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Smart Control Manager
The New Standard in Viscosity Control

Noah SBMA



Public Procurement
Service



**K-INNOVATIVE
PRODUCT**
K-LAB Procurement
Service



Marine and Fisheries New Technology!

Completed in just 3 hours — Smart Viscosity Control

Smart Viscosity Control

No flame work

"Safe installation without welding"

No welding or cutting inside the vessel
→ Reduced safety risks and simplified
work-permit procedures

No structural modification

**"Keep all pipelines and upgrade
only the control system"**

Keep all installed pipelines and
equipment intact → Shorter replacement
time and lower construction costs

No downtime

**"Replacement completed within 3
hours without halting operation"**

Replacement possible during docking
schedule → No delays in sailing schedule

The fastest Viscosity control system replacement

SCM has dramatically reduced both cost and time involved in replacing discontinued sensors with the latest models and restoring the system.



STEP 01

Remove existing sensors

VAF, NAKAKITA, OMC, DAEHO, MARSEN, etc.



STEP 02

Install new viscosity sensors

Electronic viscosity sensor



STEP 03

Install SCM

Replacement work **completed in 3 hours**

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Product Overview

SCM-01



Weight	Approximately 2.5 kg
Dimensions	246mm × 168mm × 81mm (W×H×D)
Operation System	Touchscreen
Power	AC 220V, 60Hz , 15Wmax
IP Grade	N/A (Panel-mounted Type)
Input	Viscosity: 4 ~ 20mA, DC 24V Temperature: 4 ~ 20mA, DC 24V or Temperature: PT 100 Ω
Output	Viscosity: 4 ~ 20mA, DC 24V Temperature: 4 ~ 20mA, DC 24V 4 ~ 20mA, DC 24V for Electric Pneumatic regulator 4 ~ 20mA, DC 24V for valve 220VAC, Relay for valve Alarm1, Alarm2

Weight	Approximately 3.0 kg
Dimensions	260mm × 160mm × 95mm (W×H×D)
Operation System	Touchscreen
Power	AC 220V, 60Hz , 15Wmax
IP Grade	IP44
Input	Viscosity: 4 ~ 20mA, DC 24V Temperature: 4 ~ 20mA, DC 24V or Temperature: PT 100 Ω
Output	Viscosity: 4 ~ 20mA, DC 24V Temperature: 4 ~ 20mA, DC 24V 4 ~ 20mA, DC 24V for Electric Pneumatic regulator 4 ~ 20mA, DC 24V for valve 220VAC, Relay for valve Alarm1, Alarm2

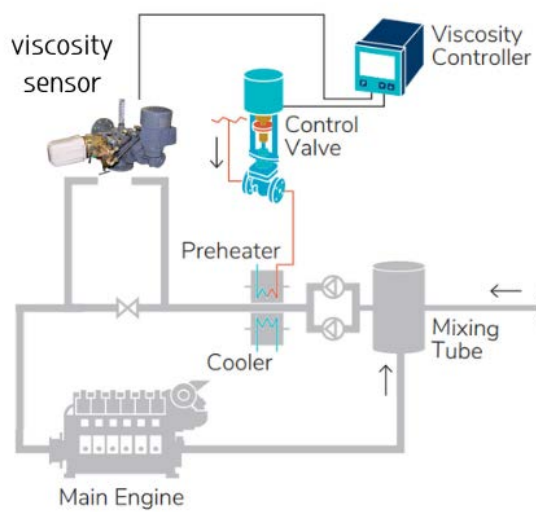
SCM-02



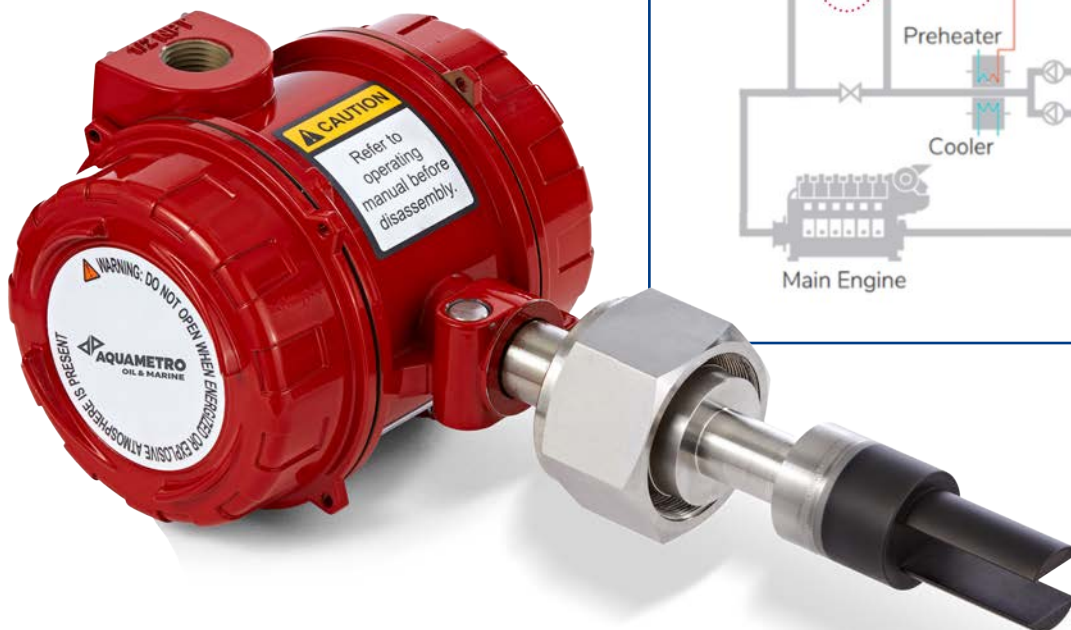
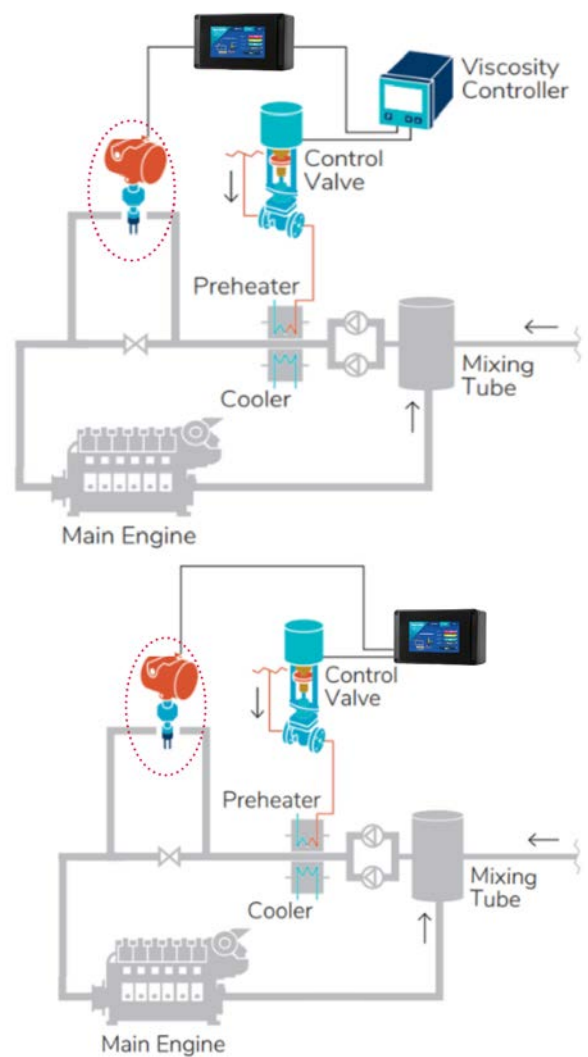
AQUAMETRO

Noah SBMA uses genuine AquaMetro viscosity sensors, verified by shipyards for over 10 years.

Old viscosity system



Solution

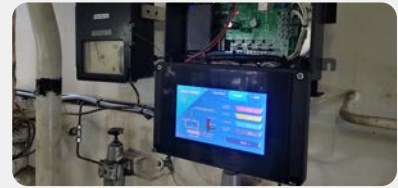


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Track Record & Field Applications

HMM

- Replaced NAKAKITA systems with SBM
- System replacement: 3 hours per unit → 6 units on 3 vessels completed



KLC SM

- Reliability verified through 2 years of trial operation on container ships
- 2 vessels in dock: 8 SBM units replaced
- Replacement completed within 6 hours when existing products could not be repaired
- Successfully stabilized 14 automatic viscosity systems to date



HJ Shipbuilding & Construction

- Commissioning completed on 4 units across 2 new container ships
- An additional contract for 8 units on 4 vessels has been signed (N286/287/288/289)
- Shipyard references have been secured



SK Shipping

- Completed the review for adoption
- Initial application for inspection vessels; a fleet-wide expansion is planned



Our customers



Hyundai Merchant Marine



SM Group



SK Shipping



AquaMetro



STX Marine Service



Korea Institute of Maritime and Fisheries Technology



Korea Marine Equipment Research Institute



OceanCare



Danaos (planned)



HJ Shipbuilding & Construction



K Shipbuilding



Designated as an Innovative Product by the Public Procurement Service

SCM is a technically validated product.



Innovative Product Designation Certificate



GERMAN CERT-03



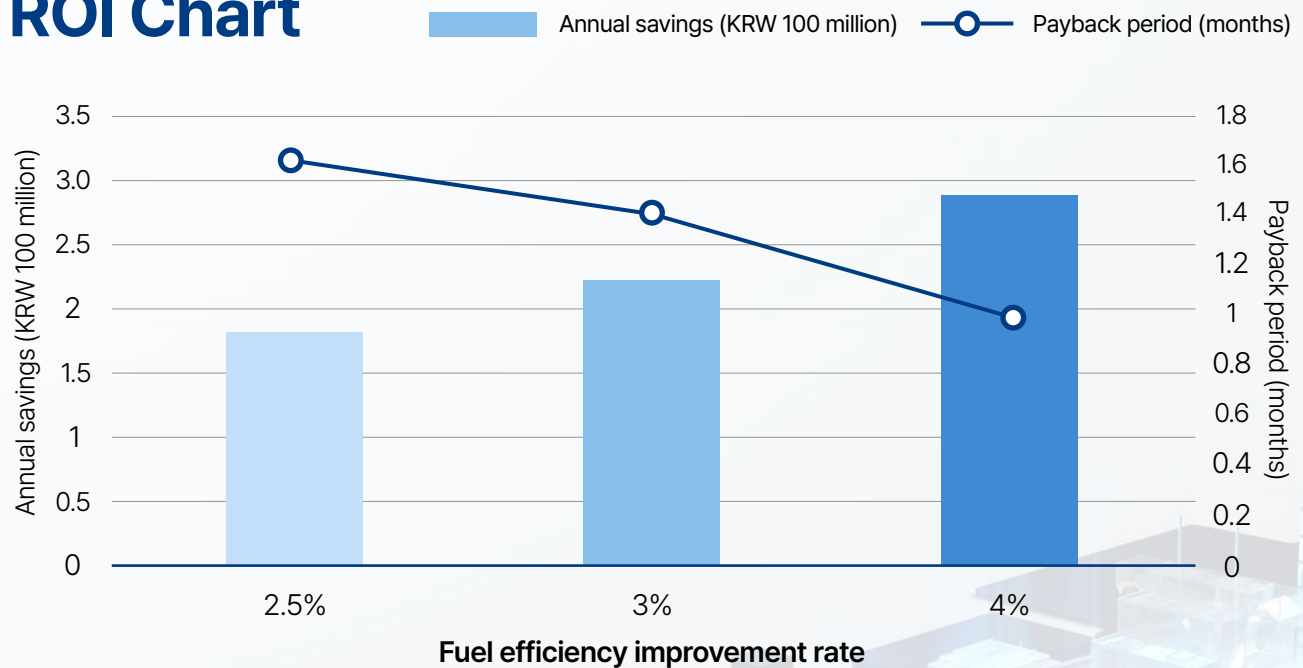
Venture Company Certificate

Return on Investment (ROI)

Economic Feasibility Analysis

Parameters	Reference	Basis
Annual fuel cost (per vessel)	KRW 7.38 billion	Average of HMM and SK Shipping
SCM installation cost	KRW 25 million (per set)	Based on user-provided data
Fuel efficiency improvement rate	2.5% ~ 4.0%	Viscosity and temperature stabilization
Installation time reduction	60h → 3h (57 h reduction in operational loss)	Based on Brochure performance data
Operational loss cost (container ship)	Approx. KRW 43 million/day	IR materials

ROI Chart



SCM installation cost

KRW 25 million

Annual savings

KRW 180 – 290 million

(based on installation cost of KRW 25million)

Full payback within 1–2 months

Over 10× higher economic return

based on fuel-efficiency improvement.



Public Procurement
Service



K-INNOVATIVE
PRODUCT



What is an Innovative Product?

An innovative product is designated through a review process that evaluates public value, innovation, and other criteria to enhance public services and technological advancement.

There are two types: Type 1 (excellent research-based products, certified innovative public procurement products) and Type 2 (innovative prototype products).

What are the benefits of purchasing innovative products Designated by the Public Procurement Service?

- ◆ Eligible for private contract awards without amount limits under the Act on Contracts to Which the State Is a Party and the Act on Contracts to Which a Local Government Is a Party
 - ※ Enforcement Decree of the Act on Contracts to Which the State Is a Party, Article 26(1)5(d) / Act on Contracts to Which a Local Government Is a Party Enforcement Decree, Article 25(1)8(c)
- ◆ Procurement support for innovative products through institutional exemption measures for purchasing officers
 - ※ Government Procurement Act, Article 27(4): exemption applies unless intent or gross negligence is proven
- ◆ Achievable innovative product purchase ratio targets and organizational performance evaluation
 - ※ Public Procurement Service Innovative Product Purchase Guidelines, Article 27(4): exemption applies unless gross negligence is proven
- ◆ Technology development products eligible for priority purchase
 - ※ Under the Act on Facilitation of Purchase of SME-Manufactured Products and Support for Development of Their Markets, Article 13, and its Enforcement Decree, Article 12, public institutions must purchase at least 15% of their SME procurement volume as technology development products (Article 13)
- ◆ Eligible for pilot use funded by the Public Procurement Service budget
- ◆ Innovative Products are searchable and purchasable via the Innovation Marketplace platform (linked with the KONEPS contract system)
- ◆ Outstanding purchasing institutions and officers may be recognized and awarded annually.



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