



USER'S MANUAL



ENTHOO

EVOLV^{ATX}

PHANTEKS
DESIGNED IN THE NETHERLANDS



INTRODUCTION

Congratulations on your purchase of the Phanteks Enthoo Series Case and welcome to the User's Guide. Phanteks believes that meaningful designs are created through the fusion of form and function.

Caution

Please take a moment to carefully go through the installation guide. Phanteks will not take responsibility for any damages incurred due to incorrect installation and incorrect usage of this product. Thank you.

The EVOLV ATX, a full tower chassis designed for enthusiasts and system builders who want a minimalistic design without compromising features. Its aluminum exterior features Phanteks' quick release system for easy access to the components. The EVOLV ATX is equipped with the innovative radiator bracket, the new HDD mounting system, and many other rich features that the Enthoo Series is known for. Unleash unlimited possibilities with the EVOLV ATX.

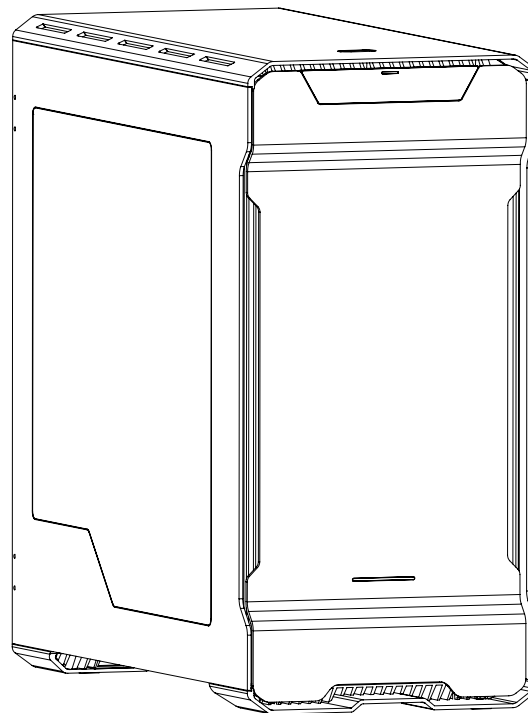


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1. SPECIFICATIONS

CASE SPECIFICATIONS

Dimension	230 mm x 495 mm x 510 mm (W x H x D) 9.25 in x 19.5 in x 20.1 in
Form Factor	Mid Tower
Material(s)	Aluminum (3mm), Steel chassis
Motherboard support	E-ATX *(limited to 264mm wide), ATX, Micro ATX, Mini ATX
Front I/O	2x USB 3.0, Mic, Headphone, Reset
Side window	Yes

EXPANSION & DRIVE BAYS

Expansion slots	7
Internal 3.5"	8 (5x included)
Internal 2.5"	3 (2x included)

COOLING

	120 mm	140 mm
Front	3x	2x (2 included)
Top	3x	2x
Rear	1x	1x (1 included)

LIQUID COOLING

	120 mm radiator	140 mm radiator
Front	Up to 360	Up to 280
Top	Up to 360	Up to 280
Rear	120	140

PH-F140SP (included)

Speed (rpm)	1200 ±250 rpm
Max Airflow	82.1 CFM
Static Pressure	1.33mm H2O
Acoustical Noise	19dB

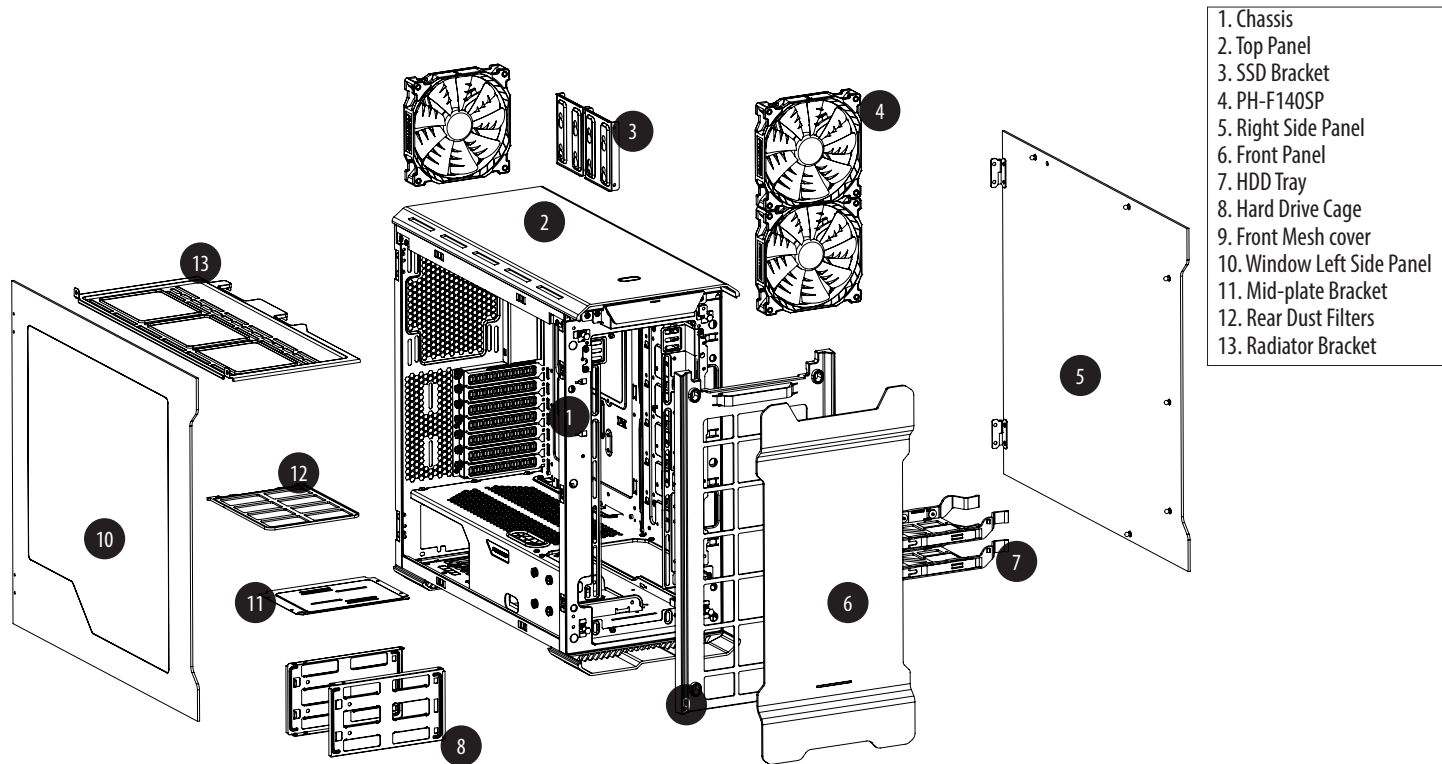
CLEARANCE

Graphic card	420 mm (16.54 in) <i>No HDD brackets</i> 300 mm (11.8 in) <i>HDD brackets installed</i>
CPU cooler	194 mm (7.6 in)
Cable Management	35 mm (1.38 in)
Memory Clearance <i>(motherboard - fan)</i>	120 mm form factor: 68 mm (2.68 in) 140 mm form factor: 48 mm (1.89 in)

Warranty

5 Years*

2. EXPLODED VIEW



1. Châssis
2. Filtres de poussière inférieurs
3. Support SSD
4. PH-F140SP
5. Panneau latéral droit
6. Panneau frontal
7. Bacs HDD
8. Enclos du disque dur
9. Couvercle de grille du panneau frontal
10. Panneau latéral gauche
11. Plaque centrale multifonctions
12. Panneau supérieur
13. Support de radiateur latéral

1. Telaio
2. Filtri antipolvere inferiori
3. Staffa SSD
4. PH-F140SP
5. Pannello laterale destro
6. Pannello frontale
7. Vassoio per disco rigido
8. Cage disco rigido
9. Copertura di rete frontale
10. Pannello laterale sinistro
11. Piastra centrale multifunzione
12. Pannello superiore
13. Staffa radiatore laterale







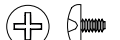





1. Chassi
2. Painei Superior
3. Suporte do SSD
4. PH-F140SP
5. Painei Lateral Direito
6. Painei frontal
7. Tabuleiros de HDD
8. Berço do Disco Rígido
9. Tampa de malha frontal
10. Painei Lateral Esquerdo
11. Placa média multifuncional
12. Filtros de Pó Inferiores
13. Suporte do Radiador Lateral

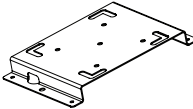
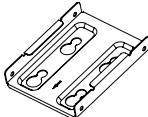
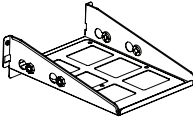
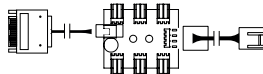
1. Chasis
2. Panel superior
4. Soporte de unidad de estado sólido
5. Panel lateral derecho
6. Panel frontal
7. Bandejas de unidad de disco duro
8. Compartimento de disco duro
9. Cubierta de malla frontal
10. Panel lateral izquierdo
11. Placa central multifuncional
12. Filtros de polvo inferiores
13. Soporte del radiador lateral

1. Gehäuse
2. Untere Staubfilter
4. SSD-Halterung
5. Rechte Seitenblende
6. Frontblende
7. Festplatteneinsätze
8. Festplattenkäfig
9. Vordere Gitterabdeckung
10. Linke Seitenblende
11. Multifunktionale Platte in der Mitte
12. Untere Staubfilter
13. Seitliche Kühlkörperhalterung

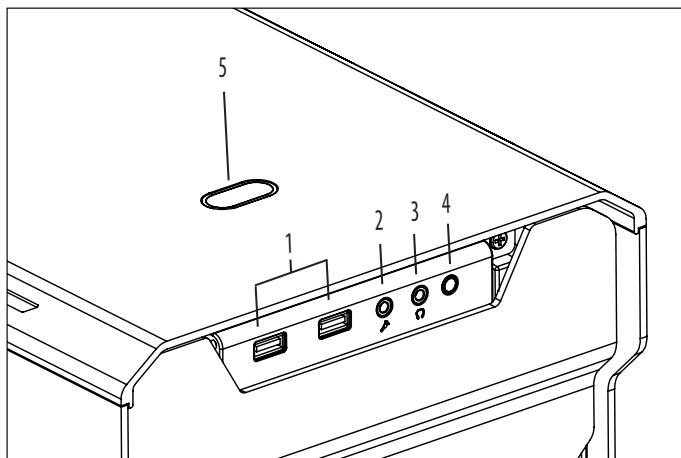
1. Behuizing
2. Toppaneel
4. SSD beugel
5. Rechter zijpaneel
6. Voorpaneel
7. Harde schijf houder
8. Harde schijf kooi
9. Voorzijde mesh deksel
10. Linker zijpaneel
11. Multifunctional mid-plate
12. Bodem stoffilter
13. Zij radiator beugel

3. ACCESSORIES & BRACKETS

ITEM	DESCRIPTION	USE	QTY
	Screw M3 x 5mm	Motherboard/SSD	26
	Stand Off Screws	Motherboard	1
	Thumb Screws 9*15mm	HDD Bracket, Side Panel	12
	Thumb Screws 9*20mm	HDD tray	2
	Screw 5 x 10KT	Fan installation (top/rear)	12
	Screw 6-32 x 31mm	Fan installation (front)	4
	Screw M4 x 8mm	Reservoir	8
	CM6 #5	Pumpbracket upgrade	5
	Screw 6-32 x 6mm	PSU	5
	Screw 6-32 x 9mm	HDD Bracket	12
ITEM	DESCRIPTION	USE	QTY
	150mm	Zip Tie	6
	Power LED (Red/Green/Blue)		3

	Pump Bracket Support de pompe Pumpenhalterung Staffa della pompa Suporte da Bomba Soporte de bomba Pomp beugel
	SSD Bracket (2x) Support SSD (2x) SSD-Halterung (2x) Staffa SSD (2x) Suporte do SSD (2x) Soporte de unidad de estado sólido (2x) SSD beugel (2x)
	HDD Bracket (3x) Support du disque dur (3x) Festplattenhalterung (3x) Staffa HDD (3x) Suporte de HDD (3x) Soporte de unidad de disco duro (3x) HDD beugel (3x)
	PWM Hub Le hub PWM PWM-Hub L'hub PWM O PWM Hub El conector de modulación PWM Hub

4. I/O PORTS



1. USB 3.0
2. Microphone
3. Headphone
4. Reset
5. Power Button

1. USB 3.0
2. Microphone
3. Casque
4. Réinitialisation de l'alimentation
5. Bouton d'alimentation

1. USB 3.0
2. Micrófono
3. Cascos
4. Resetear
5. Botón de alimentación.

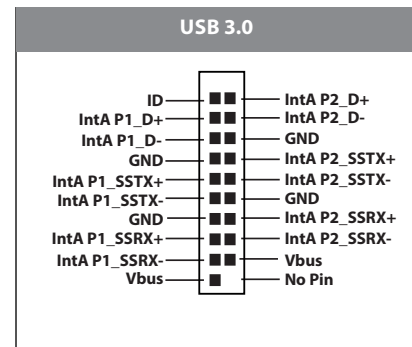
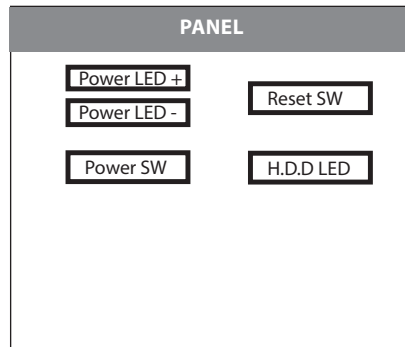
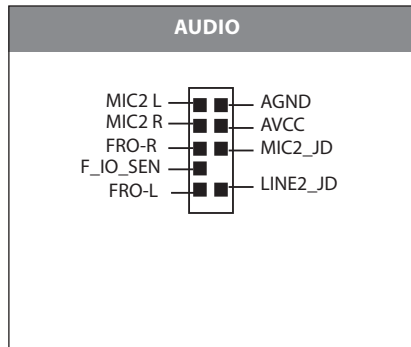
1. USB 3.0
2. Microfoon
3. Hoofdtelefoon
4. Power Reset
5. Power knop

1. USB 3.0
2. Microfone
3. Fone de ouvido
4. Redefinição de Energia
5. Botão de Alimentação

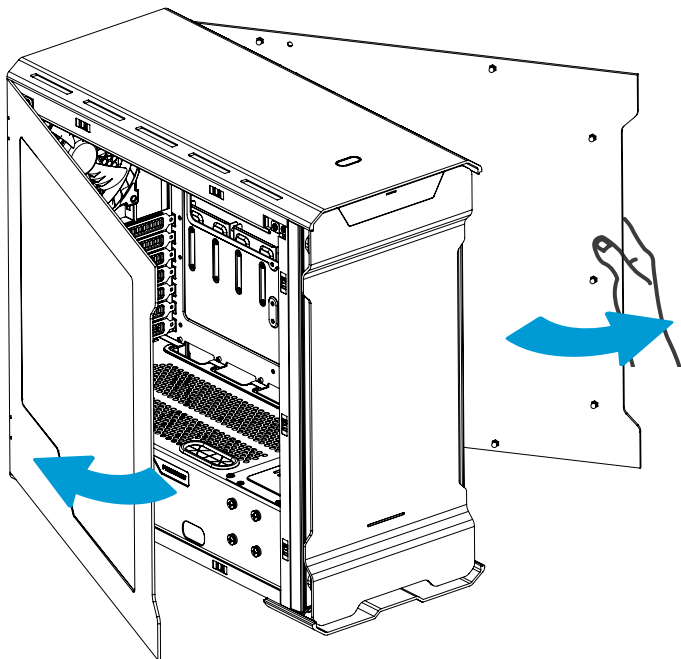
1. USB 3.0
2. Microfono
3. Cuffie
4. Ripristino alimentazione
5. Tasto d'alimentazione

1. USB 3.0
2. Mikrofon
3. Kopfhörer
4. Reset
5. Ein-/Austaste

5. CONNECTIONS



6. PANEL REMOVAL



1. Pull from the front and fully swing the panel out.

2. Push up to remove from the hinge and remove.

1. Tirez depuis l'avant et faites tourner le panneau complètement pour le sortir.
2. Poussez vers le haut pour le retirer de l'articulation et l'enlever.

1. Von vorne ziehen und die Blende vollständig ausschwenken.
2. Zum Entfernen vom Gelenk nach oben drücken und herausnehmen.

1. Tirare la parte frontale e far scivolare fuori completamente il pannello.
2. Premere verso l'alto per rimuovere dal perno e rimuovere.

1. Puxe pela frente e retire o painel.
2. Empurre para cima para remover da dobradiça e remove.

1. Tire de la parte frontal y desplace completamente el panel hacia afuera.
2. Empuje hacia arriba para sacarlo de los enganches y retírelo.

1. Trek het zij paneel los vanuit de voorzijde en zwaai het volledig open tot de achterzijde.
2. Til het zij paneel opwaarts op en ontkoppel deze van de scharnieren.

*Make sure to swing panel fully open before you push up to remove from hinge.

*Certifique-se de abrir o painel totalmente antes de empurrar para cima para remover da dobradiça.

*Sie müssen die Abdeckung ganz öffnen, bevor Sie sie durch Hochdrücken vom Scharnier abnehmen.

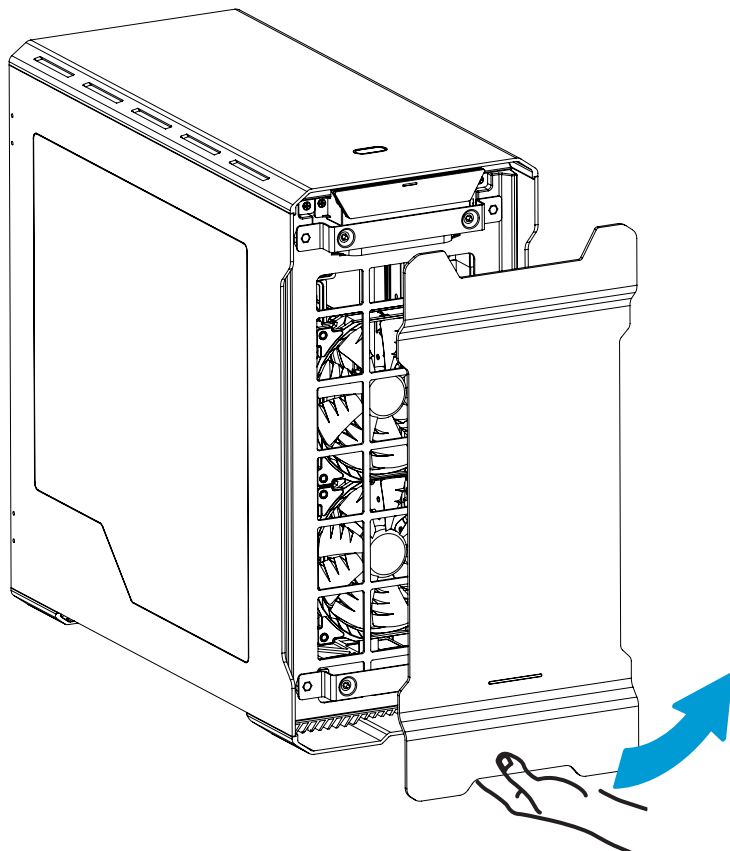
*Accertarsi di aprire completamente il pannello prima di spingerlo per rimuoverlo dal perno.

*Certifique-se de abrir o painel totalmente antes de empurrar para cima para remover da dobradiça.

*Asegúrese de balancear el panel totalmente abierto antes de empujarlo hacia arriba para quitarlo de la bisagra.

*Let op dat het paneel volledig geopend is voordat u het verwijderd.

6. PANEL REMOVAL



For the front panel, place your hands on the area shown and pull outward.

Pour le panneau avant, placez vos mains sur la zone affichée, et tirez vers l'extérieur.

Positionieren Sie auch bei der Frontblende Ihre Hände an der angezeigten Stelle und ziehen Sie sie dann nach außen.

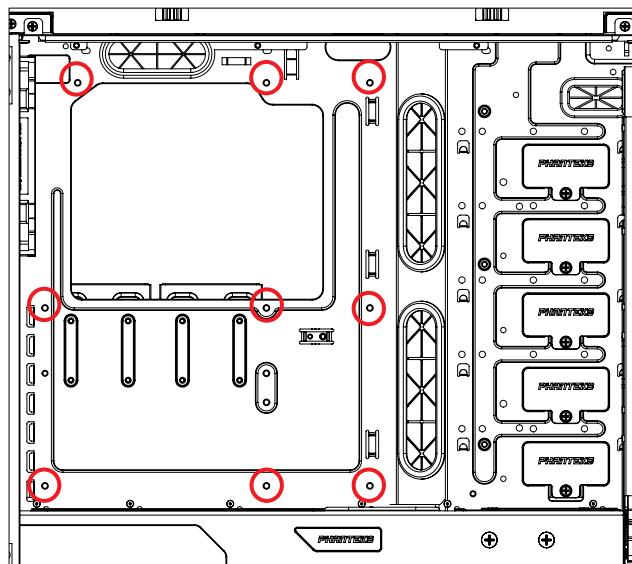
Per il pannello anteriore, posizionare le mani sull'area mostrata e tirare verso l'esterno.

Para o painel frontal, coloque as mãos na área ilustrada e puxe para fora.

Para sacar el panel frontal, coloque las manos en el área indicada y tire hacia afuera.

Voor het verwijderen van het voorpaneel, trek het paneel naar u toe zoals aangegeven op de tekening.

7. MOTHERBOARD INSTALLATION



Standoff screws are pre-installed.

Les vis du support sont préinstallées.

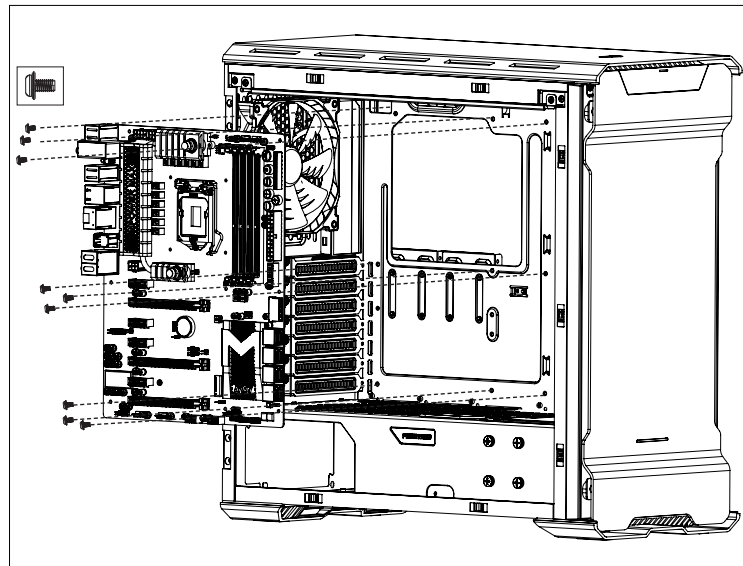
Abstandhalterschrauben sind vorinstalliert.

Le viti dei distanziatori sono installate precedentemente.

Os parafusos separadores estão pré-instalados.

Los tornillos separadores vienen preinstalados.

Afstandschroeven zijn vooraf geïnstalleerd



Install the motherboard with the provided M3 screws.

Installez la carte mère avec les vis M3 fournies

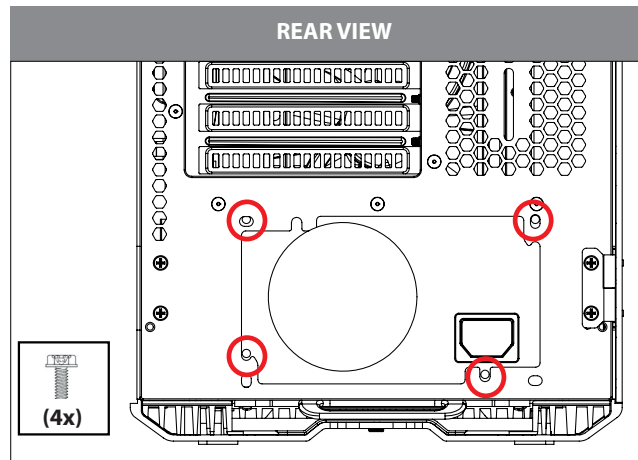
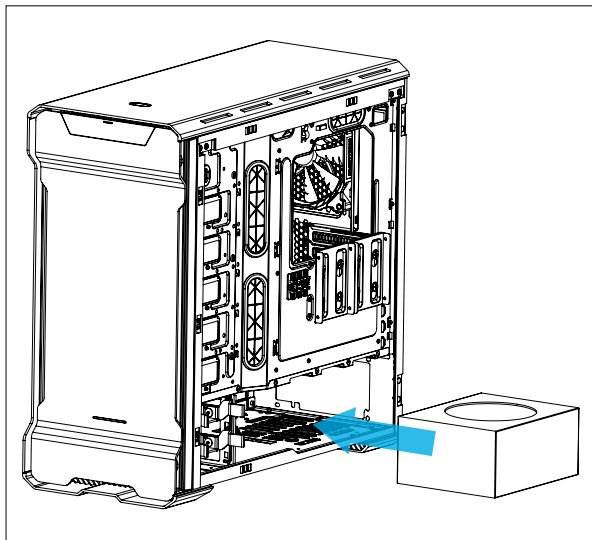
Installieren Sie das Motherboard mit den mitgelieferten M3-Schrauben.

installare la scheda madre con le viti M3 fornite in dotazione. Instale a placa mãe com os parafusos M3 fornecidos.

instale la placa base con los tornillos M3 que se suministran.

Installeer het moederbord met de meegeleverde M3-schroeven

8. POWER SUPPLY INSTALLATION



Use the provided screws to secure the PSU in place.

Utilisez les vis fournies pour fixer le bloc d'alimentation en place.

Befestigen Sie das Netzteil mit den mitgelieferten Schrauben.

Utilizzare le viti fornite per fissare la PSU in sito.

Use os parafusos para fixar a Unidade de Proteção e de Comutação.

Utilice los tornillos suministrados para fijar la fuente de alimentación en su posición.

Gebruik de meegeleverde schroeven om de voeding vast te zetten.

9. FILTERS REMOVAL

To clean the dust filters, run slow moving water through the filters. Dry filters before reinstalling.

Pour nettoyer les filtres à poussière, faites couler de l'eau sur les filtres.
Séchez les filtres avant de réinstaller.

Reinigen Sie die Staubfilter, indem Sie sie unter langsam fließendem Wasser abspülen.
Filter vor Wiedereinbau trocknen.

Per pulire i filtri antipolvere, far correre lentamente l'acqua attraverso i filtri.
Asciugare i filtri prima di installarli di nuovo.

Para limpar os filtros de poeiras, passe água em movimento lento através dos filtros.
Seque os filtros antes de reinstalar.

Para limpiar los filtros de polvo, deje que caiga agua corriente lentamente sobre los filtros.
Seque los filtros antes de volverlos a colocar.

Laat langzaam stromend water door de filter lopen voor het reinigen van de filters. Droog de filters voordat u hēt weer bevestigd.

To remove the bottom and front filter pull out. Mesh cover on top panel can also be cleaned.

Pour retirer les filtres en bas et à l'avant, tirez dessus. La grille du panneau avant peut aussi être nettoyée.

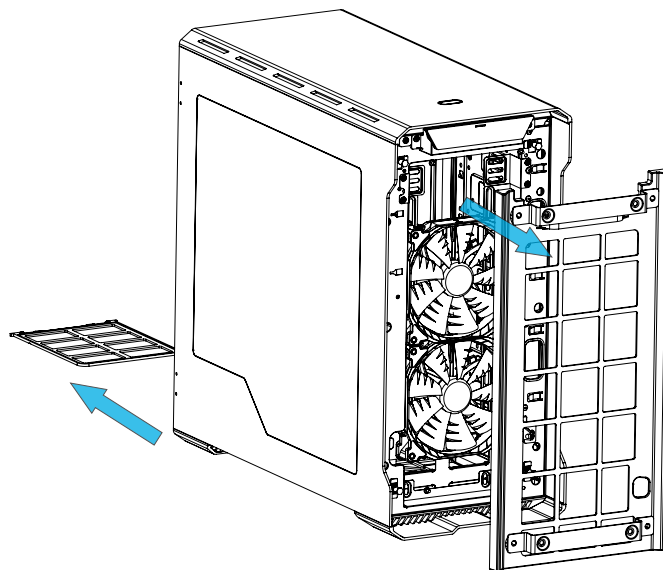
Ziehen Sie den unteren und vorderen Filter heraus. Die Gitterabdeckung an der oberen Blende kann ebenfalls gereinigt werden.

Tirare verso l'esterno per rimuovere il filtro inferiore e anteriore. È possibile lavare anche la copertura a rete sul pannello superiore.

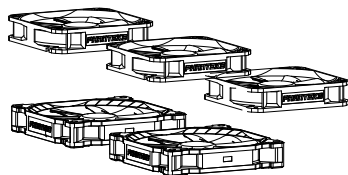
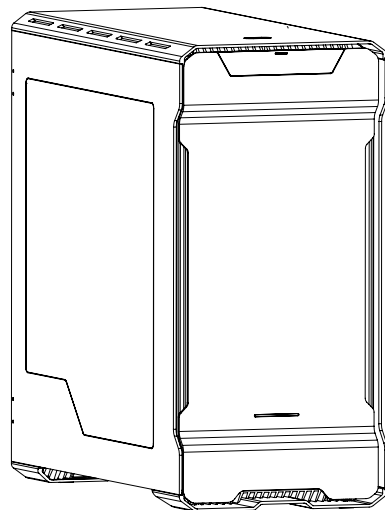
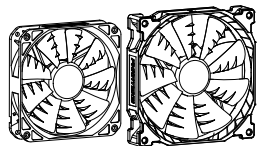
Puxe para remover o filtro inferior e frontal. A tampa de rede do painel superior também pode ser limpa.

Para sacar el filtro inferior/frontal tire de él hacia afuera. La cubierta de malla del panel superior también se puede limpiar.

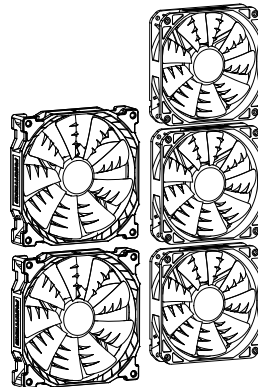
Voor het verwijderen van de stofilter bodem en voor, trek deze uit via de handvat. Mesh filter op het bovenpaneel kunnen ook schoongemaakt worden.



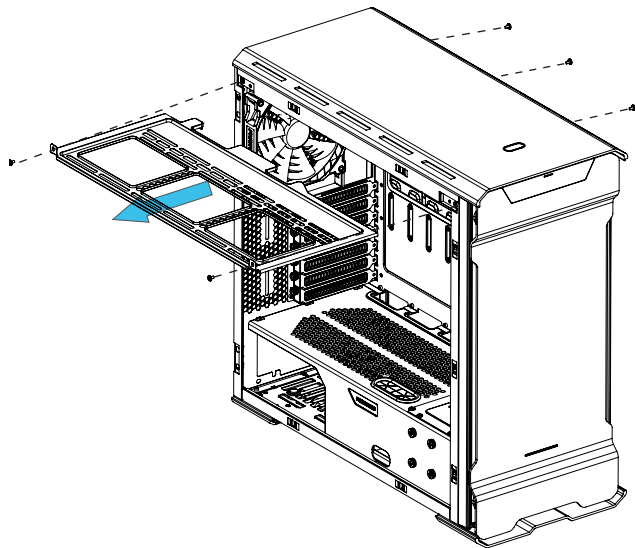
10. FAN COMPATIBILITY



FAN COMPATIBILITY TABLE		
	140mm	120mm
Top	2	3
Front	2	3
Rear	1	1



11. RADIATOR BRACKET INSTALLATION



Locate the 5 screws (silver colored screws) and remove.

Localize os 5 parafusos (parafusos de cor prata) e remova.

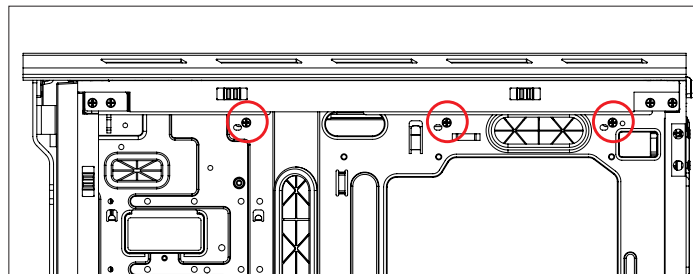
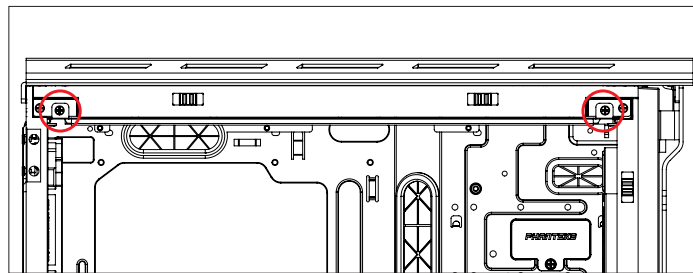
Finden Sie die 5 Schrauben (silberfarbene Schrauben) und entfernen Sie sie.

Individuare le 5 viti (viti col argento) e rimuoverle.

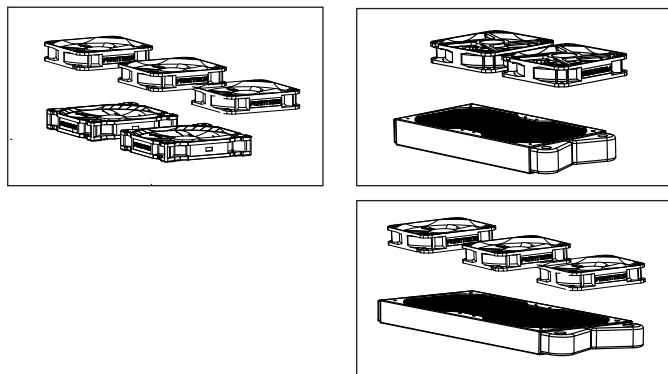
Localize os 5 parafusos (parafusos de cor prata) e remova.

Localice los 5 tornillos (tornillos coloreados de plata) y quítelos.

Vind de 5 schroeven (zilver gekleurd) en verwijder.



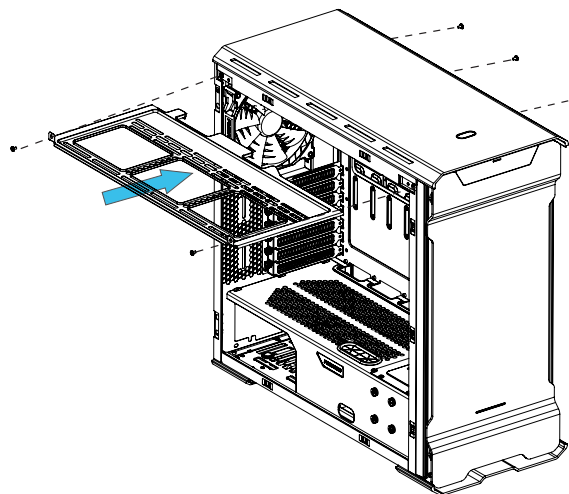
11. RADIATOR BRACKET INSTALLATION



*For radiator and fans installation, please check compatibility table.

BRACKET COMPATIBILITY TABLE

Radiator	Fans
up to 360mm	up to (3x) 120mm up to (2x) 140mm



To install, align the bracket and slide in. Use the 4x silver screw to lock in place.

Para instalar, alíñe o soporte e deslize. Use os 5x parafusos prateados para travar no lugar.

Richten Sie die Halterung für die Installation aus und schieben Sie sie hinein. Befestigen Sie sie mit 4 silberfarbenen Schrauben.

Per l'installazione, allineare la staffa e farla scorrere all'interno. Utilizzare le 5 viti per bloccare in posizione.

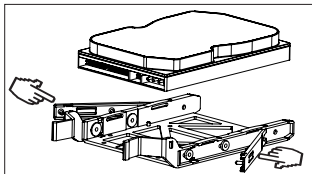
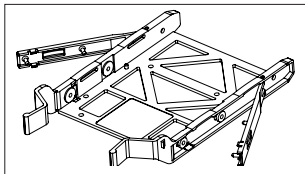
Para instalar, alíñe o soporte e deslize. Use os 5x parafusos prateados para travar no lugar.

Para realizar la instalación, alinee el soporte y deslice hacia adentro. Utilice los 5 tornillos plateados para bloquear el conjunto su lugar.

Voor installatie, zet de radiator beugel in positie en schuif in. Gebruik 5x zilveren schroeven om het te bevestigen.

12. HARD DRIVE INSTALLATION

3.5" INSTALLATION



Place hard drive into tray and push in the arms to lock.

Placez le disque dur dans le logement et poussez les bras pour le verrouiller.

Bringen Sie die Festplatten im Fach an und drücken die Arme zum Verriegeln hinein.

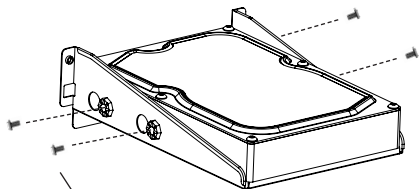
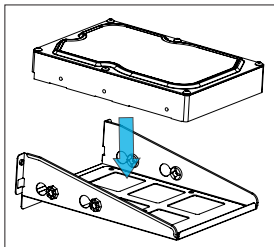
Collocare disco rigido nel cassetto e spingere i bracci verso l'interno per bloccare.

Coloque o disco rígido na bandeja e empurre os braços para travar.

Coloque el disco duro en la bandeja y pulse sobre los brazos para que quede sujeto.

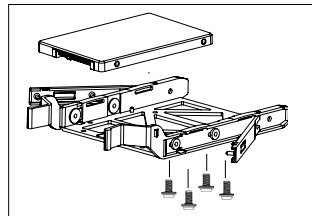
Plaats de harde schijf in de lade en duw de armen in voor vergrendeling.

3.5" HARD DRIVE BRACKET INSTALLATION



Requires 4x **6-32x5mm** screws

2.5" INSTALLATION



Align the SSD onto the mounting holes and screw in.

Aligner le SSD avec les trous de montage et vissez.

Richten Sie die SSD an den Montagelöchern aus und befestigen die Schrauben.

Allineare l'unità ssd su i fori di installazione e fissare le viti.

Alinhe o SSD nos orifícios de fixação e parafuse.

Alinee la unidad de estado sólido con los agujeros de montaje y atornillela.

Lijn de SSD uit op de bevestigingsgaten en schroef de schroeven in.

Align the HDD onto the mounting holes and screw in.

Aligner le HDD avec les trous de montage et vissez.

Richten Sie die HDD an den Montagelöchern aus und befestigen die Schrauben.

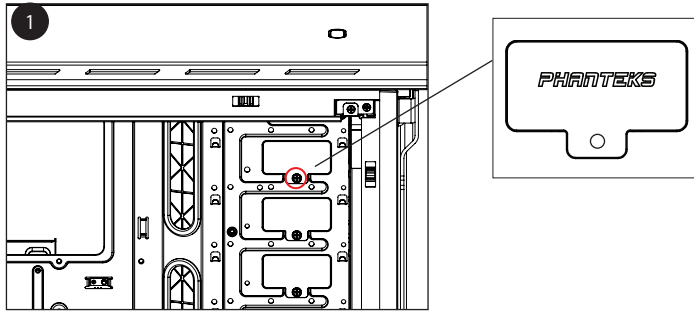
Allineare l'unità hdd su i fori di installazione e fissare le viti.

Alinhe o HDD nos orifícios de fixação e parafuse.

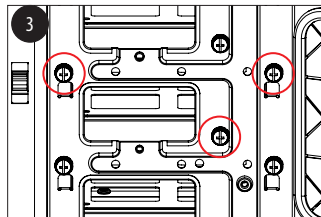
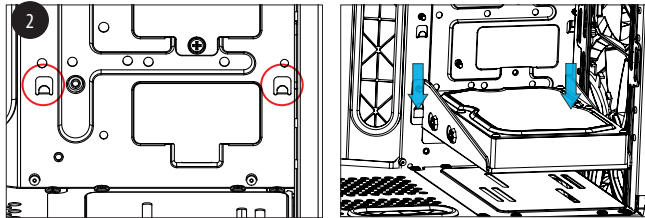
Alinee la disco duro con los agujeros de montaje y atornillela.

Lijn de HDD uit op de bevestigingsgaten en schroef de schroeven in.

12. HARD DRIVE INSTALLATION



Front View



Back View

Step 1. Remove the HDD cover by removing the m3 Screw

Step 2: Align the HDD bracket to the slot and drop in.

Step 3: Screw in from the back with thumb screws to lock the bracket in place.

Passo 1: Retire a tampa do HDD retirando o parafuso m3

Passo 2: Alinhe o suporte do HDD ao slot e solte-o.

Passo 3: Parafuse da parte de trás com parafusos borboleta para travar o suporte no lugar.

Schritt 1: Entfernen Sie die Festplattenabdeckung durch Lösen der m3-Schraube.

Schritt 2: Richten Sie die Festplattenhalterung mit dem Steckplatz aus und stecken Sie sie hinein.

Schritt 3: Befestigen Sie die Halterung mit Rändelschrauben von der Rückseite kommend.

Fase 1. Rimuovere il coperchio dell'HDD svitando le viti m3

Fase 2: Allineare la staffa del disco rigido nell'alloggiamento e inserirlo.

Fase 3: Avvitare all'interno dal retro con viti ad alette per bloccare la staffa in posizione.

Passo 1: Retire a tampa do HDD retirando o parafuso m3

Passo 2: Alinhe o suporte do HDD ao slot e solte-o.

Passo 3: Parafuse da parte de trás com parafusos borboleta para travar o suporte no lugar.

Paso 1: Quitar la tapa de la unidad de disco duro retirando el tornillo M3.

Paso 2: Alinear el soporte de la unidad de disco duro con la ranura y colocar.

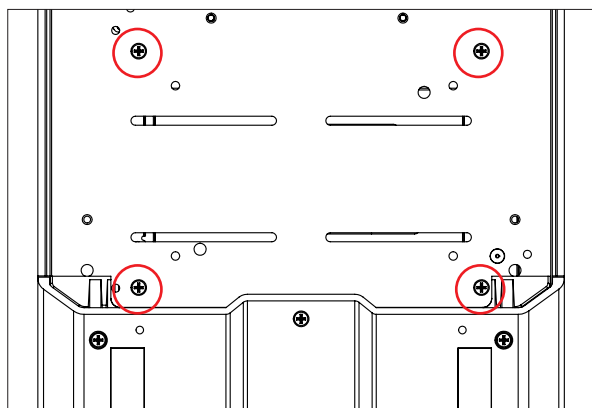
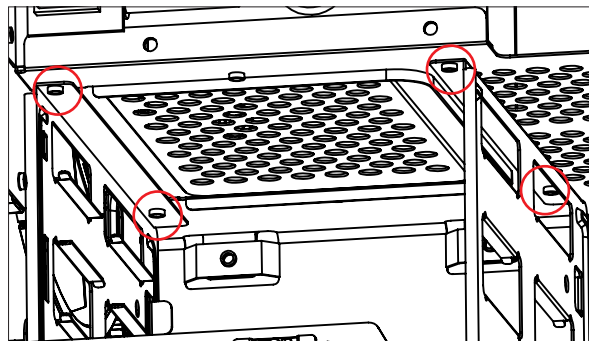
Paso 3: Atornille desde la parte posterior con los tornillos de apriete manual para bloquear el soporte en su lugar.

Stap 1: Verwijder de HDD deksel door 1x schroef te verwijderen (M3)

Stap 2: Breng de HDD beugel in positie en schuif vast.

Stap 3: Gebruik 3 handschroeven om de beugel te bevestigen.

13. HARD DRIVE CAGE



Bottom view of case

HDD BRACKET REMOVAL

To remove, unscrew the 4x screws on the midplate and the 4x screws on the bottom of the case.

Para remover, solte os 4x parafusos na placa do meio e os 4x parafusos na parte inferior do gabinete.

Zur Abnahme lösen Sie die 4 Schrauben an der mittleren Platte und die 4 Schrauben an der Unterseite des Gehäuses.

Per la rimozione, svitare le 4 viti sulla piastra intermedia e le 4 viti sulla parte inferiore del case.

Para remover, solte os 4x parafusos na placa do meio e os 4x parafusos na parte inferior do gabinete.

Para realizar la extracción, desatornille los 4 tornillos situados en la placa central y los 4 tornillos situados en la parte inferior de la carcasa.

Om te verwijderen, verwijder 4x schroeven op de middenplaat en 4x schroeven op de bodemplaat van de behuizing.

14. DROP-N-LOCK SSD BRACKET

SSD INSTALLATION

Slide in the SSD and screw in from the side to lock in place.

Faites coulisser le disque SSD et vissez-le depuis le côté pour le verrouiller dans son emplacement.

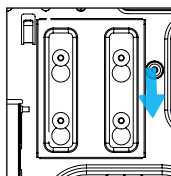
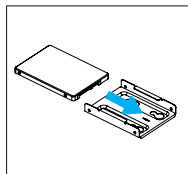
Schieben Sie die SSD ein und fixieren Sie diese seitlich mit Schrauben.

Far scorre l'unità SSD e fissare le viti dal lato per bloccarla in posizione.

Deslice para dentro do SSD e parafuse do lado para travar no local.

Deslice la unidad de estado sólido hacia adentro y atornillela desde el lateral para bloquearla en su lugar.

Schuif de SSD in en monteer de schroeven via de zijkant om deze te vergrendelen.



DROP N LOCK

Align the bracket to the rubber and drop down to lock.

Alignez le coin du support avec le guide et baissez-le pour verrouiller.

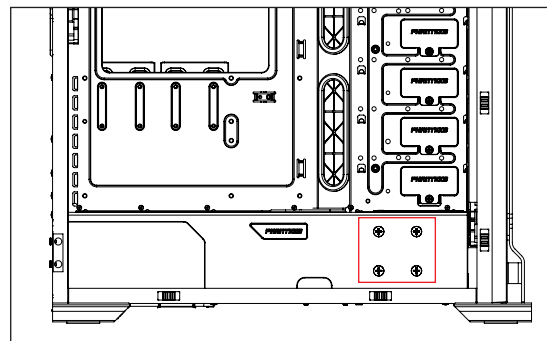
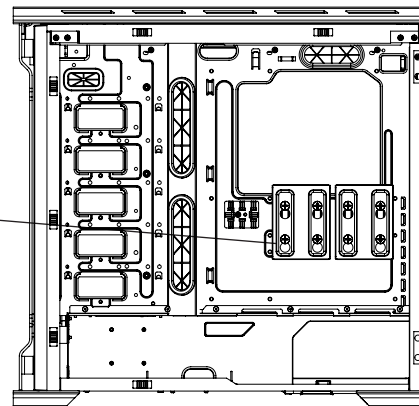
Richten Sie die Ecke der Halterung an der Führung aus und lassen sie einrasten.

Allineare l'angolo della staffa alla guida e calarla per bloccare.

Alinhe o canto do suporte ao guia e empurre para baixo para travar.

Alinee la esquina del soporte con la guía y empuje hacia abajo para que quede sujeta.

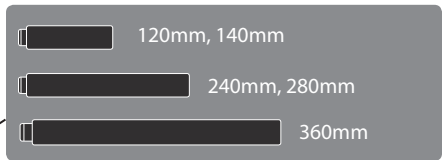
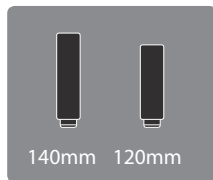
Plaats de beugel langs de uitlijning en druk richting de pijl om te bevestigen.



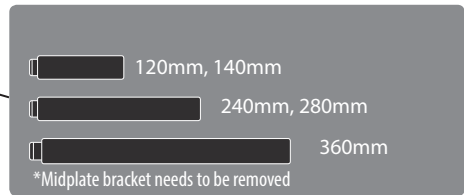
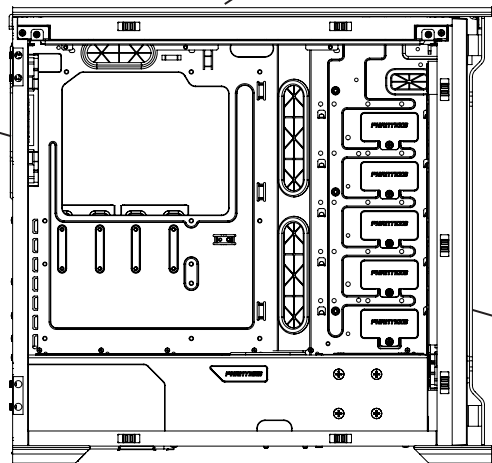
Second SSD Location

15. WATERCOOLING INSTALLATION

WATERCOOLING RADIATOR COMPATIBILITY



*Radiator Bracket required



15. WATERCOOLING INSTALLATION

120 MM FORM FACTOR RADIATORS

Radiator Size	Front	Rear	Top
<i>Taille de radiateur</i> <i>Kühlkörpergröße</i> <i>Dimensioni del radiatore</i> <i>Tamanho do radiador</i> <i>Tamaño del radiador</i> <i>Radiator lengte</i>	<i>Avant</i> <i>Vorderseite</i> <i>Parte frontale</i> <i>Frente</i> <i>Frontal</i> <i>Voorkant</i>	<i>Arrière</i> <i>Rückseite</i> <i>Parte posteriore</i> <i>Traseira</i> <i>Posterior</i> <i>Achterkant</i>	<i>Dessus</i> <i>Oberseite</i> <i>Parte superiore</i> <i>Topo</i> <i>Superior</i> <i>Bovenkant</i>
120mm	✓	✓	✓
240mm	✓		✓
360mm	✓		✓

140 MM FORM FACTOR RADIATORS

Radiator Size	Front	Rear	Top
<i>Taille de radiateur</i> <i>Kühlkörpergröße</i> <i>Dimensioni del radiatore</i> <i>Tamanho do radiador</i> <i>Tamaño del radiador</i> <i>Radiator lengte</i>	<i>Avant</i> <i>Vorderseite</i> <i>Parte frontale</i> <i>Frente</i> <i>Frontal</i> <i>Voorkant</i>	<i>Arrière</i> <i>Rückseite</i> <i>Parte posteriore</i> <i>Traseira</i> <i>Posterior</i> <i>Achterkant</i>	<i>Dessus</i> <i>Oberseite</i> <i>Parte superiore</i> <i>Topo</i> <i>Superior</i> <i>Bovenkant</i>
140mm	✓	✓	✓
280mm	✓		✓

***Caution: Supported Radiator size and thickness varies depending on your setup.**

*Avertissement : Les tailles de radiateur et les épaisseurs supportées varient en fonction de votre configuration.

*Achtung: Unterstützte Kühlkörpergröße und -dicke variieren je nach Aufbau.

*Attenzione: Le dimensioni e lo spessore supportati per il radiatore dipendono dalla configurazione.

*Atenção: O tamanho e espessura do Suporte do Radiador variam dependendo da configuração.

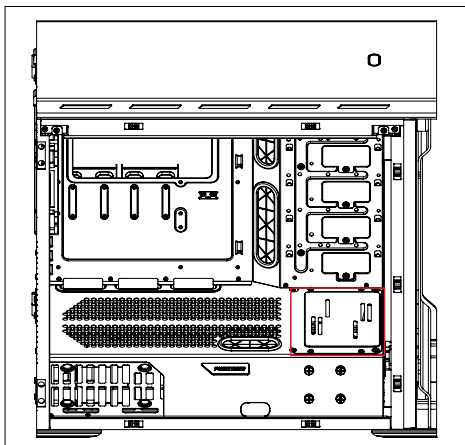
*Precaución: el grosor y el tamaño del radiador compatibles varían según la instalación que realice.

*Let op : Ondersteunde radiator grootte en dikte varieert afhankelijk van de opstelling.

15. WATERCOOLING INSTALLATION

PUMP INSTALLATION

Location 1



Flexible mounting points for pump installation.

Pontos de montagem flexíveis para instalação da bomba.

Flexible Montagepunkte für Pumpeninstallation.

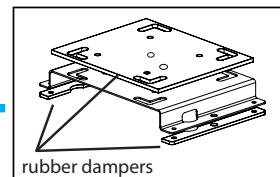
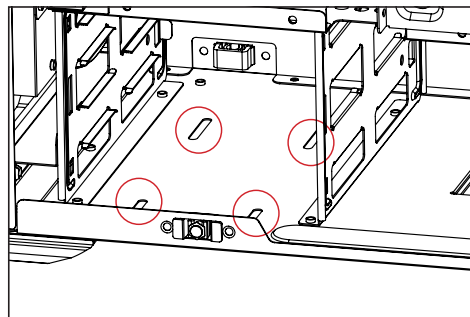
Punti di assemblaggio flessibili per installazione della pompa.

Pontos de montagem flexíveis para instalação da bomba.

Puntos de instalación flexibles para la instalación de la bomba.

Flexibele bevestigings punt voor pomp installatie.

Location 2 (Pump bracket required)



rubber dampers

Pump bracket with universal mounting allows for multiple pumps to be installed.

Support de pompe avec montage universel permettant d'installer plusieurs pompes.

Pumpenhalterung mit Universalmontage ermöglicht die Installation mehrerer Pumpen.

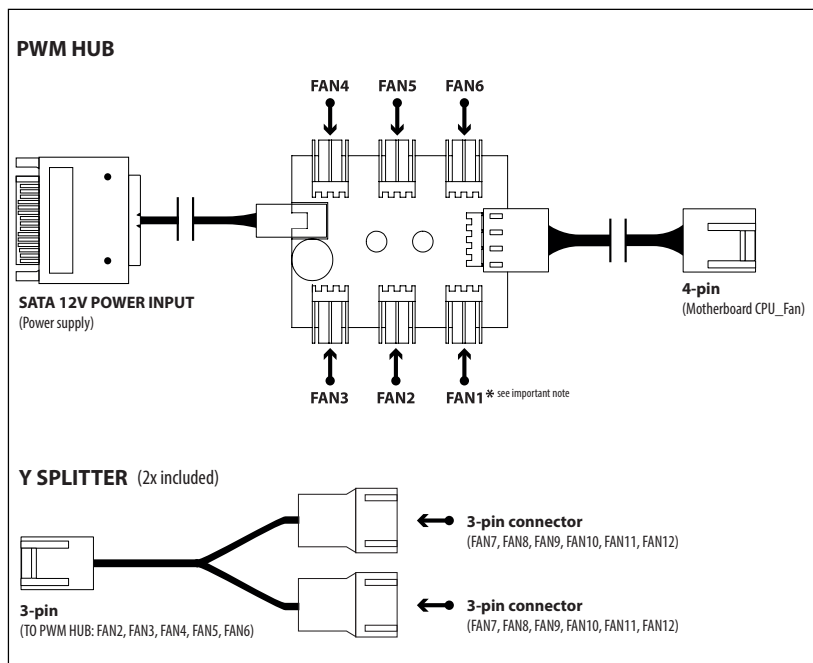
La staffa della pompa con collegamento universale permette di installare varie pompe.

Suporte da Bomba com suporte universal permite que múltiplas bombas sejam instaladas.

El soporte de bomba con montaje universal le permite instalar varias bombas.

Pompbeugel met universele schroefgaten geeft ondersteuning voor meerdere type pompen.

16. PWM HUB INSTALLATION



Please visit our website for multi-language instructions regarding PWM Hub at www.phanteks.com.

The PWM hub functions optimally when modulated by a PWM signal from the motherboard, which will allow the greatest control range. However, not all 4-pin motherboard connectors implement true PWM signal modulation.

Connecting the 4-pin to CPU_Fan

For full PWM functionality, Phanteks' PWM hub requires users to connect the 4-pin connector to the "CPU_Fan" connector of the motherboard, because all motherboard manufacturers implements a PWM signal modulation on this connector. Connect the SATA 12V power to power the PWM hub. Not all motherboards have their CPU_Fan connector set on PWM signal modulation by default. Please consult your motherboard documentation for this matter.

Connecting the 4-pin to other 4-pin header (besides the CPU_Fan)

Other 4-pin connectors can be found on modern motherboards besides the "CPU_Fan" connector (e.g. "CPU_Fan2", "CHA_Fan", "OPT_Fan"), however not all motherboard manufacturers implement a true PWM signal modulation onto these connectors. These type of 4-pin connectors modulate the RPM by voltage, which has a smaller control range compared to modulation by true PWM signal.

The 12V SATA power cable can not be used to power the PWM hub if connecting to these types of 4-pin connectors, due to the interference with the RPM regulation by voltage (resulting in the fans running on full RPM). The PWM hub will draw its power from the 4-pin connector, which is limited to a total device consuming 30W in total.

Important Note:

1 motherboard connector can only read 1 RPM signal. Therefore, the motherboard will only read the RPM signal from 1 device connected to Fan 1. The RPM from all other devices will be regulated according to FAN 1. Y-splitter should not be connected to FAN 1.

16. PWM HUB INSTALLATION

Le concentrateur à modulation de largeur d'impulsions (MLI) fonctionne de manière optimale quand il est modulé par un signal MLI provenant de la carte mère, qui permet la plage de contrôle la plus importante. Cependant, tous les connecteurs de carte mère à 4 broches ne mettent pas en œuvre la modulation de signal MLI.

Raccordement des 4 broches au CPU_VENTILATEUR

Pour une fonctionnalité MLI complète, le concentrateur MLI de Phanteks nécessite de raccorder le connecteur 4 broches au connecteur « CPU_Ventilateur » de la carte mère, car tous les fabricants de cartes mères mettent en œuvre une modulation de signal MLI sur ce connecteur. Raccordez l'alimentation SATA 12V pour alimenter le concentrateur MLI. Toutes les cartes mères n'ont pas leur connecteur CPU_Ventilateur réglé sur la modulation de signal MLI par défaut. Veuillez consulter la documentation de votre carte mère à ce sujet.

Raccordement du 4 broches à un autre connecteur 4 broches (indépendamment du CPU_Ventilateur) D'autres connecteurs 4 broches se trouvent sur les cartes mères modernes indépendamment du connecteur « CPU_Ventilateur » (par exemple « CPU_Ventilateur2 », « CHA_Ventilateur », « OPT_Ventilateur »), cependant tous les fabricants de cartes mères ne mettent pas en œuvre une modulation de signal MLI réelle sur ces connecteurs. Ces types de connecteurs 4 broches modulent le régime par la tension, qui présente une plage de contrôle plus petite comparée à une modulation par un signal MLI réel.

Le câble d'alimentation 12V SATA ne peut pas être utilisé pour alimenter le concentrateur MLI s'il est raccordé à ces types de connecteurs 4 broches, en raison des interférences avec la régulation de régime par tension (entraînant le fonctionnement des ventilateurs à plein régime). Le concentrateur MLI tire son alimentation du connecteur 4 broches, qui est limité à une consommation totale des périphériques de 30 W.

Remarque importante :

1 connecteur de carte mère peut lire uniquement 1 signal de régime. Par conséquent, la carte mère lit uniquement le signal de régime d'1 périphérique raccordé au Ventilateur 1. Le régime de tous les autres périphériques sera régulé en fonction du VENTILATEUR 1. Un séparateur Y ne doit pas être raccordé au VENTILATEUR 1.

Der PWM-Hub funktioniert bei Modulation durch ein PWM-Signal vom Motherboard einwandfrei, wodurch sich ein größtmöglicher Kontrollbereich ergibt. Jedoch nicht alle 4-pol. Motherboard-Anschlüsse realisieren eine PWM-Signalmodulation.

Verbindung mit 4-pol. CPU-Lüfteranschluss (CPU_Fan)

Für einen vollen PWM-Funktionsumfang ist es für den PWM-Hub von Phanteks erforderlich, dass der 4-pol. Stecker mit dem CPU-Lüfteranschluss ("CPU_Fan") am Motherboard verbunden wird, denn alle Motherboard-Hersteller realisieren eine PWM-Signalmodulation an diesem Anschluss. Schließen Sie die 12-Volt-SATA-Stromversorgung an, um den PWM-Hub mit Strom zu versorgen. Nicht bei allen Motherboards ist der CPU-Lüfteranschluss (CPU_Fan) standardmäßig auf PWM-Signalmodulation gesetzt. Beziehen Sie sich hierzu bitte auf Ihre Motherboard-Dokumentation.

Verbindung des 4-pol. Anschlusses mit anderem 4-pol. Verteiler (außer CPU-Lüfteranschluss)

Neben dem CPU-Lüfteranschluss ("CPU_Fan") befinden sich weitere 4-pol. Anschlüsse auf modernen Motherboards (z. B. "CPU_Fan2", "CHA_Fan", "OPT_Fan"), aber nicht alle Motherboard-Hersteller realisieren eine echte PWM-Signalmodulation an diesen Anschlüssen. Diese 4-pol. Anschlusstypen modulieren die Drehzahl mit der Spannung, was zu einem kleineren Kontrollbereich im Vergleich zu einer Modulation mit einem echten PWM-Signal führt.

Das 12-Volt-SATA-Stromversorgungskabel kann bei Verbindung mit diesen 4-pol. Anschlusstypen nicht für eine Stromversorgung des PWM-Hubs verwendet werden, denn die Spannung beeinträchtigt die Drehzahlregulierung (sodass die Lüfter mit voller Drehzahl laufen). Der PWM-Hub bezieht seinen Strom vom 4-pol. Anschluss, sodass ein Gerät insgesamt maximal 30 Watt verbraucht.

Wichtiger Hinweis:

1 Motherboard-Anschluss kann nur 1 Drehzahlsignal lesen. Demzufolge liest das Motherboard nur das Drehzahl-signal von 1 Gerät, das mit Lüfter 1 (FAN 1) verbunden ist. Die Drehzahl aller anderen Geräte wird gemäß Lüfter 1 (FAN 1) reguliert. Ein Y-Splitter sollte nicht an Lüfter 1 (FAN 1) angeschlossen werden.

16. PWM HUB INSTALLATION

L'hub PWM funziona in modo ottimale quando è modulato da un segnale PWM dalla scheda madre, che consentirà il massimo campo di regolazione. Tuttavia, non tutti i connettori a 4 pin della scheda madre implementano la modulazione del segnale PWM.

Collegamento del connettore a 4 pin al connettore CPU_FAN

Per la completa funzionalità PWM, l'hub PWM Phanteks richiede il collegamento del connettore a 4 pin al connettore "CPU_Fan" della scheda madre, perché tutti i produttori di schede madre implementano una modulazione del segnale PWM su questo connettore. Collegare l'alimentazione 12V SATA per alimentare l'hub PWM. Non tutte le schede madre hanno, per impostazione predefinita, il connettore CPU_FAN impostato sulla modulazione del segnale PWM. Consultare la documentazione della scheda madre in merito.

Collegamento del connettore a 4 pin ad altri connettori a 4 pin (oltre al connettore CPU_Fan)

Sulle schede madri odierne oltre al connettore "CPU_FAN" si possono trovare altri connettori a 4 pin (ad esempio: "CPU_Fan2", "CHA_Fan", "OPT_Fan"), tuttavia non tutti i produttori di schede madre implementano una vera modulazione del segnale PWM su questi connettori. Questi tipi di connettori a 4 pin modulano gli RPM per mezzo della tensione, che ha un campo di regolazione ridotto rispetto alla reale modulazione del segnale PWM.

Il cavo di alimentazione 12V SATA non può essere utilizzato per alimentare l'hub PWM se si collegano questi tipi di connettori a 4 pin, a causa dell'interferenza con la regolazione RPM per mezzo della tensione (e di conseguenza le ventole funzionano a RPM massimo). L'hub PWM attingerà la sua alimentazione dal connettore a 4 pin, che è limitata ad un consumo totale del dispositivo di 30W.

Nota importante:

1 connettore della scheda madre può leggere solo 1 segnale RPM. Pertanto, la scheda madre leggerà solo il segnale RPM da 1 dispositivo collegato a Fan 1. Gli RPM di tutti gli altri dispositivi saranno regolati in base a Fan 1. Lo splitter a Y non deve essere collegato a Fan 1.

O cubo PWM funziona di forma ideale quando modulato da un segnale PWM della scheda madre, che permetterà una gamma di controllo maggiore. Tuttavia, non tutti i connettori della scheda madre con 4-pin implementano la modulazione del segnale PWM.

Collegando 4-pin al CPU_FAN

Per una totale funzionalità PWM, il cubo PWM della Phanteks richiede che gli utenti colleghino il connettore a 4-pin al connettore del "CPU_Fan" della scheda madre, perché tutti i produttori di schede madre implementano una modulazione del segnale PWM su questo connettore. Collegare la forza SATA 12V al cubo PWM. Non tutte le schede madre hanno il loro connettore CPU_Fan impostato sulla modulazione del segnale PWM di modo predefinito. Per favore, consultare la documentazione della scheda madre su questo argomento.

Collegando il 4-pin a un altro supporto di 4-pin (sul lato del CPU_Fan)

Altri connettori di 4-pin possono essere trovati sulle schede madri moderne sul lato del connettore "CPU_Fan" (per es.: "CPU_Fan2", "CHA_Fan", "OPT_Fan"), tuttavia non tutti i produttori di schede madre implementano una modulazione del segnale PWM su questi connettori. Questo tipo di connettore a 4-pin modula gli RPM per mezzo della tensione, che ha una gamma di controllo minore rispetto a una modulazione attraverso il segnale PWM reale.

Il cavo di forza 12V SATA non deve essere usato per collegare il cubo PWM, se la connessione è realizzata con questi tipi di connettori di 4-pin, a causa dell'interferenza con la regolazione RPM per mezzo della tensione (risultando nel funzionamento delle ventole con RPM totali). Il cubo PWM dirigerà la sua forza a partire dal connettore di 4-pin, che è limitato a un consumo totale del dispositivo di 30W.

osservazione importante:

1 connettore della scheda madre può leggere solo 1 segnale RPM. Tuttavia, la scheda madre leggerà il segnale RPM da 1 dispositivo collegato al Fan 1. La forza RPM di tutti gli altri dispositivi sarà regolata in base al Fan 1. Il divisore Y non deve essere collegato al Fan 1.

17. UPGRADE OPTIONS

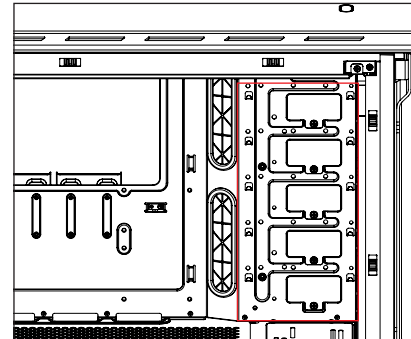
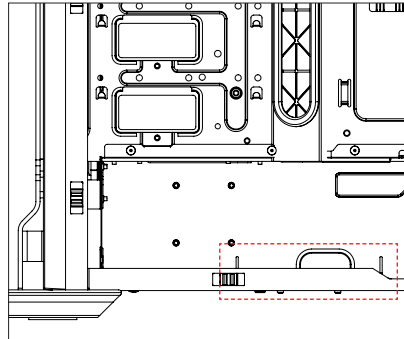
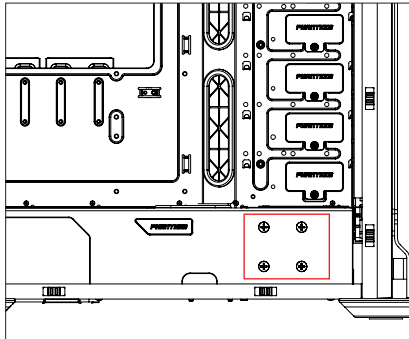
SSD Bracket - PH-SDBKT



HDD Bracket - PH-HDDKT



HDD Bracket - PH-HDDKT_02



All accessories can be purchased at www.phanteksusa.com

18. SERVICES AND SUPPORT

If you have any questions or concerns, please visit Phanteks' website for technical support. We consider customer support, satisfaction and feedback an essential element of our overall marketing effort. Please feel free to contact our support team. Thank you!

Contact Us at:

www.phanteks.com

www.phanteksusa.com

www.phanteks.cn

For Warranty Information, please visit Phanteks' website.

PHANTEKS

DESIGNED IN THE NETHERLANDS