

**NOTICE TECHNIQUE D'INSTALLATION  
INSTALLATION INSTRUCTIONS  
INSTALLATIONSNOTIZ  
MANUAL TECNICO DE INSTALACION  
ТЕХНИЧЕСКОЕ РУКОВОДСТВО  
ПО УСТАНОВКЕ**



Dry coolers

**NEOSTAR**

N° IN0018300-E

09.2020

Notice originale  
Original notice  
Originale Hinweise  
Original aviso  
Исходное руководство

**FRIGA-BOHN**

**HK**<sup>®</sup>  
**REFRIGERATION**

## UTILISATION

**FC NEOSTAR** : Compacité et haut rendement.

**FI NEOSTAR** : Faible perte de charge et forte puissance.

Les aérorefrigérants FC/FI NEOSTAR sont destinés au conditionnement d'air, «free cooling»... et refroidissement de tous fluides compatibles avec le cuivre, dont la température maximale à l'entrée ne dépasse pas 100°C.

La température de l'air réchauffé ne doit pas dépasser les valeurs maximales admises par les ventilateurs. Voir § 6.

Le point de congélation du fluide doit toujours être inférieur d'au moins 5K à la température hivernale minimale ambiante du lieu de l'installation.

Un aérorefrigérant standard ne peut se vidanger totalement par simple ouverture des orifices de purge.

L'installation et la maintenance doivent être réalisées par un professionnel.

## USE

**FC NEOSTAR** : Compactness and high efficiency.

**FI NEOSTAR** : Low pressure drop and high capacity.

The FC/FI NEOSTAR dry coolers are designed to air conditioning, free cooling... and cooling all kinds of fluids compatible with copper, with a maximum inlet temperature of 100°C.

The temperature of air outlet should not exceed maximum temperature specifications for the fans. See § 6.

The freezing point of the fluid must be at least 5K below the minimum winter ambient temperature of the site of installation.

A standard dry cooler cannot be fully drained simply by opening the drain fitting orifices.

The installation and maintenance must be done by a professional.

## ANWENDUNG

**FC NEOSTAR** : Kompaktheit und hohe Effizienz.

**FI NEOSTAR** : Geringer Druckverlust und sehr leistungsstarker.

Die Anwendungen der Glykolrückkühler FC/FI NEOSTAR sind Klimanlagen, Free cooling... und Kühlung von allen kupferverträglichen Flüssigkeiten, deren maximale Eintrittstemperatur unter 100°C liegt.

Die Luftaustrittstemperatur darf die maximale zulässige Temperaturen der Ventilatoren nicht überschreiten. Siehe § 6.

Der Gefrierpunkt des Mediums muss im Winter immer mindestens 5K unter der tiefsten Umgebungstemperatur am Installationsort liegen.

Der Standardglykolrückkühler kann durch einfaches Öffnen der Ablaufstutzen nicht vollständig geleert werden.

Ein Fachmann muss die Installation und die Wartung durchführen.

## USAR

**FC NEOSTAR** : Compacidad y alta eficiencia

**FI NEOSTAR** : Baja pérdida de carga y fuerte potencia.

Los aerorefrigerantes FC/FI NEOSTAR son adaptados al acondicionamiento de aire, «free cooling»...y refrigeración de todos los fluidos compatibles con el cobre, cuya temperatura máxima a la entrada no sobrepasa los 100°C.

La temperatura de salida de aire no debe superar los valores máximos aceptados por los ventiladores. Ver § 6.

El punto de congelación del fluido deberá ser siempre inferior por lo menos de 5K a la temperatura invernal mínima ambiente del lugar de la instalación.

Un aerorefrigerante estándar no puede vaciarse completamente abriendo simplemente los orificios de purga.

La instalación y el mantenimiento serán realizado por un instalador.

## Использование

**FC NEOSTAR** : Компактный размер и высокий КПД.

**FI NEOSTAR** : Незначительный расход заправляемого агента и высокая мощность.

Сухие охладители FC/FI NEOSTAR предназначены для кондиционирования воздуха, фрикулинга (свободного охлаждения) и охлаждения любых жидкостей, совместимых с медью, температура которых на входе не превышает 100°C.

Температура нагретого воздуха не должна превышать максимальные значения, допустимые для вентиляторов. См. § 6.

Температура замерзания жидкости всегда должна быть ниже как минимум на 5K минимальной температуры окружающего воздуха в зимний период в месте установки.

Стандартный сухой охладитель не может быть полностью опорожнен путем простого открытия сливных отверстий.

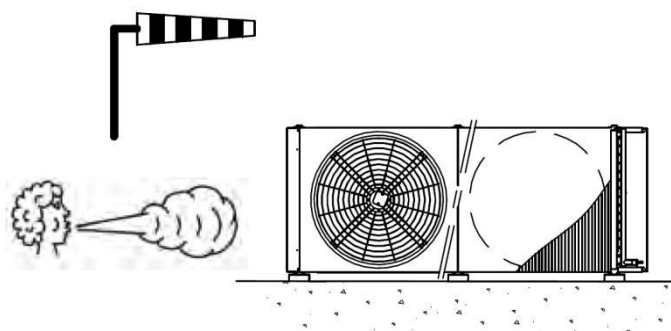
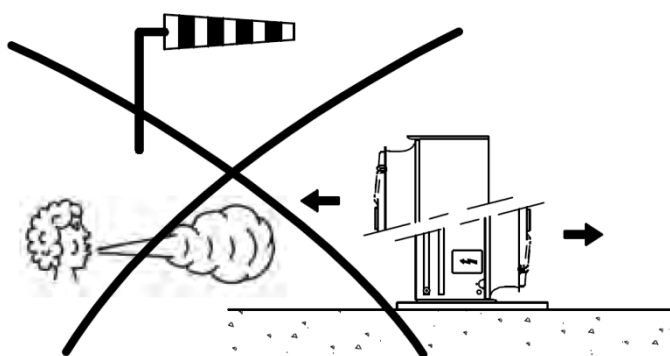
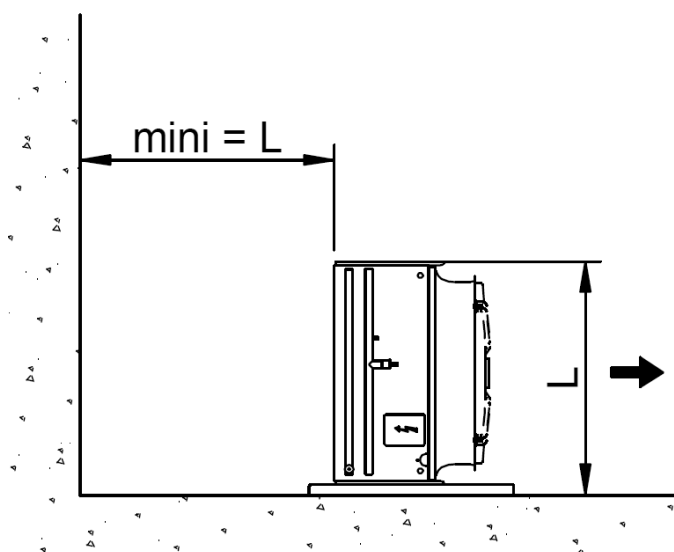
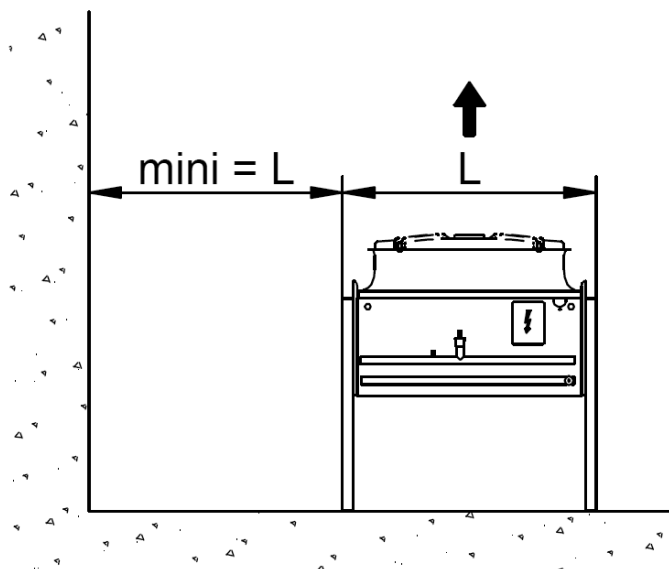
Установка и обслуживание должны выполняться профессионалом.

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**The English version is the original version. Existing versions in other languages are translations of the original version. In the event of a conflict of interpretation between the translated versions and the original version, the original version shall prevail.**

# 1. CONSEILS D'IMPLANTATION - LAY OUT CONSIDERATIONS AUFSTELLUNGSEMPFEHLUNGEN - CONSEJOS DE IMPLANTACIÓN - РЕКОМЕНДАЦИИ ПО УСТАНОВКЕ



## 2. POIDS & VOLUMES D'EAU – WEIGHTS & WATER VOLUMES GEWICHTE & VOLUMEN VON WASSER - PESOS & VOLUMENES DE AGUA - МАССА И ОБЪЕМ ВОДЫ

FC & FCH												FI & FIH											
Modeles Models Modelle Modelos	Moteurs Motors Motoren Motores <small>(Nb) (No) (Anz) (Núm.)</small>	Volume Volumen <small>(dm3)</small>	Poids Weight Gewicht Peso <small>(kg)</small>									Poids Weight Gewicht Peso <small>(kg)</small>											
			PU06D	PN06D	SN08D	SE12D	SU12Y	HPU06D	HSN08D	SEEC	SUEC	PU06D	PN06D	SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC				
			PU06Y	PN06Y	SN08Y	SE12D	SU16Y	HPU06Y	HSN08Y	SEEC	SUEC	PU06Y	PN06Y	SN08Y	SE12D	SU16Y	HPU06Y	HSN08Y	SEEC	SUEC			
			PU06D	PN06D	SN08D	SE12D	SU12Y	HPU06D	HSN08D	SEEC	SUEC	PU06D	PN06D	SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC				
			PU06Y	PN06Y	SN08Y	SE12D	SU16Y	HPU06Y	HSN08Y	SEEC	SUEC	PU06Y	PN06Y	SN08Y	SE12D	SU16Y	HPU06Y	HSN08Y	SEEC	SUEC			
... L01A1	1	18	160	160	160	160	160	180	170	170	150	... L01A2	1	36	180	180	180	180	180	190	190	180	170
... L01A2	1	30	170	180	180	170	170	190	180	180	160	... L01A3	1	42	190	190	190	190	190	210	200	200	180
... L01A3	1	36	180	190	190	190	180	200	190	190	170	... L01A4	1	48	200	210	210	210	200	220	210	210	190
... L01A4	1	40	190	200	200	200	190	210	200	200	180	... L01A5	1	49	210	220	220	220	210	230	220	220	200
... L01B1	1	21	170	180	180	180	180	190	190	180	170	... L01B2	1	40	200	200	200	200	200	220	210	200	190
... L01B2	1	34	190	200	200	190	190	210	200	200	180	... L01B3	1	47	210	220	220	220	210	230	220	220	200
... L01B3	1	40	200	210	210	210	210	220	210	210	200	... L01B4	1	55	230	230	230	230	230	240	240	230	220
... L01B4	1	45	220	220	220	220	220	230	230	220	210	... L01B5	1	57	240	250	250	250	240	260	250	250	230
... L01D1	1	24	200	200	200	200	200	210	210	200	190	... L01D2	1	47	230	230	230	230	230	240	240	230	220
... L01D2	1	39	210	220	220	220	220	230	230	220	210	... L01D3	1	56	250	250	250	250	250	260	260	250	240
... L01D3	1	47	230	240	240	240	230	250	240	240	220	... L01D4	1	66	270	270	270	270	270	280	280	270	260
... L01D4	1	54	250	260	260	250	250	270	260	260	240	... L01D5	1	71	280	290	290	290	290	300	300	290	280
... L02A1	2	27	250	260	260	260	250	280	270	260	230	... L02A2	2	53	290	300	300	290	290	320	310	300	270
... L02A2	2	43	270	280	280	280	280	310	290	290	260	... L02A3	2	64	310	320	320	320	310	340	330	320	290
... L02A3	2	52	290	300	300	300	300	330	320	310	280	... L02A4	2	76	330	340	340	340	340	370	360	350	320
... L02A4	2	61	310	330	330	320	320	350	340	330	300	... L02A5	2	83	360	370	370	360	360	390	380	370	340
... L02B1	2	31	280	290	290	290	290	320	300	300	270	... L02B2	2	61	330	340	340	330	330	360	350	340	310
... L02B2	2	49	310	320	320	320	310	340	330	320	290	... L02B3	2	76	350	370	370	360	360	390	380	370	340
... L02B3	2	61	340	350	350	340	340	370	360	350	320	... L02B4	2	90	380	400	400	390	390	420	410	400	370
... L02B4	2	72	360	370	370	370	360	390	380	370	340	... L02B5	2	99	410	420	420	420	420	450	440	430	400
... L02D1	2	38	340	350	350	340	340	370	360	350	320	... L02D2	2	75	390	400	400	400	400	430	420	410	380
... L02D2	2	60	370	380	380	380	370	410	390	380	350	... L02D3	2	94	430	440	440	440	430	470	450	440	410
... L02D3	2	75	410	420	420	410	410	440	430	420	390	... L02D4	2	113	470	480	480	480	470	510	490	480	450
... L02D4	2	89	440	450	450	450	440	470	460	450	420	... L02D5	2	127	510	520	520	520	510	540	530	520	490
... L03A1	3	35	350	370	370	360	360	400	390	370	330	... L03A2	3	70	400	420	420	420	410	450	440	420	380
... L03A2	3	56	380	400	400	400	390	430	420	400	360	... L03A3	3	87	440	450	450	450	440	490	470	460	410
... L03A3	3	69	410	430	430	430	420	470	450	430	390	... L03A4	3	104	480	490	490	490	480	530	510	490	450
... L03A4	3	82	450	460	460	460	450	500	480	470	420	... L03A5	3	116	510	530	530	520	510	560	540	530	480
... L03B1	3	42	400	420	420	410	400	450	430	420	370	... L03B2	3	82	460	480	480	480	470	510	500	480	440
... L03B2	3	65	440	450	450	450	440	490	470	460	410	... L03B3	3	104	510	520	520	520	510	560	540	530	480
... L03B3	3	82	480	490	490	490	480	530	510	500	450	... L03B4	3	125	550	570	570	560	560	600	580	570	530
... L03B4	3	98	510	530	530	530	520	570	550	530	490	... L03B5	3	142	590	610	610	610	600	650	630	610	570
... L03D1	3	52	480	490	490	490	480	530	510	500	450	... L03D2	3	103	560	580	580	570	560	610	590	580	530
... L03D2	3	81	530	540	540	540	530	580	560	550	500	... L03D3	3	131	620	630	630	630	620	670	650	640	590
... L03D3	3	103	580	600	600	590	580	630	610	600	550	... L03D4	3	159	680	690	690	690	680	730	710	700	650
... L03D4	3	124	630	650	650	640	630	680	660	650	600	... L03D5	3	182	740	750	750	750	740	790	770	760	710
... L04A1	4	44	440	470	470	460	450	510	490	470	410	... L04A2	4	87	510	530	530	530	520	580	560	540	480
... L04A2	4	68	490	510	510	500	490	550	530	510	450	... L04A3	4	110	560	580	580	580	570	630	600	590	530
... L04A3	4	86	530	550	550	540	530	590	570	550	490	... L04A4	4	133	610	630	630	620	610	680	650	630	570
... L04A4	4	103	570	590	590	580	570	640	610	590	530	... L04A5	4	150	650	680	680	670	660	720	700	680	620
... L04B1	4	52	510	530	530	520	510	580	550	530	470	... L04B2	4	104	590	610	610	610	600	660	640	620	560
... L04B2	4	81	560	580	580	570	560	630	600	580	520	... L04B3	4	132	650	670	670	670	660	720	690	680	620
... L04B3	4	103	610	630	630	620	610	680	650	640	580	... L04B4	4	161	710	730	730	730	720	780	750	740	680
... L04B4	4	124	660	680	680	670	660	730	700	680	620	... L04B5	4	184	770	790	790	780	770	840	810	790	730
... L04D1	4	66	620	640	640	630	620	680	660	640	580	... L04D2	4	131	730	750	750	740	730	790	770	750	690
... L04D2	4	102	680	710	710	700	690	750	730	710	650	... L04D3	4	168	800	830	830	820	810	870	850	830	770
... L04D3	4	131	750	770	770	770	760	820	800	780	720	... L04D4	4	206	880	910	910	900	890	950	930	910	850
... L04D4	4	159	820	840	840	830	820	880	860	840	780	... L04D5	4	238	960	980	980	980	970	1030	1010	990	930
... L05A1	5	52	550	570	570	570	550	630	600	580	510	... L05A2	5	104	630	660	660	650	640	720	690	660	590
... L05A2	5	81	600	630	630	620	610	680	650	630	560	... L05A3	5	132	690	720	720	710	700	770	750	720	650
... L05A3	5	103	650	680	680	670	660	730	700	680	610	... L05A4	5	161	750	780	780	770	760	840	810	780	710
... L05A4	5	124	700	730	730	720	710	780	760	730	660	... L05A5	5	184	810	840	840	830	820	890	860	840	770
... L05B1	5	63	620	650	650	650	630	710	680	660	580	... L05B2	5	125	730	760	760	750	740	810	780	760	690
... L05B2	5	97	690	720	720	710	700	770	740	720	650	... L05B3	5	160	800	830	830	820	810	890	860	830	760
... L05B3	5	124	750	780	780	770	760	840	810	780	710	... L05B4	5	196	880	900	900	900	880	960	930	910	830
... L05B4	5	150	810	840	840	830	820	900	870	850	770	... L05B5	5	227	950	980	980	970	960	1030	1010	980	910
... L06A1	6	60	640	670	670	660	650	740	710	680	590	... L06A2	6	121									

## FC & FCH

Modelos Models Modelle Modelos	Moteurs Motors Motoren Motores (Nb) (No) (Anz) (Núm.)	Volume Volumen (dm3)	Poids Weight Gewicht Peso (kg)										Modelos Models Modelle Modelos	Moteurs Motors Motoren Motores (Nb) (No) (Anz) (Núm.)	Volume Volumen (dm3)	Poids Weight Gewicht Peso (kg)									
			PU06D	PN06D	SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC	PU06D	PN06D				SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC				
			PU06Y	PN06Y	SN08Y	SE12D	SU16Y	HPU06Y	HSN08Y			PU06Y				PN06Y	SN08Y	SE12D	SU16Y	HPU06Y	HSN08Y				
... P02A1	2	53	270	290	290	280	280	310	300	290	260	... P10A1	10	120	970	1030	1030	1010	990	1140	1080	1040	890		
... P02A2	2	63	290	310	310	300	300	330	320	310	280	... P10A2	10	164	1070	1130	1130	1110	1090	1240	1180	1140	990		
... P02A3	2	84	320	330	330	320	320	350	340	330	300	... P10A3	10	219	1170	1220	1220	1210	1180	1340	1280	1230	1080		
... P02A4	2	91	340	350	350	350	340	370	360	350	320	... P10A4	10	259	1270	1330	1330	1310	1290	1440	1380	1340	1190		
... P02B1	2	57	300	310	310	310	300	330	320	310	280	... P10B1	10	141	1110	1160	1160	1150	1120	1280	1220	1170	1020		
... P02B2	2	69	320	340	340	330	330	360	350	340	310	... P10B2	10	196	1230	1290	1290	1270	1240	1400	1340	1300	1150		
... P02B3	2	93	350	360	360	360	350	380	370	360	330	... P10B3	10	261	1350	1410	1410	1390	1370	1520	1460	1420	1270		
... P02B4	2	101	380	390	390	380	380	410	400	390	360	... P10B4	10	311	1480	1530	1530	1520	1490	1650	1590	1540	1390		
... P02D1	2	64	340	350	350	350	350	380	360	360	330	... P10D1	10	176	1330	1390	1390	1370	1350	1500	1440	1400	1250		
... P02D2	2	80	380	390	390	380	380	410	400	390	360	... P10D2	10	248	1490	1550	1550	1530	1510	1660	1610	1560	1410		
... P02D3	2	107	410	420	420	420	410	440	430	420	390	... P10D3	10	331	1660	1710	1710	1700	1670	1830	1770	1720	1570		
... P02D4	2	119	440	460	460	450	450	480	470	460	430	... P10D4	10	399	1820	1880	1880	1860	1840	1990	1930	1890	1740		
... P04A1	4	70	440	460	460	460	450	510	490	470	410	... P12A1	12	137	1140	1210	1210	1190	1160	1350	1280	1220	1040		
... P04A2	4	88	480	510	510	500	490	550	530	510	450	... P12A2	12	189	1260	1330	1330	1310	1280	1460	1390	1340	1160		
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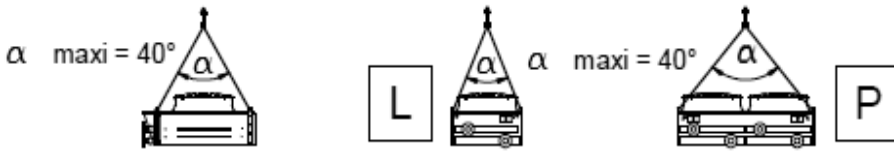
**FI & FIH**

Modeles Models Modelle Modelos	Moteurs Motors Motoren Motores (Nb) (No) (Anz) (Núm.)	Volume Volumen (dm3)	Poids Weight Gewicht Peso (kg)										Modeles Models Modelle Modelos	Moteurs Motors Motoren Motores (Nb) (No) (Anz) (Núm.)	Volume Volumen (dm3)	Poids Weight Gewicht Peso (kg)									
			PU06D	PN06D	SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC	PU06D	PN06D				SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC				
			PU06Y	PN06Y	SN08Y	SE12D	SU16Y	HPU06Y	HSN08Y	PU06Y	PN06Y	SN08Y				SE12D	SU16Y	HPU06Y	HSN08Y						
			PU06D	PN06D	SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC	PU06D	PN06D				SN08D	SU12Y	HPU06D	HSN08D	SEEC	SUEC				
... P02A2	2	92	340	350	350	350	350	380	370	360	330	... P10A2	10	228	1170	1230	1230	1210	1190	1340	1280	1240	1090		
... P02A3	2	105	380	400	400	390	390	420	410	400	370	... P10A3	10	286	1310	1360	1360	1350	1320	1480	1420	1370	1220		
... P02A4	2	119	410	420	420	420	420	450	440	430	400	... P10A4	10	345	1430	1490	1490	1470	1450	1600	1540	1500	1350		
... P02A5	2	134	430	440	440	440	440	470	460	450	420	... P10A5	10	405	1550	1600	1600	1590	1560	1720	1660	1610	1460		
... P02B2	2	101	380	390	390	380	380	410	400	390	360	... P10B2	10	268	1340	1400	1400	1380	1360	1510	1450	1410	1260		
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... P04A2	4	126	540	570	570	560	550	610	590	570	510	... P12A2	12	262	1370	1440	1440	1420	1390	1580	1510	1450	1270		
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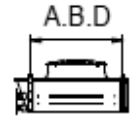
### 3. POINTS DE MANUTENTION - LIFTING LOCATIONS AUFHÄNGUNGSPUNKTE - LOCALIZACIONES DE ELEVACION - ТОЧКИ КРЕПЛЕНИЯ ПРИ ПОГРУЗКЕ/РАЗГРУЗКЕ

POIDS NET	Voir §2
NET WEIGHT	See §2
NETTOGEWICHT	Siehe §2
PESO NETO	Ver §2
MACCA HETTO	Ver §2

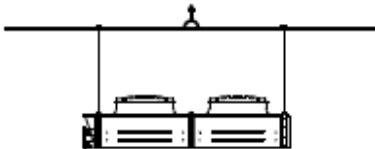
L01-A.B.D / P02-A.B.D



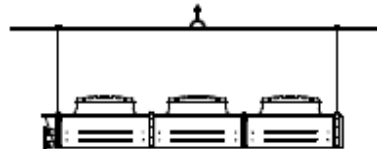
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D = 2 M



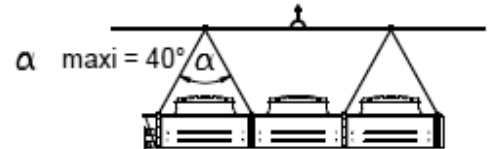
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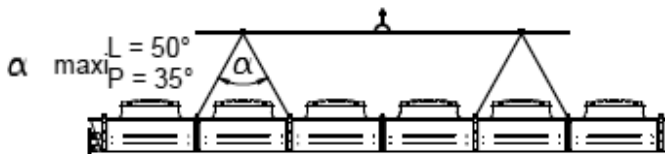
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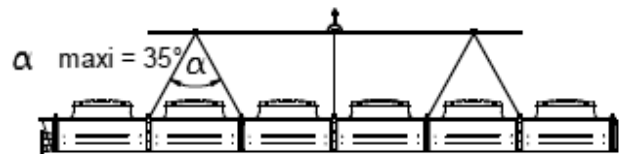
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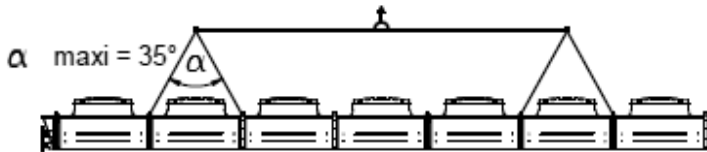
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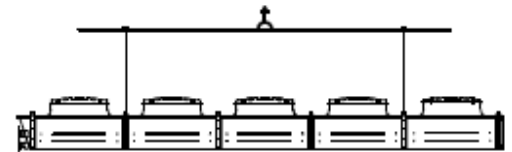
P12-D



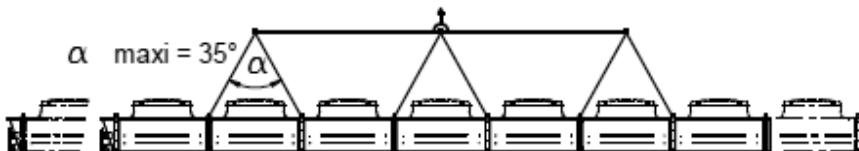
P14-A



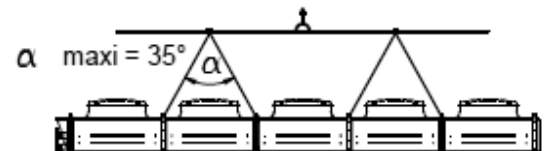
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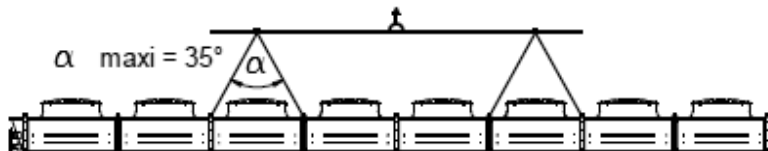
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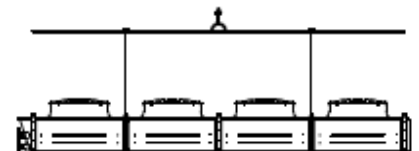
P10-A.B.D



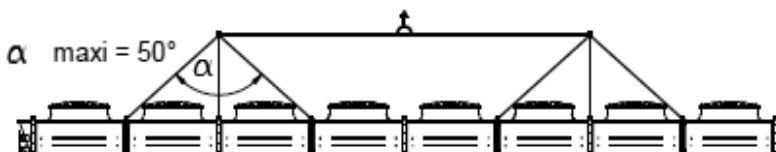
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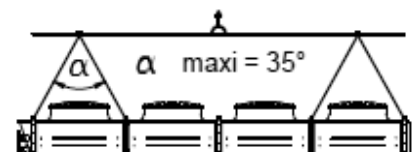
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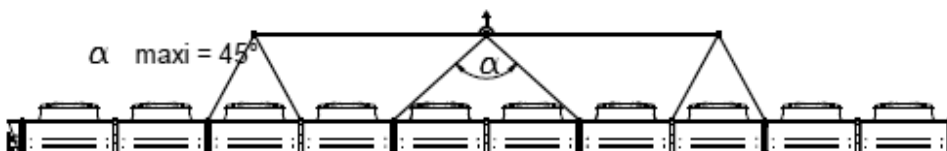
P16-B



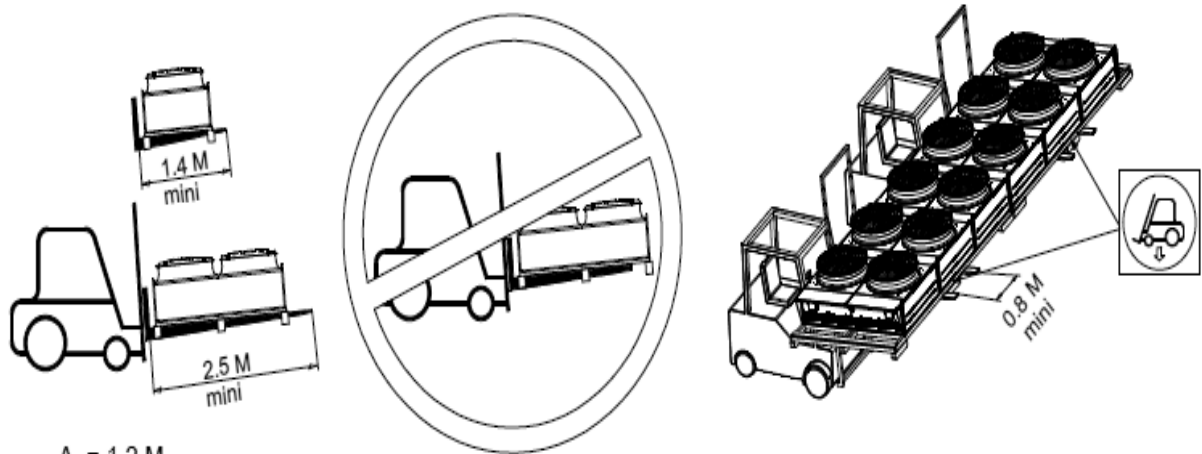
P08-D



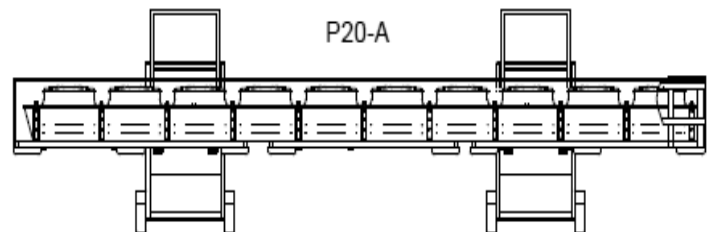
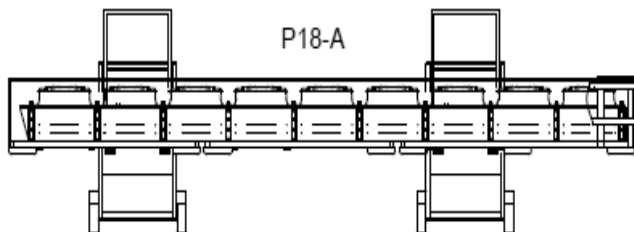
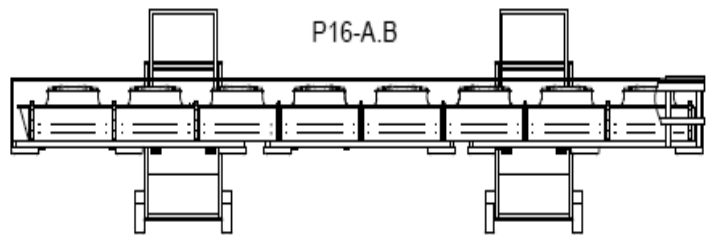
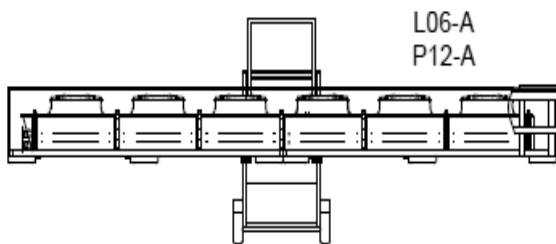
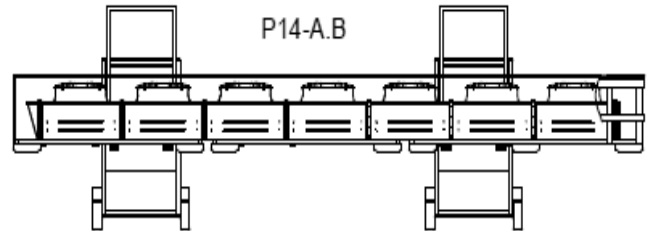
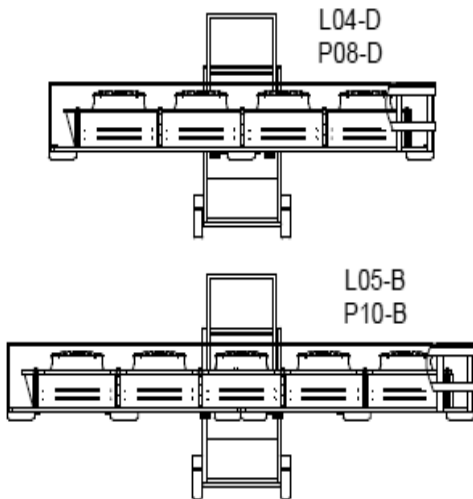
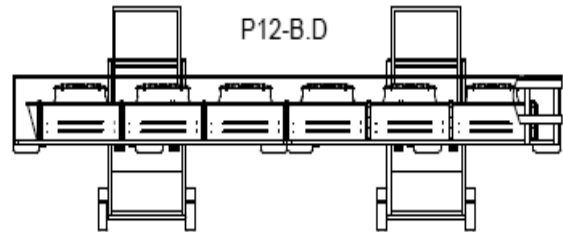
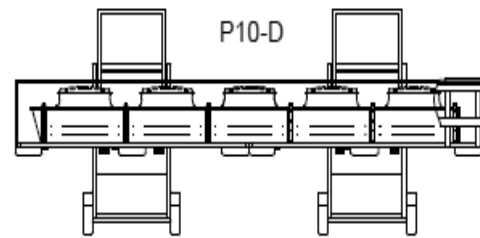
P20-A





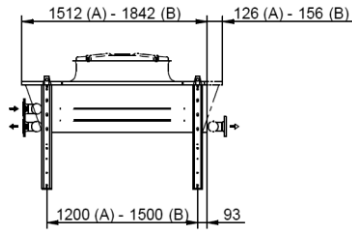


A = 1.2 M  
 B = 1.5 M  
 D = 2 M

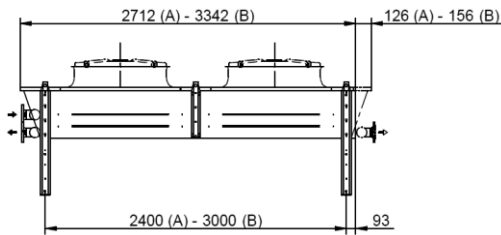
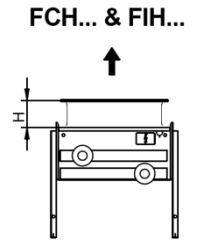
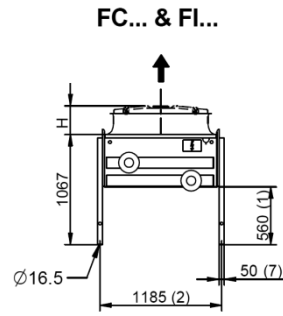


# 4. AIR VERTICAL - VERTICAL AIR FLOW - VERTICAL LUFT - AIRE VERTICAL - (TRADUCTION RUSSE)

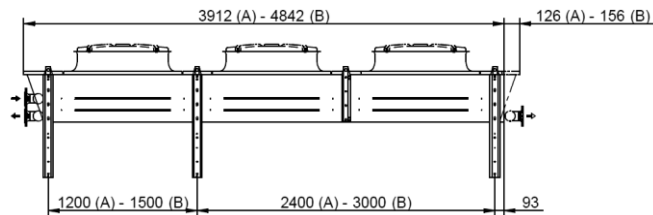
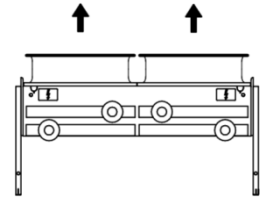
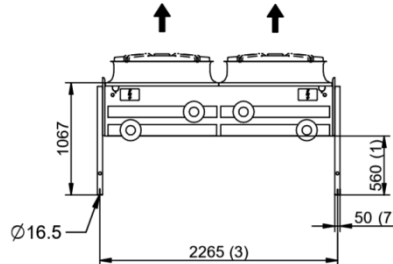
## 4.1 Caractéristiques dimensionnelles - Dimensional characteristics - Abmessungendaten - Características dimensionales - Размерные характеристики



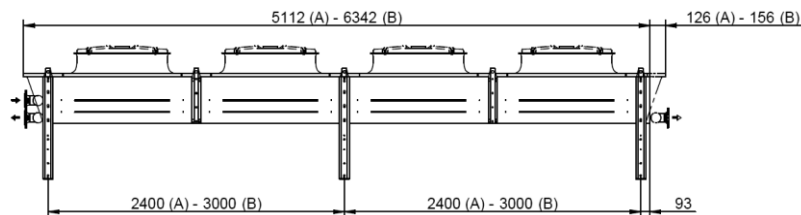
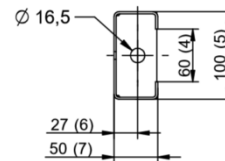
(A) ... L01 A... / P02 A...  
(B) ... L01 B... / ... P02 B...



(A) ... L02 A... / P04 A...  
(B) ... L02 B... / ... P04 B...

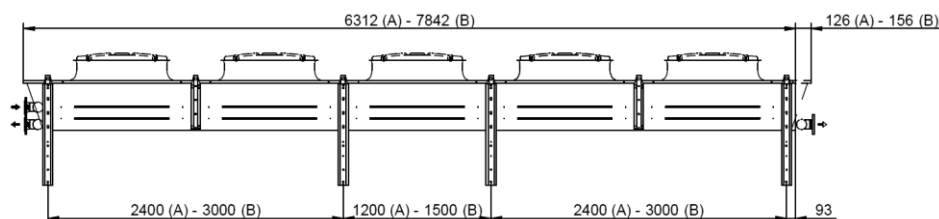


(A) ... L03 A... / P06 A...  
(B) ... L03 B... / ... P06 B...



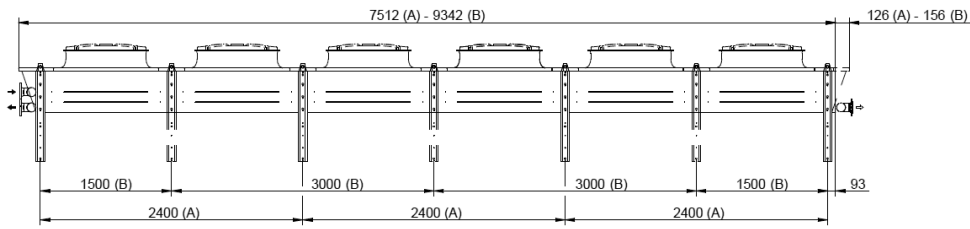
(A) ... L04 A... / P08 A...  
(B) ... L04 B... / ... P08 B...

OPTIONS OPTIONEN OPCIONES Дополнительные	(1)	(2)	(3)	(4)	(5)	(6)	(7)
REH	800	1185	2265	60	100	27	50
RE2	1400	1205	2285	90	130	37	70
RE3	1900	1205	2285	90	130	37	70
RE4	2400	1205	2285	90	130	37	80



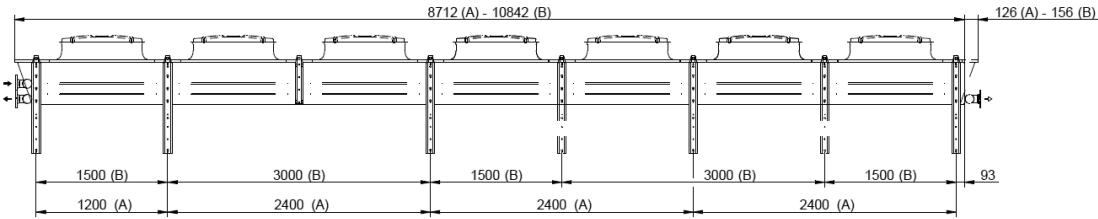
(A) ... L05 A... / P10 A...  
(B) ... L05 B... / ... P10 B...

TYPE	H
PU06D	280
PN06D	310
SN08D	310
SE12D	328
SU16Y	310
HPU06D	380
HSN08D	380
SEEC	310
SUEC	240



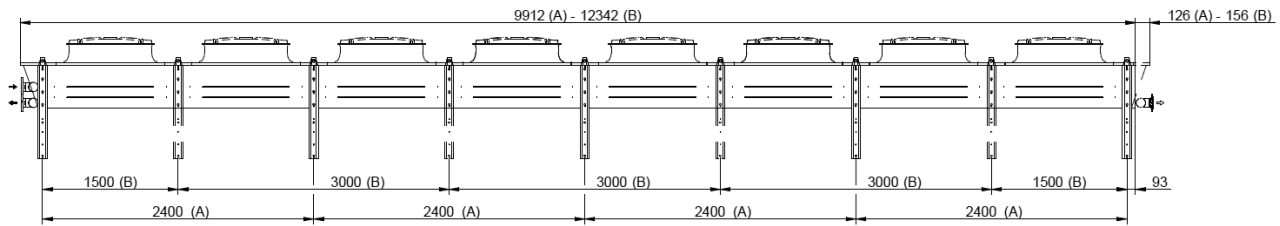
(A) ... L06 A... / P12 A...

(B) ... P12 B...



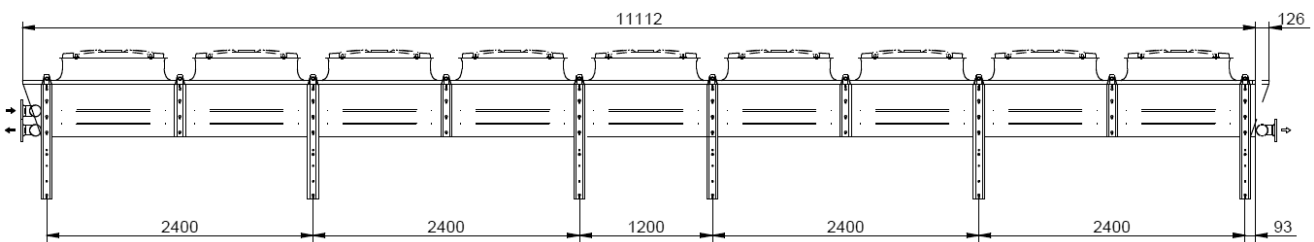
(A) ... P14 A...

(B) ... P14 B...

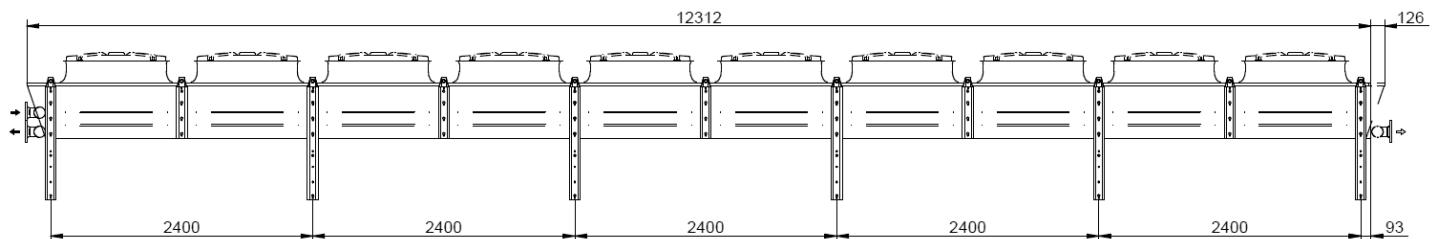


(A) ... P16 A...

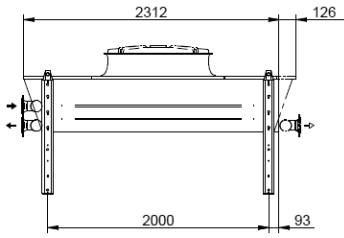
(B) ... P16 B...



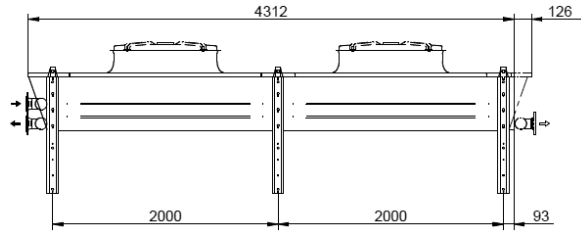
(A) ... P18 A...



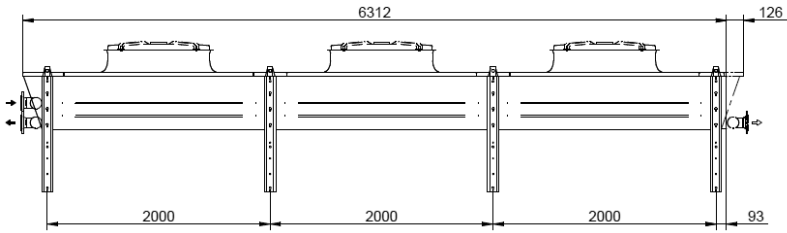
(A) ... P20 A...



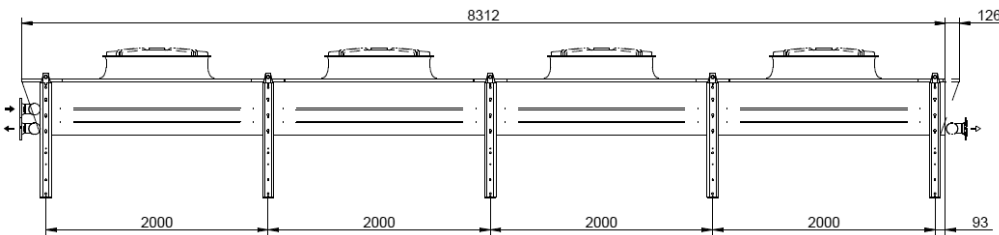
... L01 D... / ... P02 D...



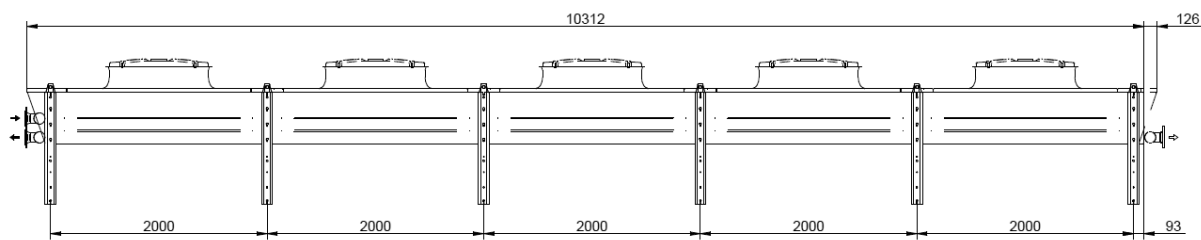
... L02 D... / ... P04 D...



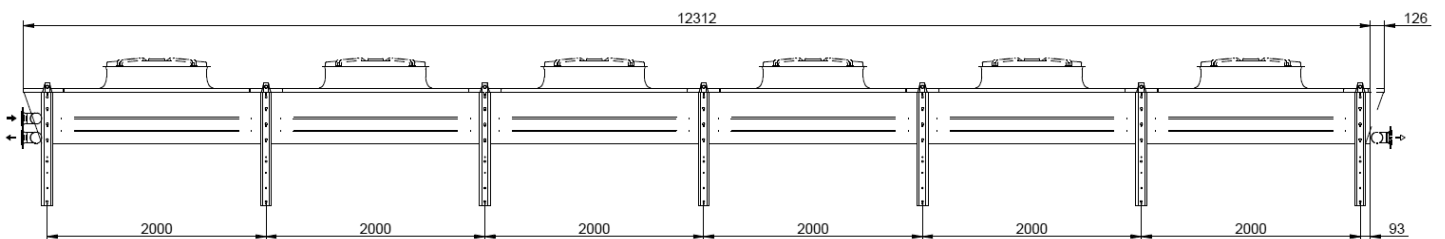
... L03 D... / ... P06 D...



... L04 D... / ... P08 D...



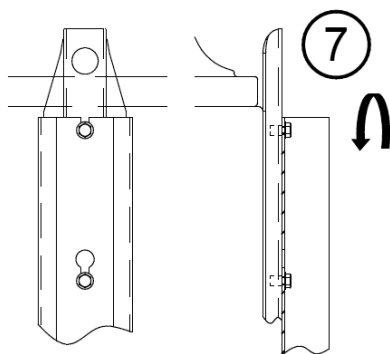
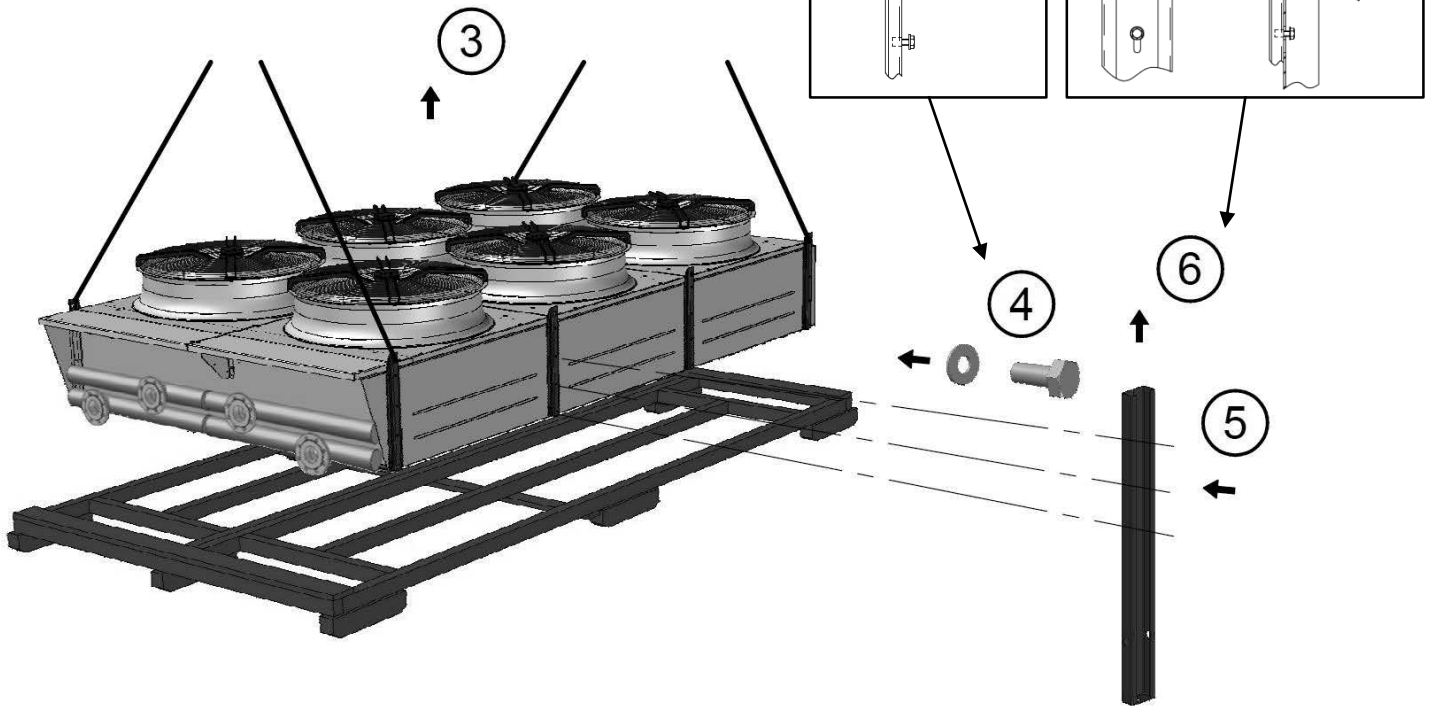
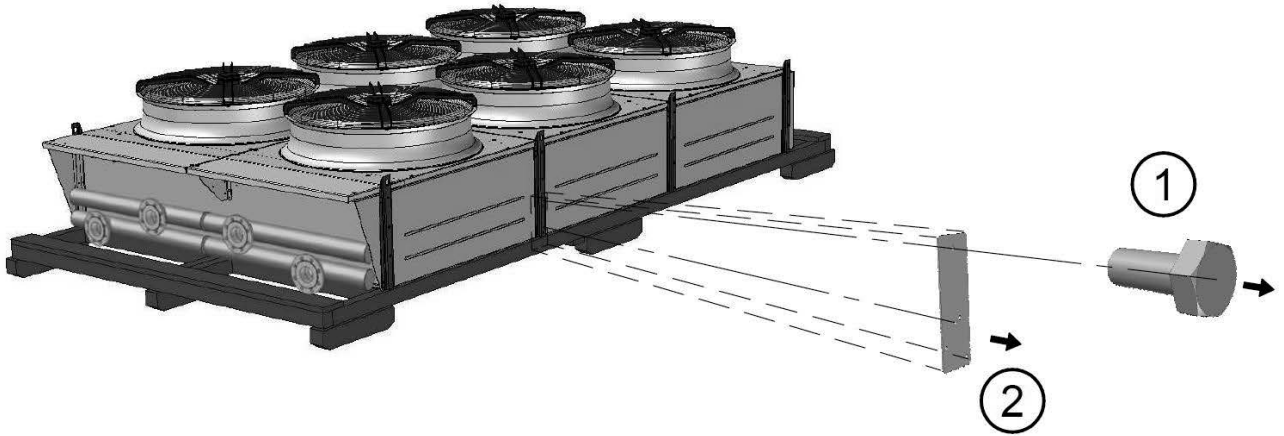
... P10 D...



... P12 D...

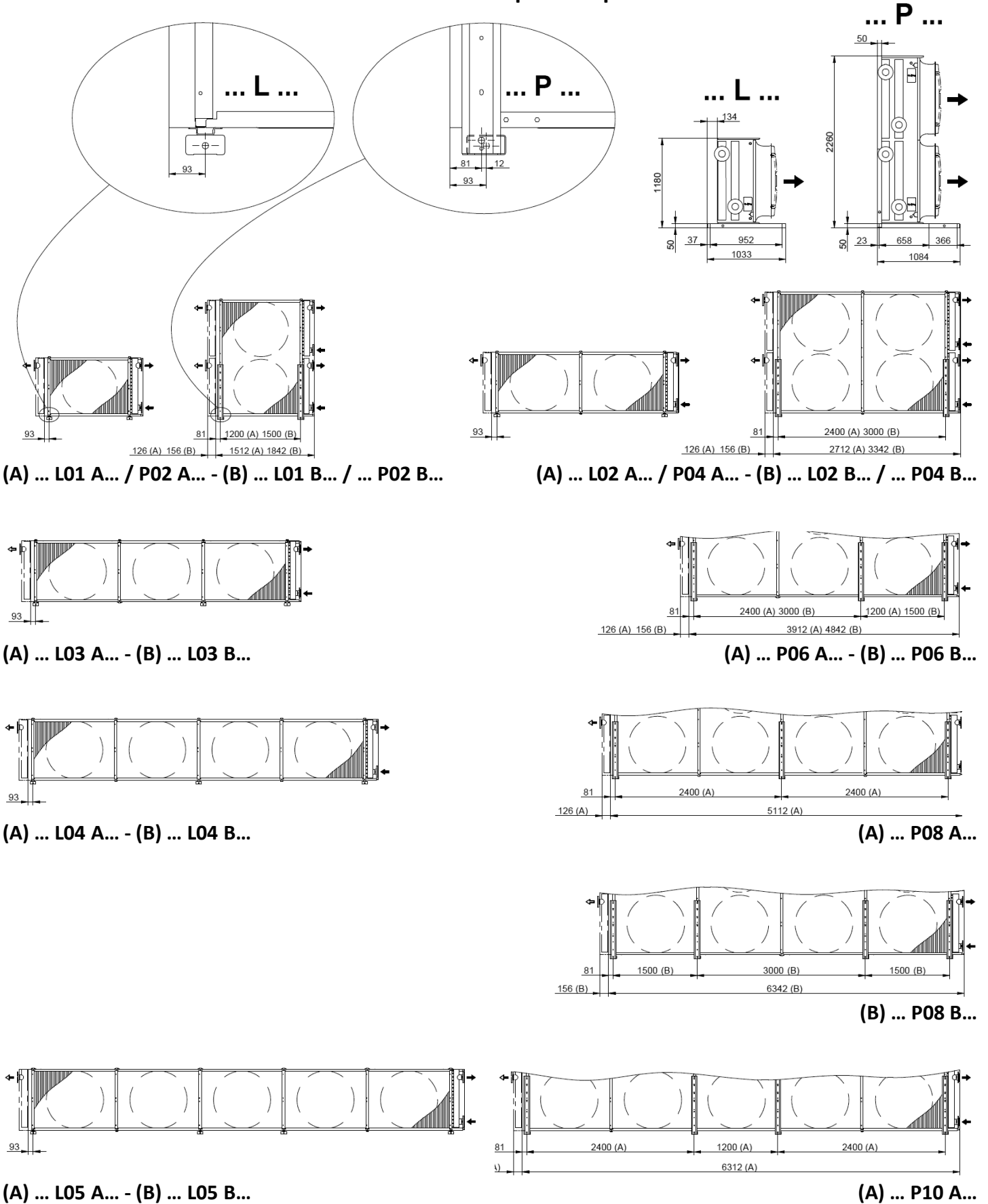
**4.2 Montage des pieds - Leg mounting - Fussmontage - Montaje de las patas -  
Монтаж ножек**

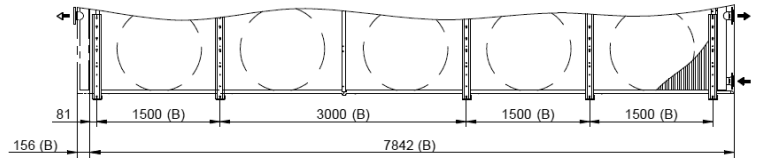
- ① → ② → ③ → ④ → ⑤ → ⑥ → ⑦



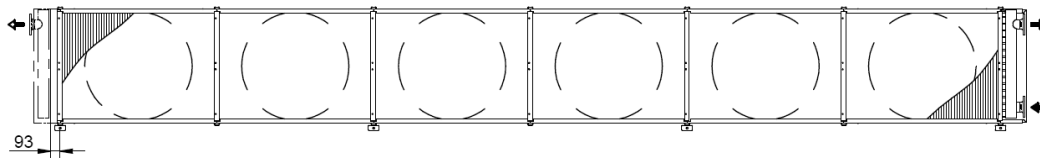
# 5. AIR HORIZONTAL - HORIZONTAL AIR FLOW - HORIZONTAL LUFT - AIRE HORIZONTAL - ГОРИЗОНТАЛЬНЫЙ ВЫБРОС ВОЗДУХА

## 5.1 Caractéristiques dimensionnelles - Dimensional characteristics - Abmessungendaten - Características dimensionales - Размерные характеристики

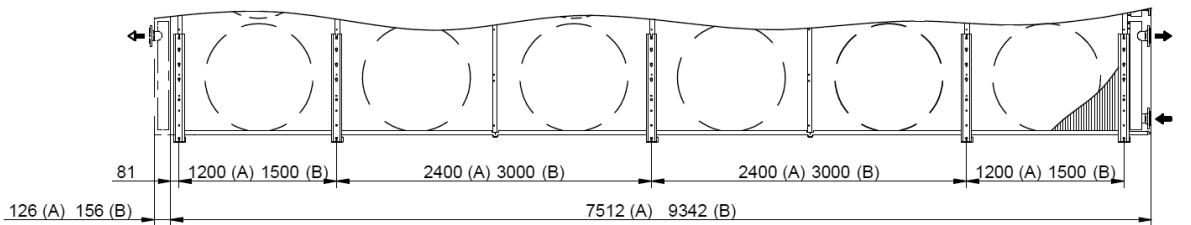




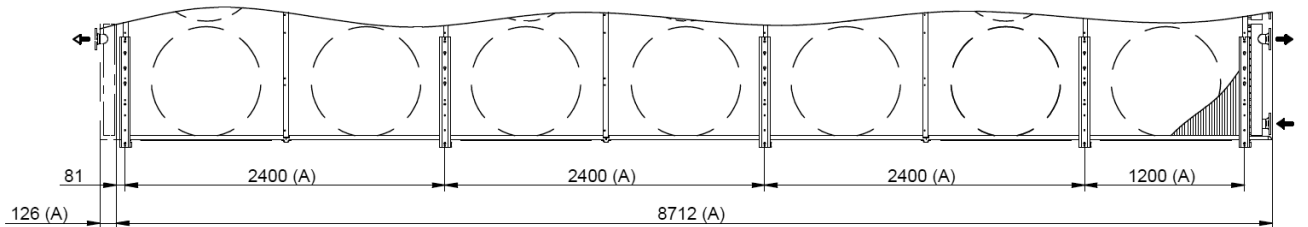
(B) ... P10 B...



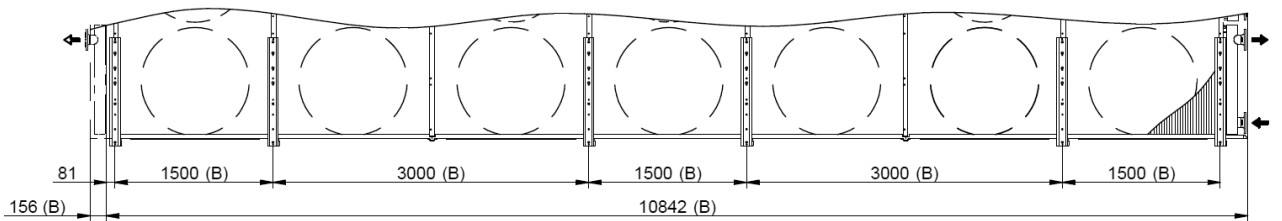
(A) ... L06 A...



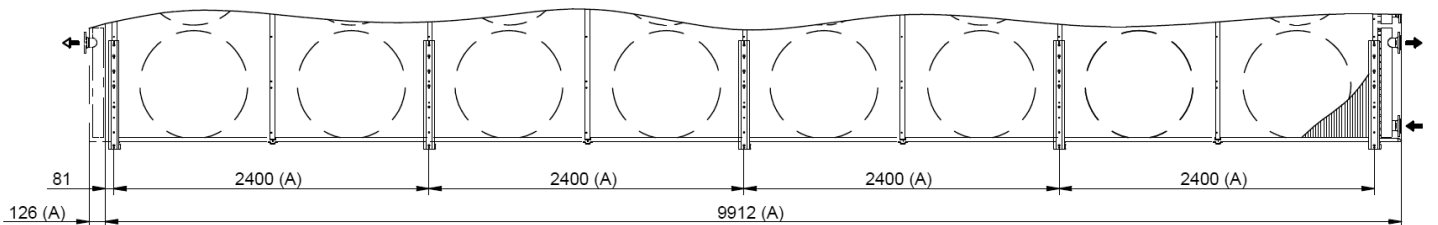
(A) ... P12 A... - (B) ... P12 B...



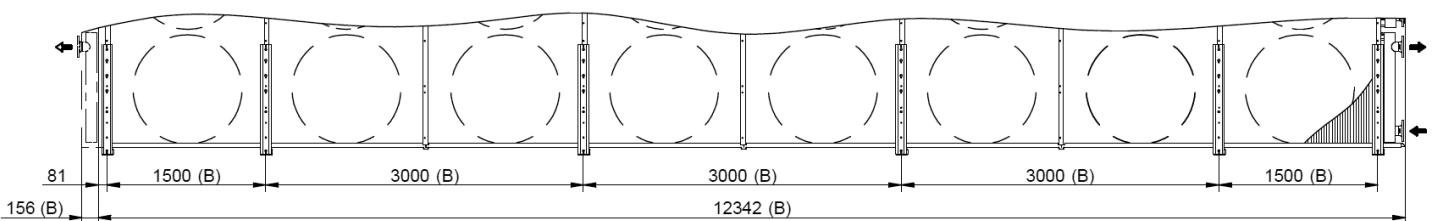
(A) ... P14 A...



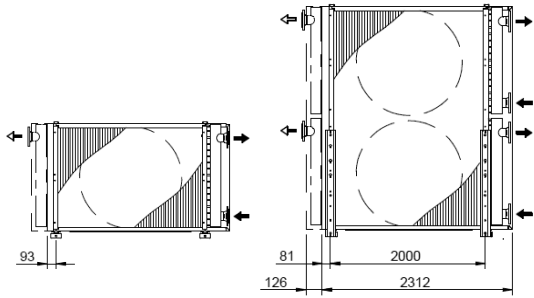
(B) ... P14 B...



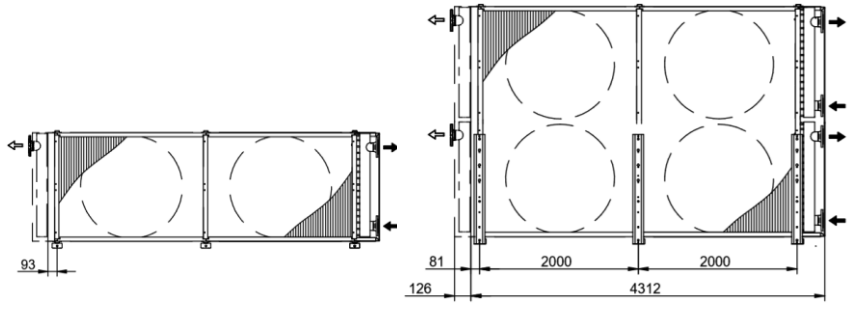
(A) ... P16 A...



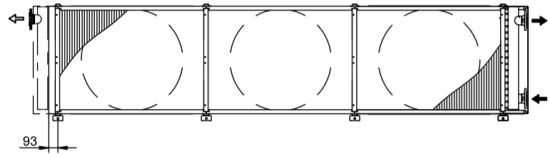
(B) ... P16 B...



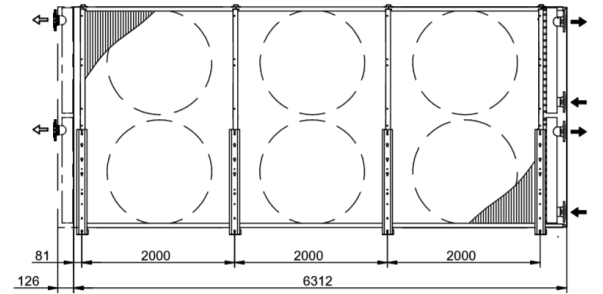
(D) ... L01 D... - ... P02 D...



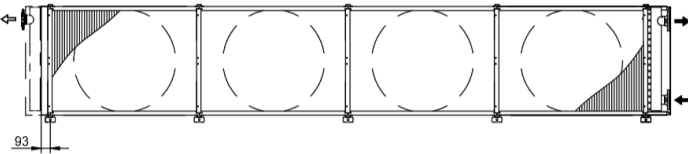
(D) ... L02 D... - ... P04 D...



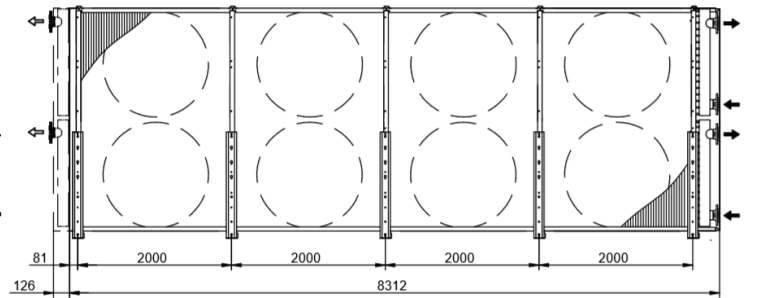
(D) ... L03 D...



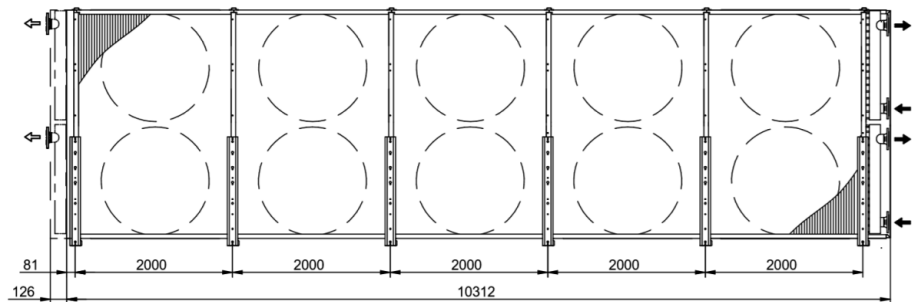
(D) ... P06 D...



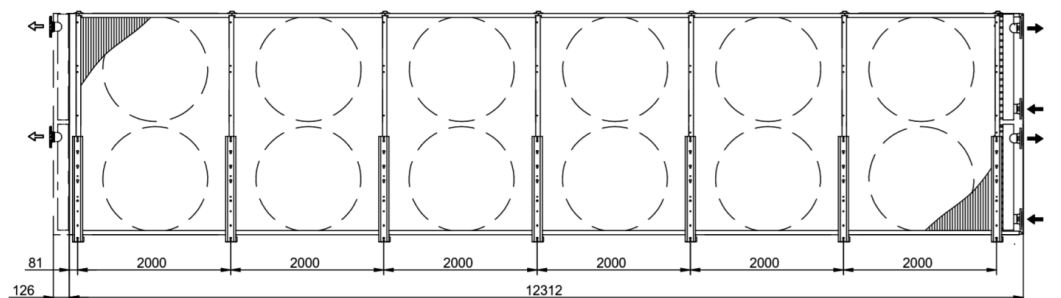
(D) ... L04 D...



(D) ... P08 D...



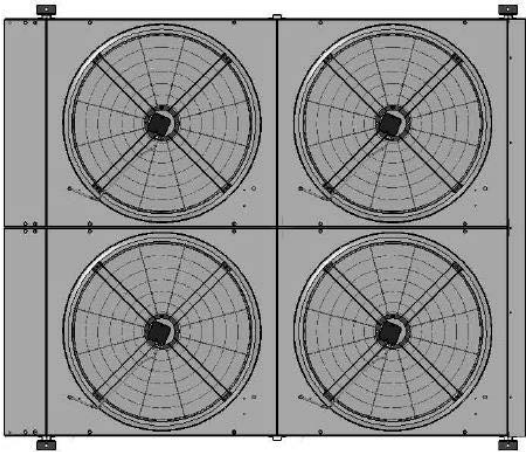
(D) ... P10 D...



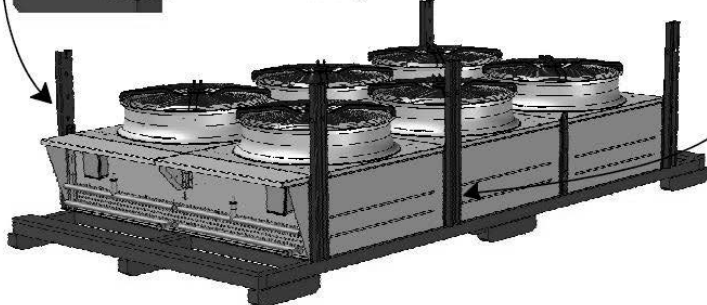
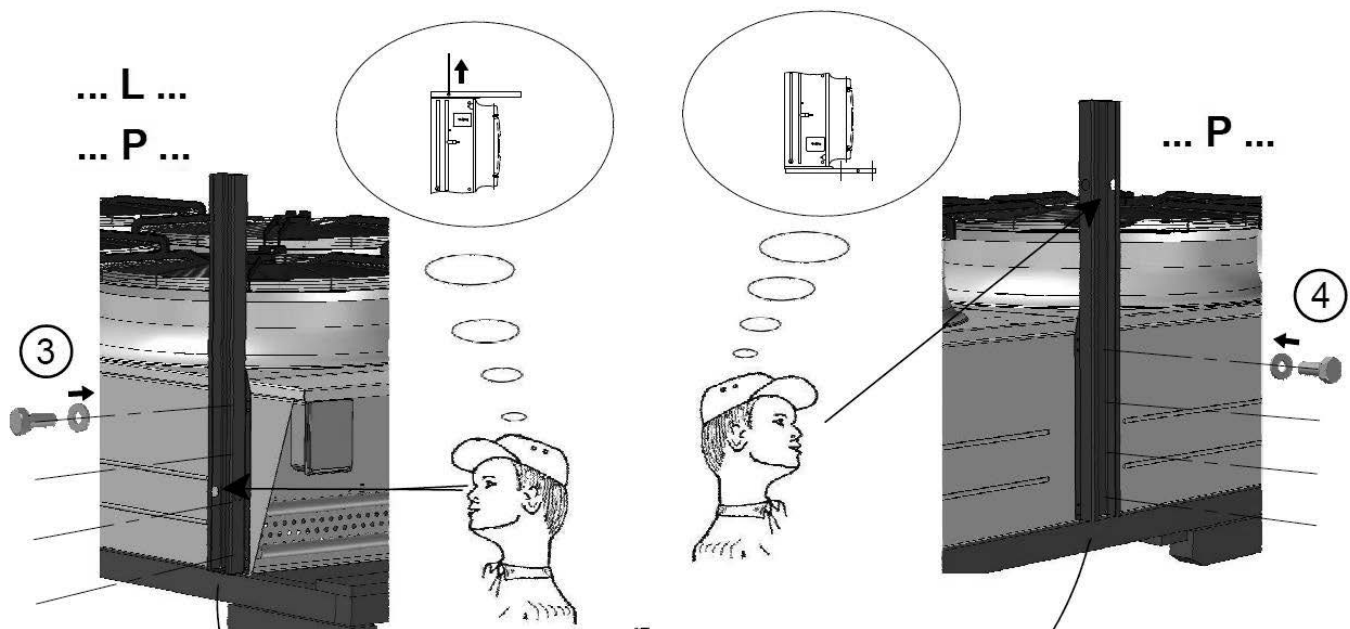
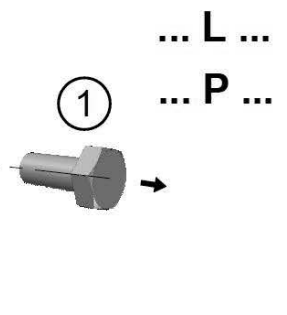
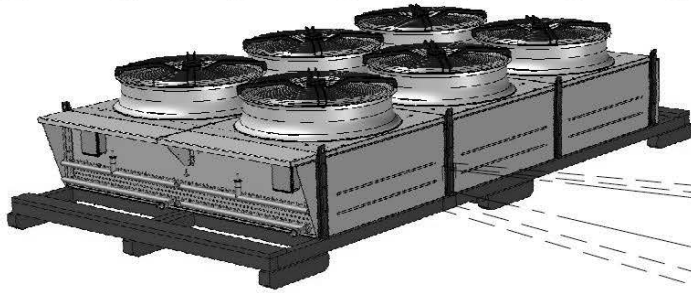
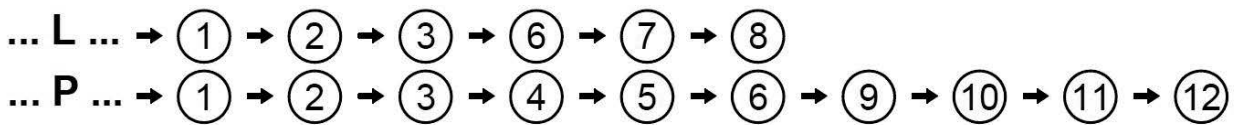
(D) ... P12 D...

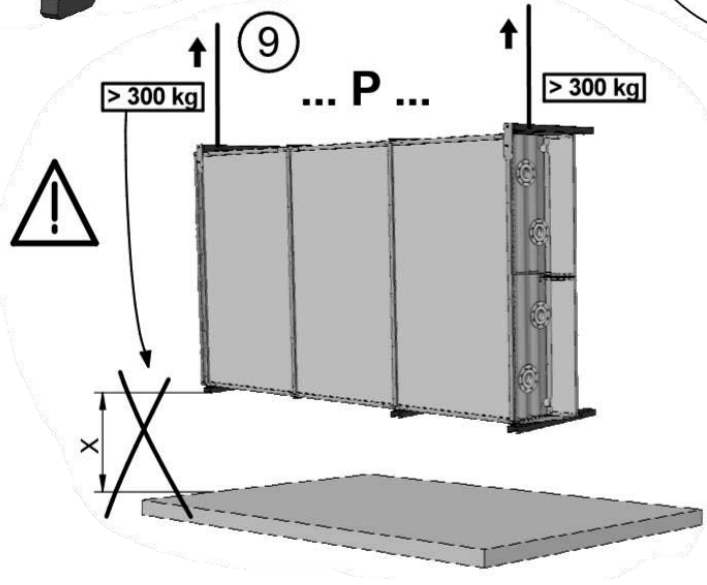
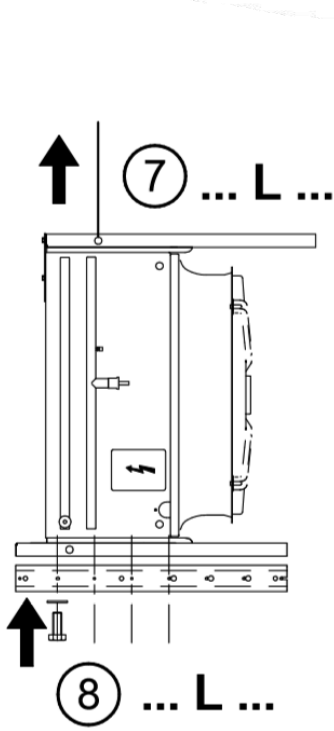
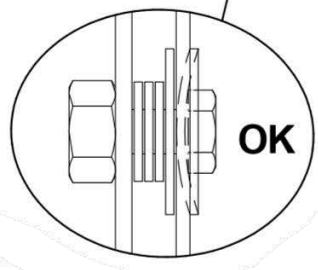
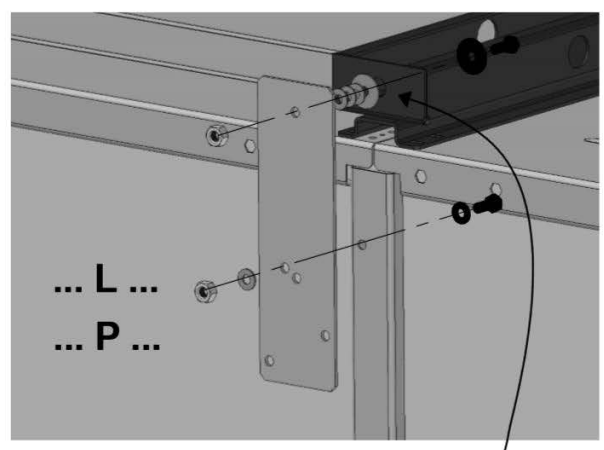
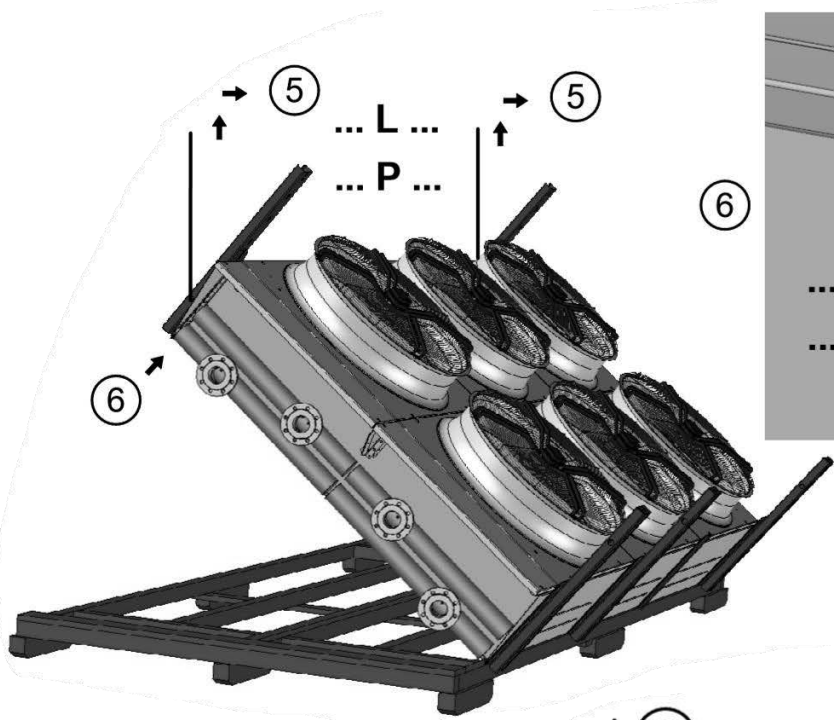


5.2 Montage des pieds - Leg mounting - Fussmontage - Montaje de las patas - Монтаж ножек

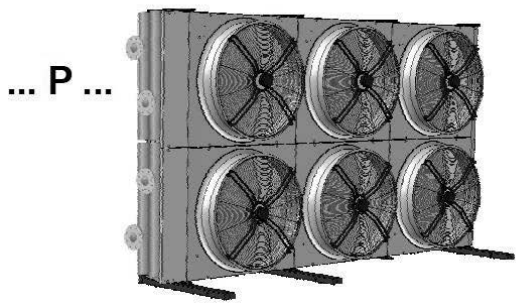
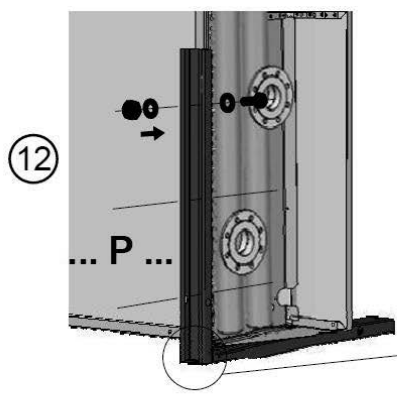
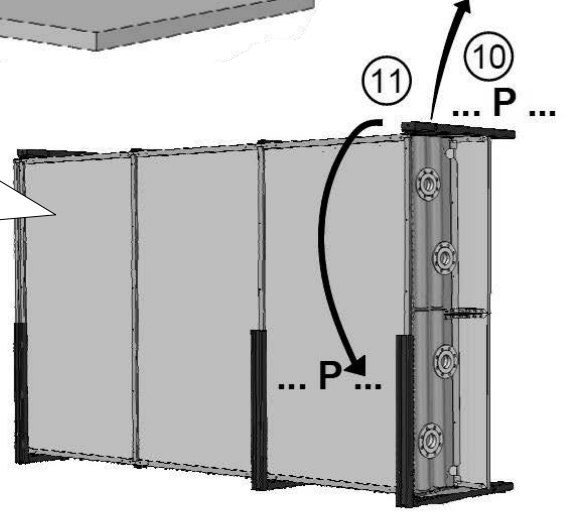


**SORTIE CABLE MOTEUR VERS LE BAS**  
**FAN CABLE OUTLET DOWNWARD DIRECTION**  
**LÜFTERMOTORKABELABGANG NACH UNTENSALIDA**  
**DEL MOTOR DIRIGIDO ABAJOSAIDA**  
**ВЫХОД КАБЕЛЯ ДВИГАТЕЛЯ СНИЗУ**

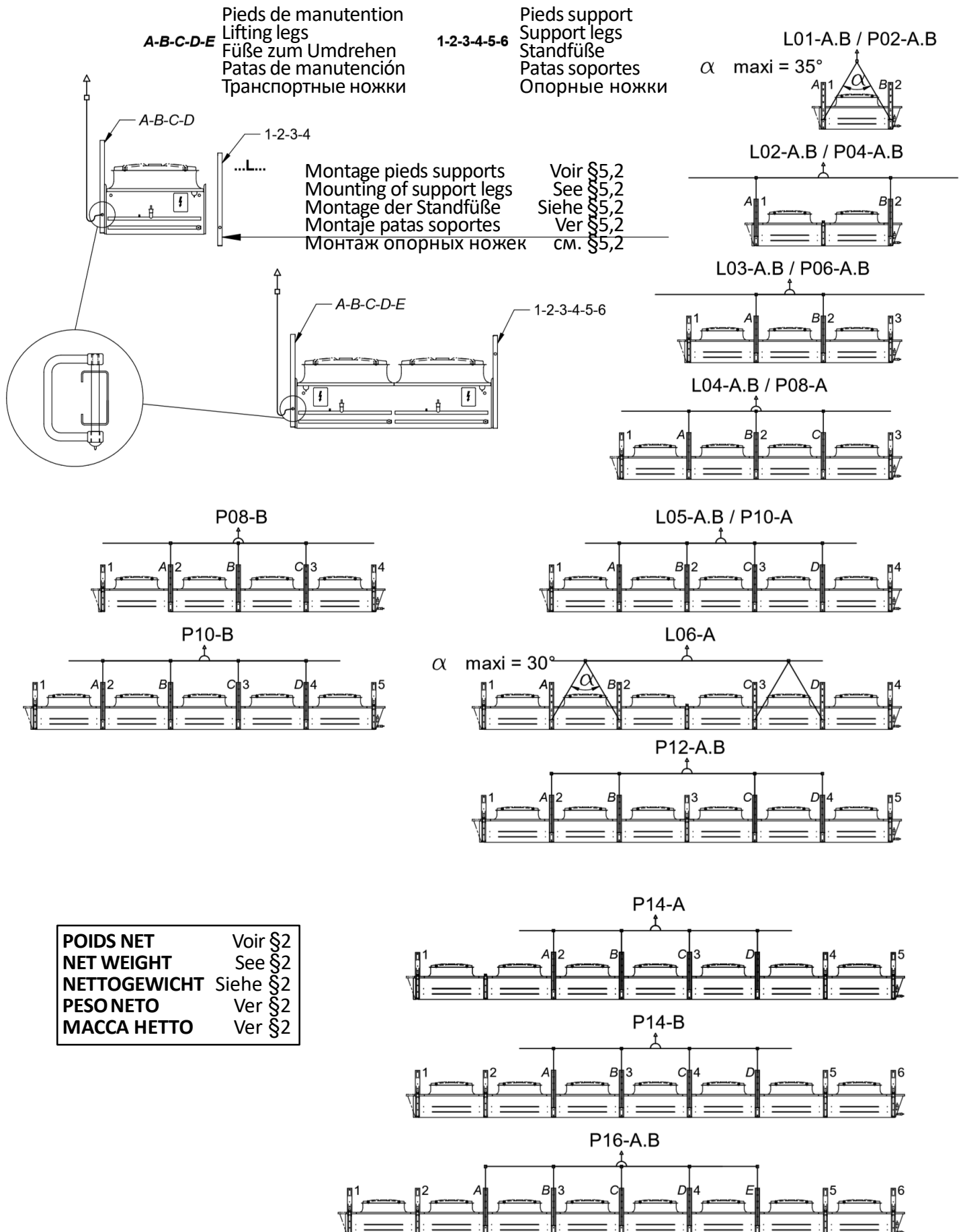




  
**COUPANT**  
**CUTTING**  
**SCHARFKANTIG**  
**CORTE**  
**ОСТРЫЕ КРАЯ**

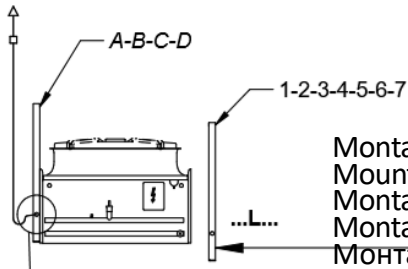


### 5.3 Points de manutention pour retournement / Position pieds supports - Eregting lifting locations for horizontal air flow / location of supports - Aufhängungspunkte zum umdrehen des gerätes / position der standfüße - Puntos de elevación para volteo / localizaciones de elevación - Точки крепления для кантования / Расположение опорных ножек



**A-B-C-D-E**  
 Pieds de manutention  
 Lifting legs  
 FüÙe zum Umdrehen  
 Patas de manutención  
 Транспортные ножки

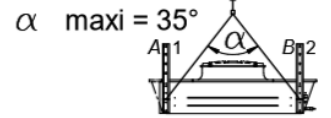
**1-2-3-4-5-6-7**  
 Pieds support  
 Support legs  
 StandfüÙe  
 Patas soportes  
 Опорные ножки



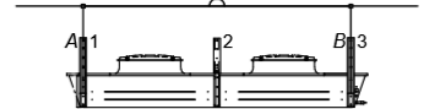
Montage pieds supports  
 Mounting of support legs  
 Montage der StandfüÙe  
 Montaje patas soportes  
 Монтаж опорных ножек

Voir §5,2  
 See §5,2  
 Siehe §5,2  
 Ver §5,2  
 см. §5,2

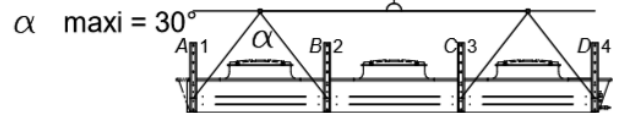
L01-D / P02-D



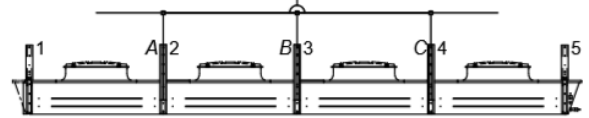
L02-D / P04-D



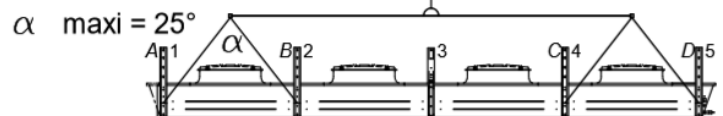
L03D / P06-D



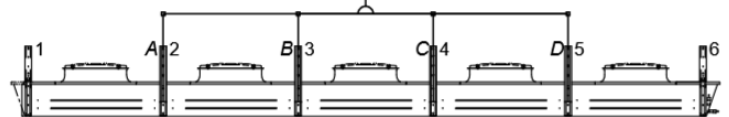
L04-D



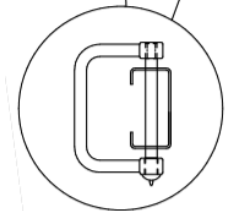
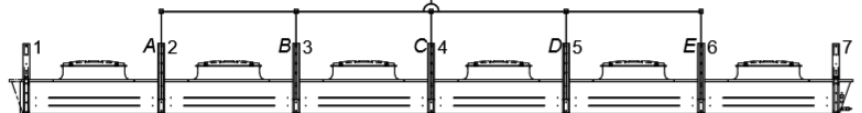
P08-D



P10-D



P12-D



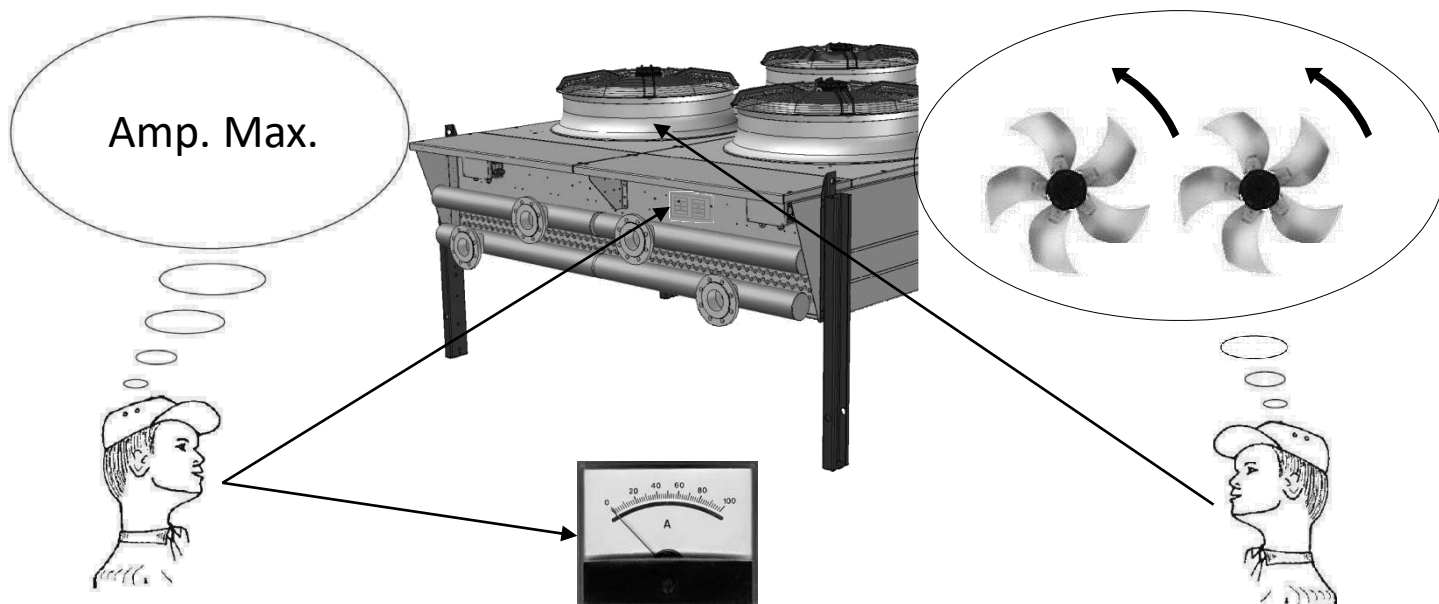
## 6. CARACTERISTIQUES ELECTRIQUES - ELECTRICAL CONNECTIONS - ELEKTRISCHE VERBINDUNGEN - CONEXIONES ELECTRICAS - ЭЛЕКТРИЧЕСКИЕ СОЕДИНЕНИЯ

- Réglage des protections contre les surcharges. Pour des températures d'air "ti" autres que +20 °C, multiplier les intensités par le rapport  $293/(273 + "ti")$ .
- Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to  $293/(273 + "ti")$ .
- Einstellung des Überlastschutzes. Für andere Lufttemperaturzustände "ti" als +20 °C wird die Stromstärke mit einem Verhältnis  $293/(273 + "ti")$  multipliziert.
- Regulación de las protecciones contra las sobrecargas. Para temperaturas de aire "ti" que no sean +20 °C, multiplicar las intensidades por la relación  $293/(273 + "ti")$ .
- Настройка защиты от перегрузок. Для температур воздуха "ti", отличных от +20 °C, умножить интенсивность по формуле  $293/(273 + "ti")$ .

Type	D	Delta (Ti = 20°C)	Star (Ti = 20°C)	Max Temp.
PU06D/Y	910	2480W max. - 5.15A max. - (885rpm-U/min)	1570W max. - 2.9A max. - (685rpm-U/min)	60°C
PN06D/Y	800	1940W max. - 3.9A max. - (880rpm-U/min)	1210W max. - 2.23A max. - (670rpm-U/min)	70°C - 75°C - 80°C
SN08D/Y	800	890W max. - 2.22A max. - (680rpm-U/min)	590W max. - 1.17A max. - (540rpm-U/min)	80°C
SE12D/SU12Y	800	320W max. - 0.84A max. - (440rpm-U/min)	190W max. - 0.39A max. - (330rpm-U/min)	80°C
SU 16Y	800	-	100W max. - 0.25A max. - (250rpm-U/min)	80°C
H PU06D/Y	910	1950W max. - 4.2A max. - (890rpm-U/min)	1300W max. - 2.3A max. - (730rpm-U/min)	80°C
H SN08D/Y	910	880W max. - 2A max. - (150rpm-U/min)	500W max. - 1.05A max. - (480rpm-U/min)	80°C
SE EC	800	2560W max. - 3.9A max. - (1020rpm-U/min)	-	60°C
SU EC	800	835W max. - 1.4A max. - (735rpm-U/min)	-	60°C

## 7. MISE EN SERVICE - START UP - INBETRIEBNAHME - PUESTA EN SERVICIO - ВВОД В ЭКСПЛУАТАЦИЮ

- Variateur de fréquence uniquement possible avec un filtre sinus LC tout pole, sinon la garantie moteurs est invalidée.
- Frequency inverter only possible with a sinus LC filter all pole, otherwise the motor warranty is invalidated.
- Frequenzumformers nur mit allpoligen LC Sinusfilter möglich, ansonsten erlöscht die Gewährleistung auf die Motoren.
- El inversor de frecuencia solo es posible con un filtro sinusoidal LC todos los polos, de lo contrario, la garantía del motor queda invalidada.
- Использование вариатора частоты возможно только с синусным фильтром LC на всех полюсах, в противном случае гарантия на двигатели не распространяется.



## 8. RACCORDEMENTS ELECTRIQUES - ELECTRICAL CONNECTIONS - ELEKTRISCHE ANSCHLÜSSE CONEXIONES ELÉTRICAS - ЭЛЕКТРИЧЕСКИЕ СОЕДИНЕНИЯ

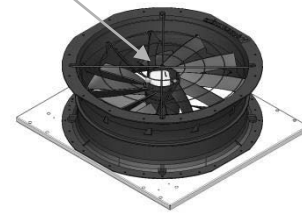
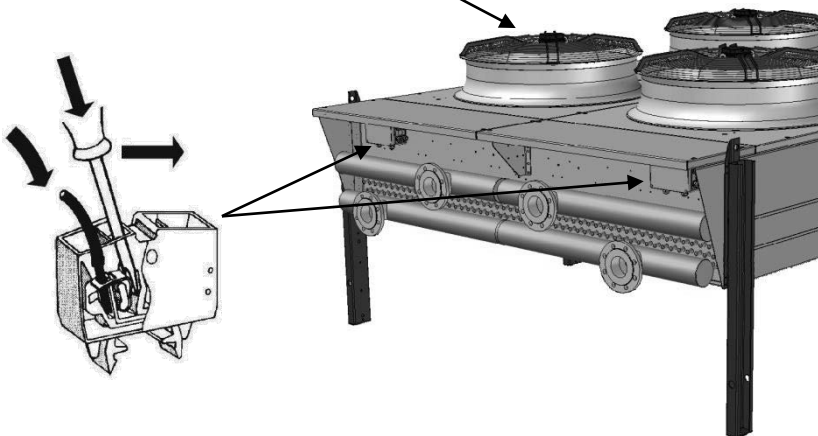
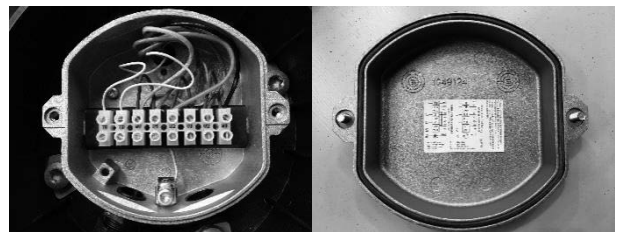


- ATTENTION :** Couper l'alimentation avant toute intervention (Opération effectuée par un personnel habilité et qualifié)
- WARNING :** Isolate the power supply before working on the appliance (Operation performed by qualified persons)
- ACHTUNG :** Vor jedem Eingriff Strom abschalten (Der Betrieb von qualifizierten Personen durchgeführt)
- PRECAUCIÓN :** Corten la alimentación eléctrica antes de trabajar (Operación realizada por personas calificadas)
- ВНИМАНИЕ :** Перед выполнением любых работ обязательно отключайте питание (Работы должны выполняться квалифицированным специалистом)

### 8.1 Raccordements moteurs - Motor connections - Motoranschlüsse - Conexiones motores - Подключение двигателей

FC & FI

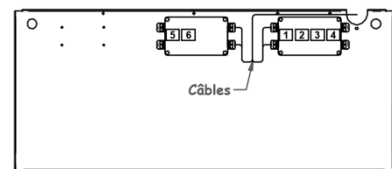
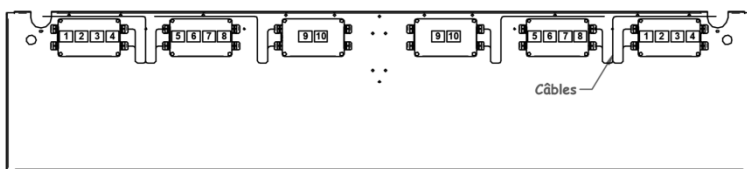
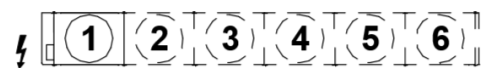
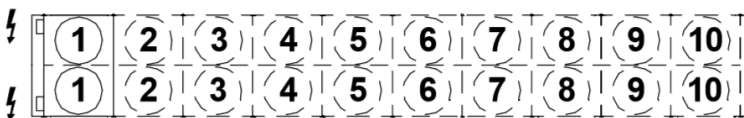
FCH & FIH



#### 8.1.1 Option APC or CSB : Emplacement des boîtes à bornes - Position terminal boxes - Standort klemmkästen - Emplazamiento cajas de bornes - Размещение клеммных колодок

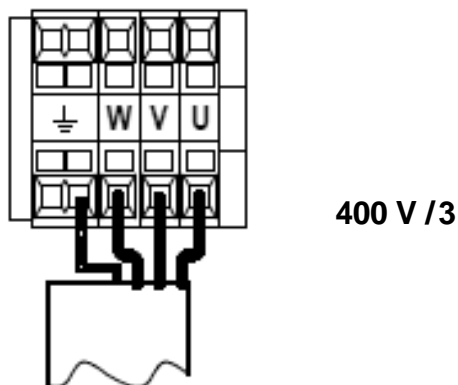
P

L

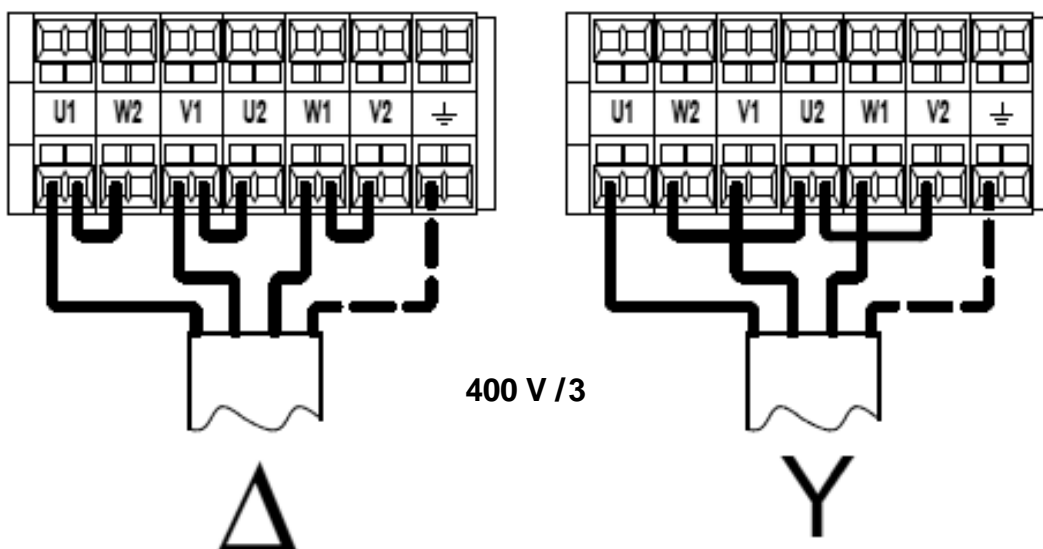


## 8.2 Moteur AC - AC motors - AC motoren - Motores AC - Двигатель переменного тока

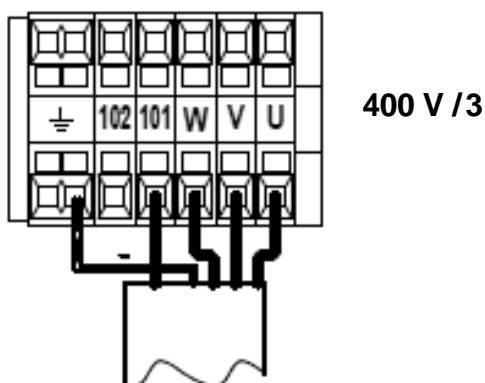
### 8.2.1 Standards - Normen - Estándares - Стандарты



### 8.2.2 Option C2V : Câblage 2 vitesses - 2 Speed wiring - Verkabelung für 2 - Drehzahl Bereiche - Cableado 2 velocidades - Кабельное соединение для 2 скоростей

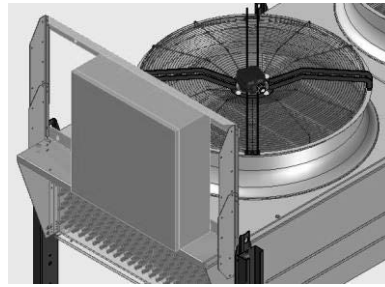


### 8.2.3 Option MTH : Câblage protection thermique - Thermal protection-wiring - Wärmeschutzverkabelung - Cableado de protección térmica - Кабельное соединение тепловой защиты

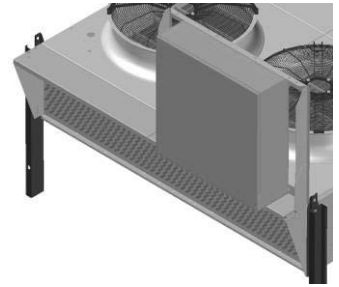


## 8.2.4 Option RT/RP : Armoire de régulation - Control cabinets - Schaltschränke - Armarios de control - Шкафы управления

X= Armoire de régulation livrée séparément  
 X= Control cabinet delivered separately  
 X= Schaltschrank wird separat geliefert  
 X= Gabinete de control entregado por separado  
 X= Шкафы управления поставляются отдельно



L

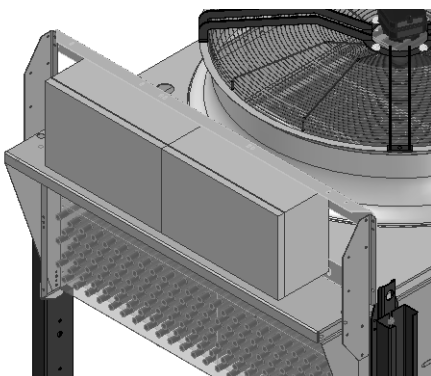


P

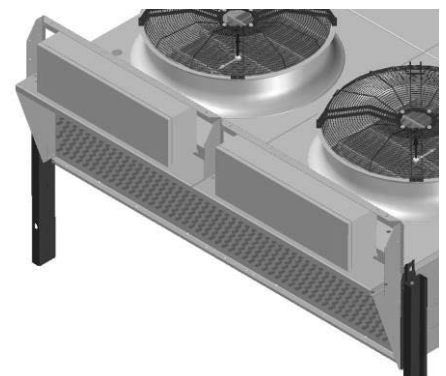
	Poids - Weight - Gewicht - Peso (kg)										
	RT1 / RP1		RT2 / RP2				RT3 / RP3				
Moteurs Motors Motoren Motores	PU06D PN06D	PU06Y PN06Y	PU06D PN06D	PU06Y PN06Y	SN08Y SE12D	SU12Y SU16Y	PU06D PN06D	PU06Y PN06Y	SN08Y SE12D	SU12Y	SU16Y
Modèles Models Modelle Modelos	HPU06D	SN08D/Y SE12D SU12Y SU16Y HPU06Y HSN08D/Y	HPU06D	SN08D HPU06Y HSN08D	HSN08Y		HPU06D	SN08D HPU06Y HSN08D	HSN08Y		
... L01..	+ 31	+ 24	+ 30	+ 30	+ 30	+ 30	+ 40	+ 40	+ 38	+ 38	+ 38
... L02..	+ 31	+ 35	+ 31	+ 30	+ 30	+ 30	+ 45	+ 42	+ 38	+ 38	+ 38
... L03..	+ 32	+ 36	+ 31	+ 31	+ 30	+ 31	+ 67	+ 45	+ 40	+ 38	+ 38
... L04..	+ 32	+ 42	+ 36	+ 31	+ 31	+ 31	+ 71	+ 55	+ 40	+ 38	+ 38
... L05..	+ 36	+ 43	+ 38	+ 32	+ 32	+ 32	+ 76	+ 68	+ 43	+ 39	+ 39
... L06..	+ 36	+ 44	+ 38	+ 38	+ 32	+ 32	+ 96	+ 72	+ 46	+ 41	+ 39
... P04..	+ 34	+ 27	+ 34	+ 33	+ 33	+ 33	+ 48	+ 45	+ 41	+ 41	+ 41
... P04..	+ 35	+ 45	+ 39	+ 34	+ 34	+ 34	+ 74	+ 58	+ 43	+ 41	+ 41
... P06..	+ 38	+ 45	+ 40	+ 40	+ 34	+ 34	+ 98	+ 74	+ 43	+ 43	+ 41
... P08..	+ 46	+ 46	+ 68	+ 53	+ 47	+ 36	+ 121	+ 79	+ 59	+ 57	+ 54
... P10..	+ 57	+ 57	+ 84	+ 54	+ 48	+ 48	X	+ 99	+ 61	+ 57	+ 57
... P12..	+ 71	+ 71	+ 85	+ 79	+ 57	+ 58	X	+ 121	+ 61	+ 59	+ 57
... P14..	+ 71	+ 71	+ 103	+ 80	+ 64	+ 59	X	+ 121	+ 61	+ 59	+ 57
... P16..	+ 72	+ 72	+ 109	+ 86	+ 65	+ 59	X	X	+ 71	+ 61	+ 57
... P18..	+ 80	+ 80	+ 121	+ 99	+ 75	+ 70	X	X	+ 82	+ 67	+ 63
... P20..	+ 81	+ 81	+ 161	+ 100	+ 76	+ 71	X	X	+ 82	+ 67	+ 63

## 8.2.5 Option CMP: Protections moteurs - Motor protections - Motorschutz - Protección del motor - Защита двигателей

L



P



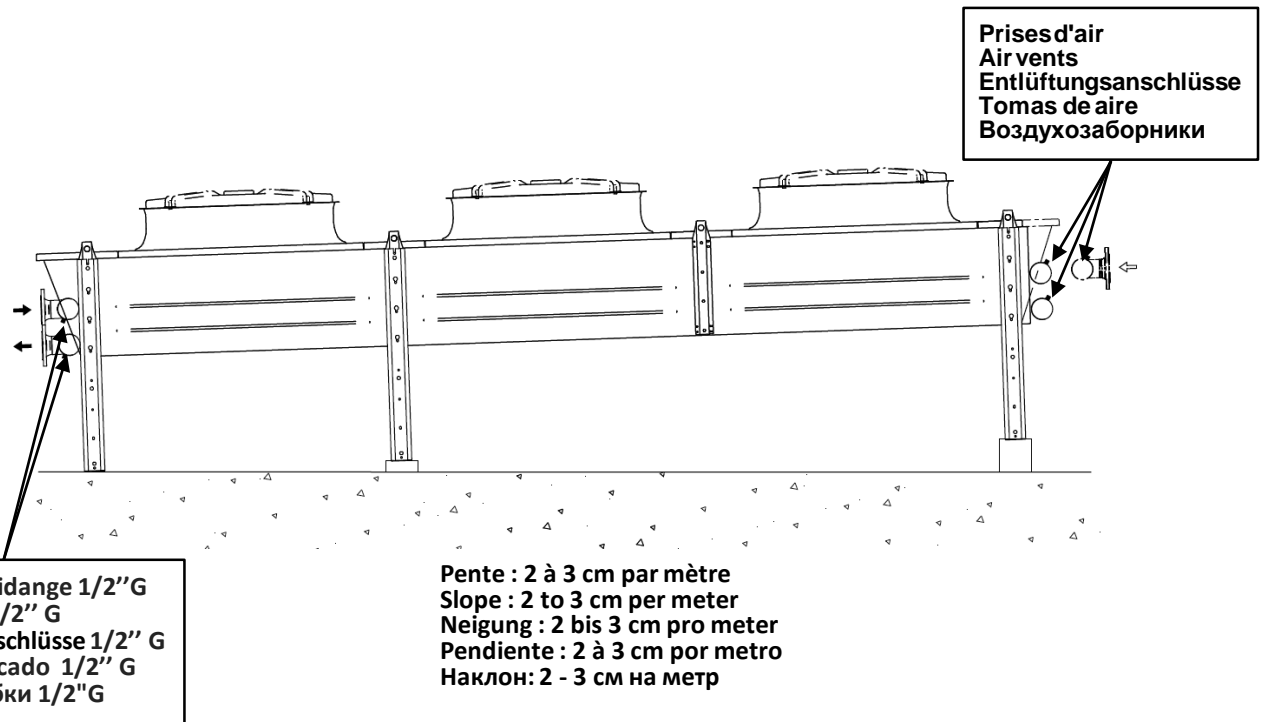
Modeles Models Modelle Modelos	Poids Weight Gewicht Peso (kg)	Modeles Models Modelle Modelos	Poids Weight Gewicht Peso (kg)
..L01..	+ 13	..P02..	+ 14
..L02..	+ 14	..P04..	+ 15
..L03..	+ 14	..P06..	+ 20
..L04..	+ 15	..P08..	+ 21
..L05..	+ 16	..P10..	+ 23
..L06..	+ 20	..P12..	+ 24
		..P14..	+ 26
		..P16..	+ 31
		..P18..	+ 43
		..P20..	+ 45



## 9. AUTRES OPTIONS - OTHERS OPTIONS - ANDERE PTIONEN - OTRAS OPCIONES - ДОПОЛНИТЕЛЬНЫЕ ОПЦИИ

9.1 VID : Installation d'appareils circuités spécifiquement pour une vidange gravitaire - installation von geräten mit spezifischen kreisen zur voll entleerung - Durch schwerkraft ablauf - Installation for units with special circuits allowing a full drainability through gravity - установка устройств, специально предназначенных для гравитационного слива

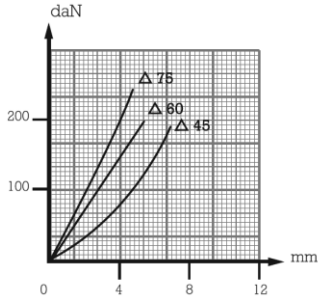
- Eau sans glycol et zone de gel : circuit special avec vidange gravitaire + position inclinee
- Plain water and frost risk : special circuiting with gravity drain + sloped installation
- Glykolfreiem wasser und frostgefahr : spezialkreislauf mit schwerkraftablauf + geneigte position
- Agua no glicolado y zona de hielo : circuito especial con drenaje por gravedad + posicion inclinada
- Вода без гликоля и зоны замораживания: специальный контур для гравитационного слива + наклоненное положение



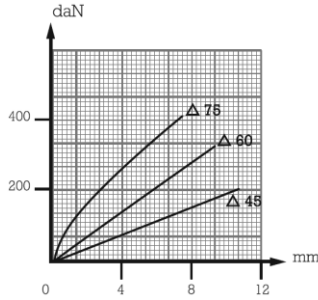
- VIDANGE En cas de Température d'air < +5°C : retirer tous les bouchons, vidanges et prises d'air, et s'assurer de l'écoulement total.
- DRAINING (Air temperature >+5°C) : take off all plugs, drains and vents, and make sure of full draining.
- ENTLEERUNG (Lufttemperatur >+5°C) : alle entleerungs und entlüftungsanschlüsse öffnen und vollständige leerung sicherstellen.
- VACIADO (Temperatura del aire >+5°C) : retirar todos los tapones, vaciados y tomas des aire, y cerciorarse deldesagüe total.
- СЛИВ (Температура воздуха >+5°C): снимите все пробки, дренажи и воздухозаборники и убедитесь, что из устройства вытекла вся жидкость.

## 9.2 PAV : Plots Anti-Vibratiles - Vibrations Dampers - Schwingungsdämpfer - Amortiguadores de vibración - Противовибрационные прокладки

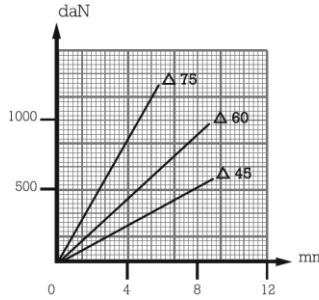
PAV	A	B	B1	C	D	E	F	M	Kg
PI9M00001 - APK T 100/60	100	27,5	25,5	10,2	124	10,2	2,5	22	0,46
PI9M00002 - APK T 150/60	150	39	36	14,2	182	12,2	214	34	1,34
PI9M00003 - APK T 150/75	150	39	36	14,2	182	12,2	214	34	1,34
PI9M00004 - APK T 200/45	200	44	40	18	240	14,5	280	44	3,03



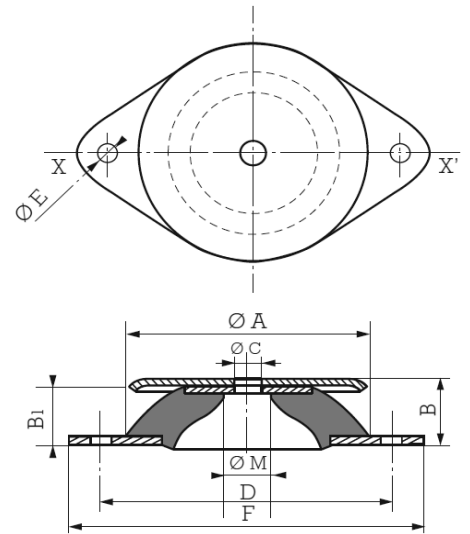
APK T 100



APK T 150



APK T 200



**Valable uniquement avec soufflage vertical - Applies only with vertical blowing - Nur gültig bei vertikalem Auslass - Válido solo con descarga vertical - Действительно только применительно к варианту с вертикальным направлением воздуха**

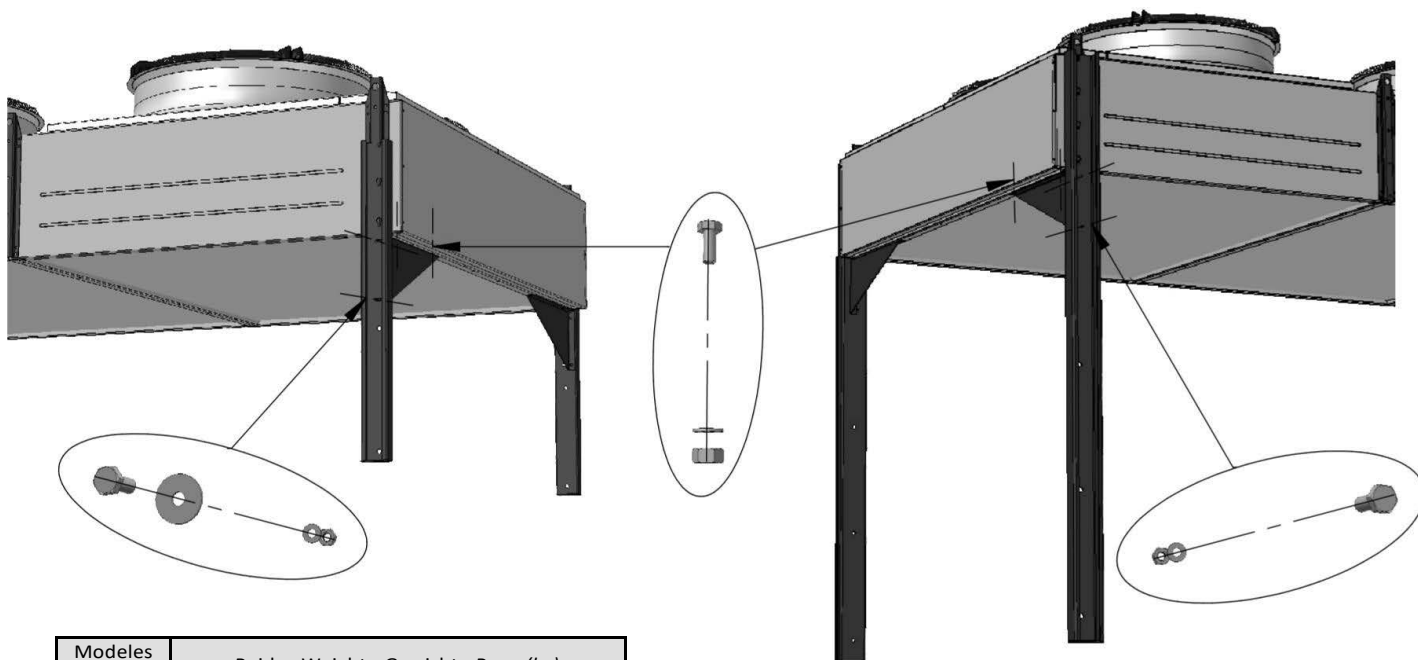
FC															
Modèles Models Modelle Modelos	L01			L02			L03			L04			L05		L06
	A	B	D	A	B	D	A	B	D	A	B	D	A	B	A
	PI9M00001 - APK T 100/60	4	4	4	4	4	4	6	6	8			10	8	8
PI9M00002 - APK T 150/60										6	6				8

FC																						
Modèles Models Modelle Modelos	P02			P04			P06			P08			P10			P12			P14		P16	
	A	B	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B	A	B
	PI9M00001 - APK T 100/60	4	4	4																		
PI9M00002 - APK T 150/60				4	4	6	6		8			10	8		12			14				
PI9M00003 - APK T 150/75								6		6				8		8			10	12	10	
PI9M00004 - APK T 200/45										6						8						12

FI															
Modèles Models Modelle Modelos	L01			L02			L03			L04			L05		L06
	A	B	D	A	B	D	A	B	D	A	B	D	A	B	A
	PI9M00001 - APK T 100/60	4	4	4	4	4				8			10		
PI9M00002 - APK T 150/60						4	6	6		6	6		8	8	8

FI																										
Modèles Models Modelle Modelos	P02			P04			P06			P08			P10			P12			P14		P16		P18		P20	
	A	B	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B	A	B	A	B	A	B
	PI9M00002 - APK T 150/60	4	4	4																						
PI9M00003 - APK T 150/75				4	4	6	6	6	8			10	8	8	12			14								
PI9M00004 - APK T 200/45										6	6					8	8		10	12	10	12	12	12	14	

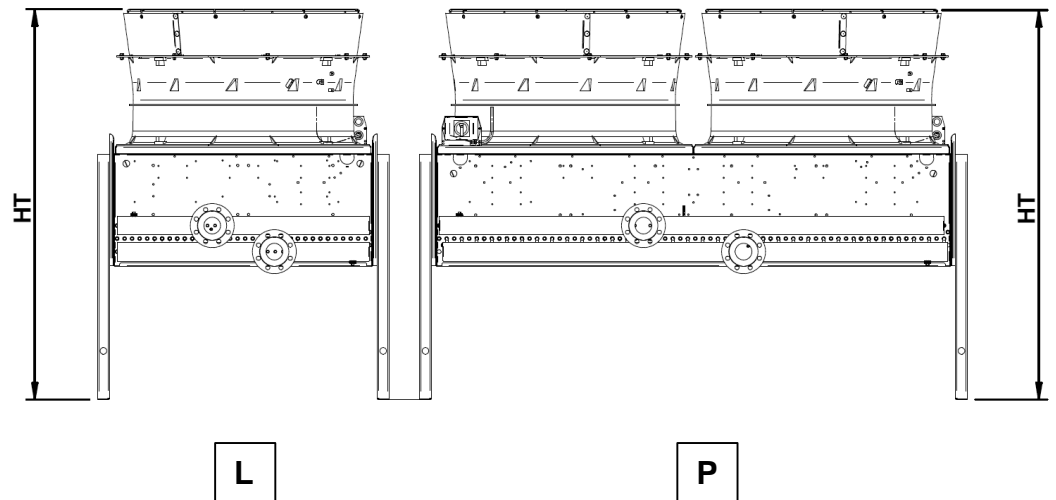
### 9.3 REH / RE2 / RE3 / RE4 : Pieds rehaussés – Extended legs - Höhenverstellbare Füße - Patas realzadas - Поднятые ножки



Modeles Models Modelle Modelos	Poids - Weight - Gewicht - Peso (kg)			
	REH	REH2	REH3	REH4
... L01A	+ 14	+ 60	+ 76	+ 102
... L01B	+ 14	+ 60	+ 76	+ 102
... L01D	+ 14	+ 60	+ 76	+ 102
... L02A	+ 14	+ 60	+ 76	+ 102
... L02B	+ 14	+ 60	+ 76	+ 102
... L02D	+ 21	+ 90	+ 114	+ 152
... L03A	+ 21	+ 90	+ 114	+ 152
... L03B	+ 21	+ 90	+ 114	+ 152
... L03D	+ 27	+ 120	+ 152	+ 203
... L04A	+ 21	+ 90	+ 114	+ 152
... L04B	+ 21	+ 90	+ 114	+ 152
... L04D	+ 34	+ 150	+ 190	+ 253
... L05A	+ 27	+ 120	+ 152	+ 203
... L05B	+ 27	+ 120	+ 152	+ 203
... L06A	+ 27	+ 120	+ 152	+ 203
... P02A	+ 14	+ 60	+ 76	+ 102
... P02B	+ 14	+ 60	+ 76	+ 102
... P02D	+ 14	+ 60	+ 76	+ 102
... P04A	+ 14	+ 60	+ 76	+ 102
... P04B	+ 14	+ 60	+ 76	+ 102
... P04D	+ 21	+ 90	+ 114	+ 152
... P06A	+ 21	+ 90	+ 114	+ 152
... P06B	+ 21	+ 90	+ 114	+ 152
... P06D	+ 27	+ 120	+ 152	+ 203
... P08A	+ 21	+ 90	+ 114	+ 152
... P08B	+ 21	+ 90	+ 114	+ 152
... P08D	+ 34	+ 150	+ 190	+ 253
... P10A	+ 27	+ 120	+ 152	+ 203
... P10B	+ 27	+ 120	+ 152	+ 203
... P10D	+ 41	+ 180	+ 228	+ 304
... P12A	+ 27	+ 120	+ 152	+ 203
... P12B	+ 34	+ 150	+ 190	+ 253
... P12D	+ 47	+ 210	+ 266	+ 354
... P14A	+ 34	+ 150	+ 190	+ 253
... P14B	+ 41	+ 180	+ 228	+ 304
... P16A	+ 34	+ 150	+ 190	+ 253
... P16B	+ 41	+ 180	+ 228	+ 304
... P18A	+ 41	+ 180	+ 228	+ 304
... P20A	+ 41	+ 180	+ 228	+ 304

## 9.4 ATT : Atténuateurs de bruit - Sound suppressors - Schalldämpfer - Atenuadores de ruido - Шумоглушители

Modèles Models Modelle Modelos	L / P
	<b>HT</b> (mm)
SE12D	1600
HPU06D HSN08D	1650
SN08D PN06D SU16Y	1610
SEEC	1640
SUEC	1570
PU06D	1590



Modeles Models Modelle Modelo	Moteurs Motors Motoren Motores	Poids / Weight / Gewicht / Peso (kg)									
		Nb / No Anz / Nüm.	PU06D PU06Y	PN06D PN06Y	SN08D SN08Y	SE12D SU12Y	SU16Y	HPU06D HPU06Y	HSN08D HSN08Y	SEEC	SUEC
		... L01..	1	+ 10	+ 8	+ 8	+ 8.6	+ 8	+ 9.7	+ 9.7	+ 8
... L02..	2	+ 20	+ 16	+ 16	+ 17.2	+ 16	+ 19.4	+ 19.4	+ 16	+ 16	
... L03..	3	+ 30	+ 24	+ 24	+ 25.8	+ 24	+ 29.1	+ 29.1	+ 24	+ 24	
... L04..	4	+ 40	+ 32	+ 32	+ 34.4	+ 32	+ 38.8	+ 38.8	+ 32	+ 32	
... L05..	5	+ 50	+ 40	+ 40	+ 43	+ 40	+ 48.5	+ 48.5	+ 40	+ 40	
... L06..	6	+ 60	+ 48	+ 48	+ 51.6	+ 48	+ 58.2	+ 58.2	+ 48	+ 48	
... P02..	2	+ 20	+ 16	+ 16	+ 17.2	+ 16	+ 19.4	+ 19.4	+ 16	+ 16	
... P04..	4	+ 40	+ 32	+ 32	+ 34.4	+ 32	+ 38.8	+ 38.8	+ 32	+ 32	
... P06..	6	+ 60	+ 48	+ 48	+ 51.6	+ 48	+ 58.2	+ 58.2	+ 48	+ 48	
... P08..	8	+ 80	+ 64	+ 64	+ 68.8	+ 64	+ 77.6	+ 77.6	+ 64	+ 64	
... P10..	10	+ 100	+ 80	+ 80	+ 86	+ 80	+ 97	+ 97	+ 80	+ 80	
... P12..	12	+ 120	+ 96	+ 96	+ 103.2	+ 96	+ 116.4	+ 116.4	+ 96	+ 96	
... P14..	14	+ 140	+ 112	+ 112	+ 120.4	+ 112	+ 135.8	+ 135.8	+ 112	+ 112	
... P16..	16	+ 160	+ 128	+ 128	+ 137.6	+ 128	+ 155.2	+ 155.2	+ 128	+ 128	
... P18..	18	+ 180	+ 144	+ 144	+ 154.8	+ 144	+ 174.6	+ 174.6	+ 144	+ 144	
... P20..	20	+ 200	+ 160	+ 160	+ 172	+ 160	+ 194	+ 194	+ 160	+ 160	

## 10. ENTRETIEN - MAINTENANCE - WARTUNG - MANTENIMIENTO - ОБСЛУЖИВАНИЕ

### o Doit être effectué par un personnel habilité et qualifié

-Nettoyer périodiquement (≈3 mois) à l'aide d'un produit non agressif et rincer à l'eau claire :  
-la batterie : pression maximale 3 bars et jet orienté face à la tranche des ailettes.  
-les hélices, les grilles et la carrosserie.



Vérifier à la mise en route et tous les 6 mois, le serrage des vis d'assemblage, l'état et le serrage des composants électriques. **DEFAUT DE FONCTIONNEMENT**

Le moteur ne tourne pas : avant toute intervention, vérifier l'alimentation électrique. S'assurer que l'hélice tourne librement. L'appareil vibre : vérifier les hélices et remplacer le motoventilateur défectueux, s'assurer de l'absence de glace sur les hélices.

### o To be made by authorized and trained personnel

-Clean periodically (≈3 months) with a non aggressive solution and rinse with clean water:  
-coil: maximum 3 bars water pressure and jet facing the fin edges.  
-fan blades, fan guards and casing.



At start up and every 6 months, check for eventual loosen screws, the condition and tightening of the electrical connections. **FAILURES**

Motor does not turn: before any intervention, check the electric supply. Make sure that the fan blade is turning freely. The unit vibrates: check the fan blades and replace the fan assembly defective, make sure that fan blades are free of ice.

### o Durch qualifiziertes Personal durchgeführt werden

-Folgende Teile regelmäßig (≈3 Monate) mit einem milden Reinigungsmittel reinigen und mit klarem Wasser spülen:  
-Batterie: maximaler Druck des Wasserstrahls, der senkrecht zur Kante der Lamellen gerichtet sein muß: 3 Bar.  
-Ventilatorflügel, Schutzgitter und Gehäuse.



Überprüfen Sie beim Start und alle 6 Monate, ob alle Schrauben gut festgezogen sind. Zustand und Befestigung der elektrischen Komponenten überprüfen. **STÖRUNGEN**

Der Motor läuft nicht: vor jeglichem Eingriff Stromversorgung überprüfen. Prüfen, ob sich die Ventilatorflügel leichtgängig drehen.

Das Gerät vibriert: Ventilatorflügel überprüfen und defekten ventilatormotor auswechseln. Sicherstellen, daß die Flügel nicht vereist sind.

### o Para ser realizado por personal autorizado y formado

-Limpie periódicamente (≈3 meses) con un producto no agresivo y aclare con agua limpia:  
-la batería: presión máxima 3 bares y chorro orientado paralelamente a las aletas.  
-las hélices, las rejillas y la carrocería.



Verifique la puesta en marcha y cada 6 meses, el priete de los tornillos de ensambladura, el estado y la sujeción de los componentes eléctricos. **FALLO DE FUNCIONAMIENTO**

El motor no gira: antes de cualquier intervención, verifique la alimentación eléctrica. Cerciórese de que el ventilador gira libremente.

El aparato vibra: comprobar las hélices y sustituir el motoventilador defectuoso, cerciorarse de que no haya hielo en las hélices.

### o Обслуживание должно выполняться квалифицированным специалистом

-Периодически очищать (≈раз в 3 месяца) неагрессивным средством и промывать пресной водой:  
-Теплообменник: максимальное давление 3 бара, струя должна быть направлена на край ребер.  
-Крыльчатки, решетки и рама.



Проверить при вводе в эксплуатацию и затем раз в 6 месяцев затяжку крепежных винтов, состояние и затяжку электрических компонентов. **СБОИ В РАБОТЕ**

Двигатель не вращается: перед выполнением любых работ убедитесь в отключении электропитания. Удостоверьтесь, что крыльчатка вращается свободно.

Вибрация устройства: проверьте крыльчатки и замените неисправные мотор-вентиляторы, убедитесь в отсутствии наледи на крыльчатках.

## 11. PIECES DETACHEES - SPARE PARTS - ERSATZTEILE - PIEZASSUELTAS - ЗАПАСНЫЕ ЧАСТИ

Demandez notre catalogue "pièces détachées" - Ask for our liste of spare parts - Forden Sie unseren - Ersatzteilkatalog an - Pida nuestro catálogo "piezas de repuesto" - Отправьте нам запрос на каталог запасных частей

Moto ventilateur  
Fan assembly  
Ventilatormotor  
Motoventilador  
Мотор-вентилятор

TYPE	SPARE PARTS
PU06D	PDVE00034
PN06D	PDVE00248
SN08D	PDVE00525
SE12D	PDVE00532
SU16Y	PDVE00429
HPU06D	PDVE00583
HSN08D	PDVE00584
SEEC	PDVE00273
SUEC	PDVE00325

Mail : [tech.support@heatcrafteurope.com](mailto:tech.support@heatcrafteurope.com)

Tél. : +33 4 72 47 14 44

Fax : +33 4 72 47 13 99







42 rue Roger Salengro - BP 205 69741  
GENAS CEDEX - FRANCE  
Tel. : + 33 4 72 47 13 00 - Fax : + 33 4 72 47 13 96  
[www.lennoxemea.com](http://www.lennoxemea.com)

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