

# The Passive Revolution

FrigoDynamics® 2-Phase Heat Exchanger solutions  
for Philips Fortimo™ LED Light Engines

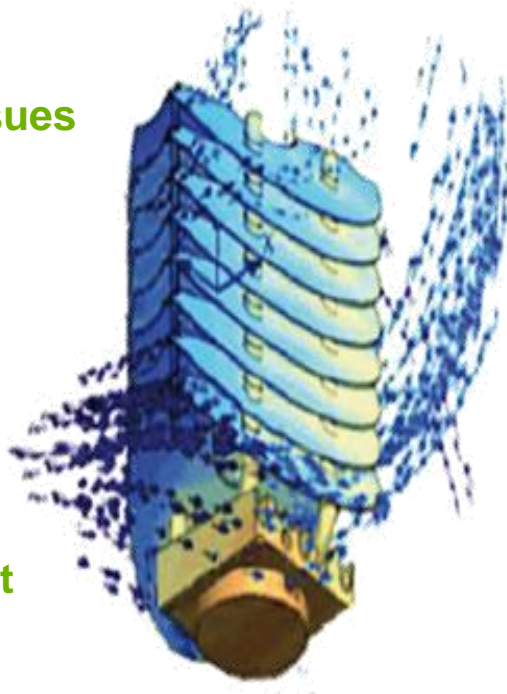


zero noise level

no lifetime issues

cools all  
lumen values

compact



no CO<sub>2</sub> emission

lighter than other  
passive solutions

works in all  
orientations

passive convection  
natural airflow

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# FrigoDynamics® 2-Phase Heat Exchanger solutions for Philips Fortimo™ LED Light Engines



## Der SC 2-Phasen Wärmetauscher

besteht durch ein besonderes, patentiertes Design, nützt den Kamineffekt aus und maximiert dadurch die Kühlleistung. Die kompakte Auslegung ist ideal für Track/Spot Light Applikationen. Die Lösung arbeitet in alle Richtungen.

## The SC 2-Phase HX

has a unique, patented design utilizing the chimney effect, thus maximizing cooling performance. The compact shape allows it to fit in typical cylindrical track/spot light type applications. Works in any direction.

## Échangeur de chaleur pour le 2-phase SC

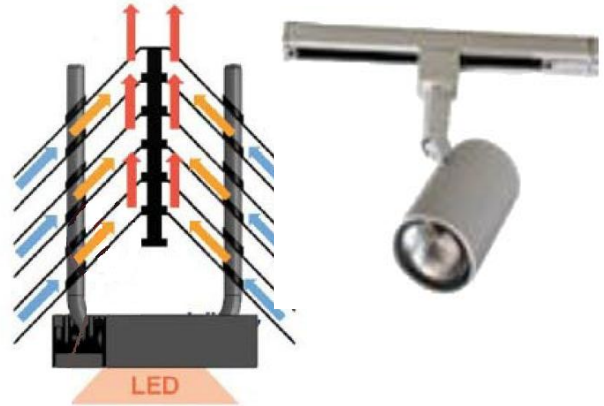
une conception spéciale, brevetée, bénéficieront de l'effet de cheminée et cela maximise la performance de refroidissement. Le design compact est idéal pour les applications légères de piste/spot. La solution fonctionne dans toutes les directions.

## El SC Intercambiador de calor por cambio de fase

tiene un diseño único y patentado utilizando el efecto chimenea, lo que maximiza la refrigeración de rendimiento. La forma compacta permite encajar en pista/spot cilíndrica en aplicaciones típicas de luminarias. Funciona en cualquier dirección.

## Lo scambiatore di calore SC 2 fasi

un design speciale, brevettato, potranno beneficiare l'effetto camino e questo massimizza le prestazioni di raffreddamento. Il design compatto è ideale per applicazioni leggera traccia/spot. La soluzione funziona in tutte le direzioni.



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The only cooling solution in it's class, which works much longer than the product it cools.

FrigoDynamics® thermal solutions		2-Phase HX Dimensions	SC HPK-Fin™ 150			SC HPK-Fin™ 180			SC HPK-Fin™ 230		
			Ø100 H ~150			Ø100 H ~180			Ø100 H ~230		
Tc < 65°C	Tc < 75°C	Tambient	25°C	35°C	40°C	25°C	35°C	40°C	25°C	35°C	40°C
Fortimo LED SLM 3000 33W/930 L19 G3											
Fortimo LED SLM 4500 45W/830 L22 G3											
Fortimo LED SLM 4500 43W/840 L22 G3											
Fortimo LED SLM 4000 45W/930 L22 G3											

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# FrigoDynamics® 2-Phase Heat Exchanger solutions for Philips Fortimo™ LED Light Engines



## Der OC/LC 2-Phase Wärmetauscher

überzeugt durch sein flaches, patentiertes Design und eignet sich dadurch besonders für den Einsatz in abgehängten Decken, wenn der Einbauraum in der Vertikalen limitiert ist.

## The OC/LC 2-Phase HX

the patented design gives it a low profile ideal for fitting in spaces that have limited height available. The shape allows it to fit in typical recess downlight type applications.

## L'échangeur de chaleur de la phase 2 OC/LC

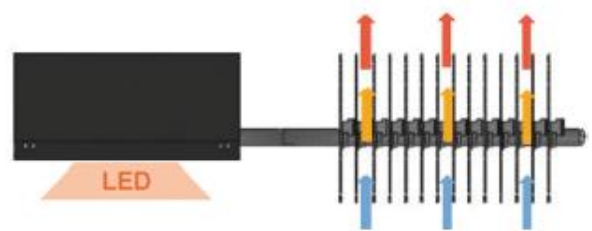
avec ses plats, brevetés design et est donc idéal pour une utilisation dans les plafonds suspendus, si peu d'espace de l'installation à la verticale.

## El OC/LC Intercambiador de calor por cambio de fase

El diseño patentado da un bajo perfil ideal para encajar en espacios que tienen altura limitada, por tanto es ideal para su uso en los falsos techos para los downlight.

## Lo scambiatore di calore OC/LC 2 fasi

con il suo piatto, design brevettato ed è quindi ideale per l'uso in soffitti sospesi, se limitato lo spazio di installazione in verticale



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~300g



~360g



~445g

The only cooling solution in it's class, which works much longer than the product it cools.

FrigoDynamics® thermal solutions		2-Phase HX Dimensions	OC HPK-Fin™ 210			OC HPK-Fin™ 250			OC HPK-Fin™ 300		
			H55 x W120 x L210			H55 x W120 x L250			H55 x W120 x L300		
Tc < 65°C	Tc < 75°C	Tambient	25°C	35°C	40°C	25°C	35°C	40°C	25°C	35°C	40°C
		Fortimo DLM 3000 41W/840 Gen3	Blue	Green	Green	Blue	Blue	Green	Blue	Blue	Blue
		Fortimo DLM 3000 44W/830 Gen3	Blue	Green	Red	Blue	Blue	Green	Blue	Blue	Blue
		Fortimo LED SLM 3000 33W/930 L19 G3	Blue	Blue	Green	Blue	Blue	Green	Blue	Blue	Blue
		Fortimo LED SLM 4500 45W/830 L22 G3	Blue	Green	Red	Blue	Blue	Green	Blue	Blue	Blue
		Fortimo LED SLM 4500 43W/840 L22 G3	Blue	Green	Green	Blue	Blue	Green	Blue	Blue	Blue
		Fortimo LED SLM 4000 45W/930 L22 G3	Blue	Green	Red	Blue	Blue	Green	Blue	Blue	Blue

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"HPK-Fin" is a registered Trademark of HPK innovative solutions

Produkt entspricht den Vorschriften gemäß EU-Richtlinie 2002/95/EG

Product complies with EU Directive 2002/95/EC

Producto cumple con los requisitos establecidos en la Directiva 2002/95/CE



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# FrigoDynamics® 2-Phase Heat Exchanger solutions for Philips Fortimo™ LED Light Engines



## Der TC 2-Phasen Wärmetauscher

ist im Vergleich zu der OC Version kürzer aber dafür höher. Die Lösung eignet sich ideal für den Einbau in abgehängte Decken, wenn der Einbauraum in der Horizontalen limitiert ist.

## The TC 2-Phase HX

trades the low profile of the OC version for a shorter length, fitting envelopes which have limited lengthwise space available. The shape allows it to fit in typical recess downlight type applications..

## L'échangeur de chaleur de la phase 2 TC

est plus élevé par rapport à la version OC mais plus courtes. La solution est idéale pour l'installation de plafonds suspendus, si l'espace à l'horizontale

## El TC Intercambiador de calor por cambio de fase

es más corto y mas alto en comparación con la versión OC. La solución es ideal para instalación en falsos techos cuando el espacio en la horizontal es limitado.

## TC 2 fasi scambiatore di calore

è più alto rispetto alla versione OC ma più breve. La soluzione è ideale per l'installazione in soffitti sospesi, se lo spazio in orizzontale è limitato.



300g



340g



420g

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FrigoDynamics® thermal solutions	2-Phase HX	Dimensions	TC HPK-Fin™ 110			TC HPK-Fin™ 160			TC HPK-Fin™ 210		
			H113 x W120 x L110	H113 x W120 x L160	H113 x W120 x L210	25°C	35°C	40°C	25°C	35°C	40°C
Tc < 65°C	Tc < 75°C	Tambient	25°C	35°C	40°C	25°C	35°C	40°C	25°C	35°C	40°C
Fortimo DLM 3000 41W/840 Gen3			Green	Green	Green	Green	Green	Green	Green	Green	Green
Fortimo DLM 3000 44W/830 Gen3			Green	Red	Green	Green	Green	Green	Green	Green	Green
Fortimo LED SLM 3000 33W/930 L19 G3			Green	Green	Green	Green	Green	Green	Green	Green	Green
Fortimo LED SLM 4500 45W/830 L22 G3			Green	Red	Green	Green	Green	Green	Green	Green	Green
Fortimo LED SLM 4500 43W/840 L22 G3			Green	Green	Green	Green	Green	Green	Green	Green	Green
Fortimo LED SLM 4000 45W/930 L22 G3			Green	Red	Green	Green	Green	Green	Green	Green	Green

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