IBEX 2024 INNOVATION AWARDS WINNER



MANUAL FLUSH SYSTEM
INSTALLATION GUIDE

PHIBER® SYSTEMS

PHIBER®
DOCUMENTATION

ACCELERATED MANUAL SYSTEMS INSTALLATION

INTRODUCTION

Routine Freshwater Flushing and preservation mitigates corrosion, biofouling and scale buildup, extending the service life of both systems and materials used in raw water networks, significantly reducing operating costs and increasing intervals between services.

This Document provides design tenets, functional overview, and operation of a PHIBER System that relies on the connection of a freshwater source such as a dock hose.

IT DOES NOT COVER THE SPECIFIC INSTALLATION OF ANY PARTICULAR SYSTEM. THIS DOCUMENT SERVES ONLY AS A GUIDE AND CONFIGURATION REFERENCE.

It is not intended to supersede any marine industry practices, standards, or common sense.

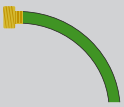
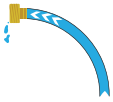
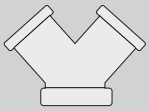
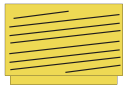
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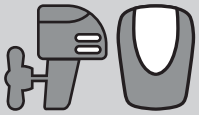
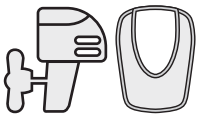
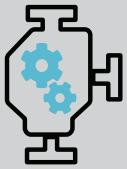
US PATENTS PENDING

Full details on all things PHIBER,
including FLUSH-O-PEDIA, ABYC Standards, Flushing regulations by State, and more!

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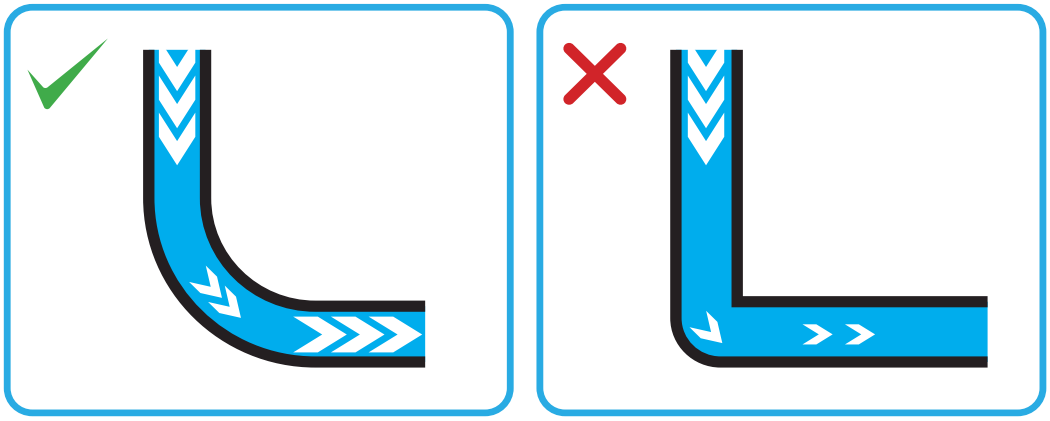
ICON LEGEND

Icon	Description
	PHLOW HUB
	Manual Activation
	Empty Water Hose
	Full Water Hose
	Dock Hose Inlet
	MPT to Barb Fitting
	Wye
	Reducer Bushing
	MTP Nipple
	Nylon Fitting(s)
	Clamp

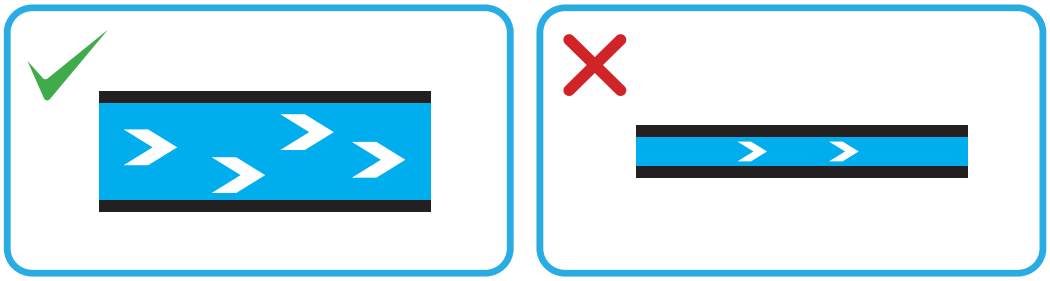
Icon	Description
	≤600HP Engine
	≤425 HP Engine
	Mechanical System
	Pump

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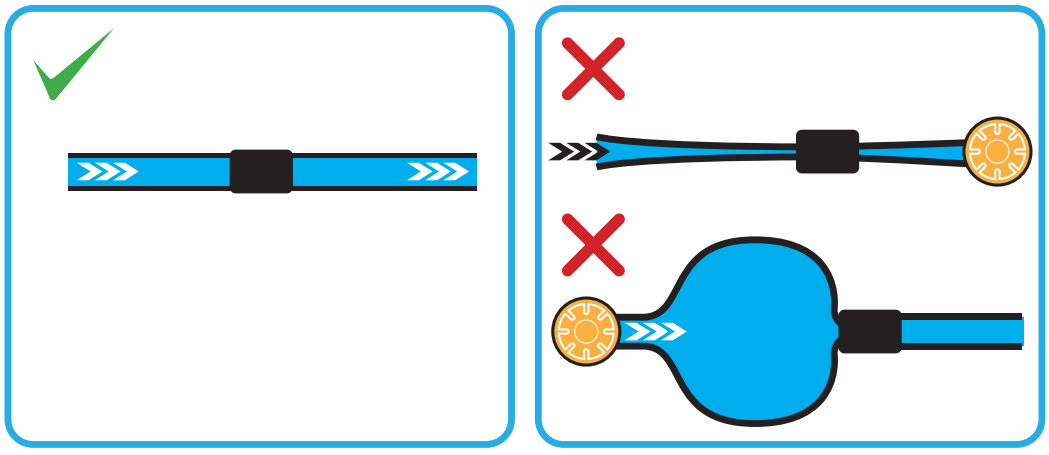
EXERCISE GOOD PLUMBING PRACTICES



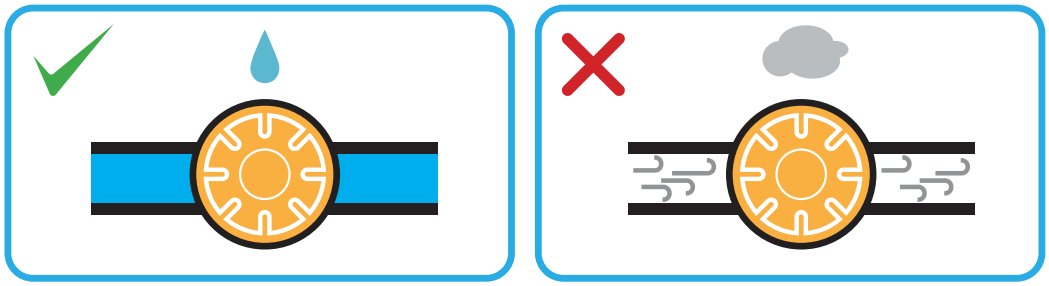
MINIMUM BENDS



CORRECT SIZE



MINIMUM RESTRICTIONS

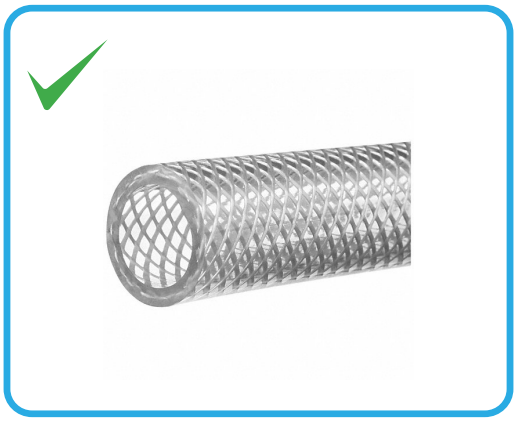


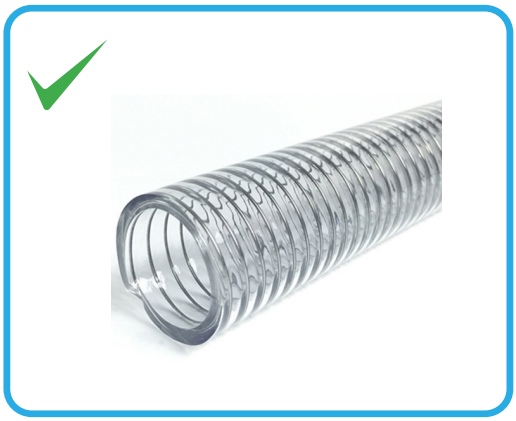
WATER PRESENT

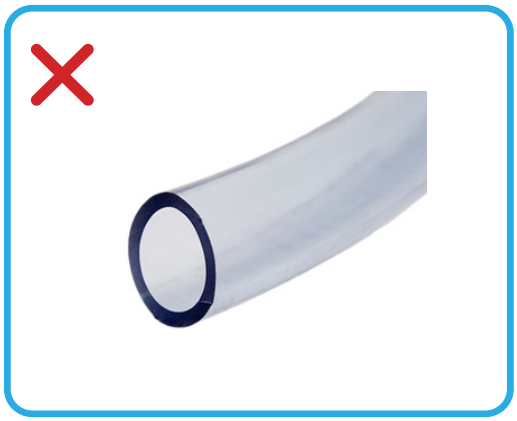
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HOSE MATERIALS & CONSTRUCTION

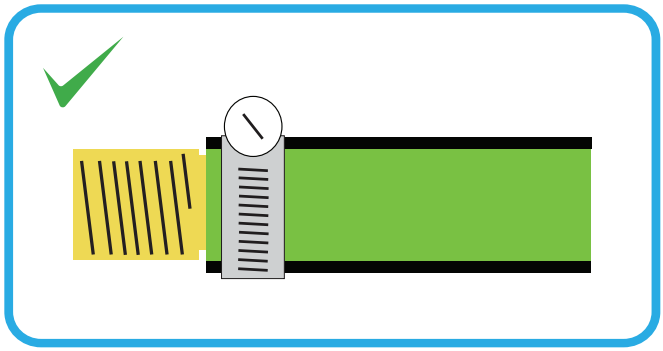
Only spiral-wire reinforced hose or rigid-wall tubing should be used for the Freshwater Feed-to-Raw water network plumbing because it will be subjected to both pressure and suction. If vinyl or soft hoses are used, they may either stretch or collapse as the pressures change inside the lines.

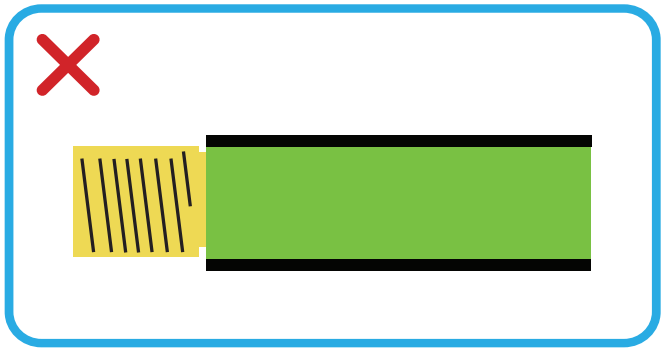






HOSE CLAMP INSTALLATION





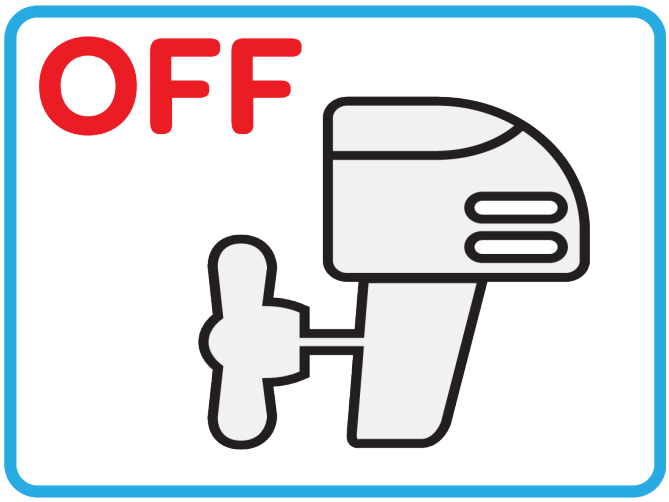
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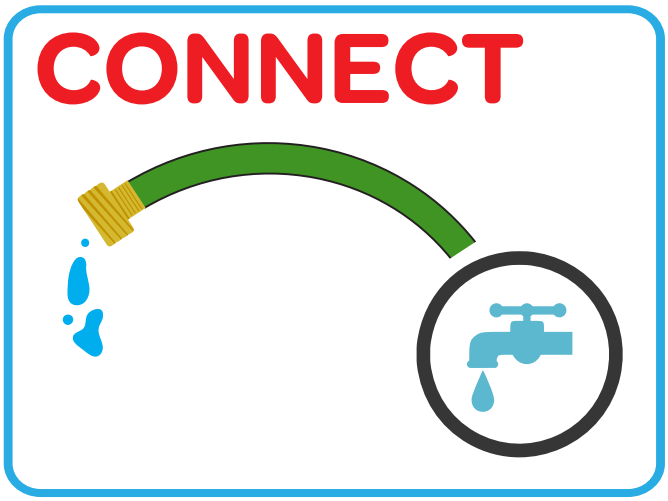
SURVEY, MAP, PLAN & EXECUTE

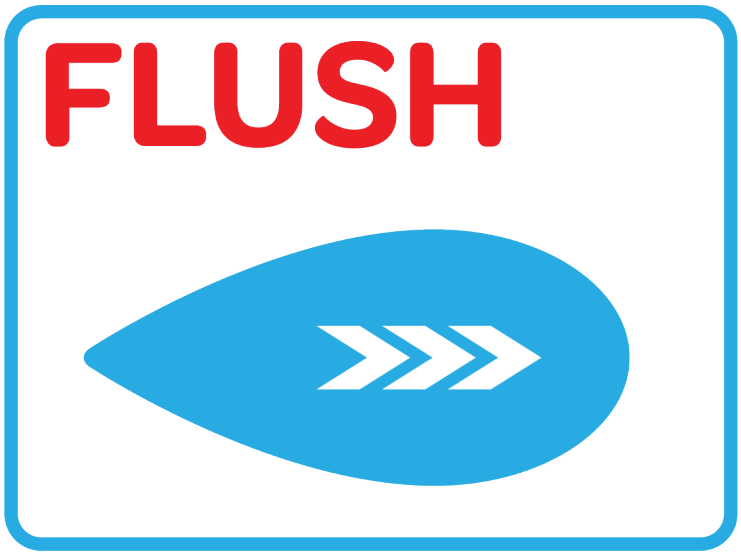
GENERAL STEPS

1. Survey/Map the proposed PHIBER System integration
2. Acquisition of parts and materials needed
3. Integrate the PHIBER System
4. Test & Commission
5. Document

PHIBER OPERATION







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⚠ WARNING

DO NOT USE BRASS, BRONZE or COPPER fittings! Only plastic or stainless can be used with the PHLOW Hub.

⚠ CAUTION

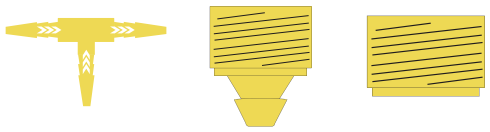
HOSE INLET FITTING CAP MUST BE SECURELY FASTENED INTO PLACE DURING ENGINE OPERATION. SOME OLDER ENGINES MAY NOT HAVE A BACKFLOW PREVENTER (INTERNAL CHECK VALVE) TO PREVENT ENGINE RAW WATER FROM BACK-PRESSURING INTO THE FLUSHING NETWORK.

DO NOT RUN ENGINES WITH THE HOSE INLET CAP REMOVED.

⚠ CAUTION

FOLLOW ENGINE OEM GUIDELINES WHEN CONNECTING THE FWF FEED INTO THE ENGINE'S NATIVE FLUSH PLUMBING

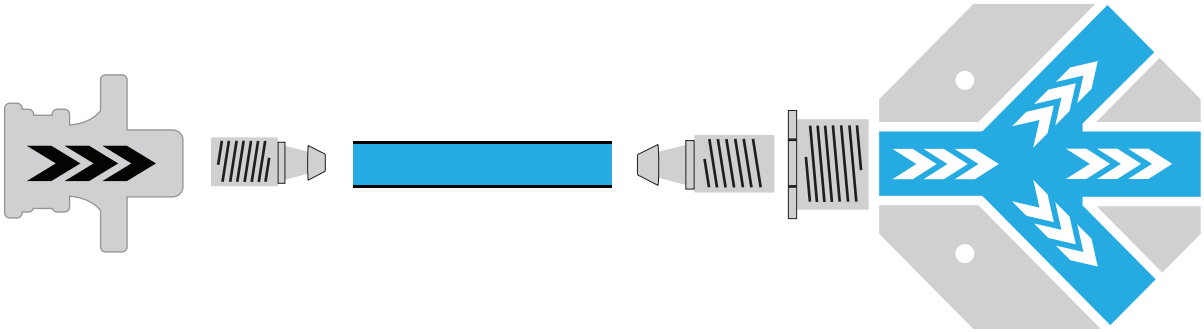
DOES NOT INCLUDE



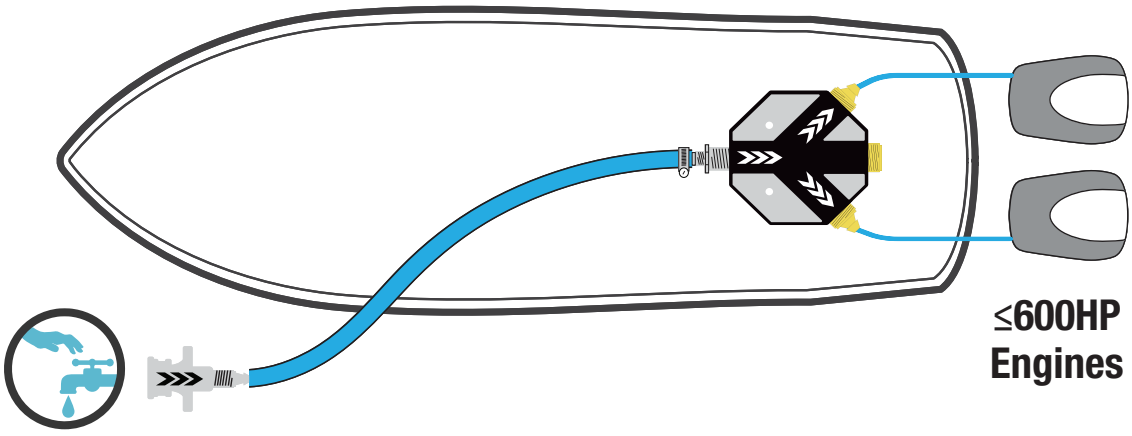
INCLUDES



OVERVIEW



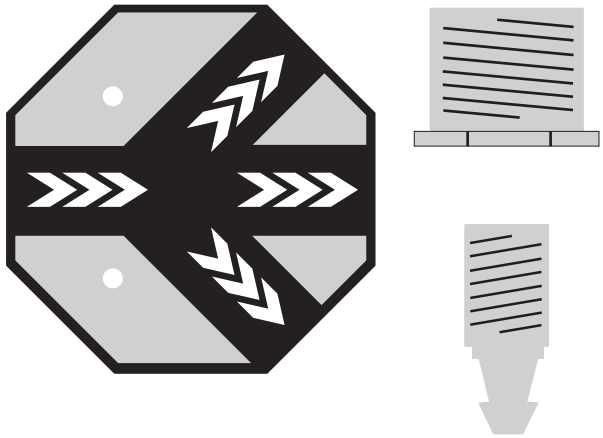
SAMPLE INSTALLATION



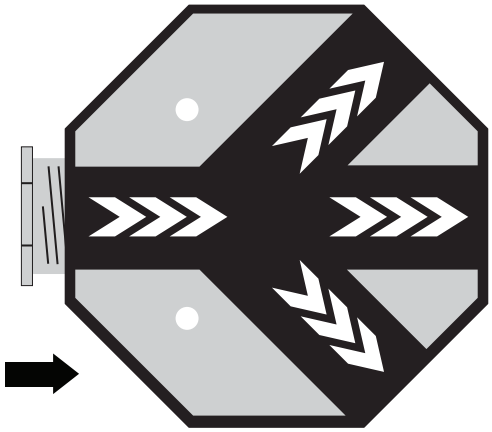
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FOR 2-3 ENGINE CONFIGURATIONS

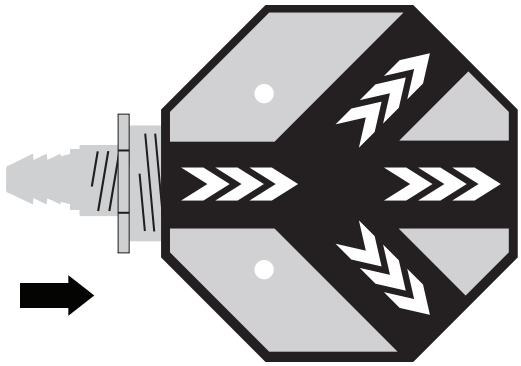
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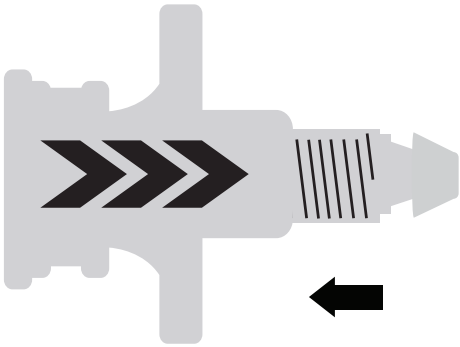
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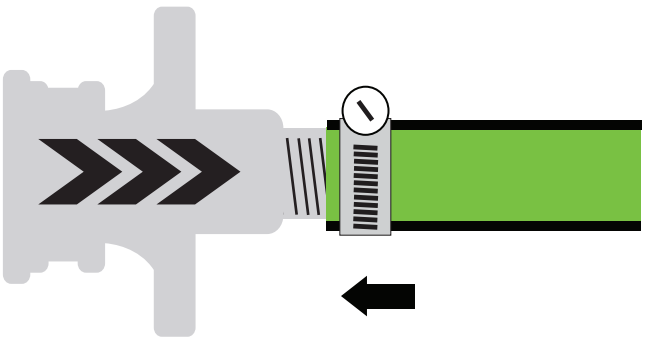
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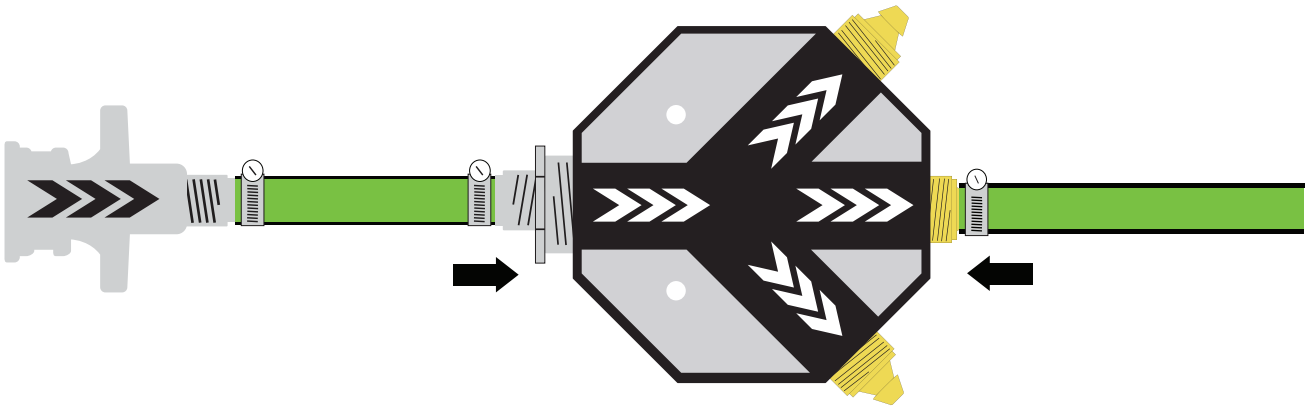


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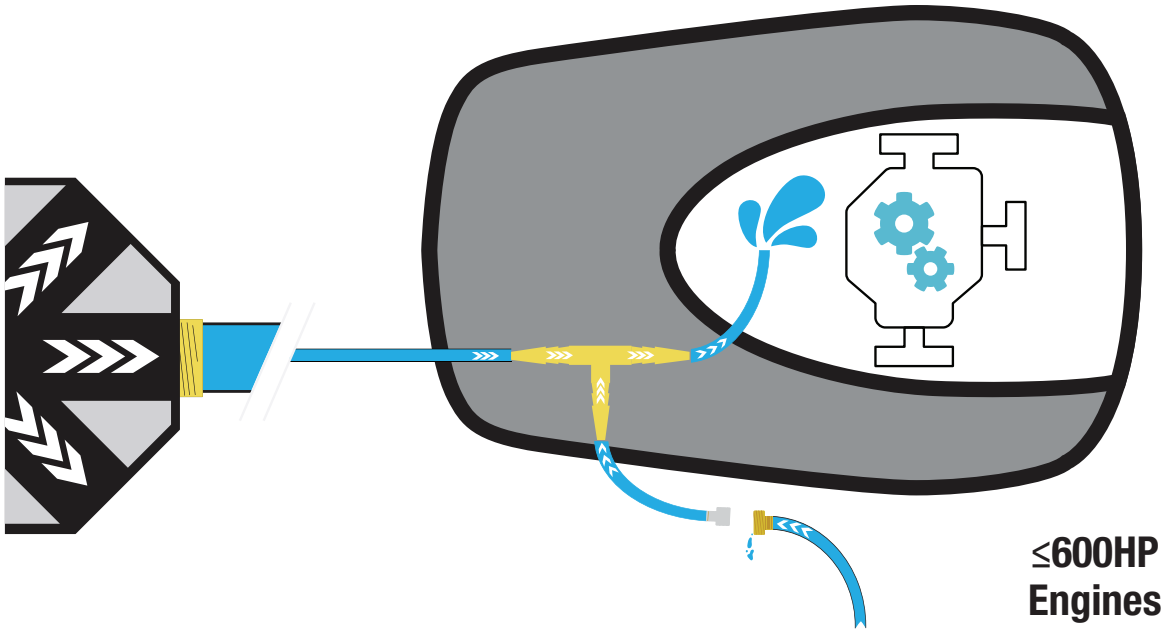


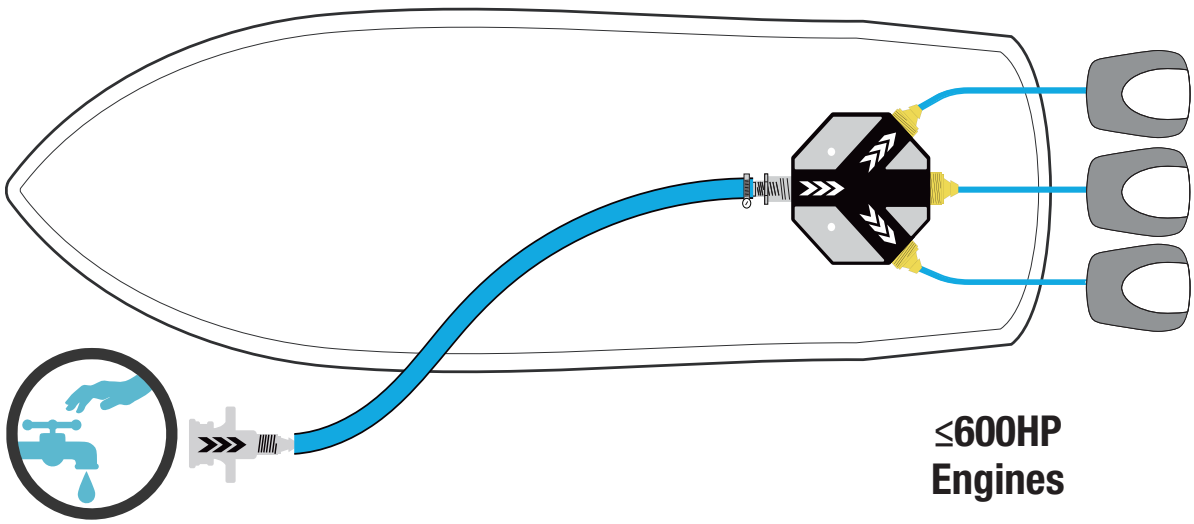
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8

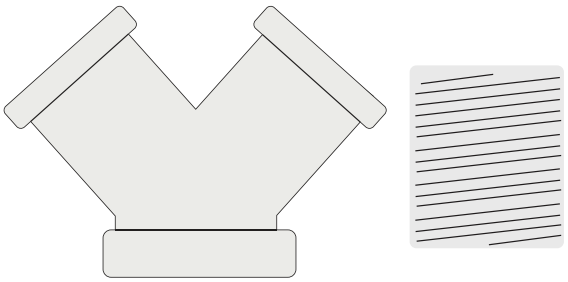




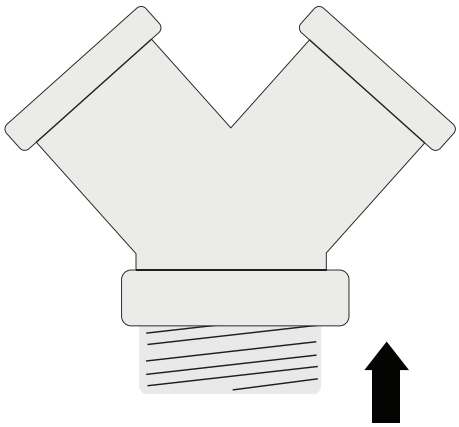
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FOR 4 ENGINE CONFIGURATIONS

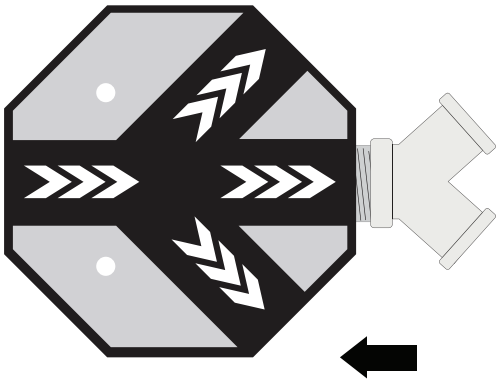
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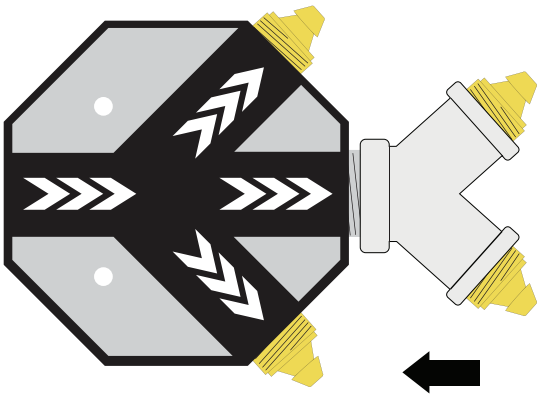
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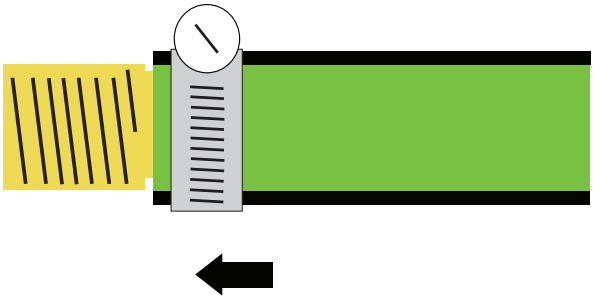
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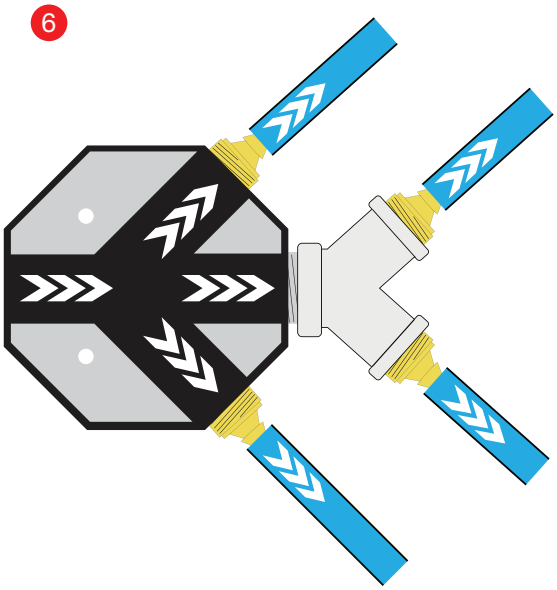
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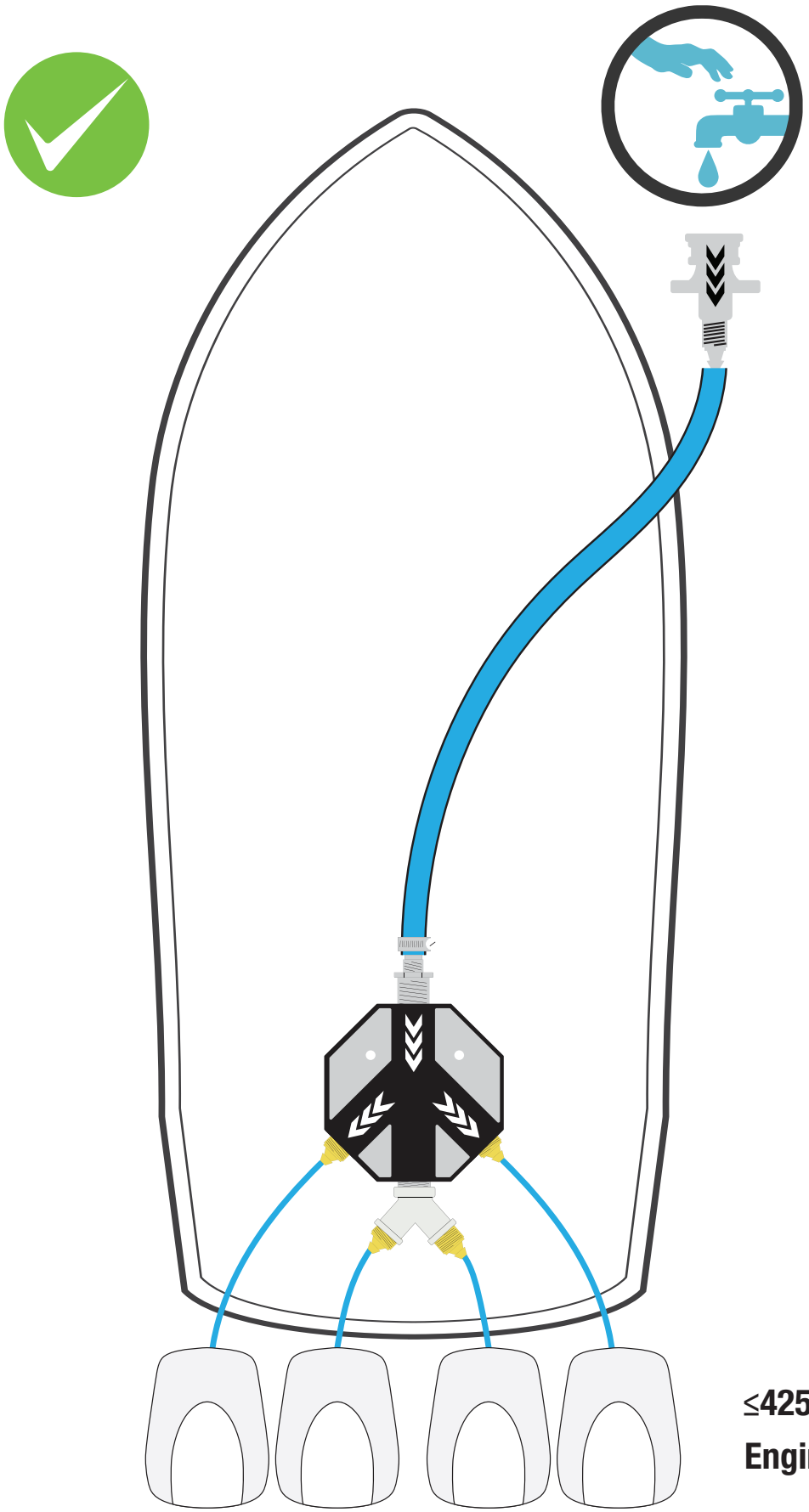


6



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7



≤425 HP

Engines

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OPTIMAL FRESHWATER FLUSHING (FWF):
-FLUSH IMMEDIATELY AFTER USE
-FLUSH ONLY WITH ENGINES OFF
-40 PSI MINIMUM WATER PRESSURE
-2 GPM MINIMUM FLOW PER ENGINE
PHIBER







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INSTALLER NOTES

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PHIBER®
SYSTEMS

PEACE OF MIND
FOR ALL YOUR VOYAGES AHEAD

Flush-o-Pedia
Flush-o-Pedia is a compilation of seawater science, chemistry, and all about flushing maintenance for marine systems, including the philosophy and mechanics of raw water networks, freshwater systems, and the individual technologies used to create them.

PHIBER Training & Education
PHIBER Qualified Installer Training (St. Augustine, FL) introduces design, modification, and integration of PHIBER Systems into existing or new raw water networks.





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