

## Car Carrier Report

**Purpose of installation:** Efficiency test of the HydroPath Marine Technology.

**Date of installation:** November 2011

**Date of inspection:** August 2012

**Application:** Fresh Water Generator, Main cooling system

### 1. Fresh Water Generator (FWG)



Figure 1. FWG before – October 2011



Figure 2. FWG after – August 2012

**Installation description:** HydroPath Marine HM120 was installed on a 4" pipe, feeding seawater to the FWG. The FWG was opened and cleaned approx. 2 weeks prior to installation and was documented as seen on figure 1.

**Findings:** The FWG was opened on August 2012. There were no traces of slime and mad. At the front part of the plates there was no limescale but further inside there was some limescale which was easily removed by hand and without chemicals. The entire process of opening and cleaning of the FWG took only 2-3 hours. Without HydroPath Marine, the opening process can take up to 24 hours due to the soaking time of the plates in chemicals to dissolve the limescale.

## 2. Main sea water Cooling System heat exchanger



Figure 3. Main Cooling System before – July 2011

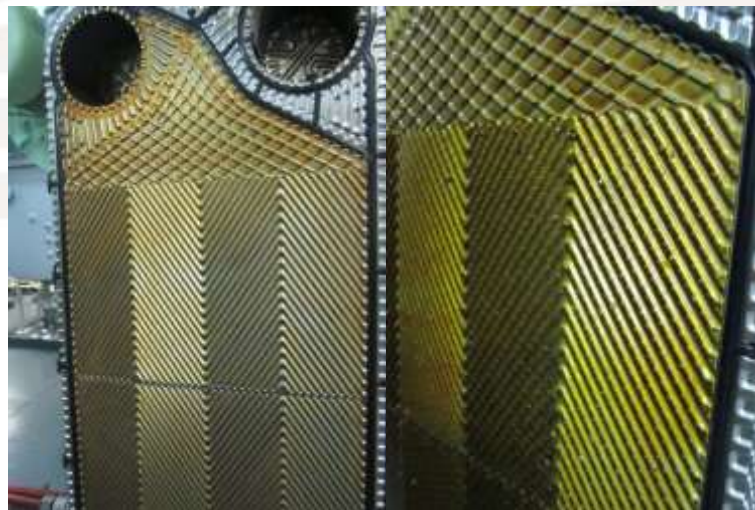


Figure 4. Main Cooling System after – August 2012

**Installation description:** HydroPath Marine Custom 12" was installed on the sea water feeding pipe of the Main Cooling System #2.

**Findings:** The Main Cooling System #2 was opened on July 2011. The plates contained large amount of barnacles that are the main factor of water flow reduction which affects the cooling efficiency. The Main Cooling System #2 was opened again on August 2012. The plates were clean from limescale or barnacles. A thin layer of slime covered the plates and was easily washed away.

The particles filter at the bottom of the unit was also found clean of barnacles and was easily washed. This filter is usually covered with barnacles strongly attached to it, and removing them requires manual scrubbing that damages the filter.



Figure 5. Particles filter after – August 2012

CENTRAL COOLERS CLEANED:	
N 1	N 2
DECEMBER 2008	DECEMBER 2008
JANUARY 2009	JANUARY 2009
OCTOBER 2009	
	SEPTEMBER 2009
AUGUST 2010	NOVEMBER 2009
	AUGUST 2010
JUNE 2012	MARCH 2011
	JULY 2011

Figure 6. Cleaning schedule of last four years

### 3. Conclusions

Findings show that HydroPath Marine Technology successfully prevented limescale buildup and barnacles attachment to the FWG and Heat Exchanger Plates.

During the test period there was no usage of chemicals either on a regular basis or during the cleaning process.