

Lift Muffler With Remote Gas/Water Separator

Clean-Sep Filtration System

HELPING KEEP YOUR WORLD POLLUTION FREE

Northern Lights is pleased to offer an innovative solution to help keep your cruising grounds pristine - the Clean-Sep Exhaust Filtration System.

Clean-Sep addresses the issue of water sheen associated with a diesel generator wet exhaust system. Integrated between your exhaust water separator and exhaust outlet, the patented Clean-Sep system binds hydrocarbons to a filter system and discharges clean, clear water.

Clean-Sep is Lloyds Certified and ABS Type Approved for use with Northern Lights generator sets in a variety of marine applications.

With environmental concerns and shrinking moorage spaces, keeping the seas clean has never been more critical. Clean-Sep provides the peace of mind that comes from owning the highest quality products.



* Water separator and wet muffler are not included in Clean-Sep filtration system

Dealer

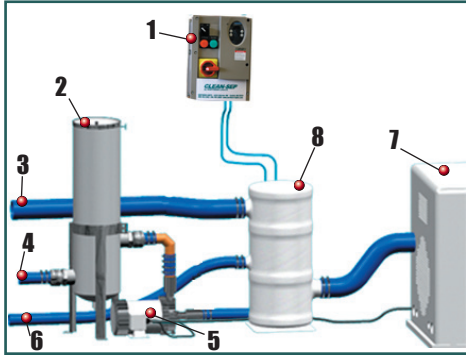
4420 14th Ave. NW., Seattle WA 98107
Tel: (206) 789-3880 • 1-800-762-0165 • Fax: (206) 782-5455
Information and dimensions subject to change without notice.
Northern Lights and Lugger are registered trademarks
of Northern Lights, Inc.
© 2009 All rights reserved. Litho USA. L738 08/09



www.northern-lights.com

Combo Sep Clean-Sep System

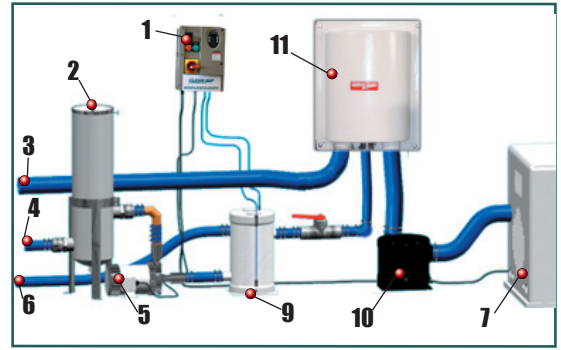
Gas/water separator with lift muffler combined



1. Control Panel
2. Filter Housing
3. Dry Gas Outlet
4. Filtered Water Outlet
5. Pump
6. Un-filtered (Bypass) outlet
7. Generator
8. Muffler separator with reservoir
9. Reservoir
10. Water lift muffler (not included in Clean-Sep filtration system.)
11. Water separator (not included in Clean-Sep filtration system.)

Component Clean-Sep System

With lift muffler



All Clean-Sep Systems are custom sized to fit your generator set.

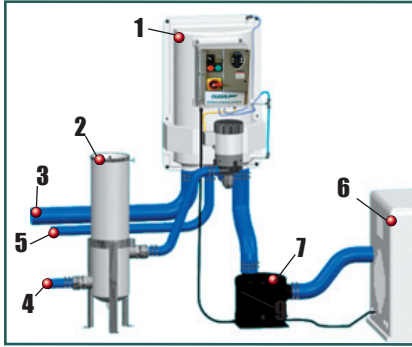
Dimensions of standard features follow:

L x W x H (in/mm)	
Control Panel	14.56 (369.82) x 12.56 (319.02) x 8.5 (215.90)
Reservoir	18 (457.2) x 10.0 (254.0) x 10.0 (254.0)
Pump	13.75 (349.25) x 7.14 (181.35) x 8.0 (203.20)
Filter Housing	36.44 (925.57) x 12 (304.80) x 12 (304.80)

Other Specifications	
Voltage requirements	Matched to vessel
Generator size	any
Inlet size range	2" and up
Outlet size range	2" and up
Plumbing requirements	with use of "y" fitting, no additional thru hull fitting necessary

Compact Clean-Sep System

With lift muffler



1. Control Panel, pump, reservoir, and gen-sep
2. Filter housing
3. Dry gas outlet
4. Filtered water outlet
5. Un-Filtered (bypass) outlet
6. Generator
7. Lift muffler (not included in Clean-Sep filtration system.)

Dimensions of standard features follow:

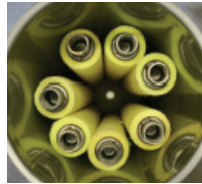
H x W x D (in/mm)	
Control Panel	14.56(369.82) x 12.56(319.02) x 8.5(215.90)
Filter Housing	36.44(925.57) x 12(304.80) x 12(304.80)
Voltage Requirements	Matched to vessel
Generator Size	any
Inlet Size Range	2" and up
Outlet Size Range	2" and up
Plumbing Requirements	No further thru hull fitting necessary when using "y" fitting

- Clean-Sep filters generator exhaust water through a patented system developed by industry leader Centek. The Clean-Sep system is installed between your vessel's water separator and exhaust outlet.



- In the Clean-Sep system, cooling water is separated from the exhaust gasses, then routed to a reservoir and directed to a filter canister. A variable speed motor and frequency drive control unit ensures a clean and efficient transfer.

- Once inside the canister housing, a series of patented filters bind the hydrocarbons and allows clean water to flow freely and discharge from the vessel



- The Clean-Sep system is equipped with a bypass feature, allowing the cooling water to exit normally.
- The Clean-Sep control panel runs the system easily and intuitively. It can be placed in the engine room near the system, or in your pilot house with optional harness cables.



- Clean-Sep filtration systems contain the highest quality resins available. All fiber glass components are Lloyds Register and ABS Type approved. All components are designed to meet or exceed ABYC-P1 Standards.

- Northern Lights and Centek stand behind every piece of the Clean-Sep system, ensuring expert engineering and a world wide dealer network, should more than standard maintenance be required.

Clean-Sep is available for a wide range of vessel sizes or generator configurations.

Dealer

4420 14th Ave. NW., Seattle WA 98107
 Tel: (206) 789-3880 • 1-800-762-0165 • Fax: (206) 782-5455
 Information and dimensions subject to change without notice.
 Northern Lights and Luggar are registered trademarks of Northern Lights, Inc.
 © 2009 All rights reserved. Litho USA. L738 08/09



www.northern-lights.com