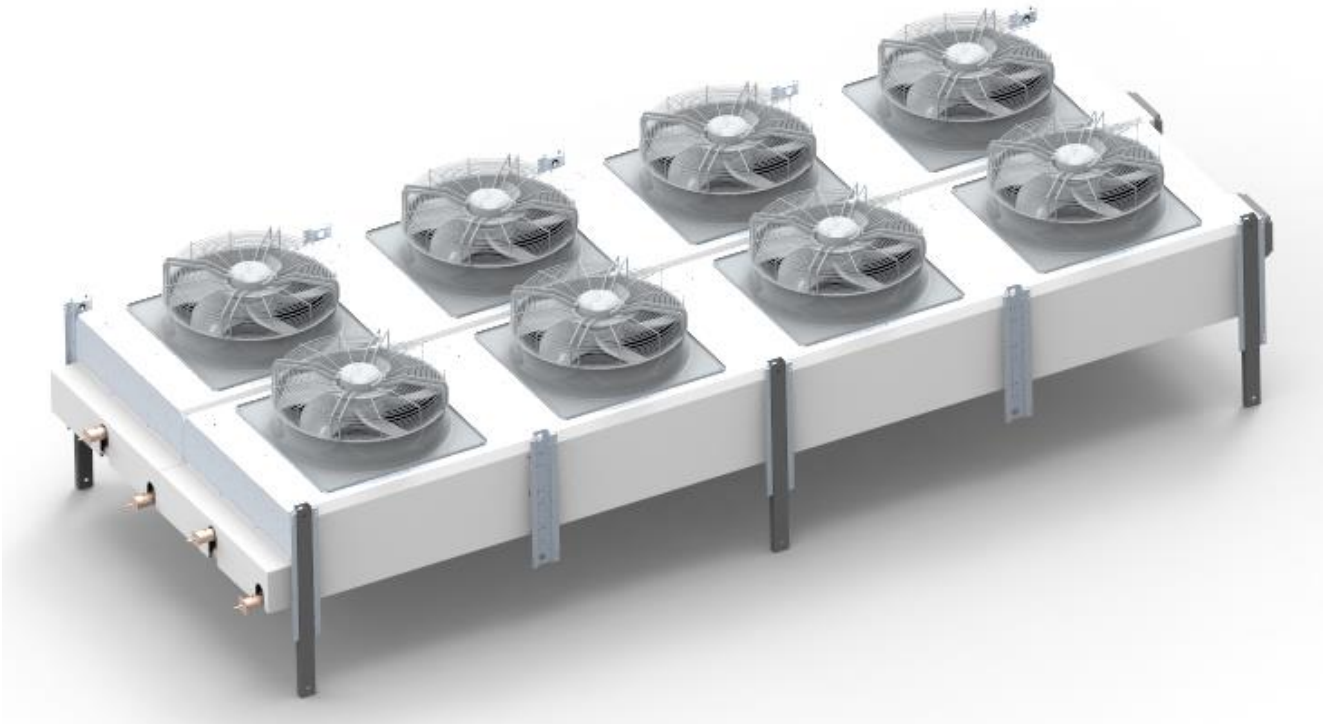
WRC Installation Manual



EUROVENT CERTIFIED PERFORMANCE
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Quality System
Quality Endorsed Company

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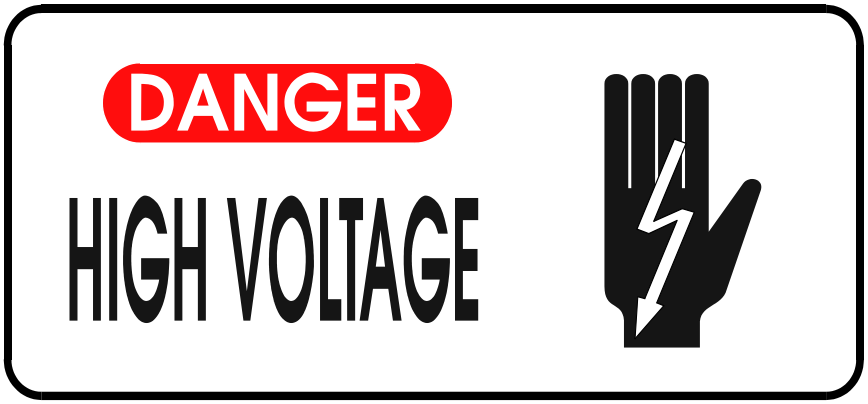
Introduction

The information contained in this booklet will provide the necessary safety information to competently transport, lift, install commission and service the World Remote Condenser (WRC) as per Kirby requirements.

This manual should be kept in a dry place for a period of at least ten years, for possible future reference. Read carefully and thoroughly all the information contained this manual. Pay particular attention to the user instruction that appears and the heading "Warning" or "Caution". Failure to do so could result in damage to the machine, person or property.

If you have any concerns regarding the performance and use of this unit, please contact your local outlet on 13 23 50.



Contents page

Page numbers

A Important safety information and instructions – retain for future use.

Kirby Safety Precautions

SAFETY PRECAUTIONS FOR ALL WRC Units.

Kirby is very safety conscious when designing and manufacturing these products, but it is essential that the end user, installer or service personnel also exercise care when working with or on the unit.

Warning	This indicates contents for which the possibility of human death or severe injury can be assumed in case of handling under disregard of this indication.
Caution	This indicates contents for which the possibility of human injury or the possibility of material damage can be assumed in case of handling under disregard of this indication.

Warning – Lifting & Installation Precautions

Refer “Appendix A” of this booklet.

Warning- Stand unit on flat and level ground

The WRC unit with the skid must be placed on flat and level ground with a suitably hard surface to bear the weight of the unit.

Refer to Picture 2.

Caution – Cyclone or High Wind Regions

An optional brace for legs may be required. Refer page 13.

The WRC unit:

DANGER **Moving Machinery**

WRC Units have components that may start up automatically. All electrical items must be isolated before any service or repairs are carried out.

NO SMOKING **No Smoking**

Kirby recommends No Smoking within a distance of 15 metres of the WRC Unit.

Warning – Weight

The weight of WRC units will vary from model to model. Please check page –8- and –26- for the correct packaged gross weight.

Warning – Electrical Hazard

A qualified Electrician must carry out all electrical work.
Always isolate the power to the unit before checking, diagnosing, removing and replacing the fan assemblies. Never work on any electrical item without isolating or disconnecting the power supply.

Caution – WRC Unit Pressurised

In the manufacturing of this product it is essential to pressurize and test the heat exchanger coil. This unit is shipped with some pressure within it. Please take care when unsealing the unit to fit the pipe and line connections.

Caution – Refrigerant Type

The WRC is designed for use with fluorocarbon refrigerants; under no circumstances can Ammonia based gas, Hydrocarbon based gas, Water* or Glycol* be used in this product.
Refrigerant type: HCFC and HFC
(*For Water and Glycol Kirby offers the WDC dry cooler to special order)

Caution – Sharp Edges

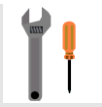
The WRC is manufactured with sheet metal and in this process all care is taken to ensure the edges are concealed. In some circumstances this cannot occur.
The aluminium fins of the heat exchanger have sharp edges and can cause severe cuts if contacted carelessly.
Please take care when accessing in or around the WRC.

Warning – Qualified Personnel

WRC's may only be installed, commissioned and serviced by qualified and trained personnel.

Personal Protective Equipment

Kirby recommends as a secondary safety precaution that all personnel working in and around the WRC wear appropriate Personal Protective Equipment (PPE).



Installation Instructions.

This product must be installed and maintained in accordance with the following:

- AS/NZS5149:2016 – Parts 3 & 4 (as applicable)
- AS4041:1998 – Pressure Piping
- Refrigerant Handling Code of Practice, Part 2
  Useful information-
- Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 (and amendments) and Regulations 1995
- AIRAH, DA19 – HVAC&R Maintenance
- CIBSE Code M - Commissioning Management

NOTE- There may be other applicable Codes and Standards that must be considered. It is the responsibility of the Installer and Owner to ensure all requirements are considered and complied with.

Standard Design Conditions

WRC condensers are designed to operate with a maximum operating pressure of 3450kPag, with a maximum KTD of 18K, and a minimum of 5K (please refer to the relevant technical data literature for more specific recommendations). Special circuiting may be needed to achieve specific conditions outside of these limits- please refer to your Kirby representative.

Motors must NOT be subject to air-over-motor temperatures greater than allowed by the fan manufacturer(s). Please refer to the relevant technical literature.

APPROVED REFRIGERANTS-
R404A/R507A/R448A/R407F/R407C/R134a/R513A are approved for use in all WRC remote condensers.
MAXIMUM WORKING PRESSURE-
WRC models have a maximum working pressure of 3450kPag.

Standard condensers cannot use Ammonia (NH_3) as refrigerant.

For special design requirements (non-standard conditions and/or refrigerants such as Glycol, etc.), please inquire with your local representatives and/or Kirby local branches.

MAXIMUM ALLOWABLE PRESSURE (PS/PSS)

UNIT DATA	
PS (kPag)	**PSS (kPag)**
3450	**n/a**

1 Lifting & Installation for either: VERTICAL / HORIZONTAL AIR FLOW

1.1 Unloading from means of transportation: -

Due to the size and weight of the WRC it is essential that it is unloaded with suitable material handling equipment. This may include either a crane or forklift that has a safe working load greater than the weight of the WRC Unit.

(Horizontal Airflow shipment)

Refer Picture. 1 – Upright shipment (Horizontal Airflow shipment)

Preferred method: - Forklift

- Check load-rating plate to determine maximum safe working load. .
- Look for the cut-outs where the forklift tynes are to be entered into the skid so the WRC can be lifted safely.
- Position tynes at centre of cut-out of skid, ensuring full engagement across the skid depth.

Alternative method: - Crane method

- Use suitable lifting equipment that is able to safely load/unload the WRC unit from the means of transportation.
- Refer picture 1 (horizontal airflow) for the designated WRC lifting points. **Do Not** lift the WRC by any lifting points other than those specified (All lifting equipment used must have a safe working load greater than the weight of the WRC.)
- If spreader bar & chains are used they must be at points ‘A’ & ‘B”. If unavailable, proper lifting equipment such as long slings must be used at minimal angle to unit.

(Vertical Airflow shipment)

Refer Picture. 3 & 9 – Horizontal shipment (Vertical Airflow shipment) – Crane only

- Use crane that is able to safely load/unload the WRC unit from the means of transportation. Check load rating plate to determine maximum safe working load. For WRC Unit weights refer table on page 23.
- Refer picture 3 & picture 9 (vertical airflow) for the designated WRC lifting points. **Do Not** lift the WRC by any lifting points other than those specified (All lifting equipment used must have a safe working load greater than the weight of the WRC.)
- If spreader bar & chains are used they must be at points ‘A’ & ‘B”. If unavailable, proper lifting equipment such as long slings must be used at minimal angle to unit.
-

1.2 Installation: - (Horizontal Airflow Shipment to Vertical air flow Installation)

Units can be laid down using a crane or a forklift. If using a crane, remove the attached brackets and shackles for access to lifting points, or take care to ensure chains or slings do not foul on the brackets.

If using a forklift, use the attached brackets and shackles (on twin coil units only) as shown in Pic 2. Ensure a suitably rated forklift is used that also allows sufficient height above the unit to achieve the specified maximum chain angle.

1. Attach lifting equipment to unit (refer Pic. 1) at point 1
2. Remove pallet screws from all places except at ends 2 (refer Pic. 1)
3. Tilt unit over onto base (refer Pic. 2) by carefully raising unit until balance point is reached, and then commence lowering to the ground.
4. Remove remaining pallet screws and remove skid (refer Pic 3). Skid must be removed by suitable equipment to prevent the skid from falling.
5. Attach lifting equipment to lifting brackets 5 (refer Pic 3) using suitable lifting equipment rated greater than the weight of the WRC.
6. Raise unit and move legs from position 'A' to position 'B' (refer Pic 4,6 & 7).
7. Attach cross brace to legs (refer Pic 5&6) noting the final position under the legs.
8. Remove transport brackets (refer Pic 5 & 8) after moving unit to final location.

1.3 Installation: -(Horizontal air flow)

1. Attach lifting equipment to WRC unit (refer Pic. 1) at points 1
2. Remove pallet screws from all places (refer Pic. 1)
3. Raise unit to a minium height sufficient to remove from skid.
4. **LEAVE ALL LEGS IN POSITION A** as supplied. (ref Pic 4.)
5. Sliding Legs can be fitted at point 5 on base of unit for final installation purposes.
6. Galvanised transport brackets may be removed, all black leg braces (point 7 on picture 4) can be left in place as supplied.`

ENSURE THE LEGS ARE ADEQUATELY SUPPORTED UNDERNEATH, PREFERABLY ALONG THEIR FULL LENGTH, ESPECIALLY IF EXTENDING THE LEGS TO SUIT A FRAME MOUNT.

IF FULL LENGTH SUPPORT IS NOT FEASIBLE, A MINIMUM OF THREE SUPPORT POINTS INCLUDING UNDER THE BOLTING LOCATIONS, ARE NECESSARY.

1.4 Tools Required (Not Supplied):-

- Ratchet spanner with socket (13mm)
- Ring spanner (or combination spanner) 13mm

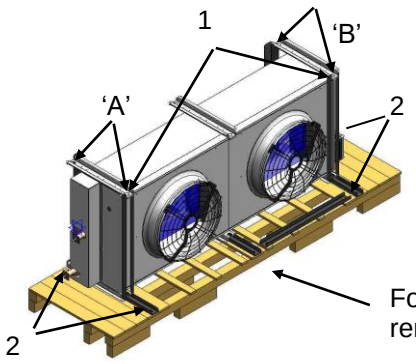
Recommended additional Tooling (not supplied): -

- 10, 11, 12mm socket & ring/combo spanner
- 1 x Phillip screw driver (long)
- 1 x Straight screw driver (long)

Required fasteners (supplied):

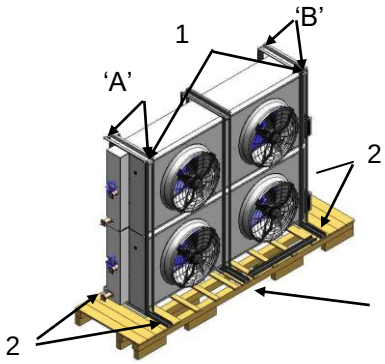
- refer Pic 8

Picture 1; Recommended lifting points and approx. weights



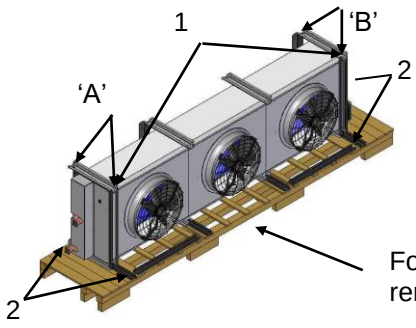
max weight (packed)
1. Standard with 'AL' fins approx. **530kg**
2. Option with 'CU' fins approx**. 795kg**

Fork lift here to remove from truck



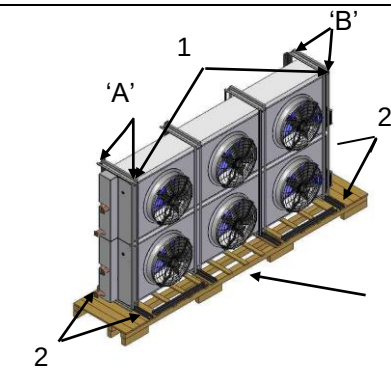
max weight (packed)
1. Standard with 'AL' fins approx. **980kg**
2. Option with 'CU' fins approx**. 1470kg**

Fork lift here to remove from truck



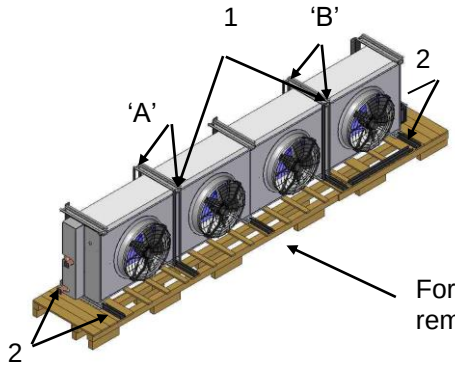
max weight (packed)
1. Standard with 'AL' fins approx. **750kg**
2. Option with 'CU' fins approx**. 1125kg**

Fork lift here to remove from truck



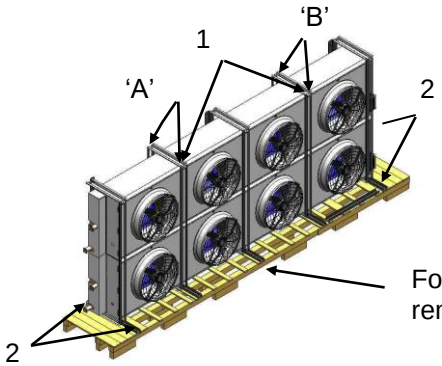
max weight (packed)
1. Standard with 'AL' fins approx. **1420kg**
2. Option with 'CU' fins approx**. 2130kg**

Fork lift here to remove from truck



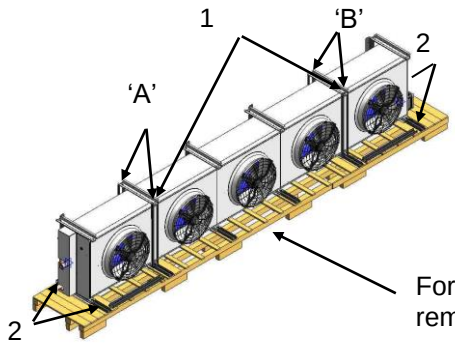
max weight (packed)
1. Standard with 'AL' fins approx. **1020kg**
2. Option with 'CU' fins approx**. 1530kg**

Fork lift here to remove from truck



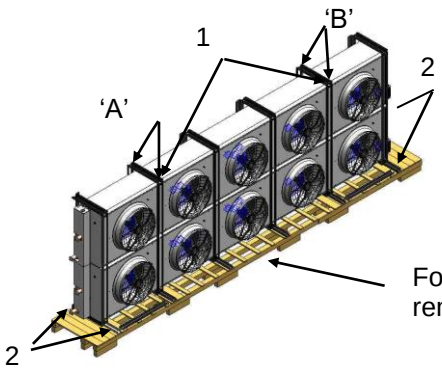
max weight (packed)
1. Standard with 'AL' fins approx. **1890kg**
2. Option with 'CU' fins approx**. 2835kg**

Fork lift here to remove from truck



max weight (packed)
1. Standard with 'AL' fins approx. **1290kg**
2. Option with 'CU' fins approx**. 1935kg**

Fork lift here to remove from truck



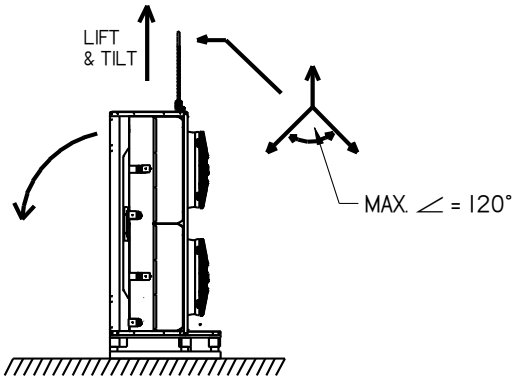
max weight (packed)
1. Standard with 'AL' fins approx. **2380kg**
2. Option with 'CU' fins approx**. 3570kg**

Fork lift here to remove from truck

NOTE : UNITS SHOWN WITHOUT LAYOVER BRACKETS, PLEASE REMOVE THEM IF CRANE IS USED TO LIFT UNIT OFF THE TRUCK . DO NOT USE LAYOVER BRACKET FOR ANY OPERATION OTHER THAN LAYOVER (Refer page 9 of this booklet)

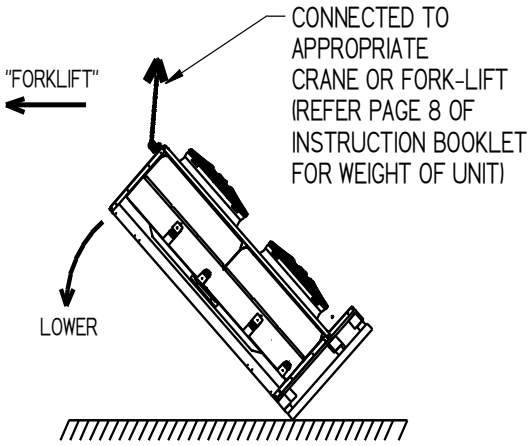
Picture 2; Tilt over to ground position

A)

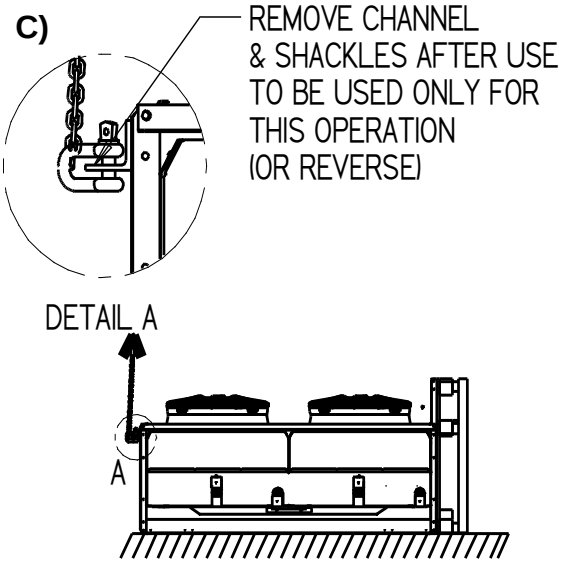


Stand only on flat and level ground.
Maximum standing angle from vertical = 5°

B)

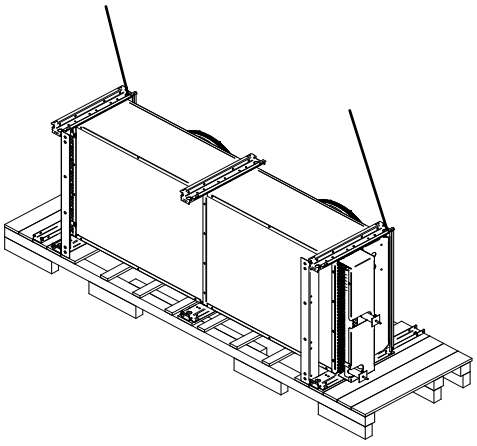


C)

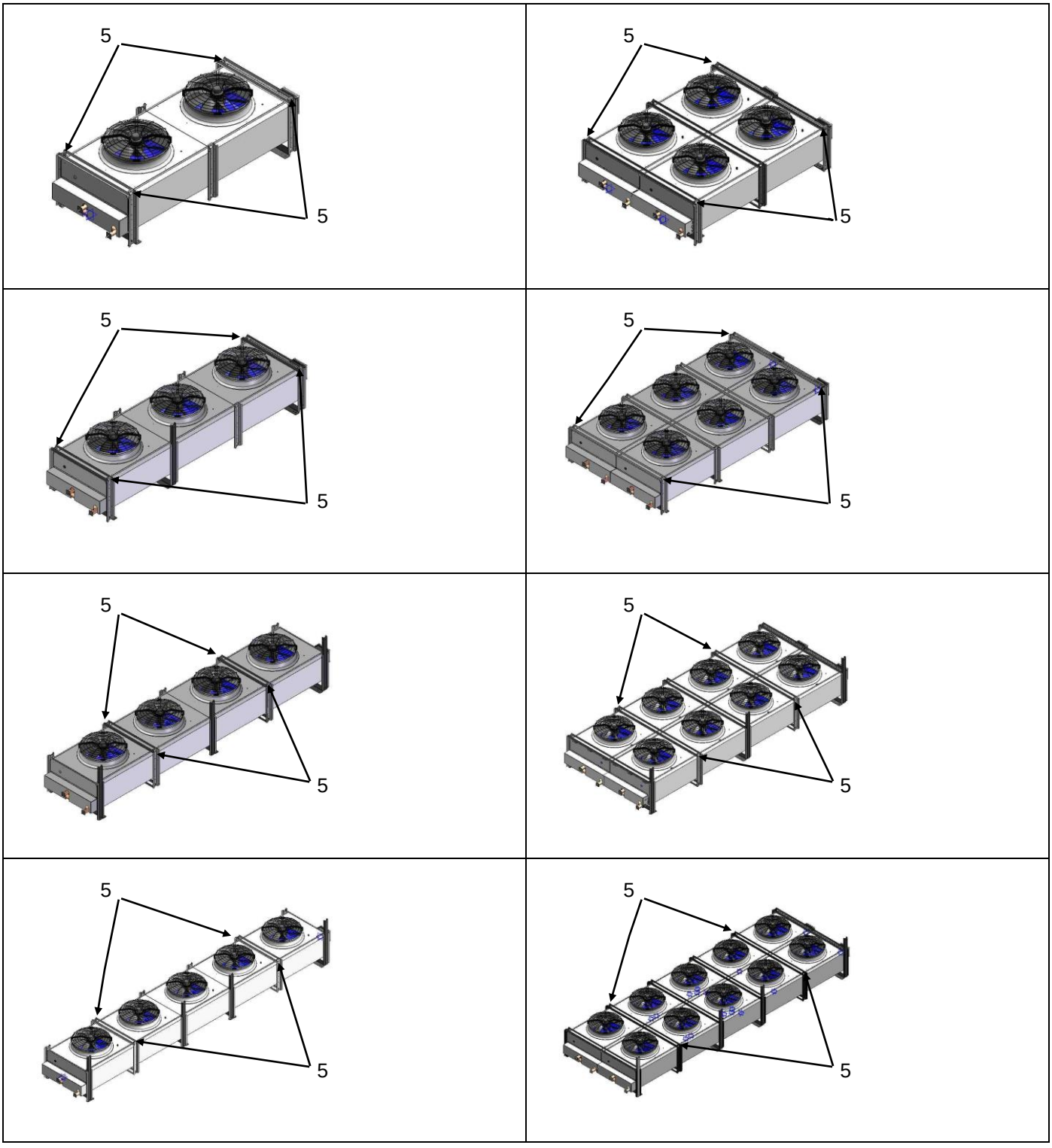


D)

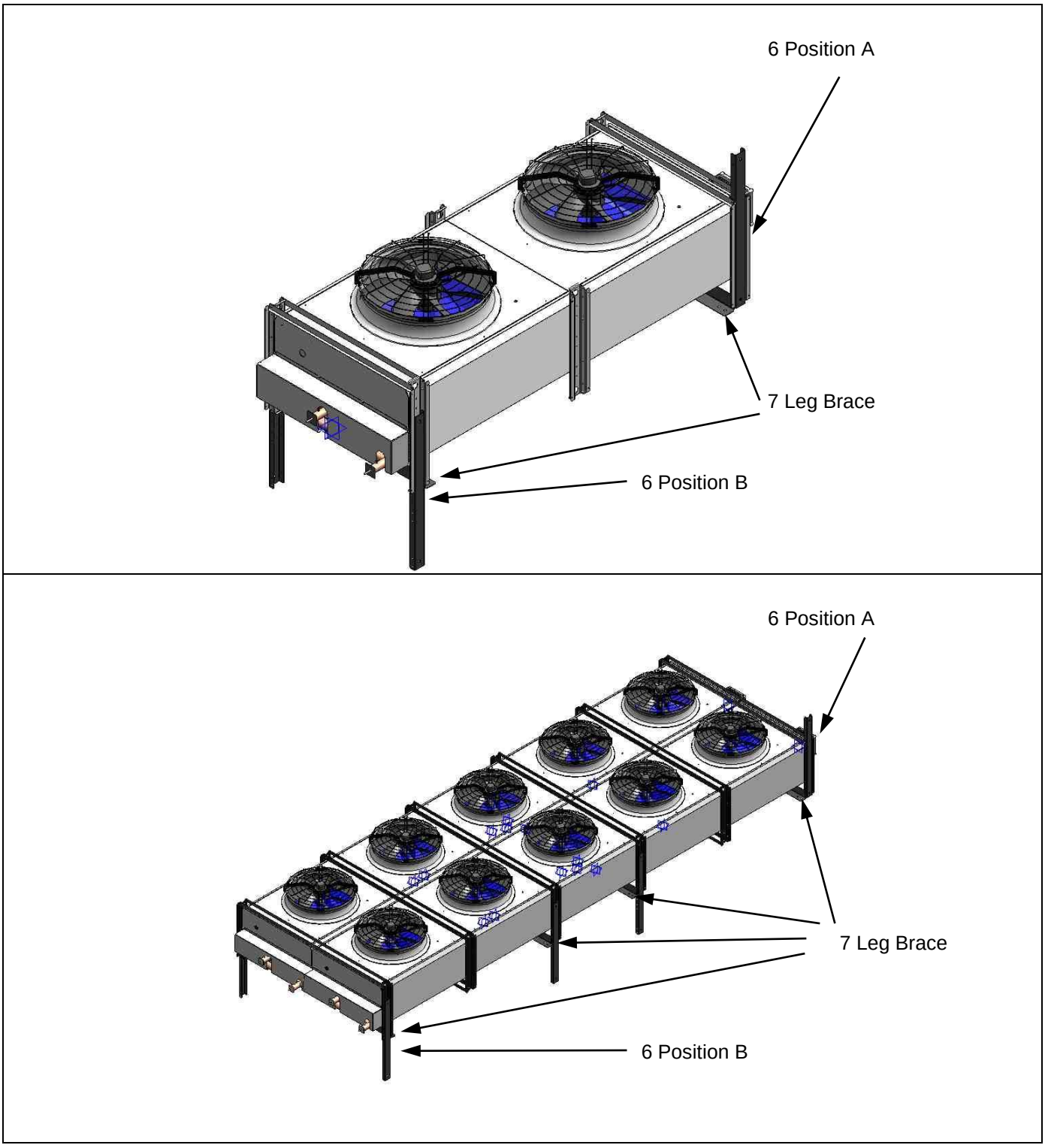
NOTE :
FOR SINGLE COIL UNITS
USE EXISTING HOLES ON LEG
TO TILT OVER. USE SUITABLE
"D" SHACKLE OR EQUIVALENT
TO ALLOW MOVEMENT DURING
LOWERING



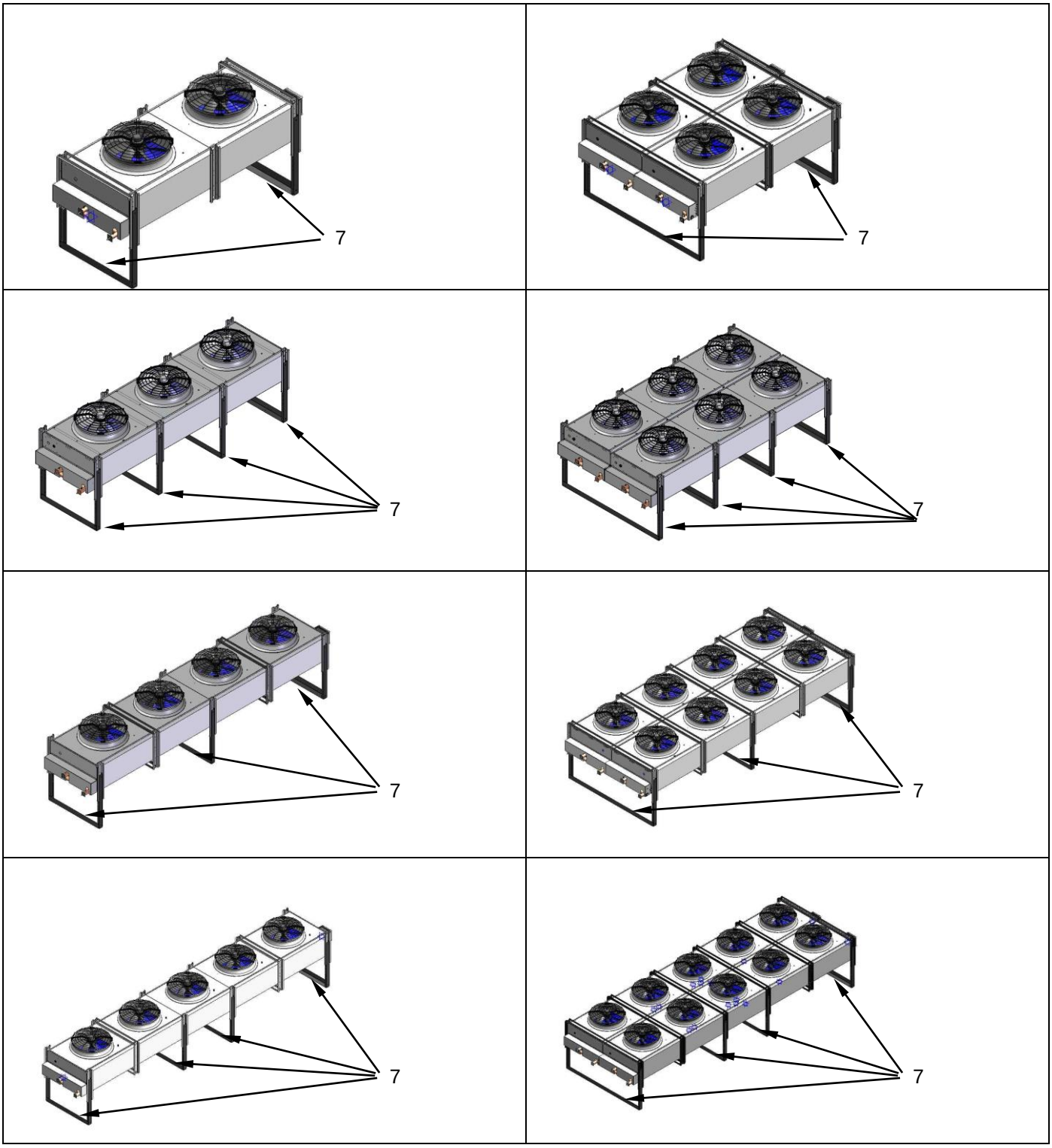
Picture 3; Lifting points after removing skid and lifting off truck for horizontal shipment.



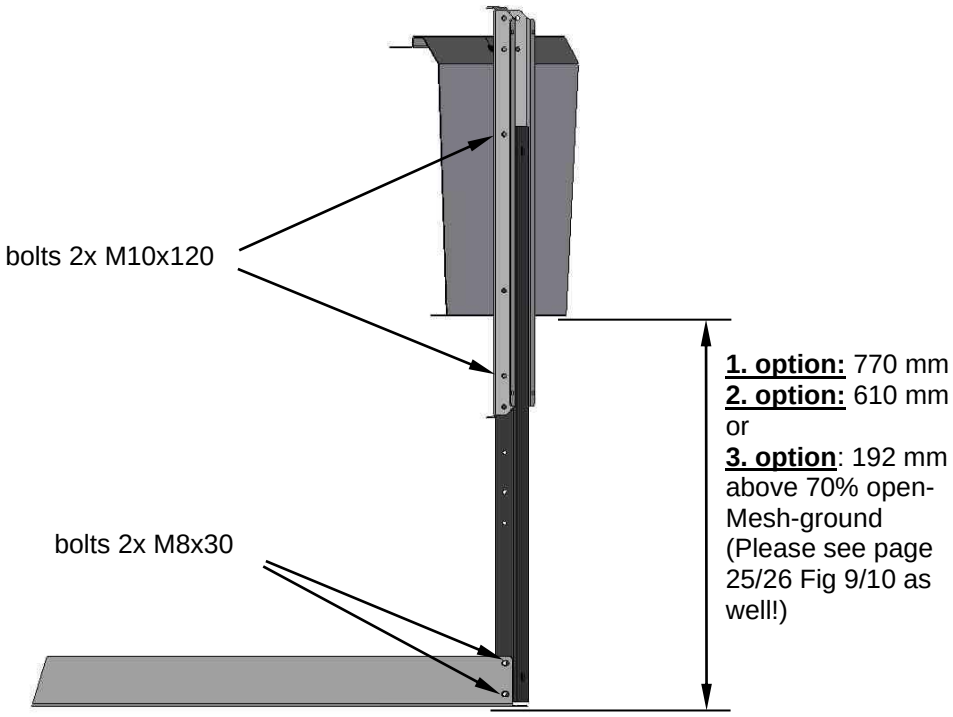
Picture 4; Leg position A and B



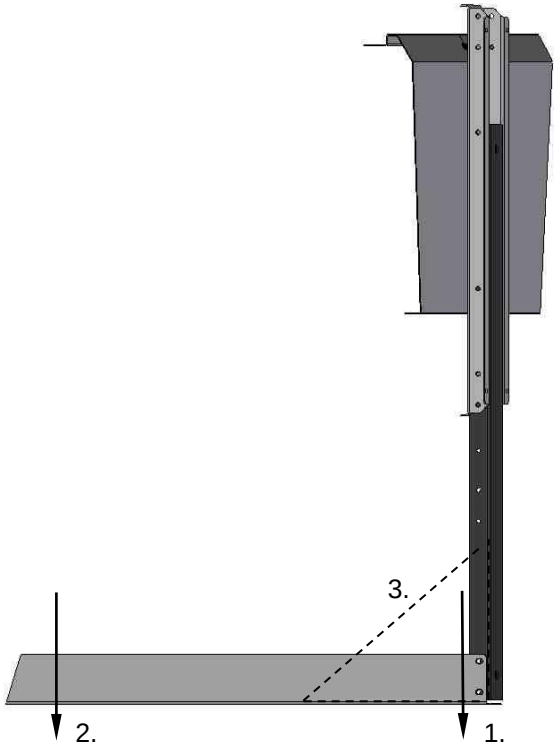
Picture 5; Final leg position



Picture 6; bolt holes and bolts

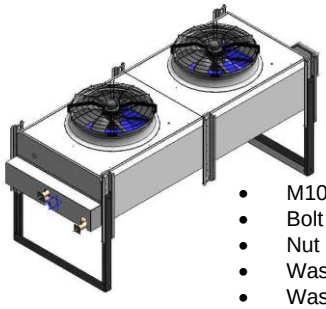


Picture 7; standard fitment and fitment for cyclone or high wind regions (KIT option: KP445-7) *1

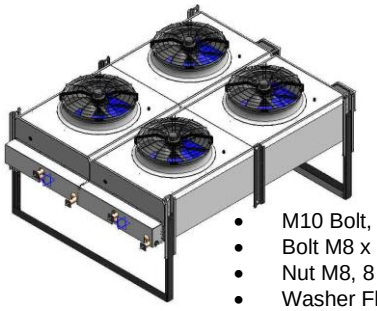


*1 **KITquantity: 1 KIT (= 1 pair of braces with fasteners) X number of pairs of legs**
(For further information regarding the cyclone kits, please refer to Kirby Technical Bulletin TB_100)

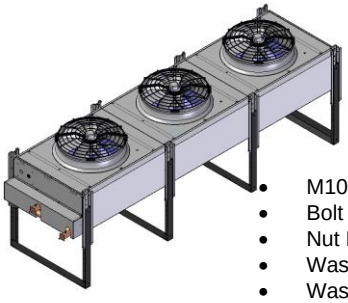
Picture 8 – Final Position – (Required fasteners; supplied):



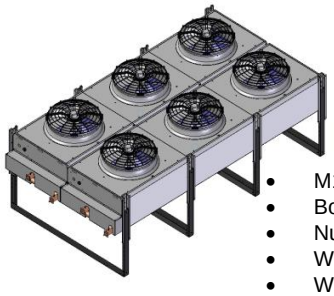
- M10 Bolt, Nut & Washers x 8 off
- Bolt M8 x 30mm, 8 of f
- Nut M8, 8 off
- Washer Flat M8, 8 off
- Washer Spring M8, 8 off



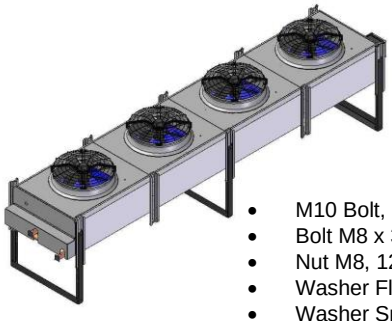
- M10 Bolt, Nut & Washers x 8 off
- Bolt M8 x 30mm, 8 off
- Nut M8, 8 off
- Washer Flat M8, 8 off
- Washer Spring M8, 8 off



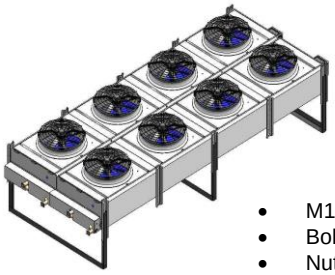
- M10 Bolt, Nut & Washers x 16 off
- Bolt M8 x 30mm, 16 off
- Nut M8, 16 off
- Washer Flat M8, 16 off
- Washer Spring M8, 16 off



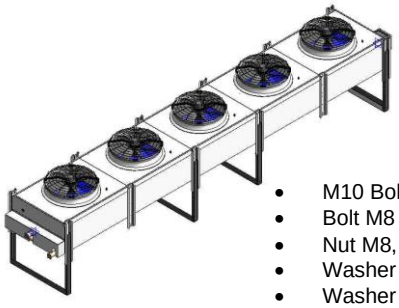
- M10 Bolt, Nut & Washers x 16 off
- Bolt M8 x 30mm, 16 off
- Nut M8, 16 off
- Washer Flat M8, 16 off
- Washer Spring M8, 16 off



- M10 Bolt, Nut & Washers x 12 off
- Bolt M8 x 30mm, 12 off
- Nut M8, 12 off
- Washer Flat M8, 12 off
- Washer Spring M8, 12 off



- M10 Bolt, Nut & Washers x 12 off
- Bolt M8 x 30mm, 12 off
- Nut M8, 12 off
- Washer Flat M8, 12 off
- Washer Spring M8, 12 off

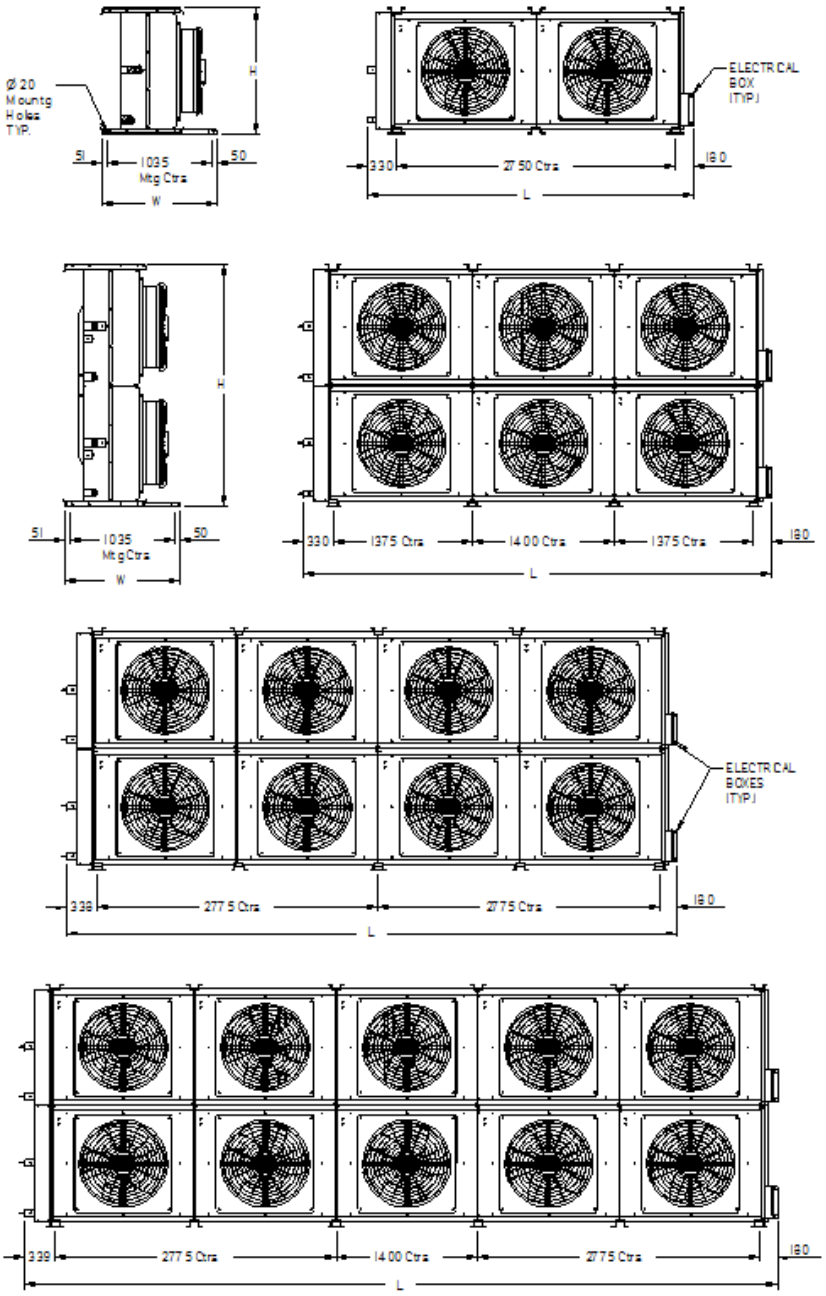


- M10 Bolt,Nut & Washers x 16 off
- Bolt M8 x 30mm, 16 off
- Nut M8, 16 off
- Washer Flat M8, 16 off
- Washer Spring M8, 16 off

- M10 Bolt, Nut & Washers x 16 off
- Bolt M8 x 30mm, 16 off
- Nut M8, 16 off
- Washer Flat M8, 16 off
- Washer Spring M8, 16 off

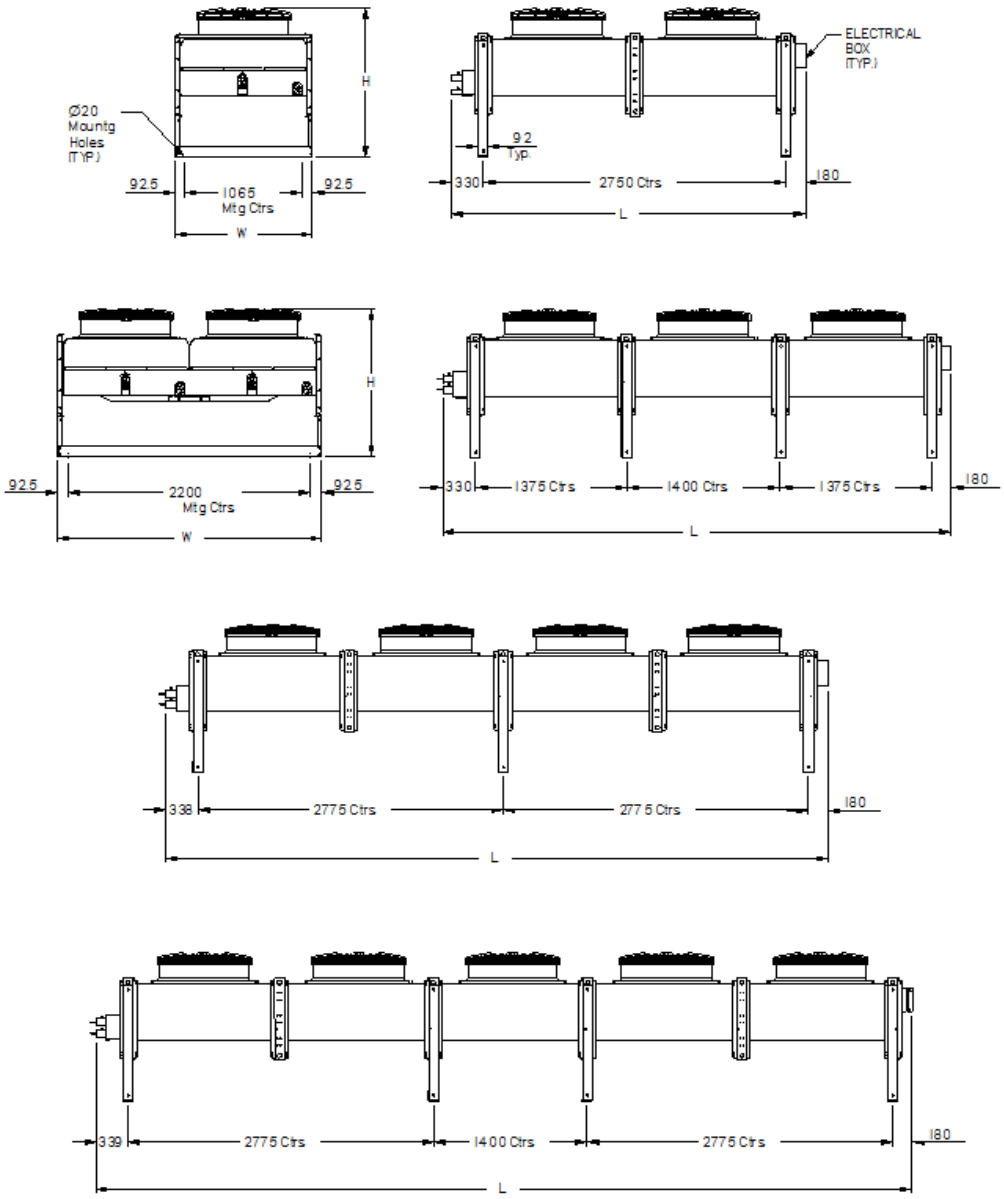
2 Unit Dimensions and Refrigerant Connections

2.1 Horizontal Air Flow



Model No.	No. of Fans	W	H	L
SINGLE COIL INSTALLED WITH HORIZONTAL AIR FLOW				
WRC124DECB - 126DECB	1 X 2	1136	1250	3260
WRC134DECB - 136DECB	1 X 3	1136	1250	4660
WRC144DECB - 146DECB	1 X 4	1136	1250	6068
WRC154DECB - 156DECB	1 X 5	1136	1250	7469
TWIN COIL INSTALLED WITH HORIZONTAL AIR FLOW				
WRC224DECB - 226DECB	2 x 2	1136	2406	3260
WRC234DECB - 236DECB	2 x 3	1136	2406	4660
WRC244DECB - 246DECB	2 x 4	1136	2406	6068
WRC254DECB - 256DECB	2 x 5	1136	2406	7469

2.2 Vertical Air Flow (800mm EC)



Model No.	No. of Fans	W	H (max/min)	L
SINGLE COIL INSTALLED WITH VERTICAL AIR FLOW				
WRC124DECB - 126DECB	1 X 2	1250	1615/1440	3260
WRC134DECB - 136DECB	1 X 3	1250	1615/1440	4660
WRC144DECB - 146DECB	1 X 4	1250	1615/1440	6068
WRC154DECB - 156DECB	1 X 5	1250	1615/1440	7469
TWIN COIL INSTALLED WITH VERTICAL AIR FLOW				
WRC(V)224DECB - 226DECB	2 x 2	2406	1615/1440	3260
WRC(V)234DECB - 236DECB	2 x 3	2406	1615/1440	4660
WRC(V)244DECB - 246DECB	2 x 4	2406	1615/1440	6068
WRC(V)254DECB - 256DECB	2 x 5	2406	1615/1440	7469

Note: WRCV model double coils are supplied to site in vertical airflow.

2.3 Weight Table - WRC Condenser

MODEL NUMBER STANDARD FAN	APPROX. WEIGHT kg UNPACKED	PACKED
SINGLE COIL		
WRC124DECB	430	460
WRC126DECB	500	530
WRC134DECB	610	650
WRC136DECB	710	750
WRC144DECB	820	880
WRC146DECB	960	1020
WRC154DECB	1035	1115
WRC156DECB	1210	1290
DOUBLE COIL		
WRC(V)224DECB	810	840
WRC(V)226DECB	950	980
WRC(V)234DECB	1170	1210
WRC(V)236DECB	1370	1420
WRC(V)244DECB	1570	1630
WRC(V)246DECB	1830	1890
WRC(V)254DECB	1975	2055
WRC(V)256DECB	2300	2380

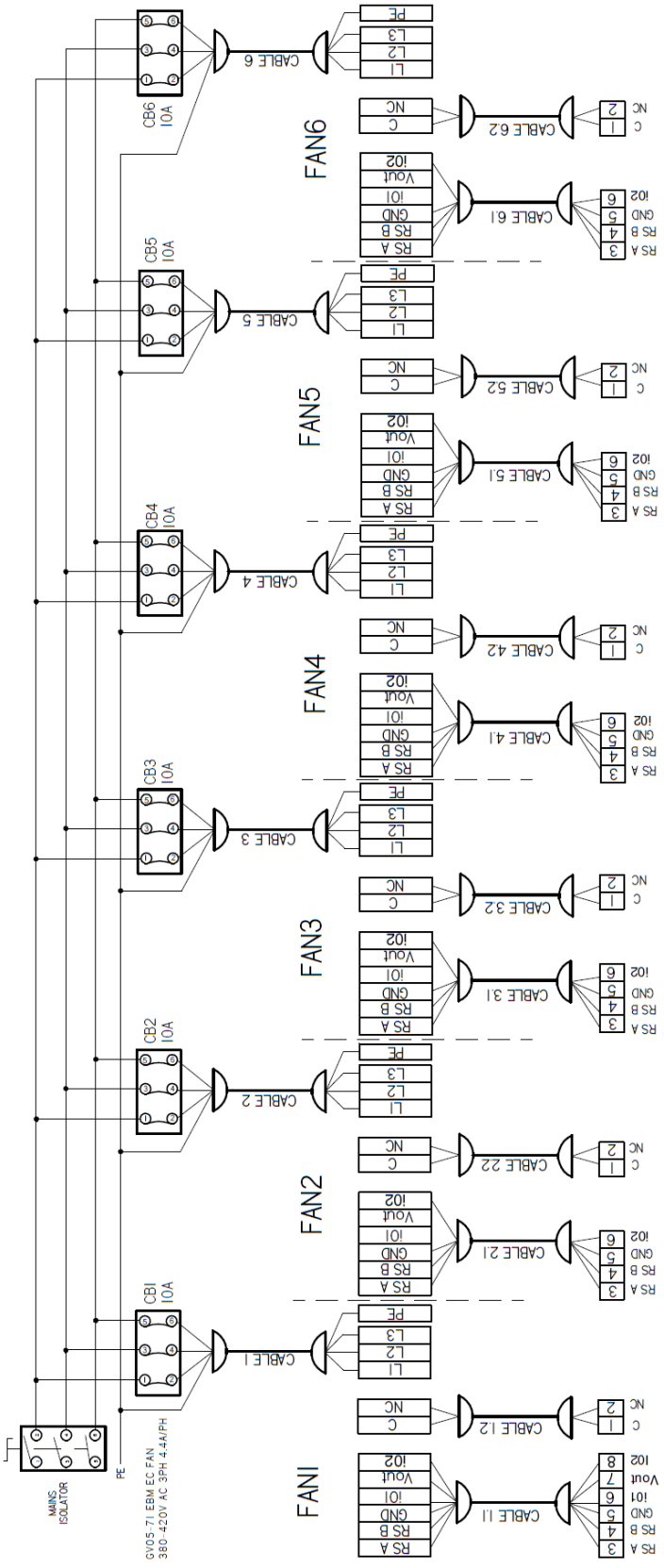
3 Electrical Connections

For units fitted with EC (electronically commutated) variable speed fans please refer to wiring information supplied with each unit.

Wiring of EC fans is dependent on control methods and programming requirements.

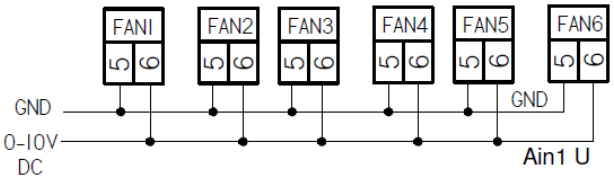
Please refer to the wiring schematic MS783-61, on Page 19 of this document for wiring.

KIRBY WRC UNIT – WIRING SCHEMATIC:

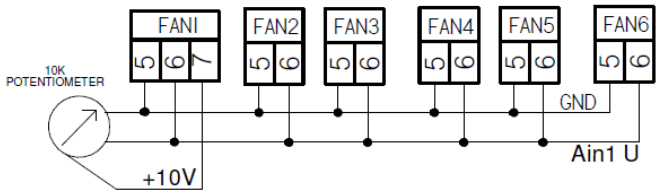


FAN CONTROL AND FAULT WIRING:

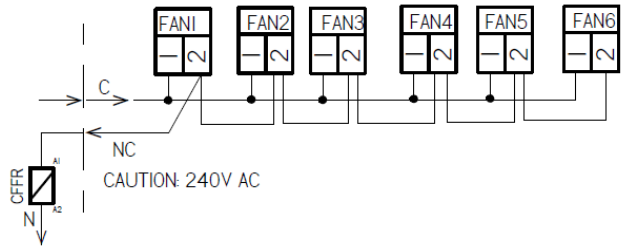
0-10V CONRTOL (EXTERNAL)



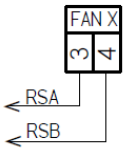
POTENTIOMETER CONTROL



CONDENSER FAN FAULT



MODBUS



4 Installation and Location Guidance

Consideration should be given to pipe work-associated with the installation which can be either an obstruction to airflow or a heat source in the air entering the coil. Other adjacent plant either requiring an air supply or dissipating air will affect the airflow onto the unit. The color of the surface on which the units are mounted and/or surrounding areas can create high solar gains, increasing the entering air temperature considerably. A 5K temperature increase over and above ambient is not unusual. This obviously has a serious effect on the performance. Adjacent building styles, plant and prevailing winds can often cause air currents, which, in turn, can create downdraughts, consequently forcing the discharge air back down into the air intake stream, causing high air entering temperatures and subsequent loss of performance.
The coils should be, as far as is practical, shaded from direct sunlight.

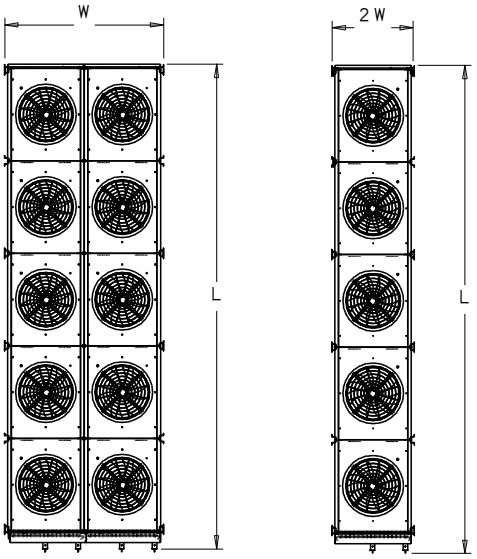


Fig 1
Single unit with no restriction within the unit's length has no limitations in use. For dimensions W (Double coil) and L refer to the dimensions tables (Section 2).

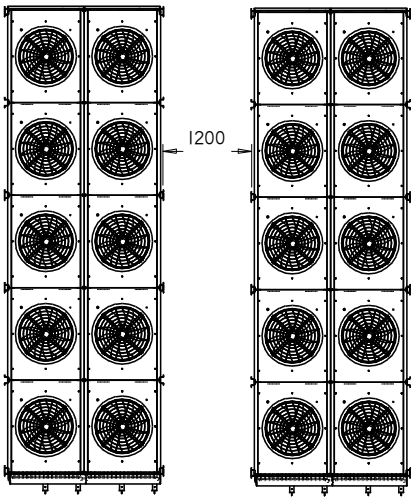


Fig 2
Multiple units with no restrictions within a distance equal to the unit's length have few limitations. However, the distance between units when more than 2 units in line are required is more critical. In this instance, it is worth considering increasing the leg height to give improved air circulation.

Solid
Wall

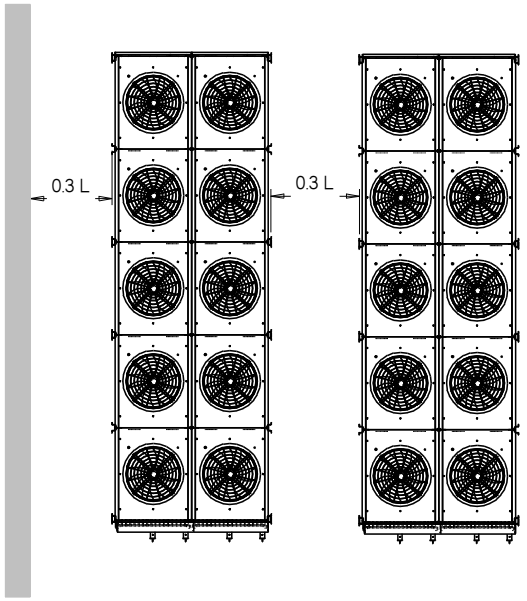


Fig 3
The dimension 0.3L or a minimum distance of 1.2m is critical when a unit is installed close to a solid wall.

Solid obstructions
along any two walls

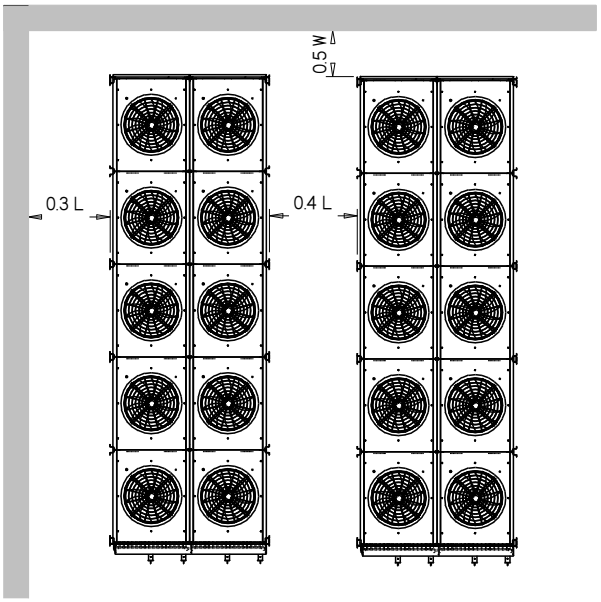


Fig 4
Please note pipe work and other equipment sited adjacent to the units could well constitute an obstruction.

Solid obstructions along
3 sides of unit(s)

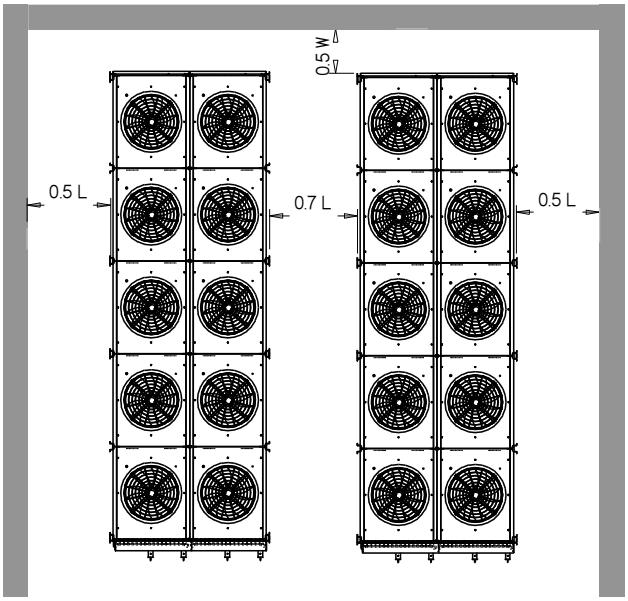


Fig 5
When multiple units are located, the open side must give free air onto each unit. Raising units on extended leg foundations will improve air circulation, and is recommended for 12 pole units

One solid obstruction and
three louvred sections

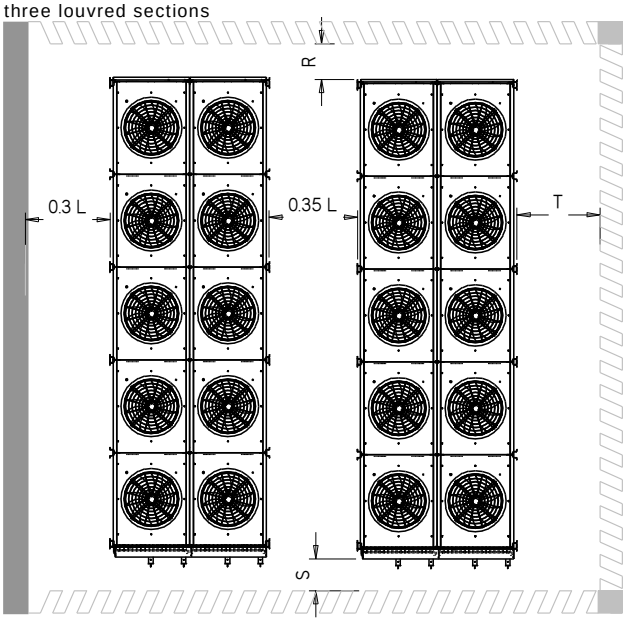


Fig 6
Free area of louvres should not be less than 70%.
R + S + T > L
Fan discharge should not be lower than 1m to the open top level of the louvres. Otherwise the additional static pressure needs be considered to the unit selection.

Two solid obstruction and two louvred sections

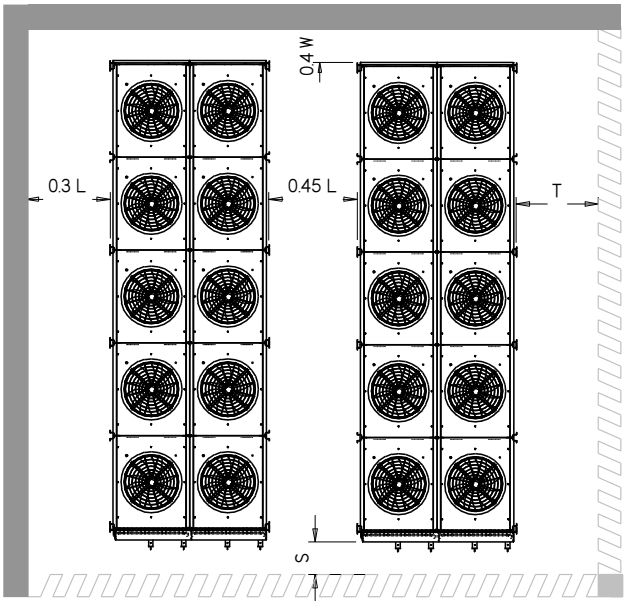


Fig 7
Free area of louvres should not be less than 70%.
S + T > 0.9 L.
Fan discharge should not be lower than 1m to the open top level of the louvres. Otherwise the additional static pressure needs be considered to the unit selection.

Solid obstruction with four sides of unit(s)

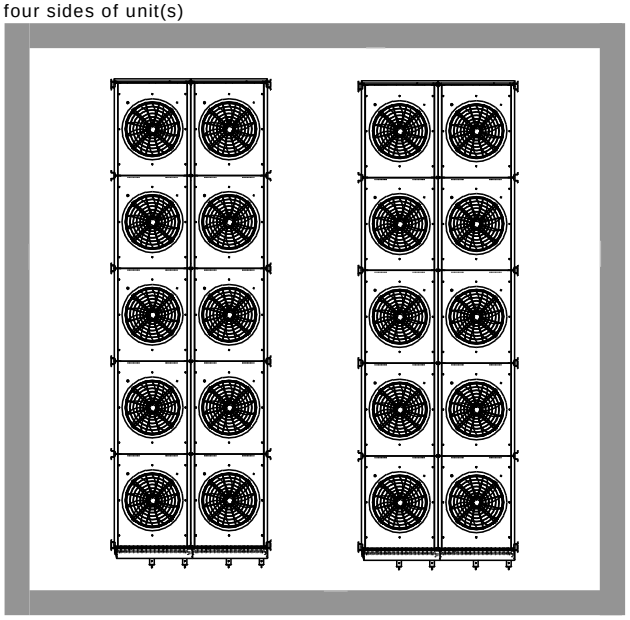


Fig 8
If the fan discharge is not lower than 1m to the top level of the solid walls or parapet, please use distances acc. to Fig.9 & Fig.10. Otherwise calculate the additional static pressure and consider it to the condenser selection.

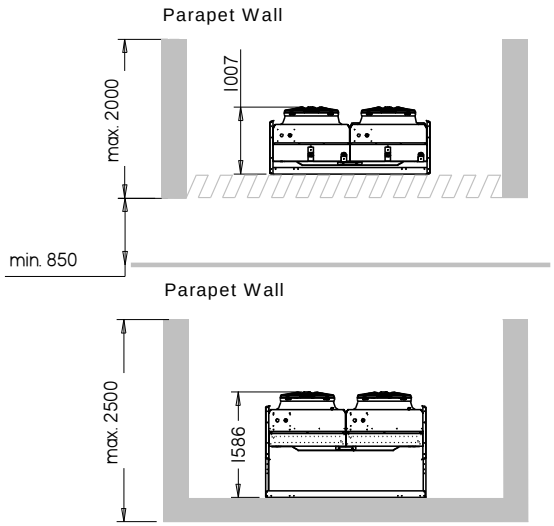


Fig 9a

Parapet wall with restricted height of 2000/2500mm

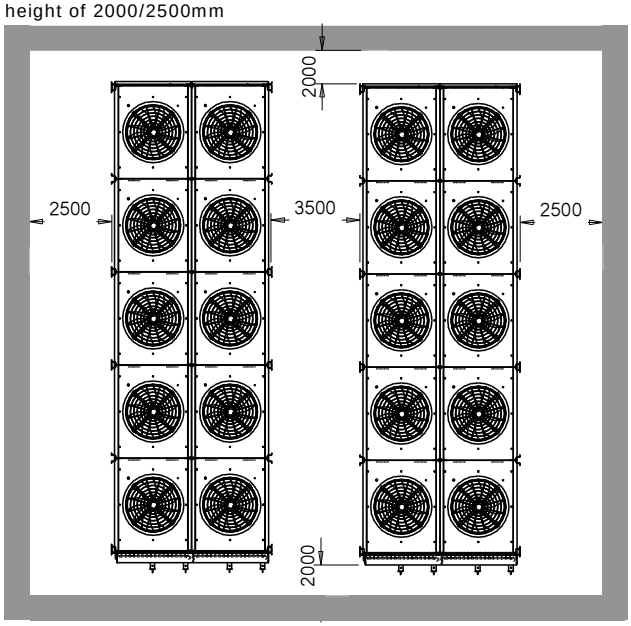


Fig 9b

If the fan discharge is not lower than 1m to the top level of the parapet wall, and if the condenser unit is installed in a “low leg position” directly on an open mesh ground (free mesh area not be less than 70%), then the parapet wall must not be higher than 2 m. If the unit is mounted with a “standard leg position” on concrete or closed ground floor, the parapet wall must not be higher than 2.5 m. For both applications the appropriate distances of Fig 9b have to be considered. If the distances in Fig 9a & Fig 9b are different to the given recommendations, the additional static pressure needs to be calculated and to be considered to the condenser selection.

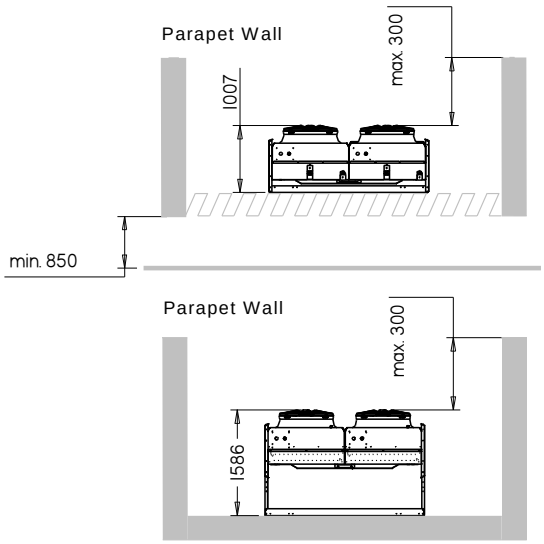


Fig 10a

Parapet wall with restricted height acc. Fig. 10a

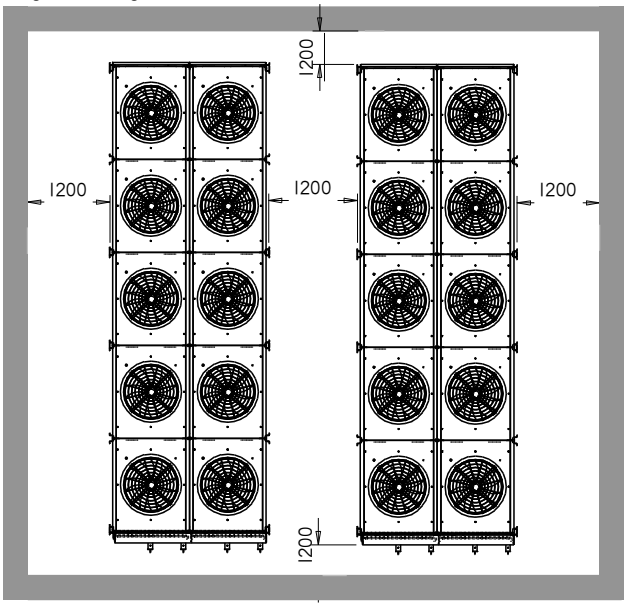


Fig 10b

The fan discharge must not be lower than 300mm to the top level of the parapet wall. If the condenser unit is installed in a “low leg position” directly on an open mesh ground (free mesh area not be less than 70%), then the distance between the open mesh ground and the ground floor must not be lower than 850mm. If the distances in Fig 10a & Fig 10b are different to the given recommendations, the additional static pressure needs to be calculated and to be considered to the condenser selection.

Horizontal Airflow Unit Setup:

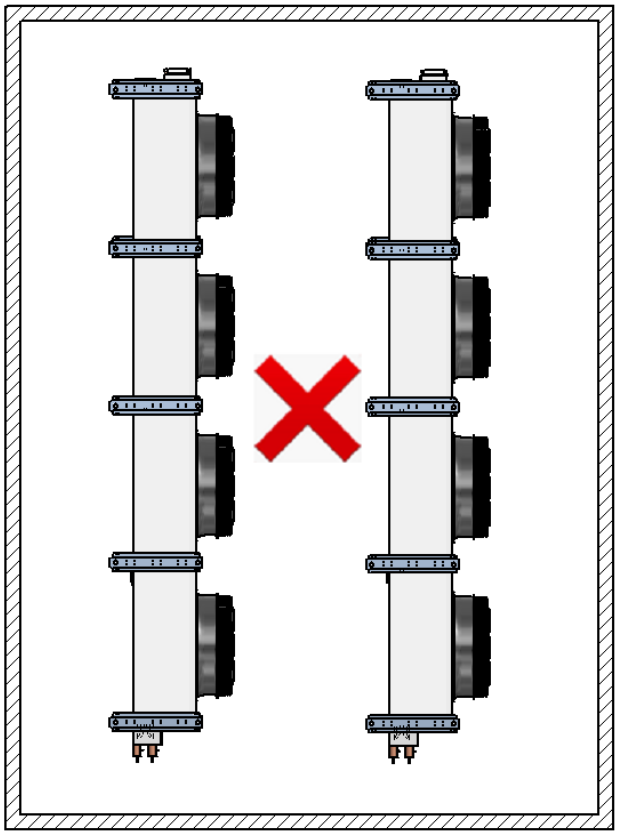


Fig IIa: For horizontal airflow WRC unit, It is not recommended to place WRC unit side by side as mentioned in above figure to avoid hot air recirculation through WRC coil.

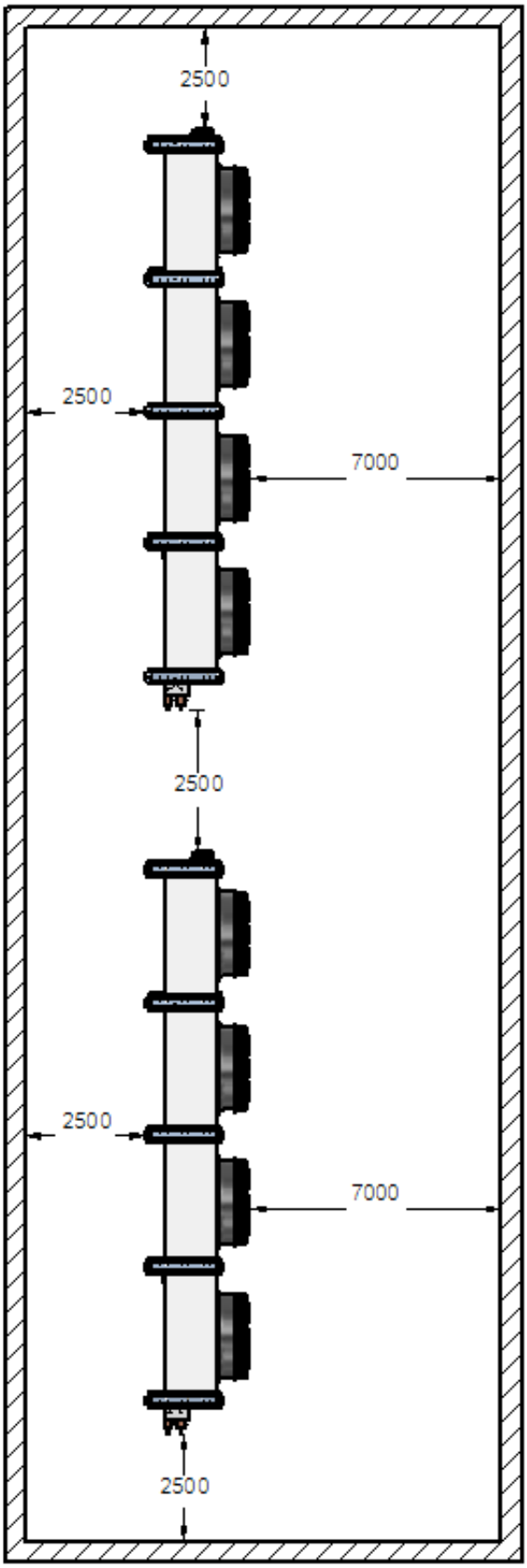


Fig IIb: For horizontal airflow WRC unit, recommended clearance from hard surface or from another WRC unit

5 Motor maintenance

Due to the selection of bearings with ”lifetime lubrication”, the axial fan is maintenance-free. Once the grease consumption period has expired (for standard applications, approx. 30-40,000 hrs.), it is necessary to replace the bearings.

Regular inspection, if required and cleaning where necessary to prevent imbalance due to ingress of dirt. Achieve smooth running by carrying out periodic maintenance to limit level of dirt.

If a fan is stationary for long periods in a humid atmosphere, it should be switched ON for minimum of two hours every month to remove any moisture that may have condensed within the motor.

Maintenance operation is only to be performed by trained service personnel!

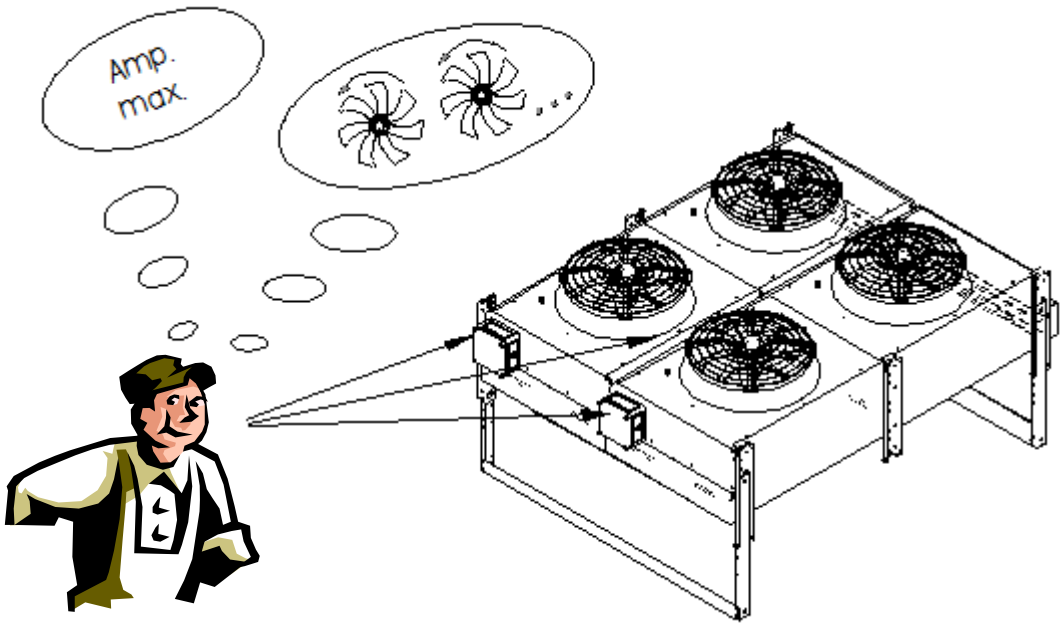
Please observe the safety regulations and the worker’s protection rules by all maintenance and service work.

Start up

Warning **Electrical**

Installation Checklist

- Verify that the incoming voltage, amperages and temperatures match the rating plate
- Tighten all field and factory wiring
- Check rotation of fans

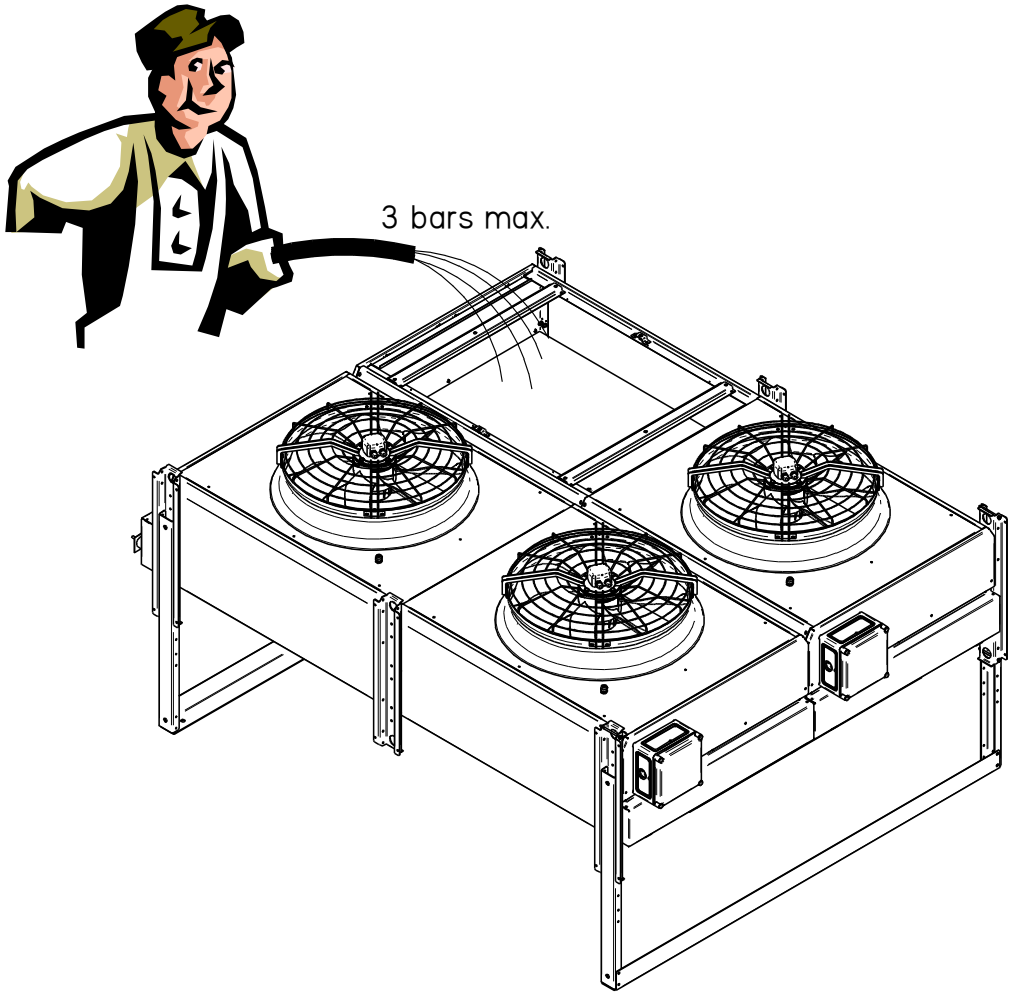


7 Cleaning

A coil which is kept clean, ensures full benefit of the coil thermal efficiency, reduces the effects of corrosion, and increases the lifetime of the fan assemblies.

Cleaning, if done improperly (for instance, using the wrong spray angle or excessive pressure), can damage coils by bending the fins or even breaking them. The task isn't very complicated, but only people trained in the proper use of the necessary equipment should do it.

Proper condenser cleaning involves before-and-after measurements of the temperature difference across the coil to verify the effectiveness of the cleaning. These measurements should be included in a report to the owner or supervisor.



Caution

Condenser fins are sharp and can bend easily. Condenser tubing gets hot enough during normal operation to burn your hand. Use care and do not touch the tubing.

For the cleaning of coils, wash with water and do not use strong alkaline cleaners or do mechanical cleaning of fins.

Koil Kote (optional) coils should be maintained according to Kirby applications (refer to your authorised sales outlet).

8 Piping requirements

All connecting pipework should be designed to place minimum loads on the headers and with adequate flexibility to prevent stress from being transferred from the header pipes to the coil tubing.

Kirby recommends allowing some movement in a structure such as a remote condenser to dissipate the energy of applied loads (such as high winds) effectively and greatly reduce the possibility of catastrophic failure of both the unit itself *and the structure on which it is placed*. Kirby recommends limiting the deflection of a unit to 20 mm.

Refer also to Kirby Technical Bulletin TB_100.doc for information on high wind regions and optional cyclone area bracing for WRC units.

For units with *and* without cyclone kits fitted, the connecting pipe work to the unit must be able to deflect sufficiently (20 mm) to ensure the unit will continue to function after a high wind episode.

Pipe Sizing-

All connecting pipework must be sized according to proper refrigeration practice to minimize pressure drops and ensure correct liquid flow from the liquid drain line to the receiver. Proper regard for elevation changes and bends must be made.

It is also essential to design pipework for the maximum and minimum refrigeration loads expected for the system operation.

As it is not possible to detail the numerous possibilities for piping configurations in this document, Kirby recommends referral to the numerous literature titles available regarding pipe design should there be any questions regarding the design of connecting pipework.

COMMISSIONING NOTES

UNIT SERIAL NUMBER

UNIT INSTALLATION/COMMISSIONING DATES

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