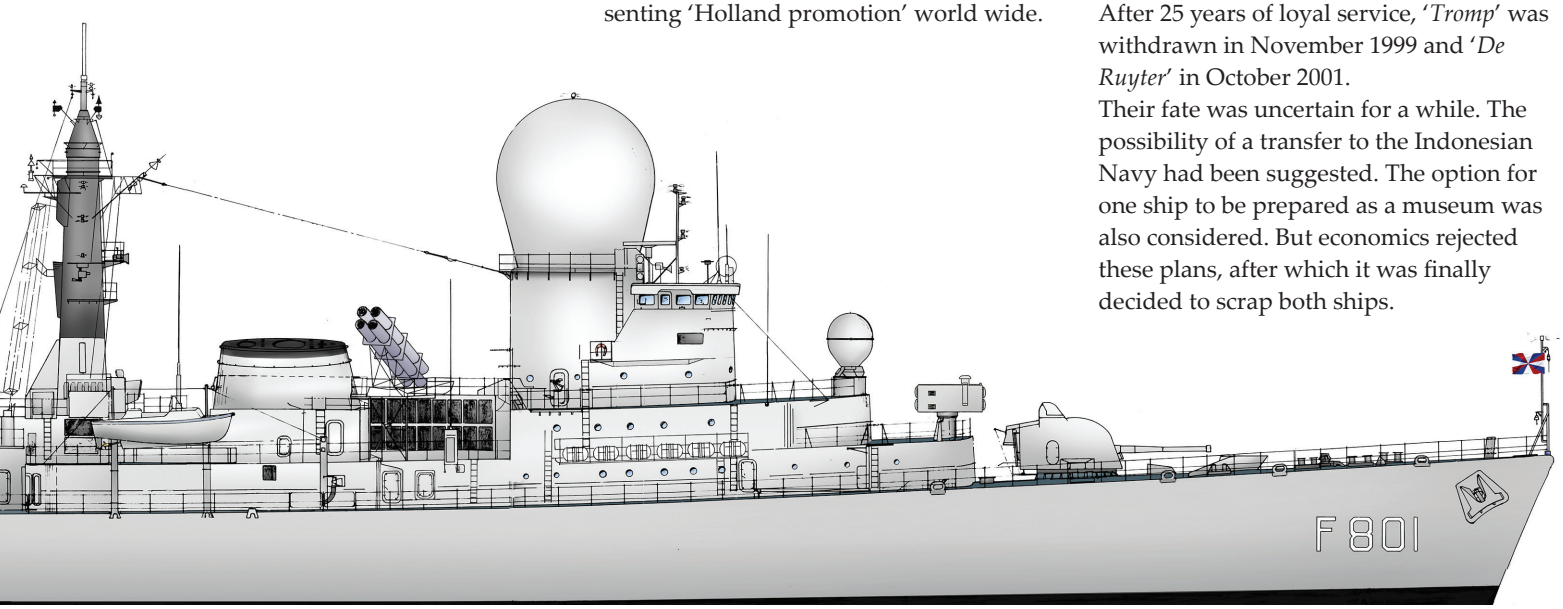
Below: *As being at sea in the nineties.*



Guided Missile Frigate						
Name	Pennant	Builder	Laid down	Launched	Commis-sioned	Fate
Tromp	F801	KM de Schelde, Vlissingen	4 August 1971	2 June 1973	3 October 1975	Decommissioned 1999. The 12 cm guns preserved by the Naval Museum in Den Helder.
De Ruyter	F806	KM de Schelde, Vlissingen	22 December 1971	9 March 1974	3 June 1976	Decommissioned 2001. Bridge and 3D radome have been preserved by the Naval Museum in Den Helder.

These two 60-ton turrets were removed from the already laid up Type 47 A destroyer '*Gelderland*' and were fitted on both GW frigates after overhaul. The ships were equipped with command facilities for a task group commander. Also capable for ASUW (anti surface warfare) and ASW (anti submarine warfare).
Both ships succeeded each other as flagship. Eye catching and fine lined representing 'Holland promotion' world wide.

They took part in many (international) exercises. Special squadron voyages, such as the winter visit to the US in 1982 ('*Tromp*') and Fairwind'86 to the Far East ('*De Ruyter*').
After 25 years of loyal service, '*Tromp*' was withdrawn in November 1999 and '*De Ruyter*' in October 2001.
Their fate was uncertain for a while. The possibility of a transfer to the Indonesian Navy had been suggested. The option for one ship to be prepared as a museum was also considered. But economics rejected these plans, after which it was finally decided to scrap both ships.



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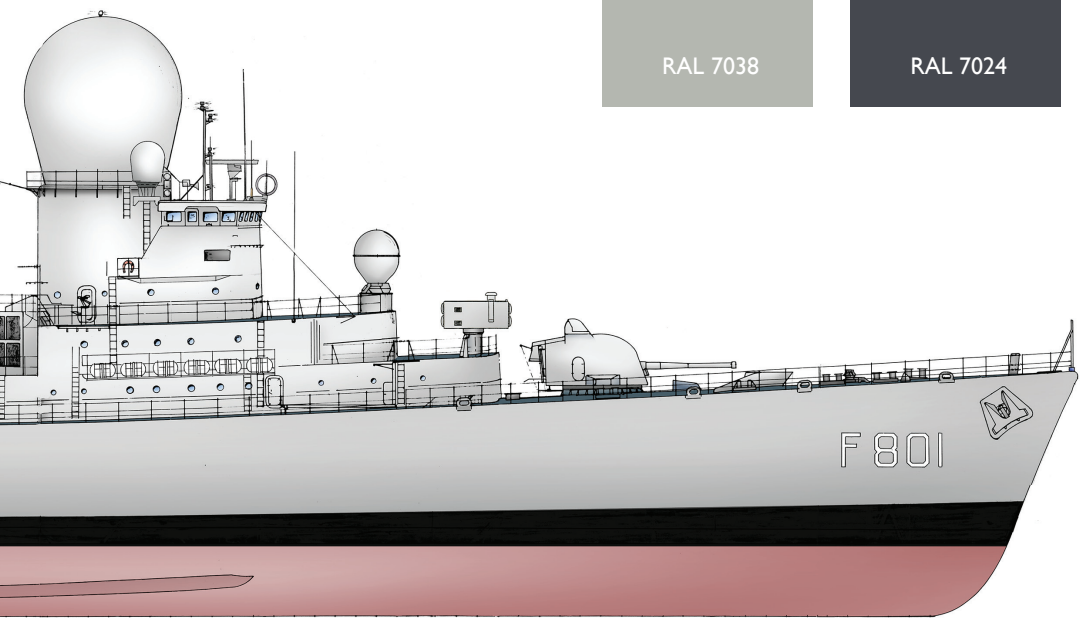

In December 2002 the ships were seperately towed out from their homeport. *Tromp* had offered her twin 12 cm Bofors and *De Ruyter* the 3D radome together with her bridge (88 tons). They were placed on the site of the Navy Museum at Den Helder.

Modelplans

Plans are available at:

1- Netherlands Ministry of Defence: www.defensie.nl/onderwerpen/modelbouwtekeningen

2- NVM (Neth. Modellers Association): www.modelbouwtekeningen.nl