

AlfaBlue BD

Instruction manual



- Product description
- Product labels
- Unpacking & lifting
- Installation
- Maintenance
- Spare parts

ORIGINAL INSTRUCTIONS

9460173342EN-05

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1 Important information



1.1 Disclaimer

This Instruction Manual applies to all AlfaBlue BD air cooled liquid coolers and is supplied in combination with the product manual AHE00050. Both manuals must be carefully examined and instructions should be followed up at all times. Alfa LU-VE does not accept liability for any damage resulting from non-compliance to the instructions as given in the manuals and order-related documents. If there are any inconsistencies between the manual and the technical construction file, the manual prevails unless explicitly specified.

1.2 Intended use

Air cooled liquid coolers are partly completed machinery according to Machine Directive 2006/42/EC and intended for incorporation in cooling systems. Declarations of Incorporation are available on alfa.luvegroup.com. Heat exchanger units may not be put into operation until the conformity of the complete machine or cooling system has been declared according to the following standards and directives:

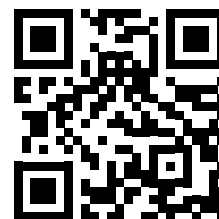
- Pressure Equipment Directive 2014/68/EU
- Machine Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- Electrical Equipment of Machines IEC 60204-1
- Electro Magnetic Compatibility 2014/30/EU
- Any applicable local or national legislation

1.3 Where to find product information

Detailed technical data for individual product models are available in order related documents, on the product sticker and in product data sheets. Comprehensive technical information for all Alfa LU-VE air heat exchanger products is available on-line on alfa.luvegroup.com. This includes:

- Product manuals
- Instruction manuals
- Product leaflets & brochures
- Product data sheets (selection software)
- Dimensional drawings
- Electrical wiring diagrams
- Certificates

Alfa LU-VE offers world-wide service and support. In case of any questions or uncertainty please contact your local Alfa LU-VE representative.
Contact addresses are available at alfa.luvegroup.com.



AlfaBlue BD

2 Product description

2.1 Introduction

The AlfaBlue series is a wide range of heavy-duty liquid coolers. Liquid coolers are often used for cooling down condenser water in air conditioning and refrigeration installations. In the processing industry, liquid coolers are suitable for closed circuit cooling of various process liquids. With a wide range of sound pressure level alternatives, these units are particularly suited to demanding, noise sensitive environments. Available both in single (M) or dual (D) fan row: separate connections in the dual fan row (D) models provide the opportunity for independent operation of both dry cooler coils. Dedicated series for compressor oil coolers (BDO).

2.2 Finned coil

An innovative coil design provides excellent heat transfer. In standard execution liquid coolers are fitted with smooth copper tubing or stainless steel tubing and corrugated aluminium turbo fins for maximized capacity or industrial power fins for long lasting performance. Available in different fin thicknesses and fin spacings. Separate connections in the D series provide the opportunity for independent operation of both coils.

Model	Design pressure
AlfaBlue BD	10 bar
AlfaBlue BDO	30 bar

2.3 Construction

Frame construction provides high rigidity for protection against vibration and thermal expansion. Casing and framework of corrosion resistant pre-galvanized sheet steel, epoxy powder coated white RAL 9002. Separated fan sections.

2.4 Fans

High efficiency AC or EC fan motors, available in three fan diameters (800, 910 & 1000 mm) and several noise levels, power supply 400/50/3. Motors with external rotor, protection class IP 54 according to DIN 40050. Integrated thermo contacts provide reliable protection against thermal overload.

2.5 Optional features

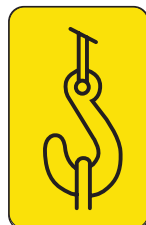
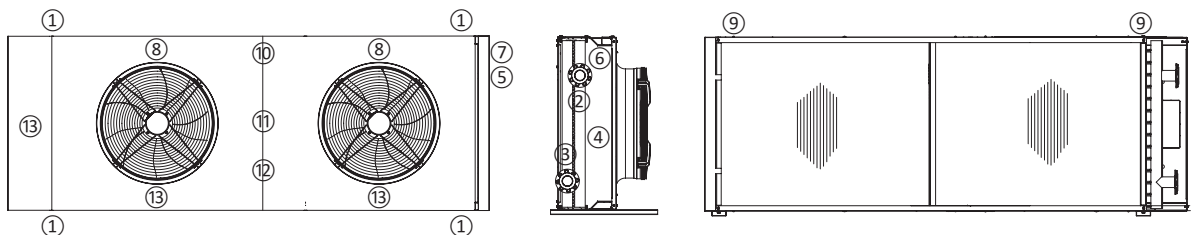
- Mounting feet for vertical airflow (500 mm, 850 mm and 1200 mm)
- Coil options:
 - Epoxy pre-painted aluminium fins (EP), seawater resistant aluminium alloy fins (SWR), copper fins (CU), F-coat treatment (FC)
- Stainless steel tubes
- Vibration dampers (VD)
- Spray water device (KW)
- Electrical options:
 - Switch on/off (SW)
 - AC Motors wired to a common terminal box (CB)
 - Basic Switchboard for AC fans (BS)
 - Basic Switchboard for AC fans+ Fan step control (BST)
 - EC Motors wired to a common terminal box (CBP)
 - EC Motors wired to a common terminal box + master controller + temperature probe (CBMT)
 - Basic Switchboard for EC fans (ECCB)
 - Basic switchboard for EC fans+ master controller (ECCBM)
 - Basic switchboard for EC fans+ master controller+ temperature probe (ECCBMT)
 - EC fan speed control cabinet (ICM)
 - EC fan speed control cabinet + temperature probe (ICMT)

2.6 Code description

BD	M	Y	S	E	80	2	s	.2	A	D	6	CR	Feet	*	AL	2.1	SS	*
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

- 1 AlfaBlue dry cooler
- 2 Number of fan rows (M=1, D=2)
- 3 Dedicated series (blank= default, 6 = 5/8" Cu tubes, Y=SS tubes, O=compressor oil cooler)
- 4 Sound level (T=turbo, S-standard, L=low, Q=quiet, R=residential)
- 5 EC fan (blank=AC fan, E=EC fan)
- 6 Fan diameter (80=800 mm, 90=910, 100=1000 mm)
- 7 Number of fans per row (1 to 6)
- 8 Short coil module (s=short coil module, blank=default)
- 9 Version number
- 10 Tube rows code (A, B, C, D)
- 11 Fan motor connection (D=delta, Y=star)
- 12 Number of circuits
- 13 Packing (CR=crate, P=pallet, PP=pallet with protection for headers and coil, SK=container skid)
- 14 Feet=mounting feet supplied mounted (type of feet according to airflow selected)
blank=Mounting feet supplied loose
- 15 Electrical accessories
- 16 Fin material/coating (AL=aluminium, IF=industrial fins, SWR=sea water resistant fins, EP=epoxy coated alu, FC=F-coat)
- 17 Fin spacing (2.1, 2.3, 2.5, 3.0)
- 18 Tube material (CU=copper, SS=stainless steel)
- 19 Options

3 Product labels



1. Lifting point

Use all marked lifting points when lifting from above. 4 lifting points available for both horizontal and vertical airflow setup.



2. & 3. In/Out

Liquid connections inlet and outlet.



4. Hot surfaces

Warning: danger of burns. Wear adequate protection. Applied to the INLET header.

5. Product label

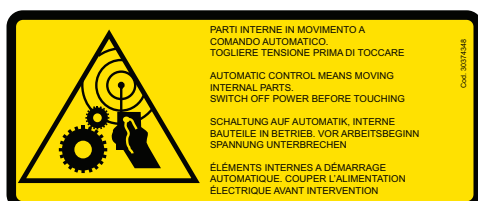
	
Manufacturer	Manuf. Date
AIR HEX ALONTE S.R.L. - Italy	04 / 2019
Model	O.A. 388483/10
BDDS903CD224 P Feet	
AL 2.1 CU	
Item ID	3289219820
Serial no.	AA 2351392
Unit Net Weight	1182 Kg $\pm 5\%$
Sn	
Motorfan data	
Vn	400V
f	50Hz
Country of origin Italy	
	
WARNING	
READ INSTRUCTION MANUAL BEFORE INSTALLATION AND MAINTENANCE TO AVOID INJURIES OR DAMAGE	

Model	Code description
Item ID	To be communicated when ordering spare parts as they identify the unit.
Serial no.	
O.A.	Order acknowledgement number
Unit Net Weight	Check before any lifting operation to ensure that proper lifting tools are used.

	
Manufacturer	Manuf. Date
AIR HEX ALONTE S.R.L. - Italy	04 / 2019
Model	O.A. 388483/10
BDDS903CD224 P Feet	
AL 2.1 CU	
Item ID	3289219820
Serial no.	AA 2351392
Sn	
Material	CU
PED Category	Art. 4.3
Volume	16,93 m3
Max DN	127
Fluid Group	2
Coil Ts	+110/-60 °C
Ps	10 bar
Pt	15 bar
Test Date	04-2019
	
WARNING	
READ INSTRUCTION MANUAL BEFORE INSTALLATION AND MAINTENANCE TO AVOID INJURIES OR DAMAGE	

6. Product label - coil

Model	Code description
Item ID	To be communicated when ordering spare parts as they identify the unit.
Serial no.	
Max DN	Maximum diameter of the distributor tube
Fluid Group	According to PED
Coil Ts	Range of operating temperatures for the coil
Ps	Design pressure
Pt	Test pressure
Test date	Date on which the coil has been pressure tested in the factory



7. Moving parts

Warning: moving parts.
Switch off power supply before any maintenance or installation activities.



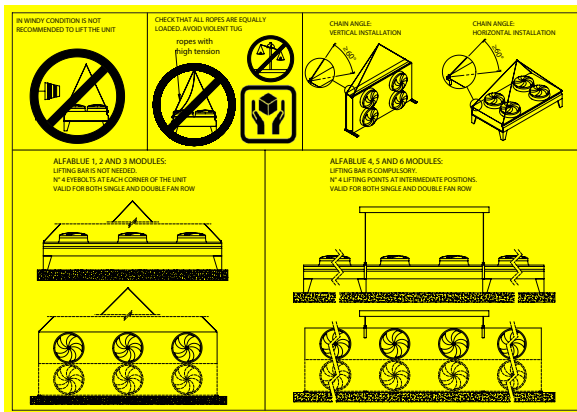
8. Fan direction

Sticker indicates fan rotation direction.



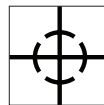
9. Sharp surfaces

Warning: danger of cutting injuries. Wear adequate protection.



10. Lifting instructions

Detailed lifting instructions (see dedicated paragraph of the manual).



11. & 12. Centre of gravity/Handle with care

When lifting the unit using a forklift, always place the forks under the center of gravity.

When handling the unit using a forklift, always take maximum care.

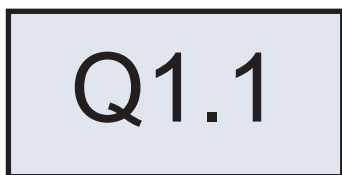
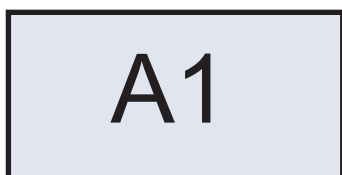
Both stickers are applied on the protective plastic foil covering the units during transportation.



13. Do not walk

Don't walk on the headers or on the fan cowls.

Stickers on this page are not represented in the stickers overview illustration.



Electrical warning

Electrically powered component. Switch off power supply before any maintenance or installation operation.

Fan motor

Fan motor item number. Located on each fan motor.

Connection box identifier

Connection box power. One for each fan row. Only for units featuring the corresponding option.

Signal box identifier

Connection box for EC fans signal. Only for units featuring the corresponding option.

Master Controller identifier

Only for units featuring the corresponding option.

Switchboard identifier

Only for units featuring the corresponding option (ICM/ECCB).

Switch ON/OFF identifier

Only for units featuring the corresponding option (ICM/ECCB).

Grounding

Whenever electrical components supplied by Alfa LU-VE have this sticker, is mandatory to ground them. The yellow/green grounding wire must be left longer than the others, to ensure that it is the last one to be detached from the terminals in the event of the cable being pulled off. Grounding is designed for the electrical equipment supplied with the unit and is not to be intended as protection from external sources.

4 Unpacking and lifting



Always follow guidelines and instructions as given in the product manual for air cooled liquid coolers AHE00050.

4.1 Packing

By default, all units are shipped in horizontal airflow position. If vertical airflow is selected, mounting feet come loose. Units are mounted on a wooden pallet, wrapped with plastic foil. As an optional, open crate (single fan row models) or protection for headers and coil (dual fan row models) can be selected. AlfaBlue for vertical airflow can be ordered with mounted feet. These units are shipped in mounting position with a pallet for on-site handling.

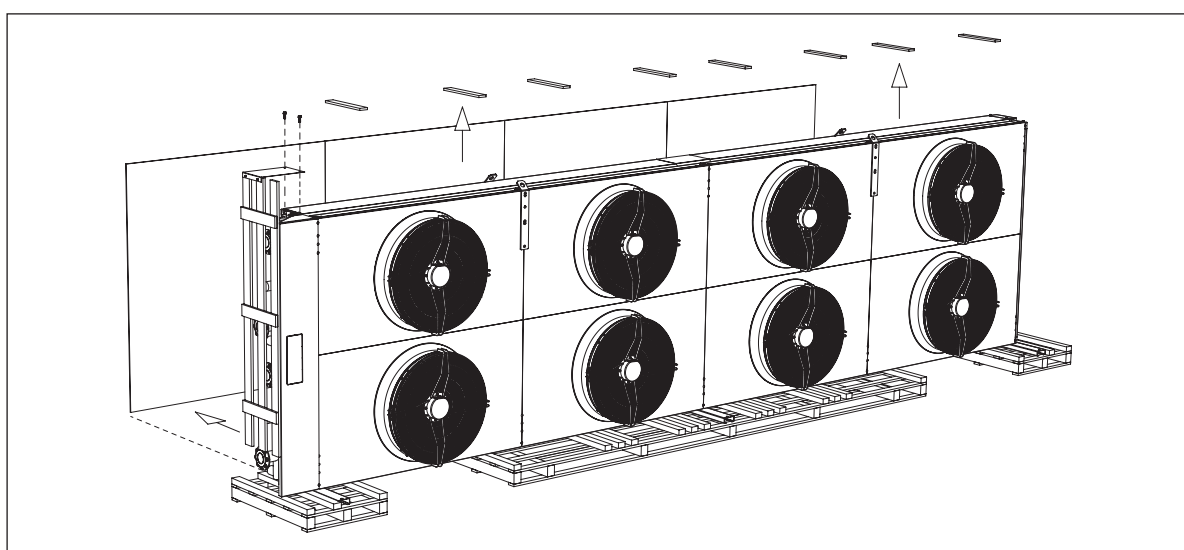
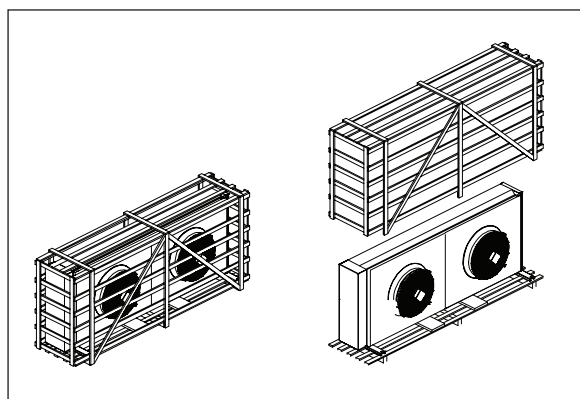
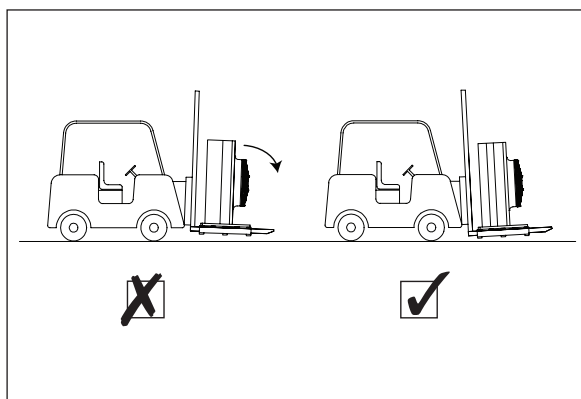
4.2 Shipping dimensions

Dimensions in the table refer to basic units without any option, shipped in horizontal airflow position with the different packing options available.

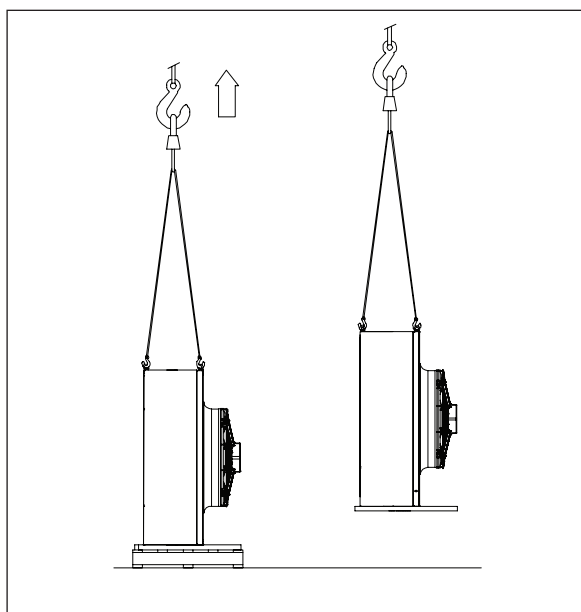
Model	Pallet packing (with and without protections)		
	Width (m)	Height (m)	Length (m)
BDM 801s	0.97	1.69	2.25
BDM 802s	0.97	1.69	3.65
BDM 803s	0.97	1.69	5.05
BDM 804s	0.97	1.69	6.45
BDM 805s	0.97	1.69	7.85
BDM 801	1.10	1.71	2.55
BDM 802	1.10	1.71	4.30
BDM 803	1.10	1.71	6.05
BDM 804	1.10	1.71	7.78
BDM 805	1.10	1.71	9.53
BDM 901-1001	1.10	1.71	2.90
BDM 902-1002	1.10	1.71	5.00
BDM 903-1003	1.10	1.71	7.10
BDM 904-1004	1.10	1.71	9.18
BDM 905-1005	1.10	1.71	11.28
BDM 906-1006	1.10	1.71	13.38
BDD 802	1.10	2.52	4.3
BDD 803	1.10	2.52	6.05
BDD 804	1.10	2.52	7.78
BDD 805	1.10	2.52	9.53
BDD 806	1.10	2.52	11.28
BDD 902-1002	1.10	2.52	5
BDD 903-1003	1.10	2.52	7.1
BDD 904-1004	1.10	2.52	9.18
BDD 905-1005	1.10	2.52	11.28
BDD 906-1006	1.10	2.52	13.38

Model	Crate packing (only for single fan row models)		
	Width (m)	Height (m)	Length (m)
BDM 801s	1.09	1.75	2.29
BDM 802s	1.09	1.75	3.69
BDM 803s	1.09	1.75	5.09
BDM 804s	1.09	1.75	6.49
BDM 805s	1.09	1.75	7.89
BDM 801	1.09	1.75	2.64
BDM 802	1.09	1.75	4.39
BDM 803	1.09	1.75	6.14
BDM 804	1.09	1.75	7.89
BDM 805	1.09	1.75	9.64
BDM 901-1001	1.09	1.75	2.99
BDM 902-1002	1.09	1.75	5.09
BDM 903-1003	1.09	1.75	7.19
BDM 904-1004	1.09	1.75	9.29
BDM 905-1005	1.09	1.75	11.39
BDM 906-1006	1.09	1.75	13.49

4.3 Unpacking



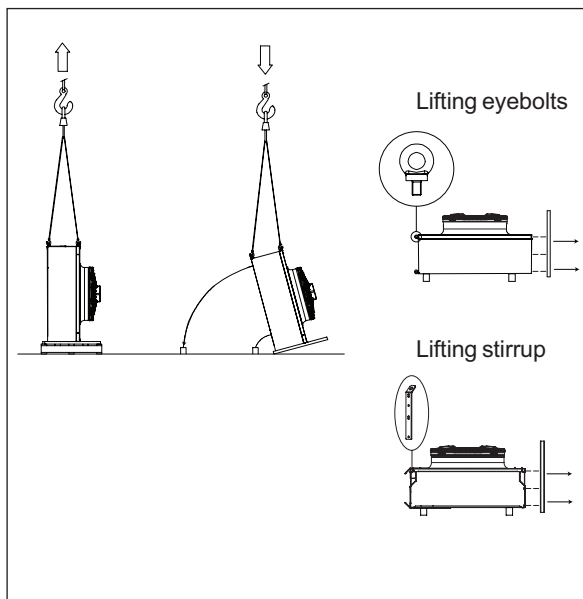
The unit is shipped on a pallet, handling can take place with use of a forklift. Remove cover crate or wooden protections on headers and coil (if present).



Unscrew from pallet.

The unit is now ready to be lifted into mounting position. During this procedure the operator must never stand nor walk below the suspended load.

4.4 Feet mounting for vertical airflow



If units designated for vertical airflow have been ordered with loose feet, the heat exchangers are packed and shipped in horizontal airflow position. Mounting feet must be mounted prior to installation according to the following procedure. During this procedure the operator must never stand nor walk below the suspended load.

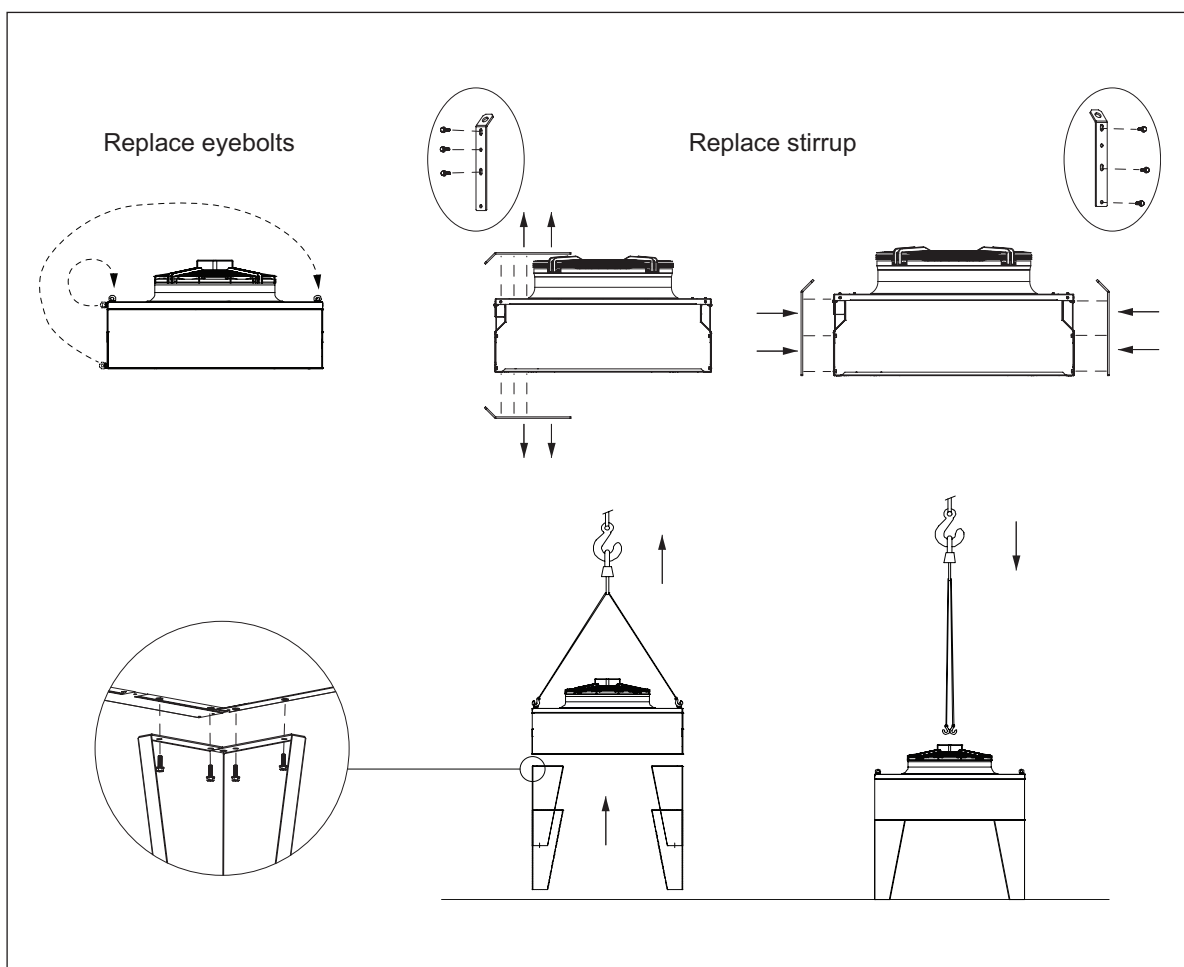
1) Lift unit from pallet and tilt 90° onto supports. Use supports for each mounting foot position. Supports must span the full casing width to avoid damages. Supports must be placed under the load-bearing frame and not under the coil.

2) Remove and reposition lifting eyebolts or lifting stirrups as shown in the illustrations.

3) Remove all mounting profiles.

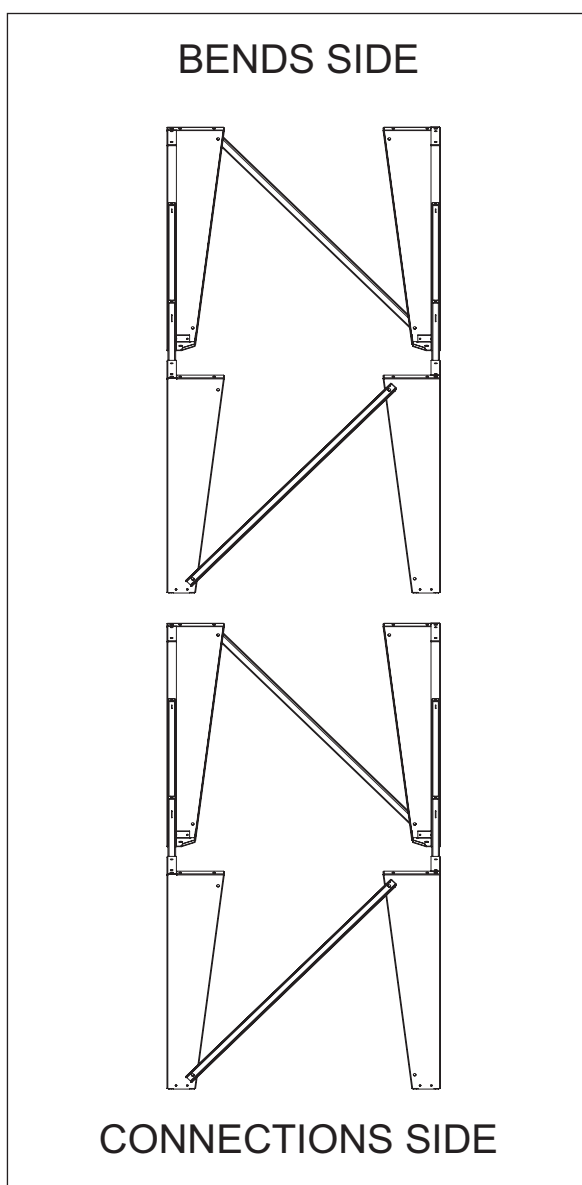
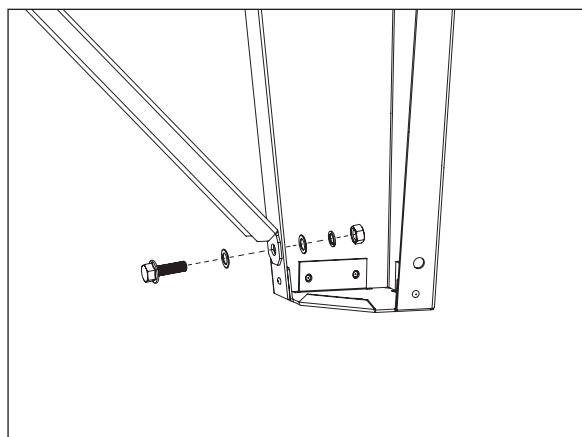
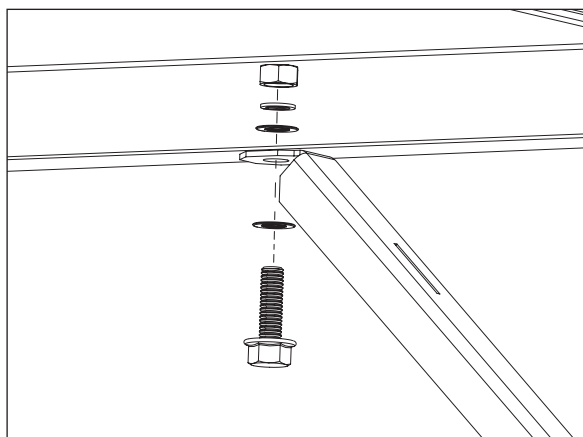
4) Fit mounting feet on both sides of the casing at all vacant mounting profile positions.

5) With all mounting feet in place, the unit is ready for further positioning and installation.



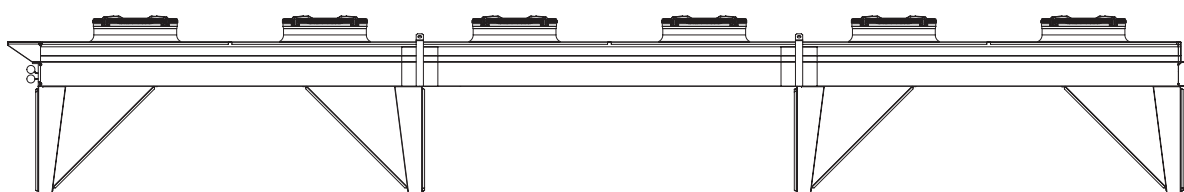
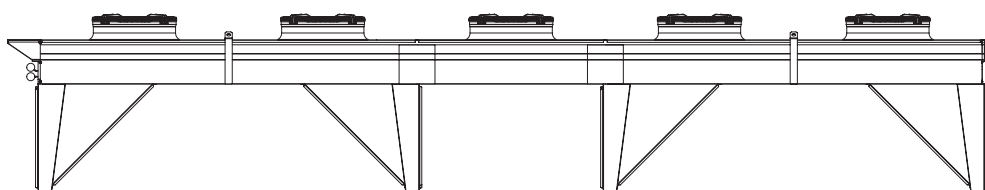
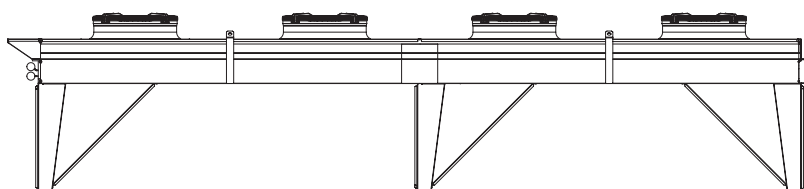
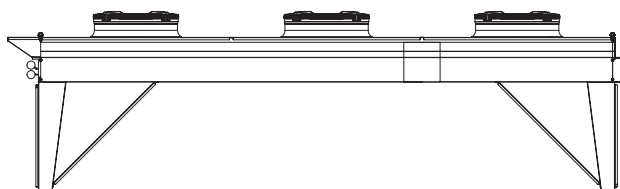
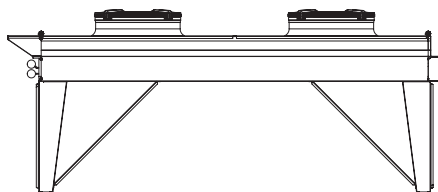
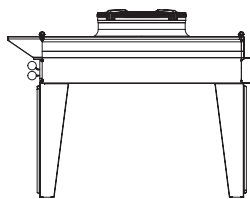
4.5 Wind braces for 1200 mm feet

Place and fix the wind braces as shown: each beam has a hole which shall be facing upwards.



The illustration shows how to mount the wind braces on the width side of the heat exchanger: beams shall be mounted alternated in order to reinforce the structure properly.

The illustration below shows the wind braces positioning on the length side of the heat exchanger.



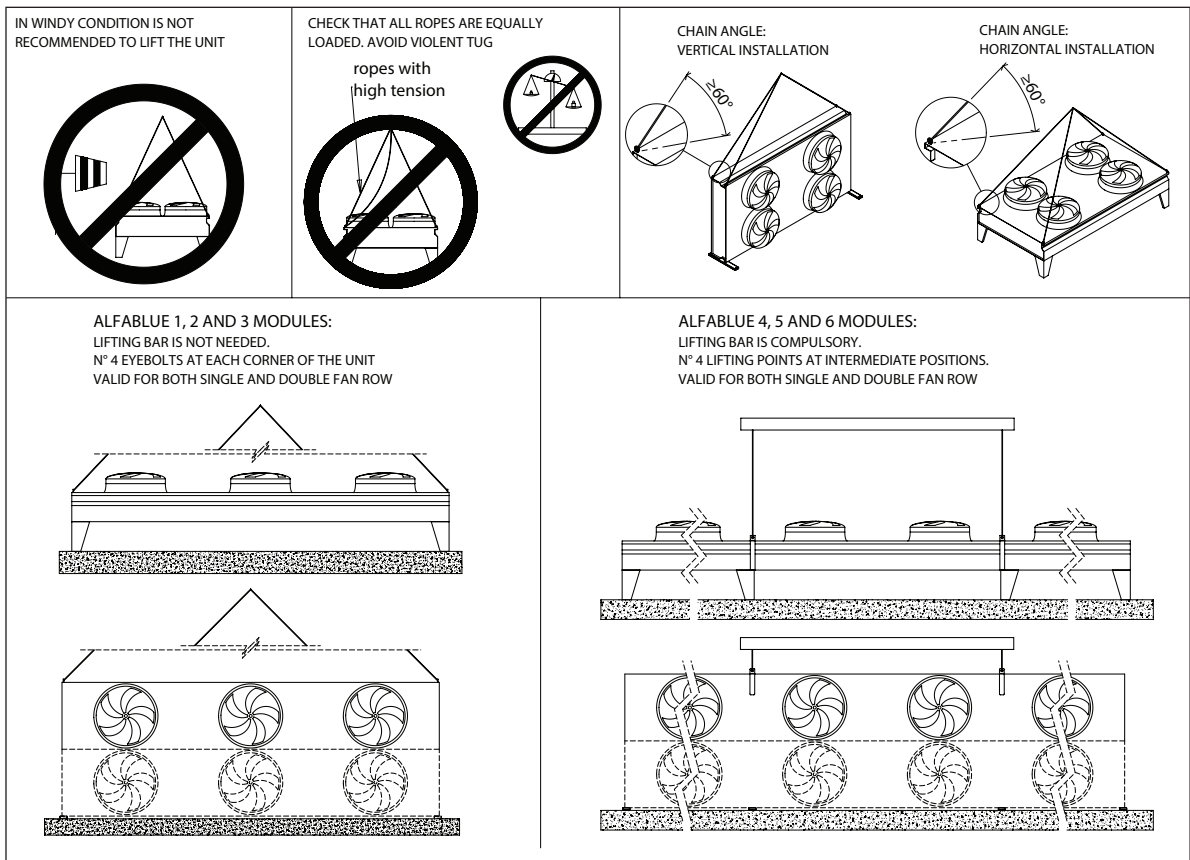


4.6 Lifting from above

All AlfaBlue models for both horizontal and vertical airflow are fitted with 4 lifting points. Hence the illustrations apply to all AlfaBlue models for both horizontal and vertical airflow. AlfaBlue heat exchangers can be lifted from above. Use a hoisting beam when necessary, as indicated.



- Attach belts or hooks to all lifting points.
- Respect the allowable chain angles. The load on the lifting chains shall be equally distributed on all the lifting points.
- **For all models it is mandatory to use all indicated lifting positions during any lifting operation.**



5 Installation

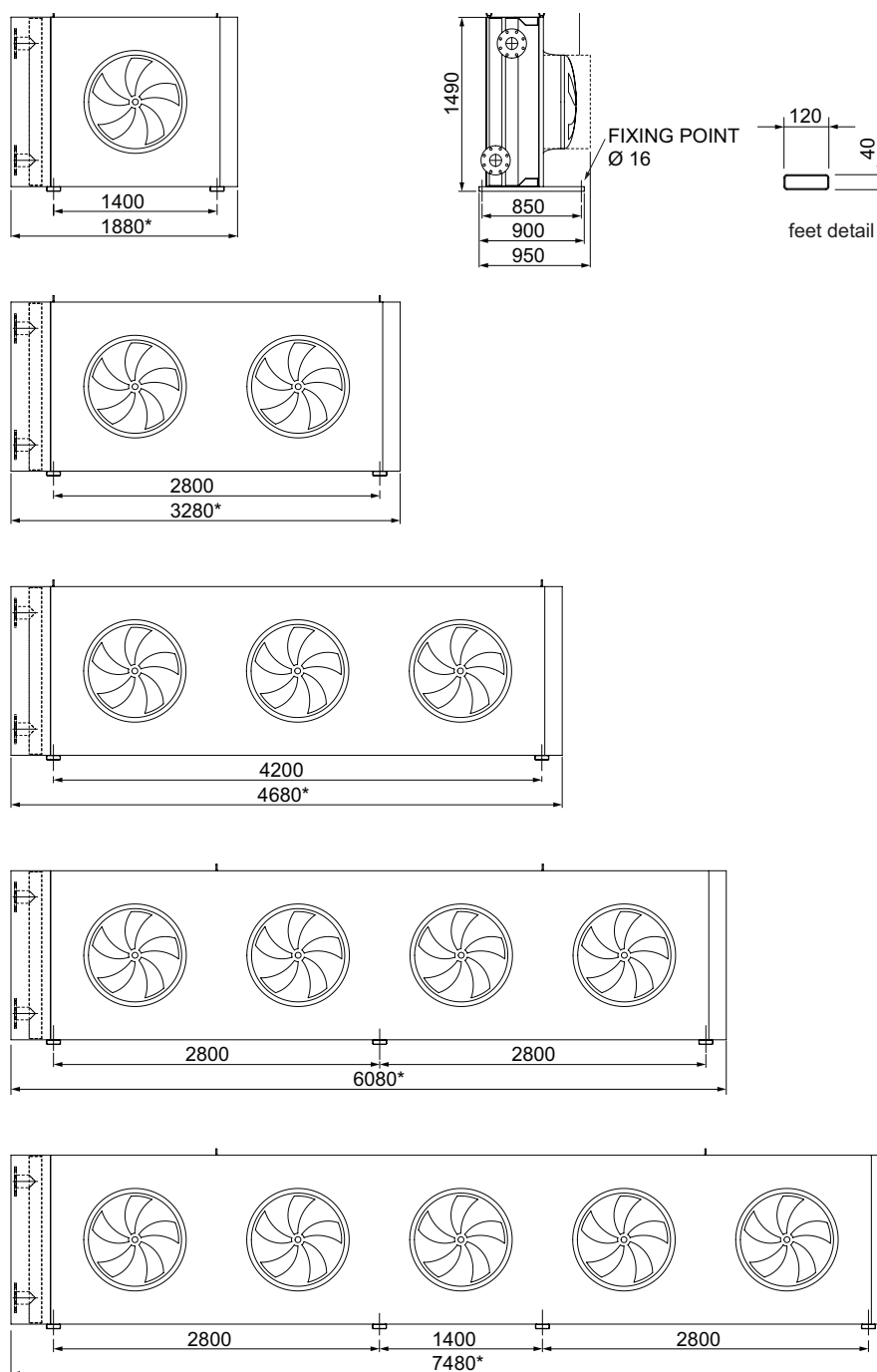


Always follow guidelines and instructions as given in the product manual AHE00050. Detailed drawings showing all required mounting and refrigerant connection dimensions are available for download on alfa.luvegroup.com.



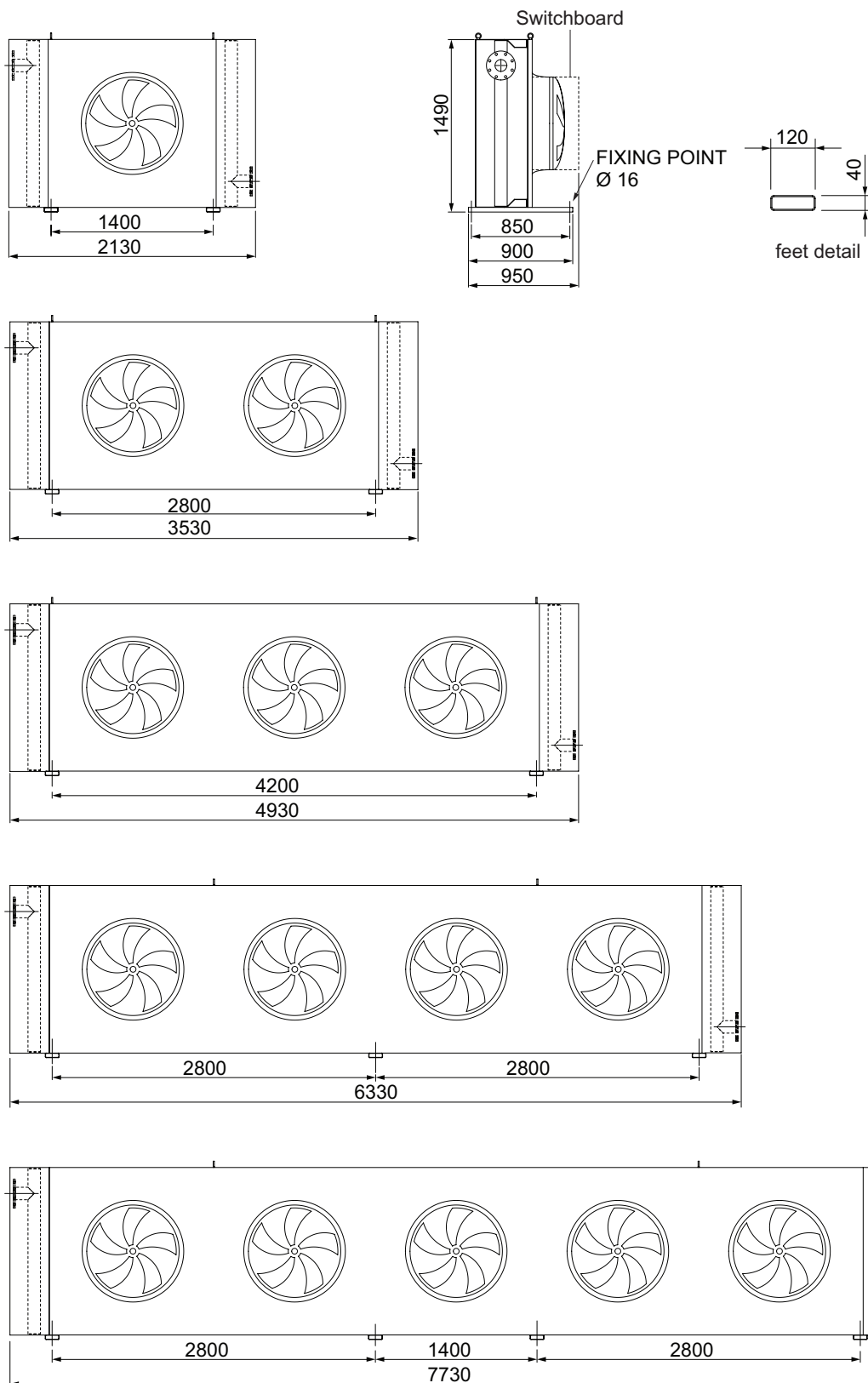
Dimensional drawings

5.1 Mounting dimensions BDM 800s horizontal airflow, same side connections

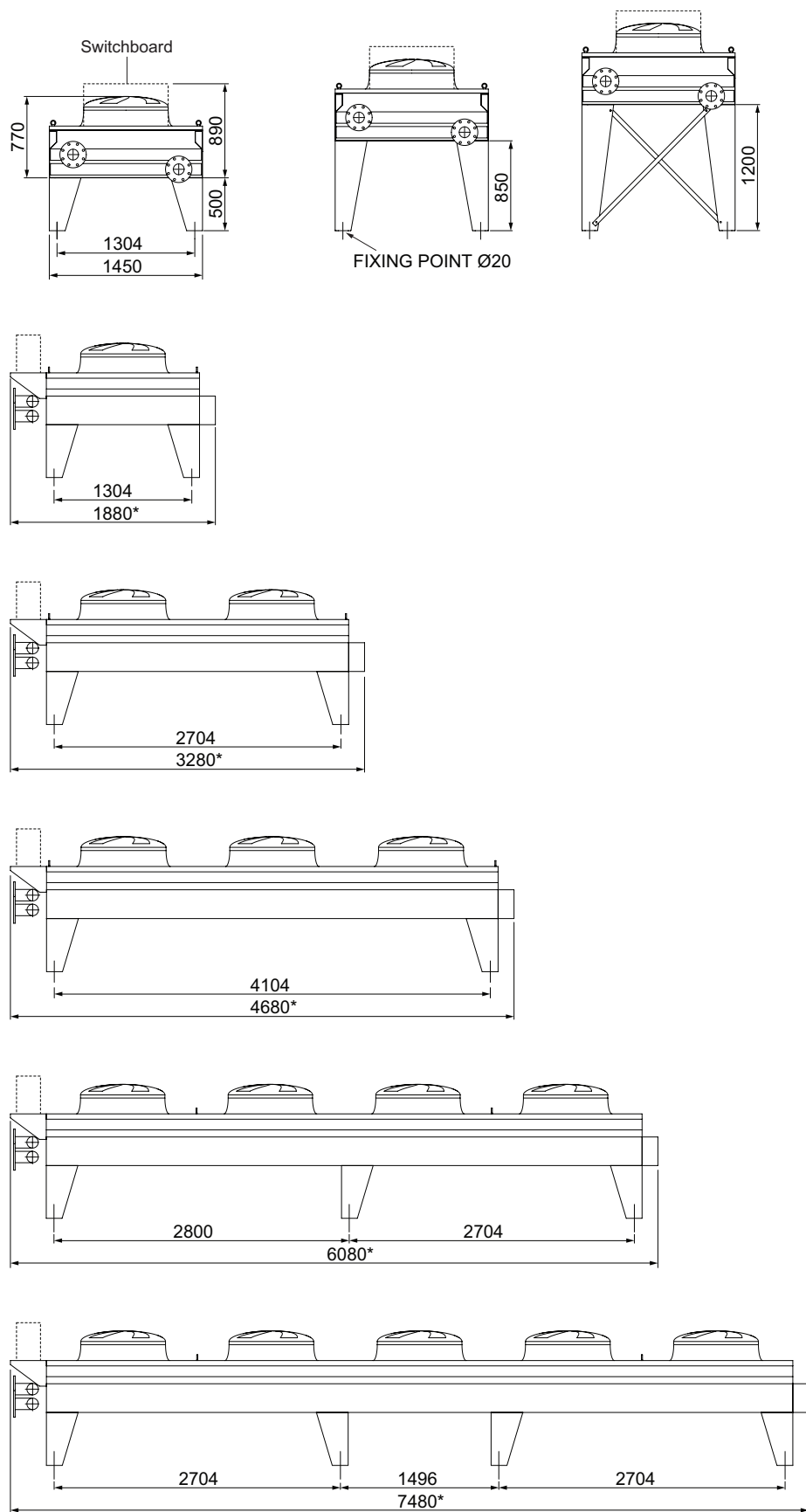


*+ 60 mm for BDMY (SS tubes)

5.2 Mounting dimensions BDM 800s horizontal airflow, opposite side connections

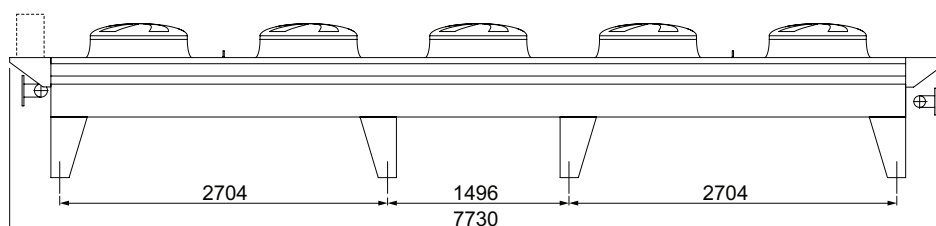
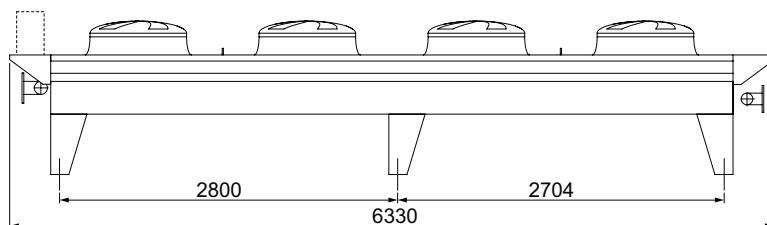
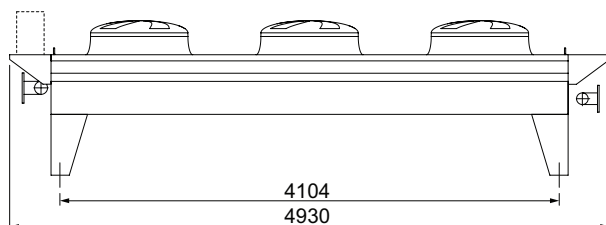
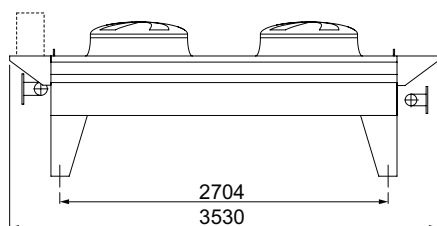
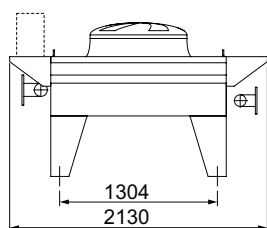
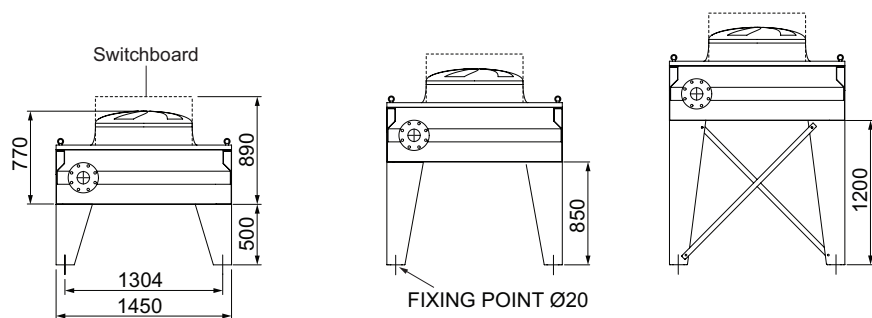


5.3 Mounting dimensions BDM 800s vertical airflow, same side connections

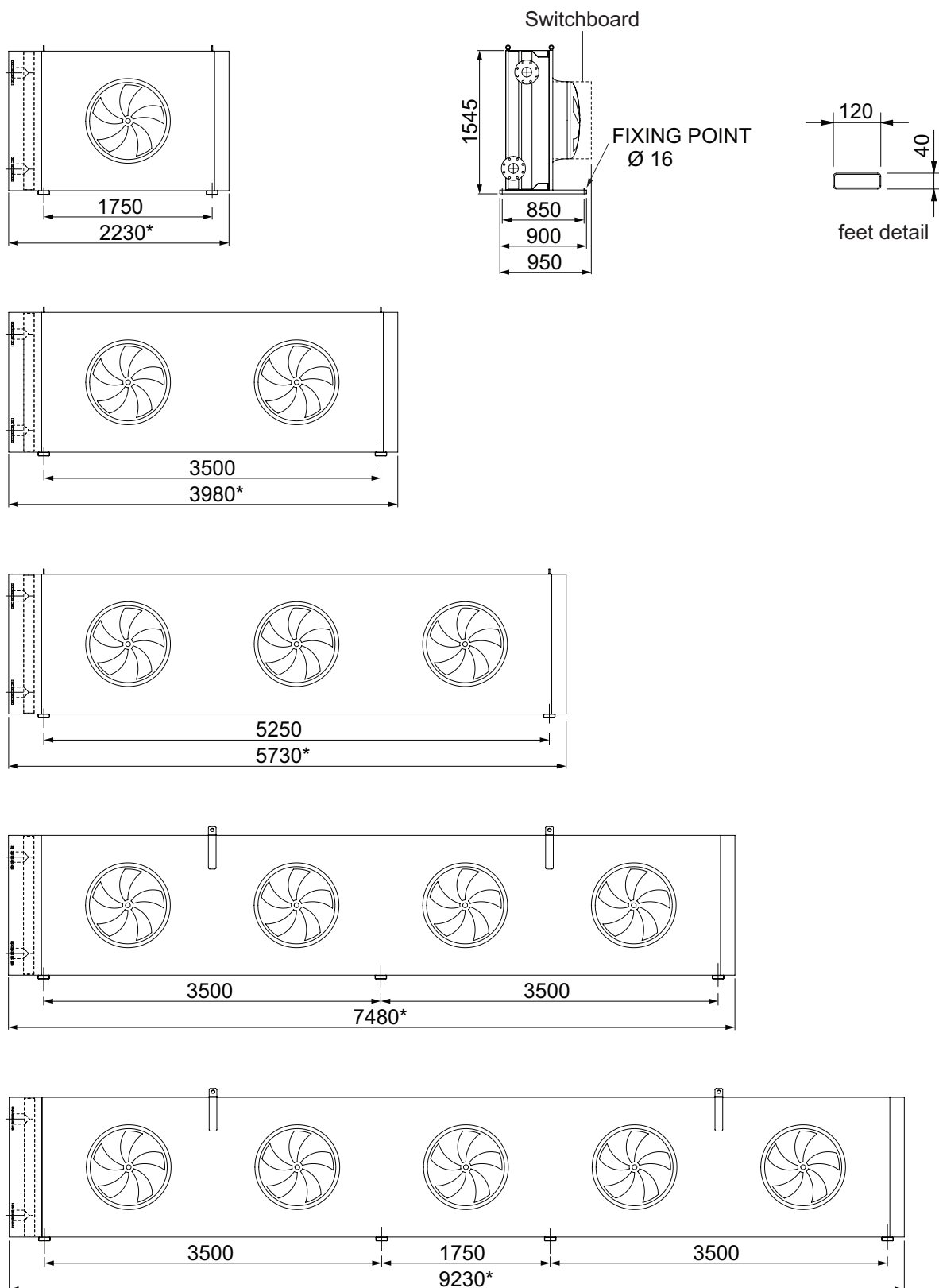


*+ 60 mm for BDMY (SS tubes)

5.4 Mounting dimensions BDM 800s vertical airflow, opposite side connections

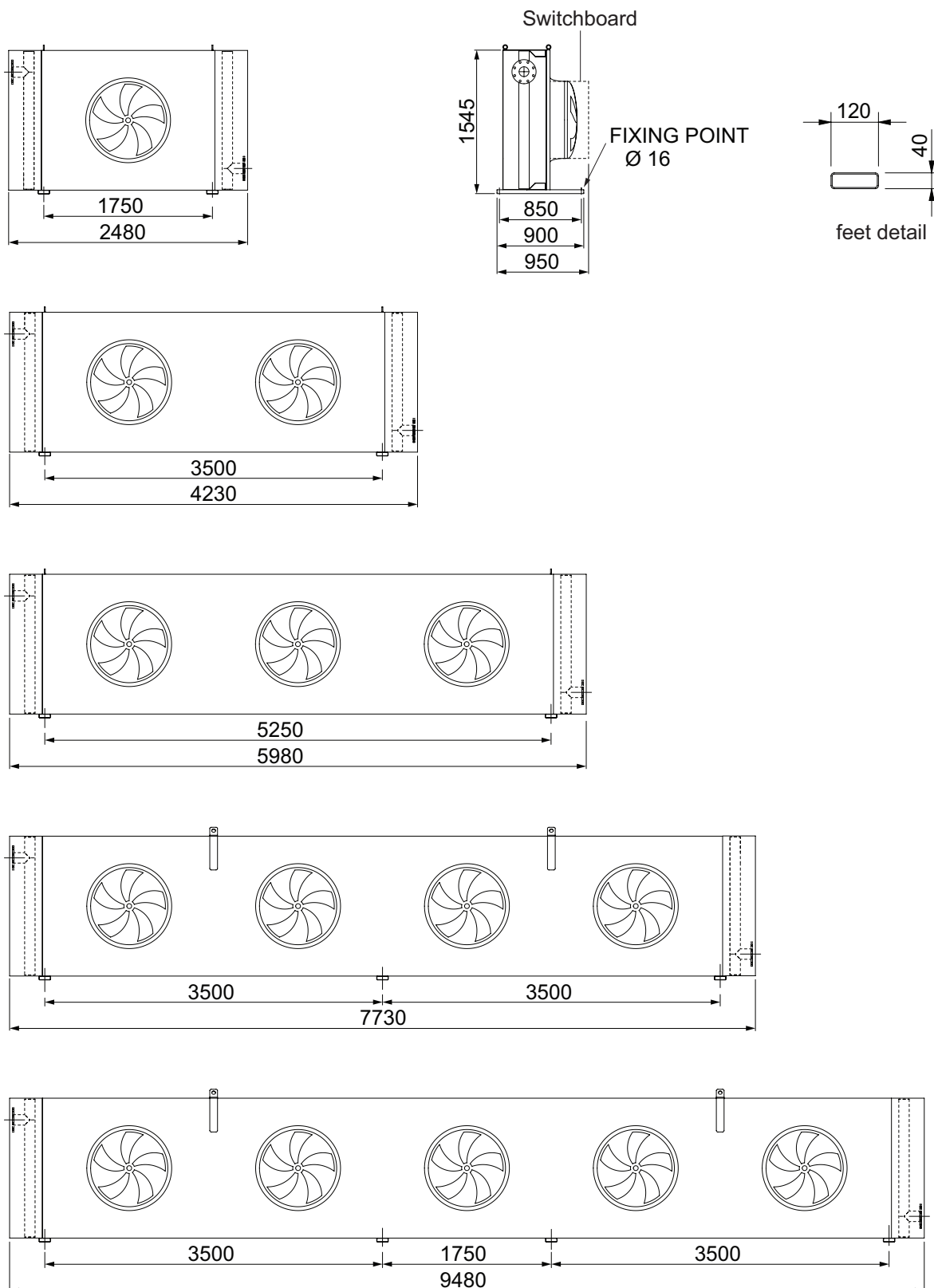


5.5 Mounting dimensions BDM 800 horizontal airflow, same side connections

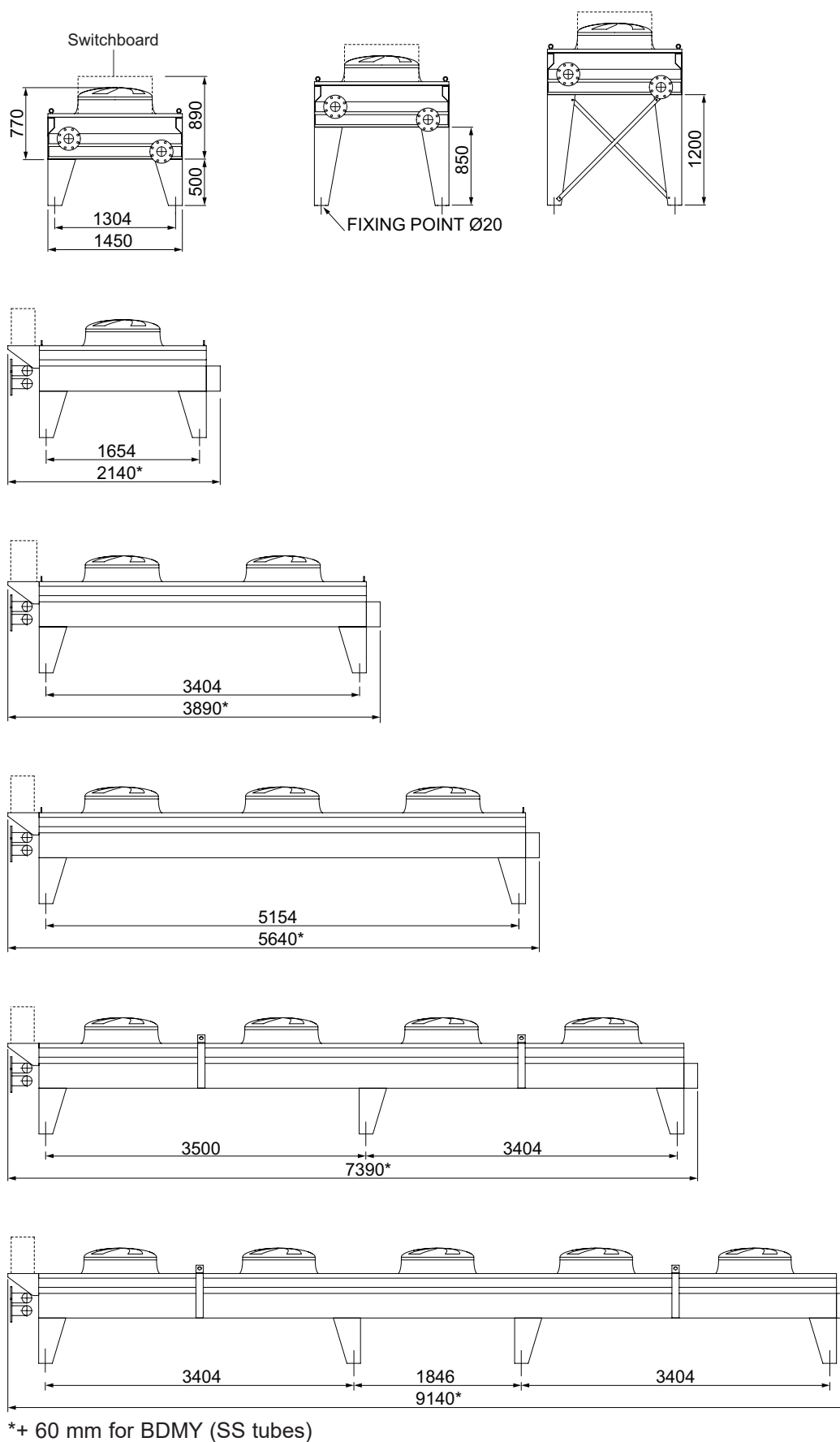


*+ 60 mm for BDMY (SS tubes)

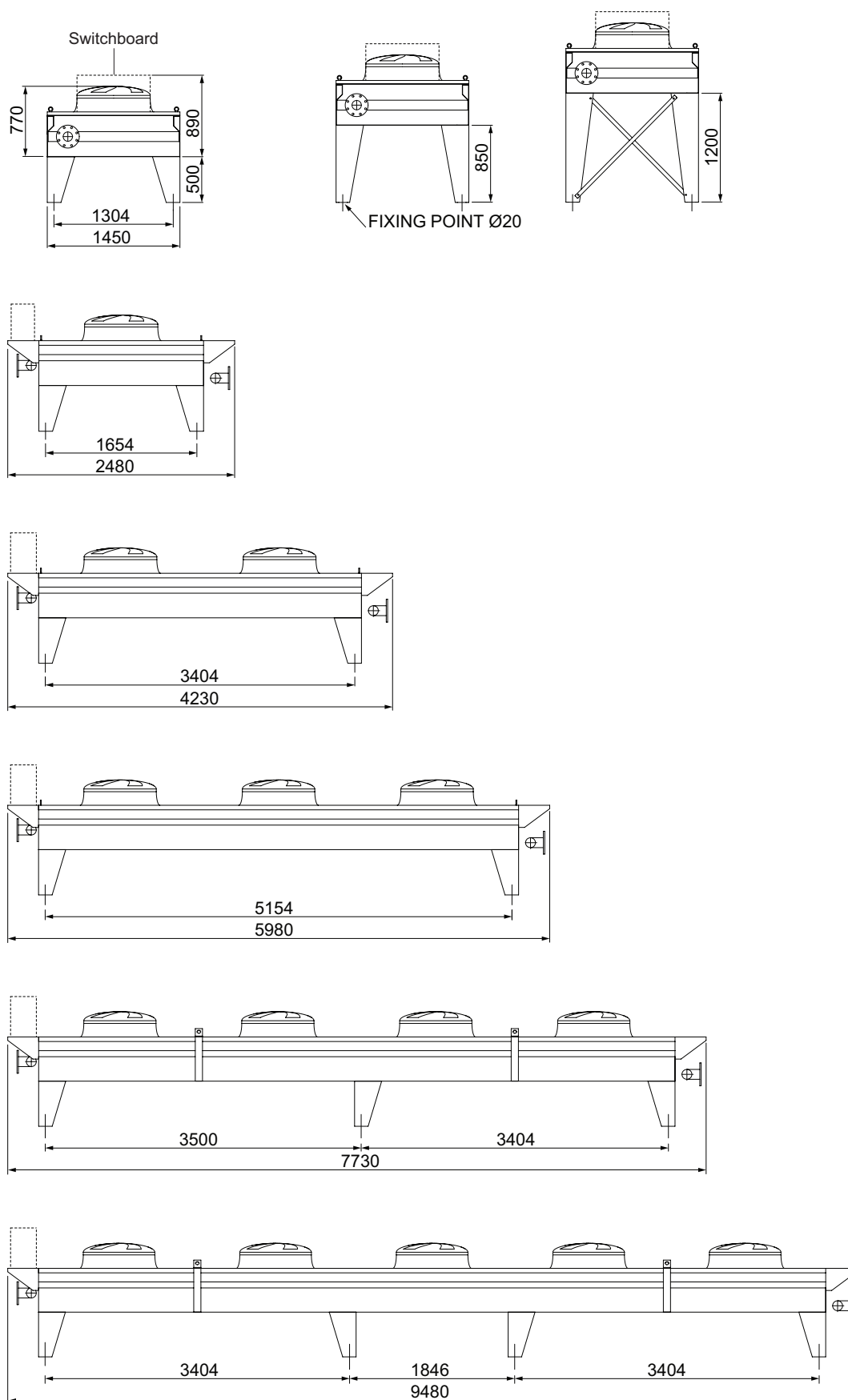
5.6 Mounting dimensions BDM 800 horizontal airflow, opposite side connections



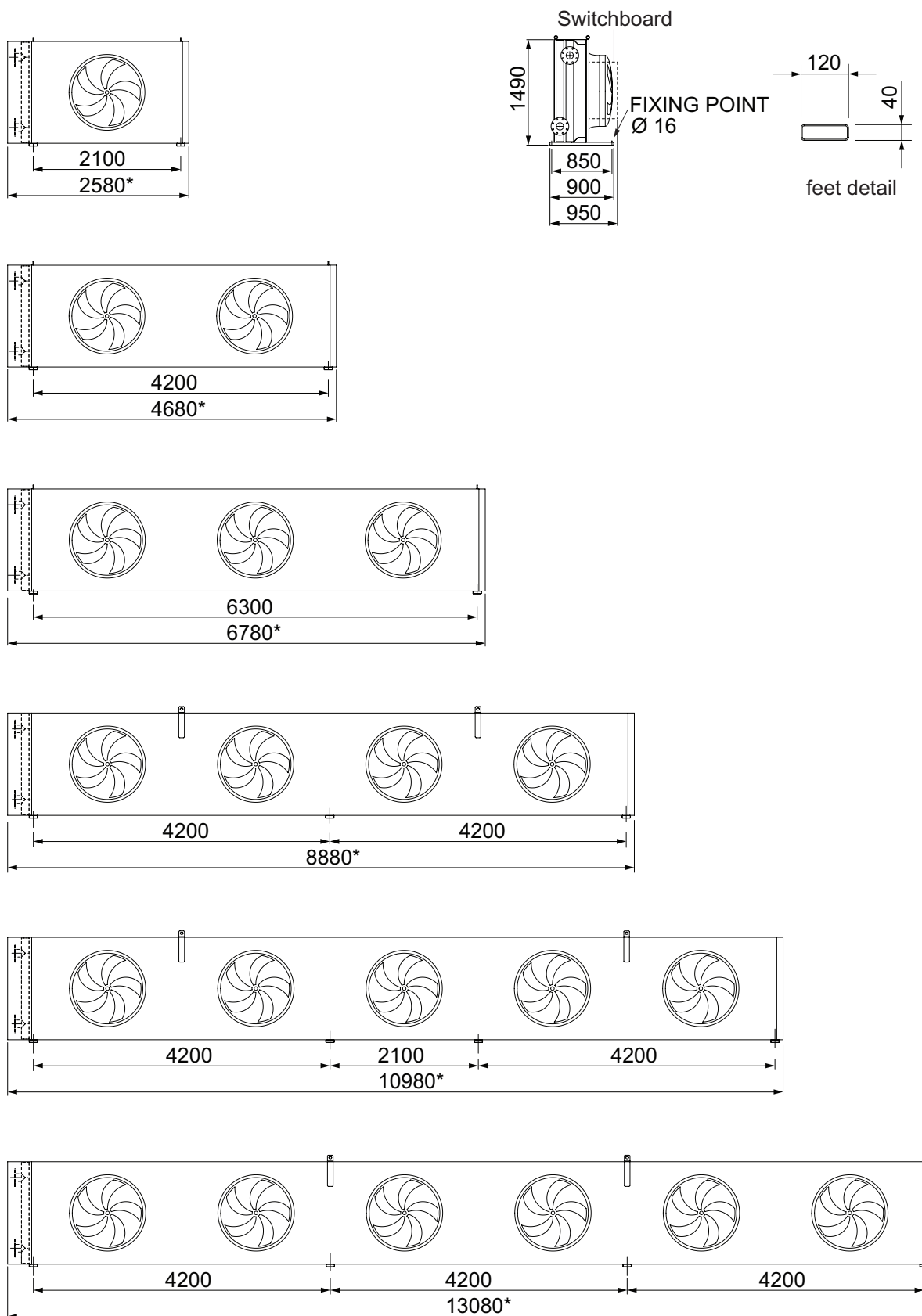
5.7 Mounting dimensions BDM 800 vertical airflow, same side connections



5.8 Mounting dimensions BDM 800 vertical airflow, opposite side connections

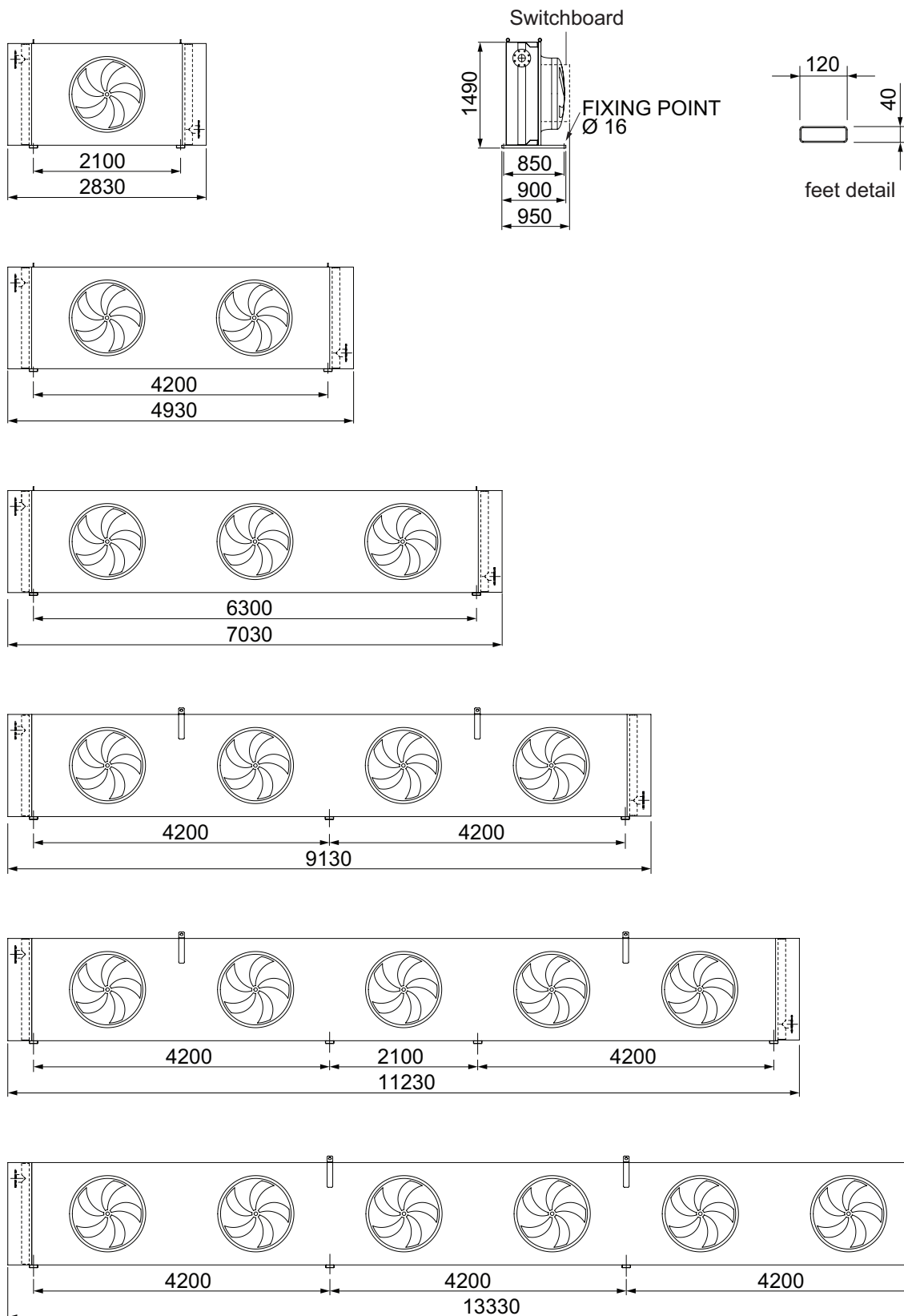


5.9 Mounting dimensions BDM 900-1000 horizontal airflow, same side connections

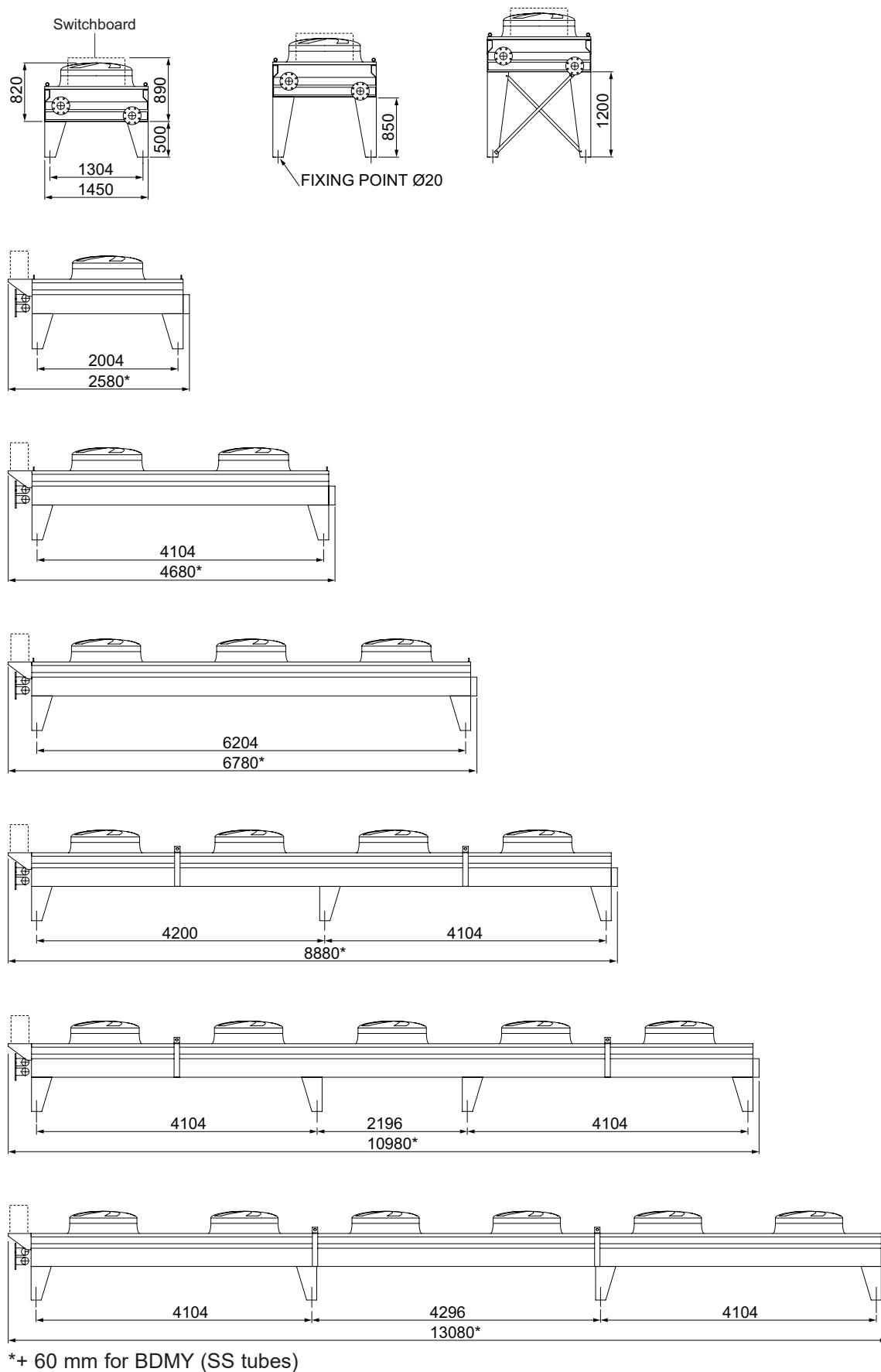


*+ 60 mm for BDMY (SS tubes)

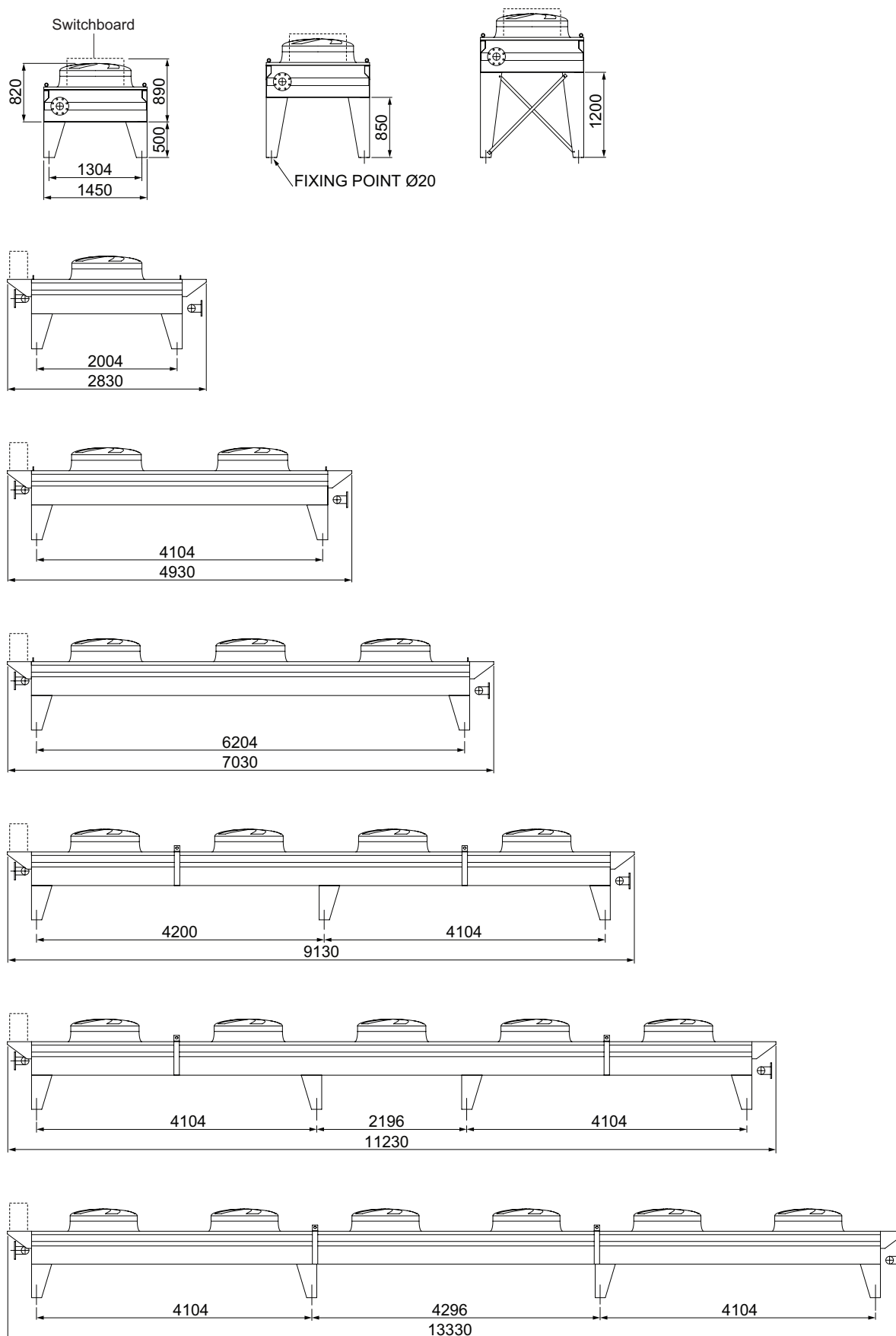
5.10 Mounting dimensions BDM 900-1000 horizontal airflow, opposite side connections



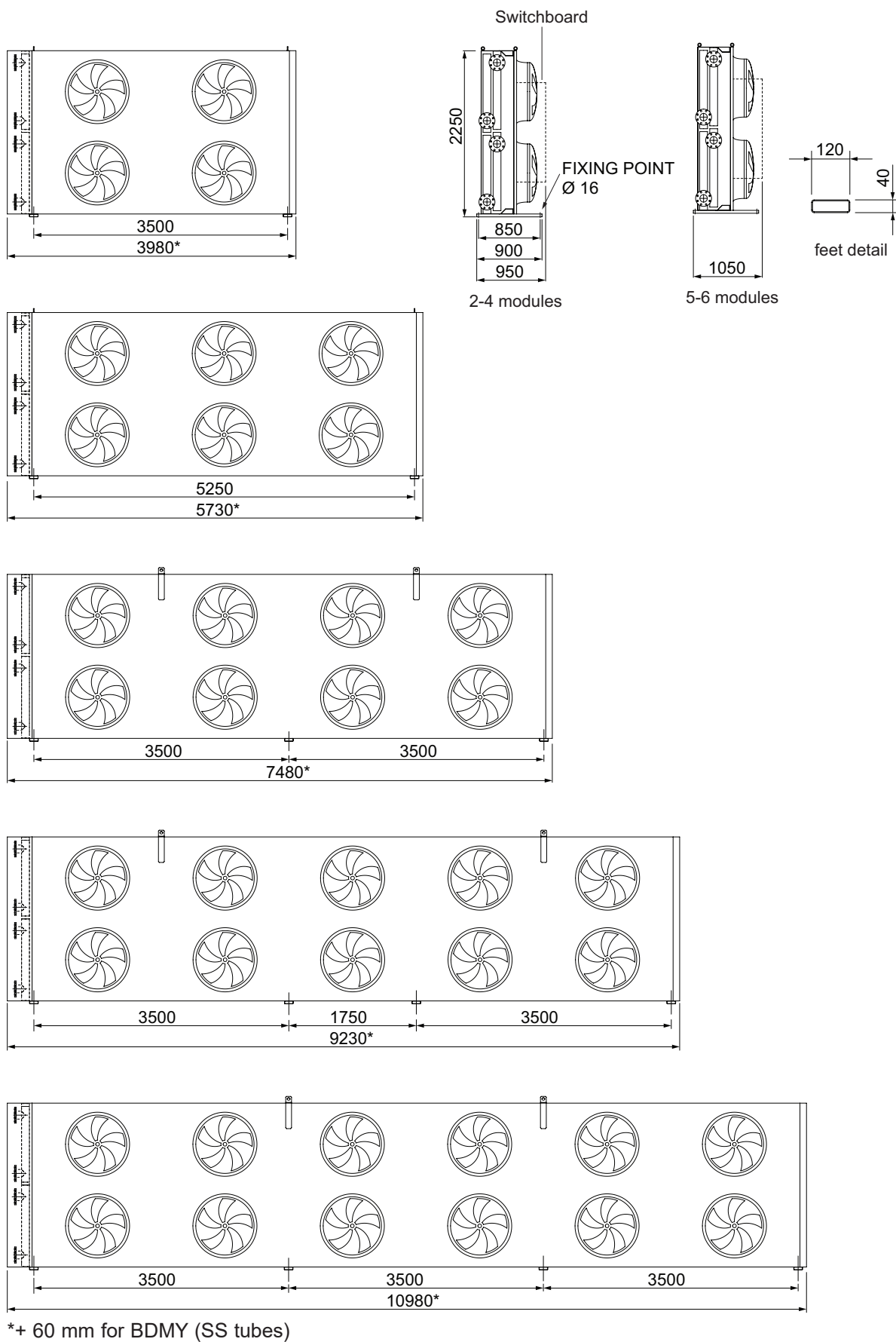
5.11 Mounting dimensions BDM 900-1000 vertical airflow, same side connections



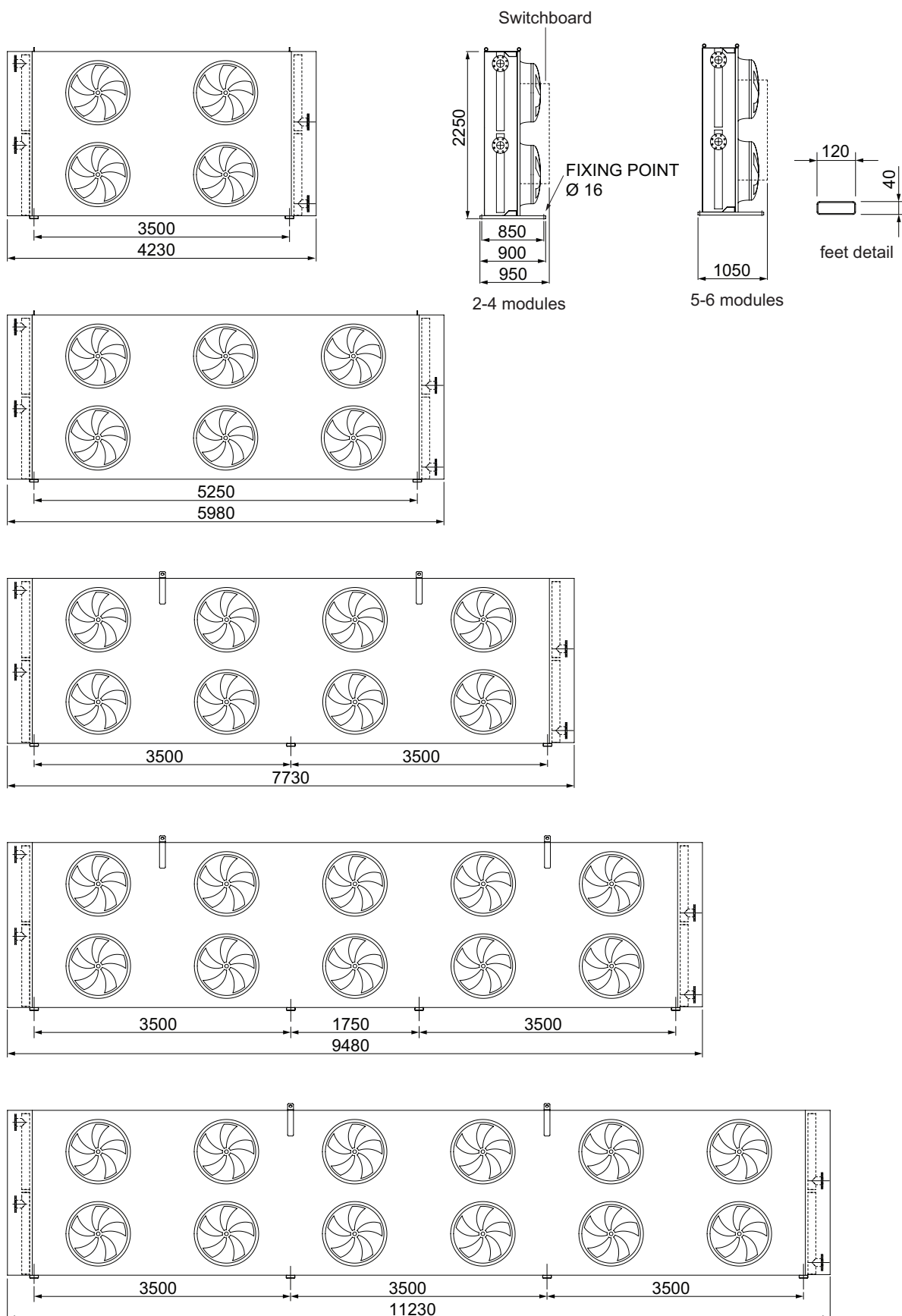
5.12 Mounting dimensions BDM 900-1000 vertical airflow, opposite side connections



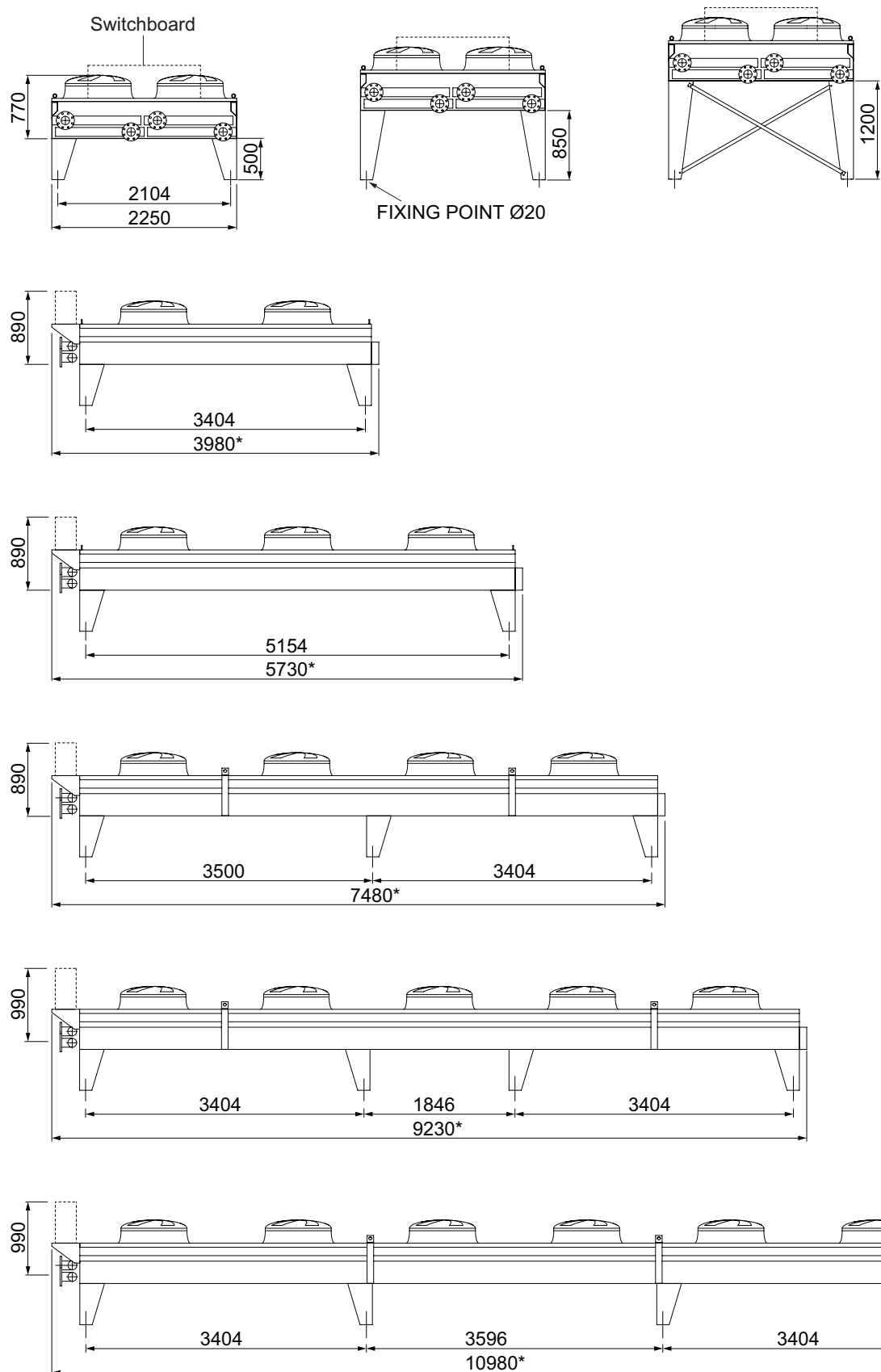
5.13 Mounting dimensions BDD 800 horizontal airflow, same side connections



5.14 Mounting dimensions BDD 800 horizontal airflow, opposite side connections

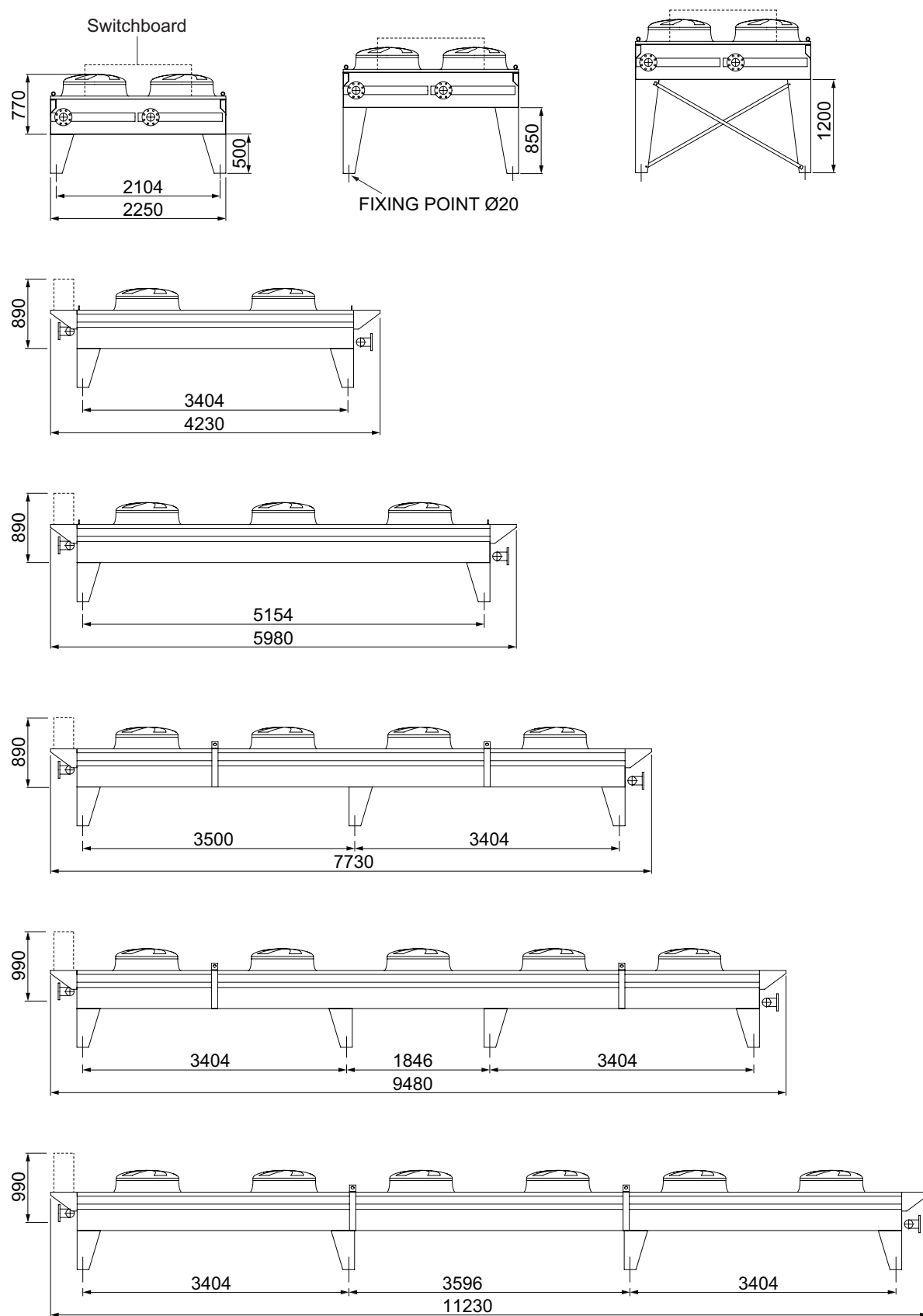


5.15 Mounting dimensions BDD 800 vertical airflow, same side connections

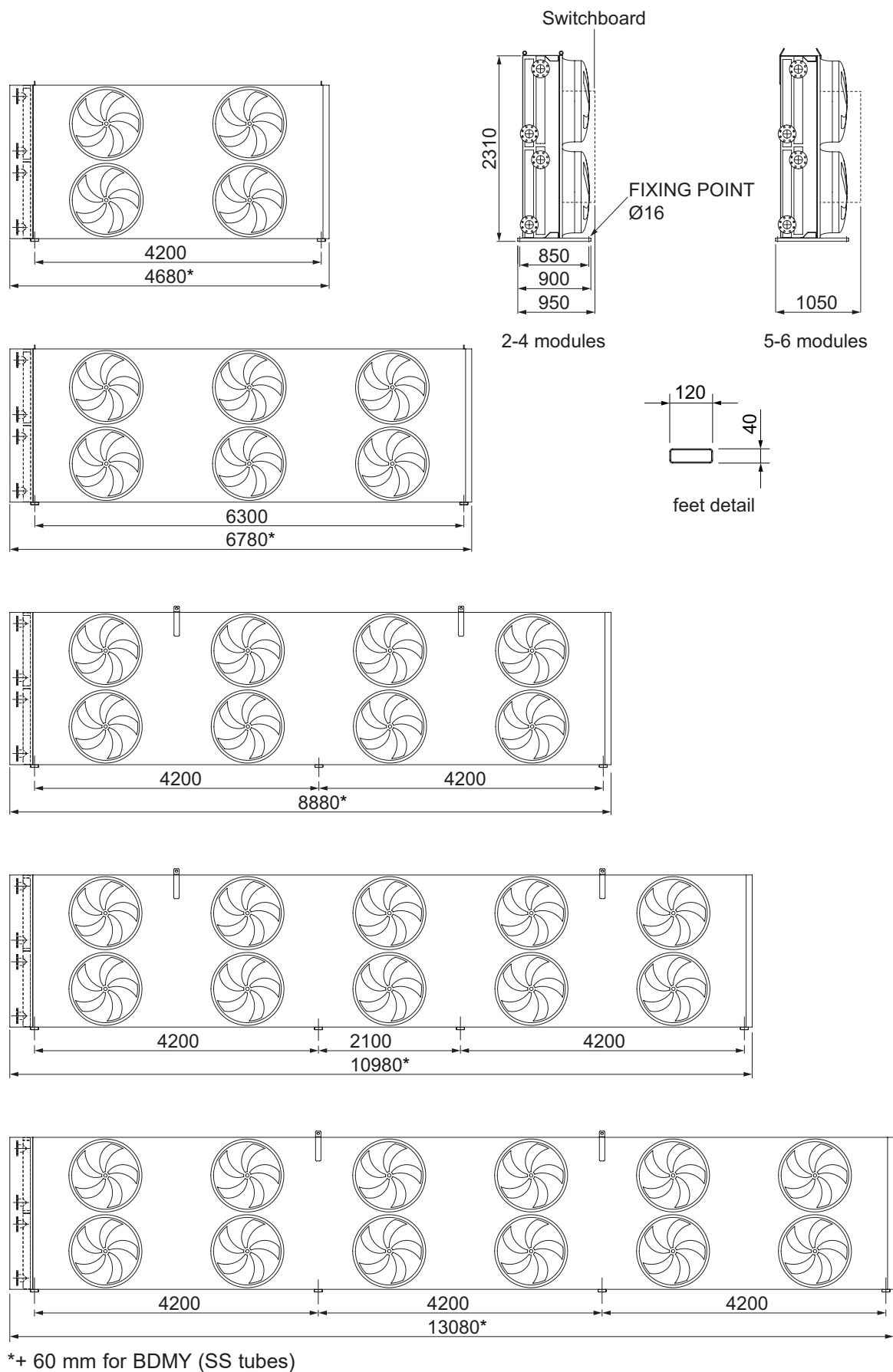


*+ 60 mm for BDMY (SS tubes)

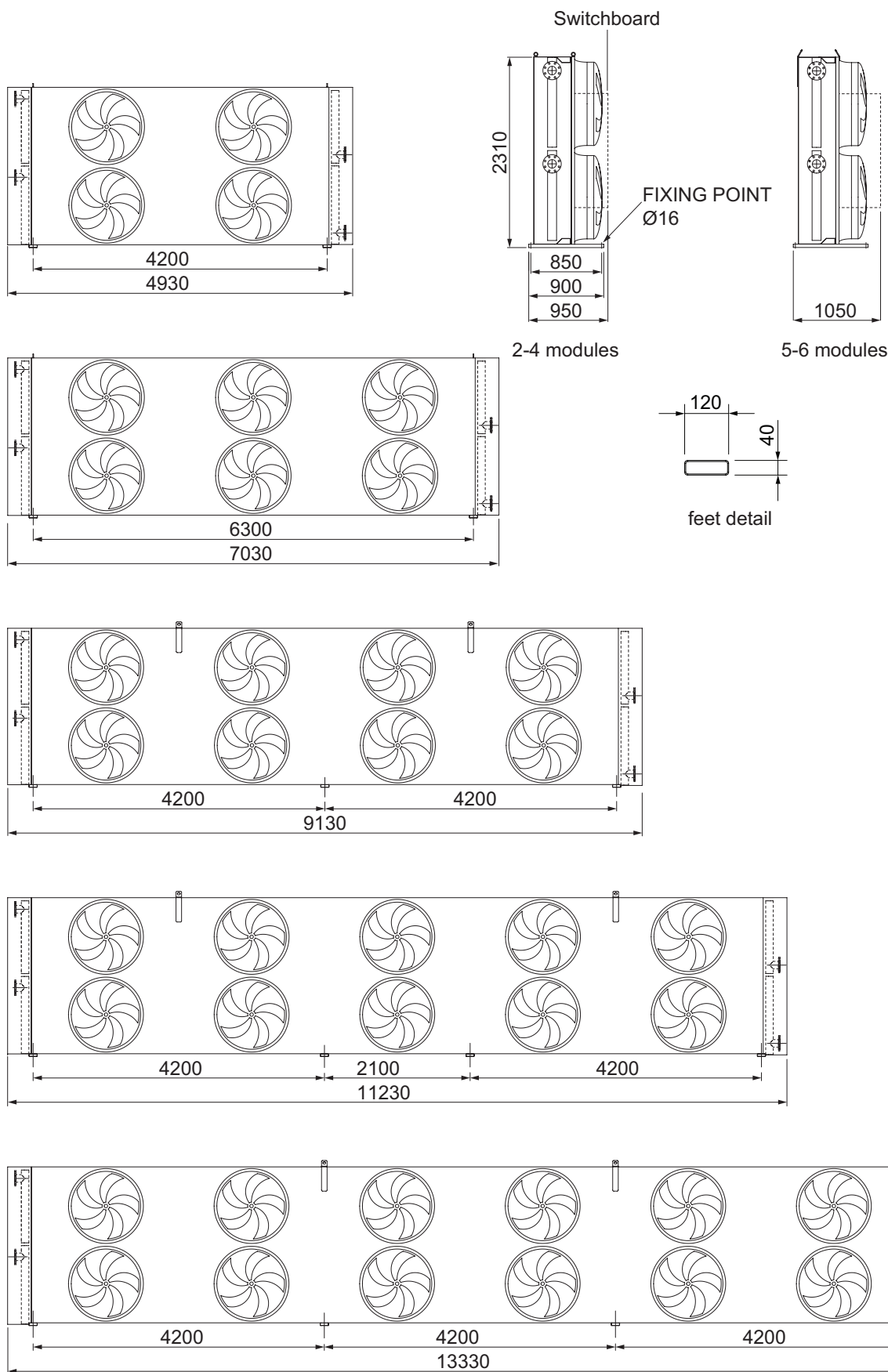
5.16 Mounting dimensions BDD 800 vertical airflow, opposite side connections



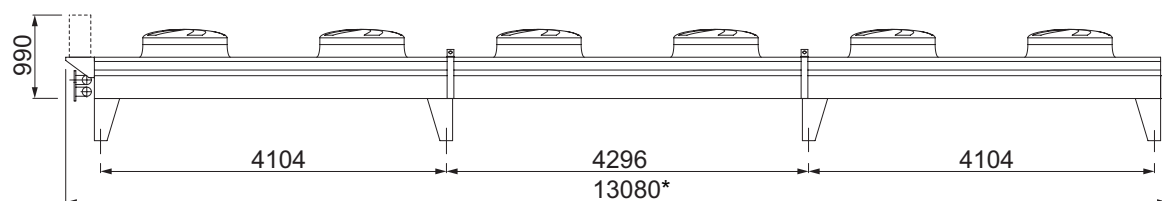
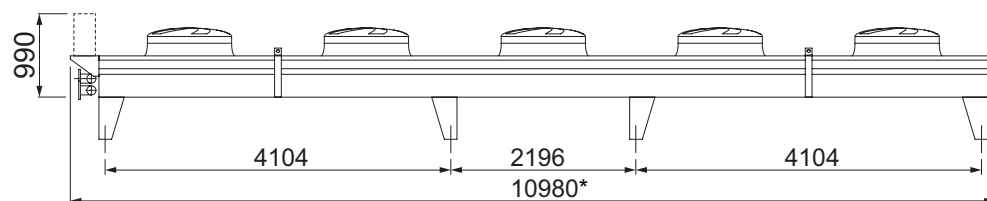
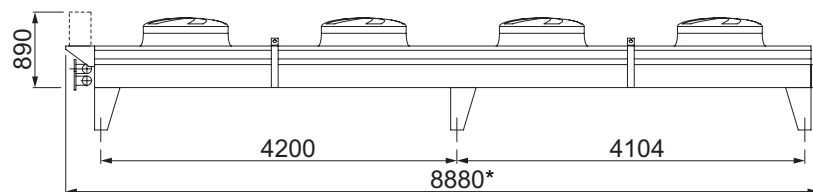
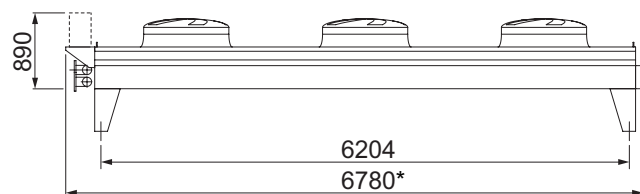
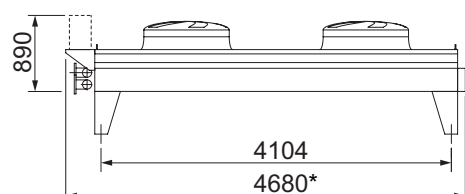
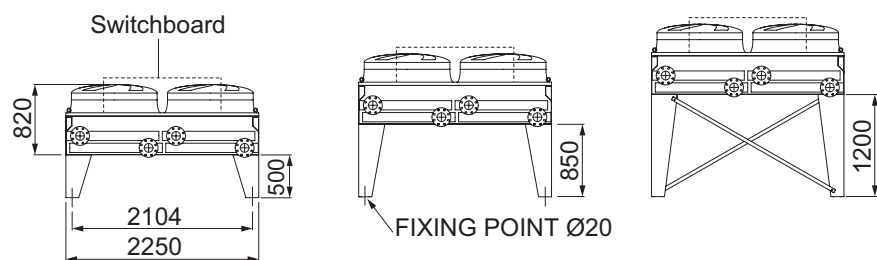
5.17 Mounting dimensions BDD 900-1000 horizontal airflow, same side connections



5.18 Mounting dimensions BDD 900-1000 horizontal airflow, opposite side connections

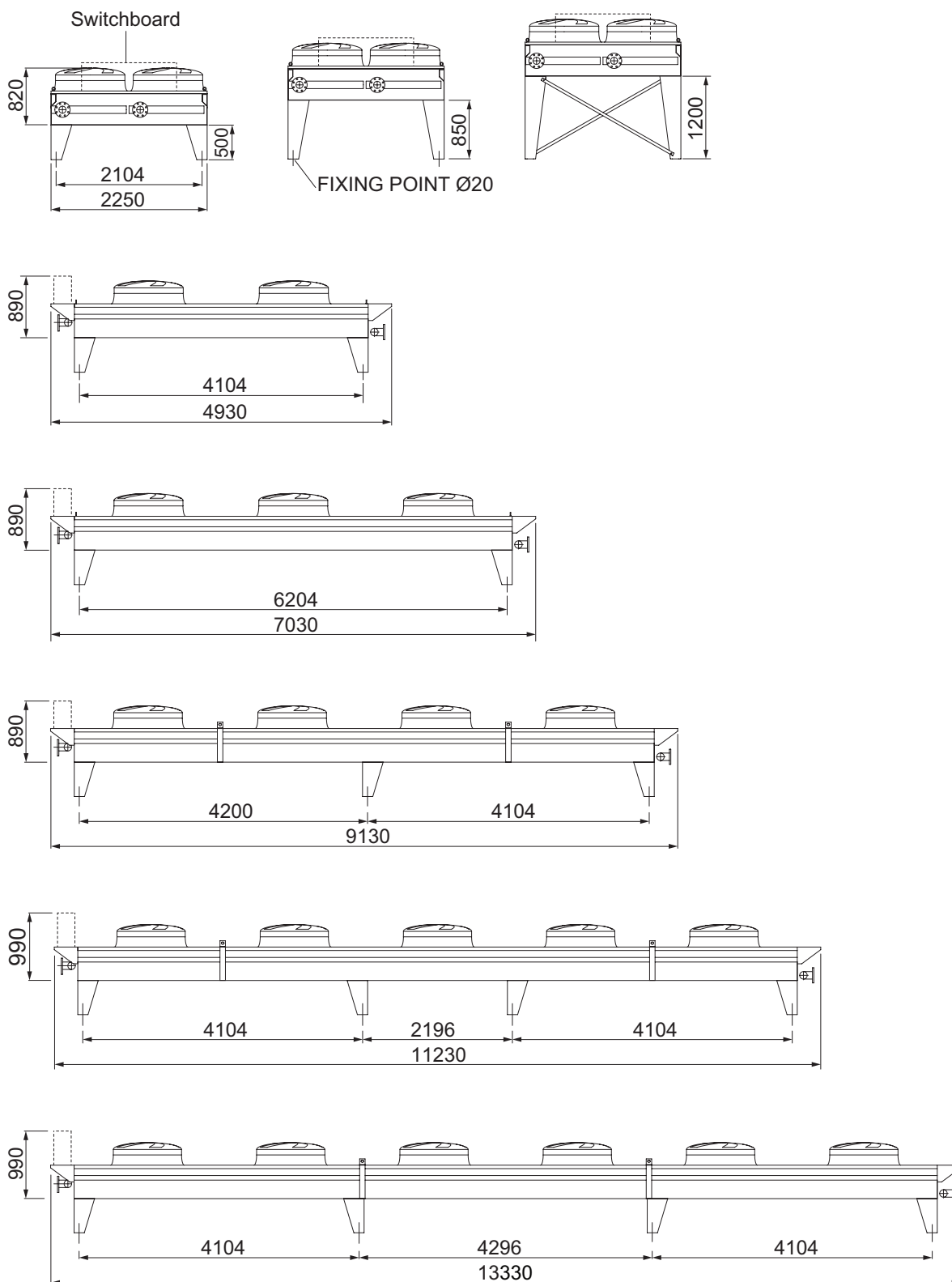


5.19 Mounting dimensions BDD 900-1000 vertical airflow, same side connections

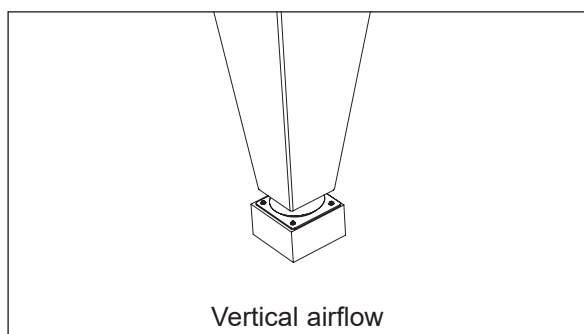
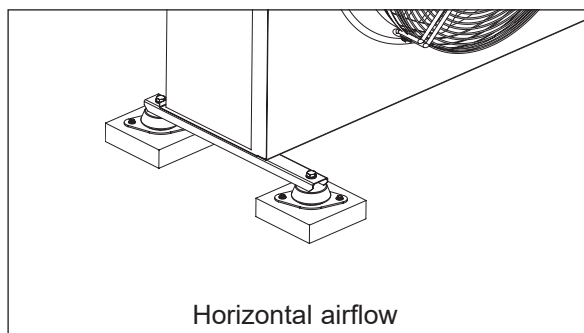


*+ 60 mm for BDMY (SS tubes)

5.20 Mounting dimensions BDD 900-1000 vertical airflow, opposite side connections



5.21 Concrete mounting base

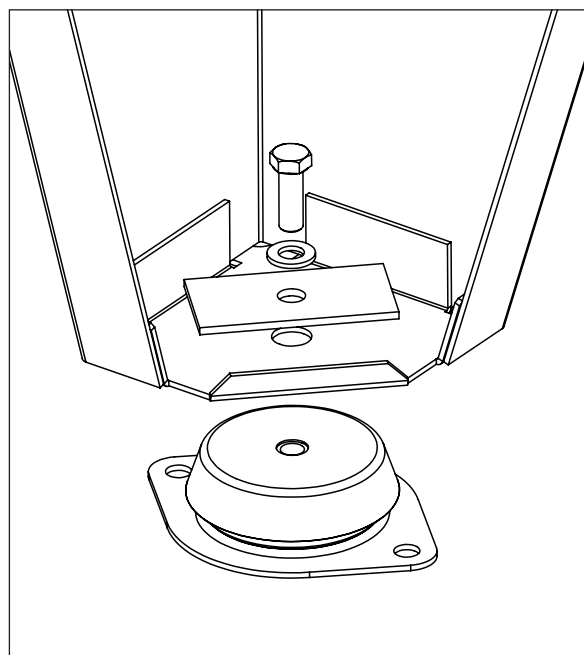
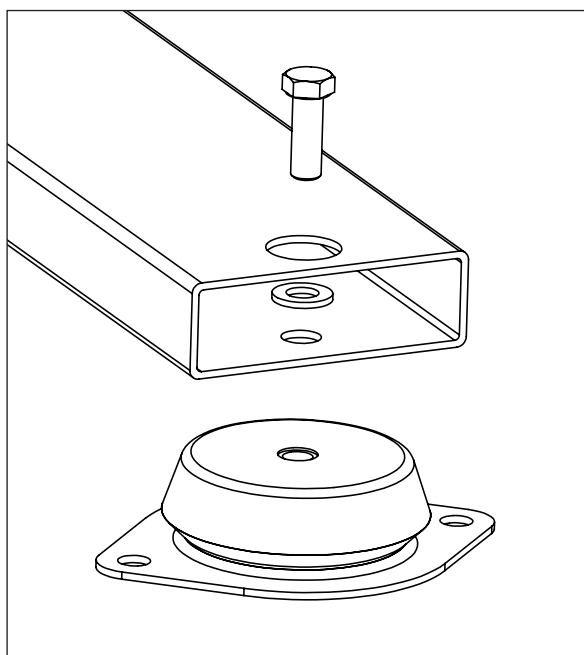


To avoid oxidation of the equipment feet, it is recommended to mount the heat exchanger on concrete mounting bases.

5.22 Vibration dampers

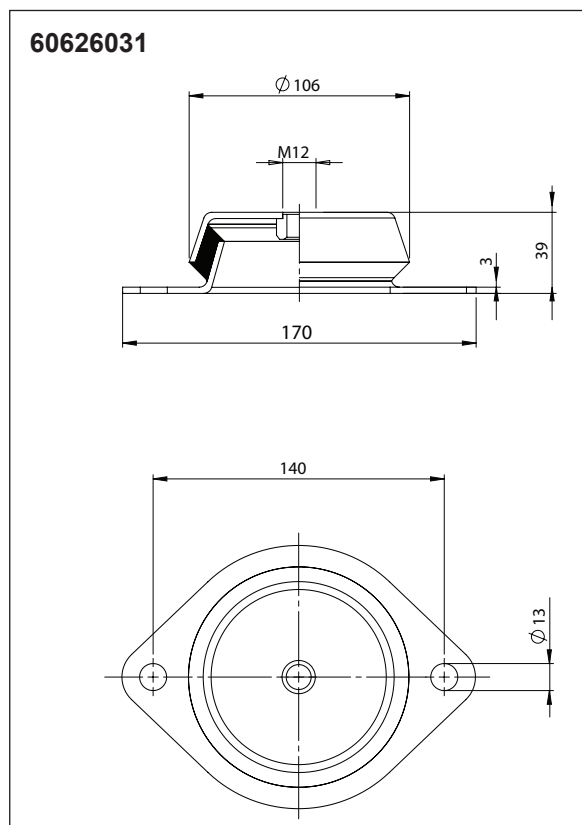
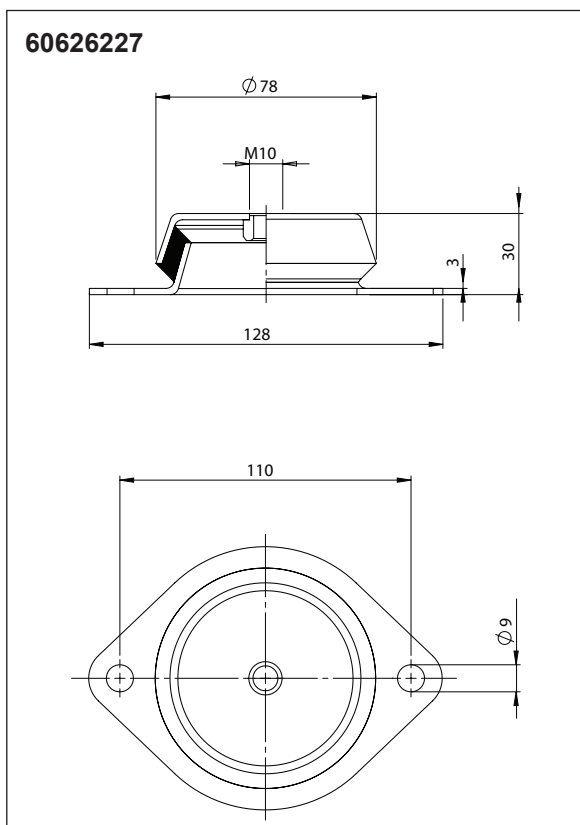
For active and passive isolation of vibrations and reducing noise transmission, Alfa LU-VE strongly recommends the installation of vibration dampers. Installation of vibration dampers must be carried out before positioning the unit. Vibration dampers are to be positioned between the unit feet and the mounting base with the supplied bolts.

Isolating material: natural rubber, hardness 60° Sha

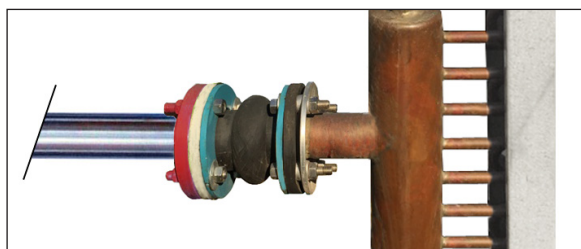


AlfaBlue model		nr. of vibration dampes	Kit code	Item code
Single row	801s, 802s, 803s 801, 802, 803 901, 902, 1001, 1002	4	10999345SP	60626227
	804s, 804, 904, 1004	6	10999346SP	
	805s, 805	8	10999347SP	
	903, 1003	6	10999079SP	60626031
	905, 1005, 906, 1006	8	10999080SP	
Dual row	802s, 803s, 802, 803, 902, 903, 1002, 1003	4	11360111SP	60626031
	804s, 804, 904, 1004	6	10999079SP	
	805s, 805, 905, 1005, 806, 906, 1006	8	10999080SP	

For up to date item codes and spare parts kits contact your local Alfa LU-VE representative.



5.23 Expansion joints



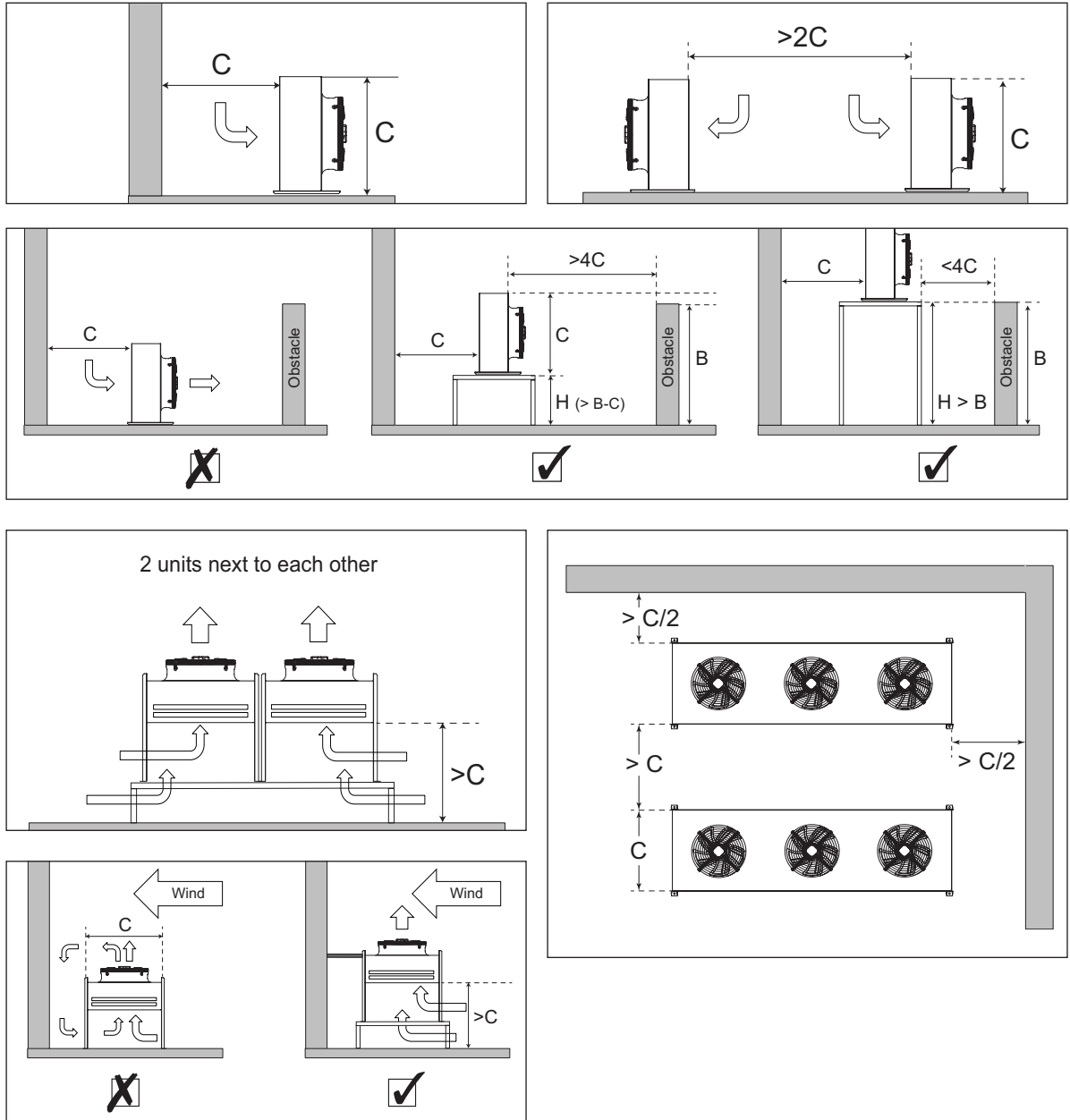
Alfa LU-VE recommends the installation of expansion joints on both inlet and outlet connections. Expansion joints are elastic elements which, if properly installed, absorb the thermal expansions of the tubing. Expansion joints are also helpful in order to reduce vibrations in the piping.



5.24 Positioning

The following conditions are to be met when positioning and installing the unit:

- Place the unit outdoor in such a way that it can be monitored and accessed for maintenance from all sides at all times.
- Verify the structures supporting capacity regarding the weight of the unit(s), including the liquid.
- As a rule of thumb the (unrestricted) air-inlet surface area should at least equal the coil surface of the unit(s).
- Recirculation of heated air is to be avoided at all times.



Contact Alfa LU-VE to determine optimal unit spacing for specific conditions on site. Special care should be taken in particular circumstances such as:

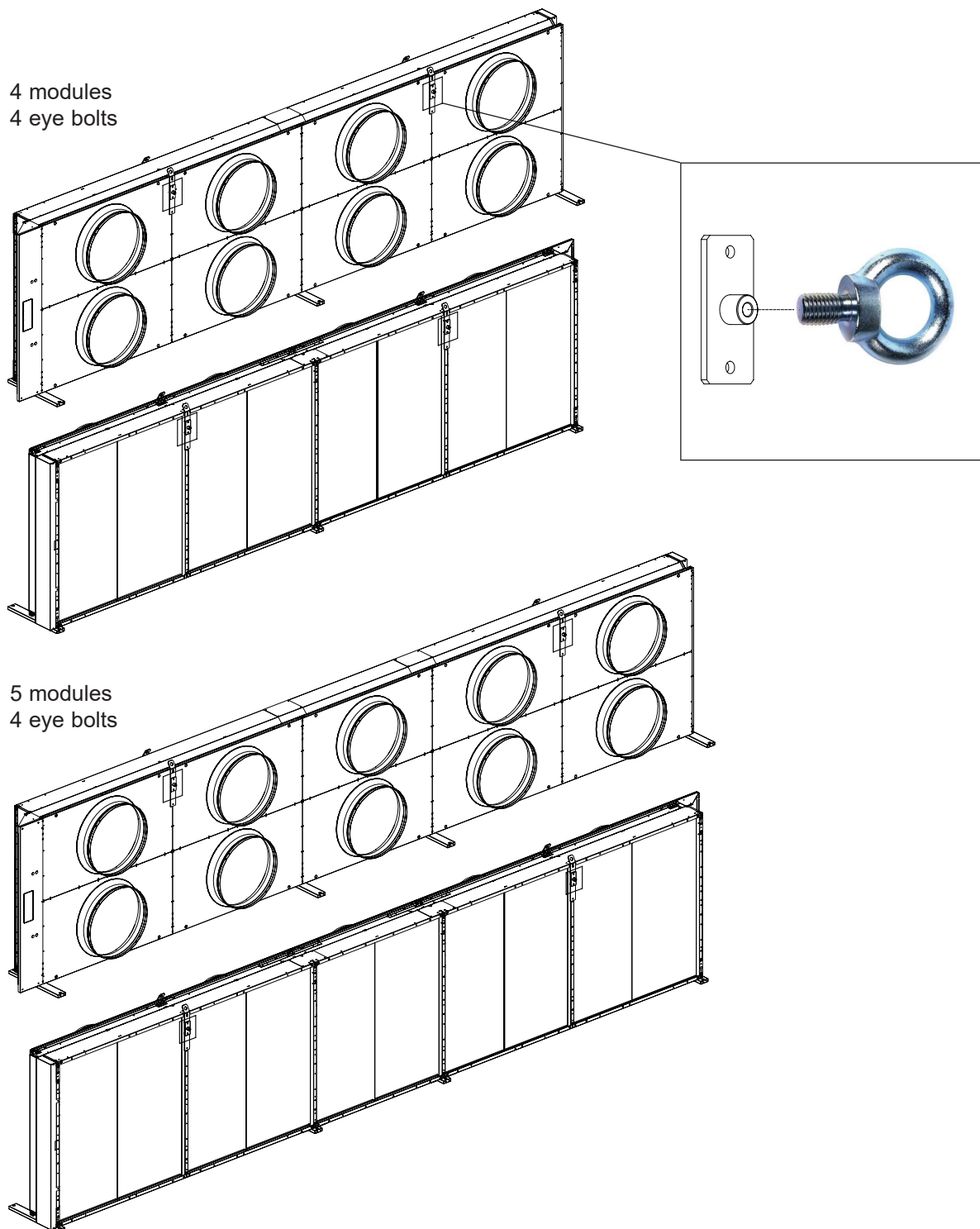
- When the installation site is exposed to strong winds.
- When walls or other obstructions with different configuration than the ones shown in the examples are present on site.
- When severe environmental influences are likely to affect to the unit.

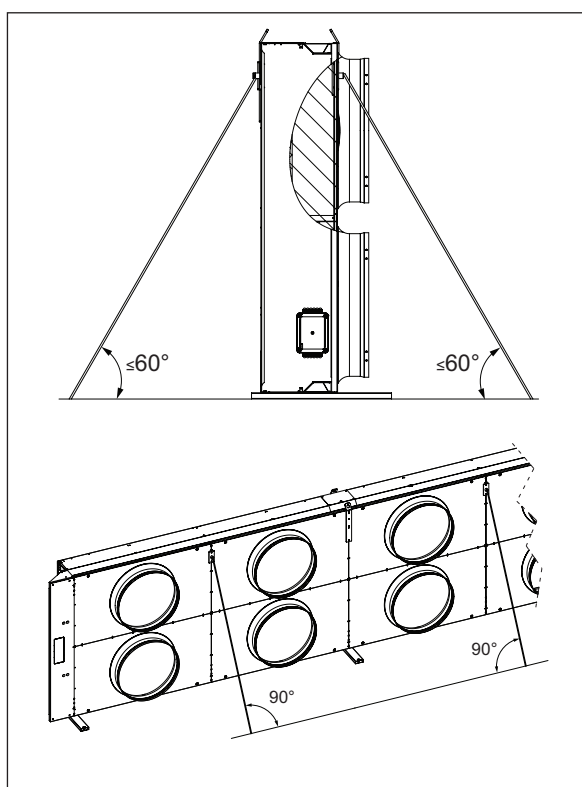
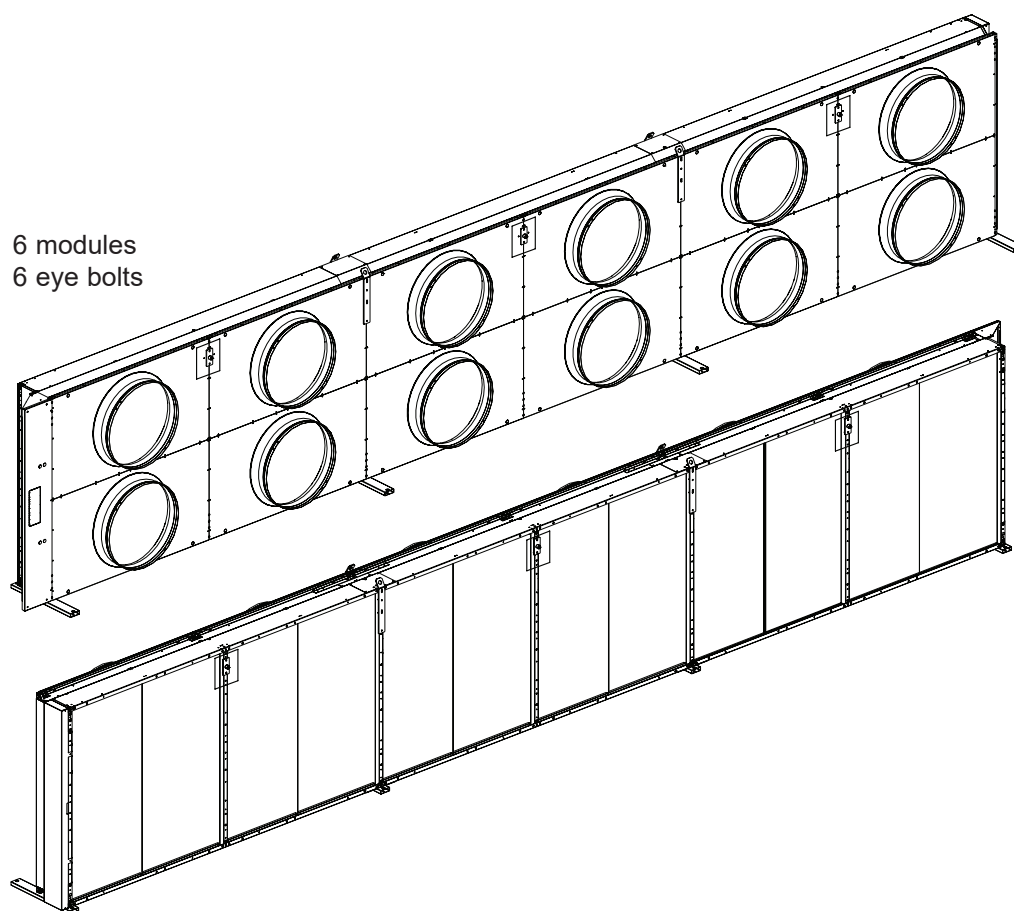
5.25 Wind braces for 4-5-6 modules BDD horizontal airflow models

When dual fan row units with 4, 5 or 6 modules are installed with horizontal airflow it is mandatory to anchor the unit to the ground with wind braces.

Horizontal airflow installation for dual fan row models with 4, 5 or 6 modules is allowed with wind braces only for sites with winds < 25 m/s. When the installation site is exposed to winds > 25 m/s contact your local Alfa LU-VE representative for advise.

Fix M16 eyebolts (not included in the scope of supply) to the pre-installed plates both on the coil side and on the fan side of the unit as shown.





Attach a steel rope to each eye bolt. Steel ropes are not included in the scope of supply.
Min Ø 11 mm or breaking load > 78,5 kN.

Anchor the steel ropes to the ground or to the installation structure with M16 anchor bolts.
Angle of rope as shown.



5.26 Electrical connections

The following data determine which connection diagram is to be selected and respected for electrical installation:

- Heat exchanger model indication
- Fan motor type
- Electrical options

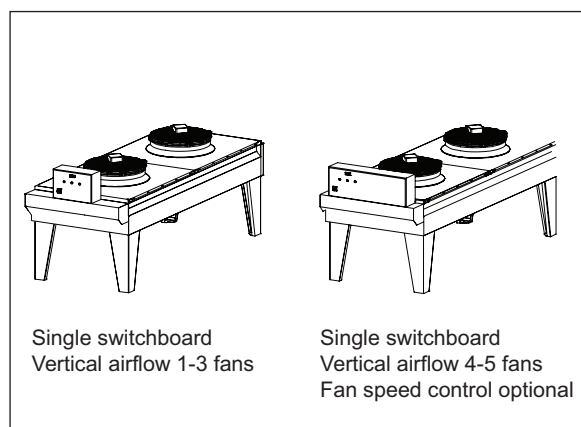
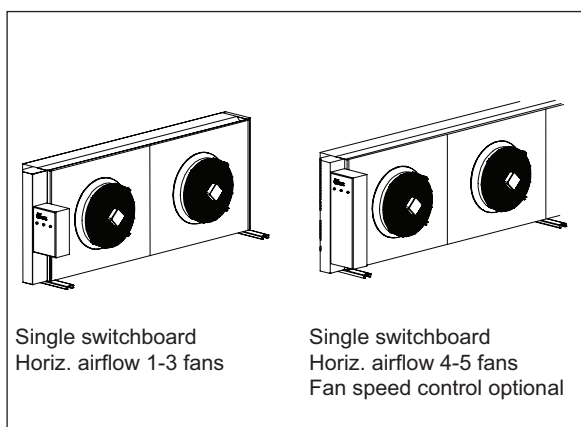
Detailed electrical connection diagrams are available for download on alfa.luvegroup.com. When in doubt always contact your local Alfa LU-VE representative for assistance.



Electrical connections

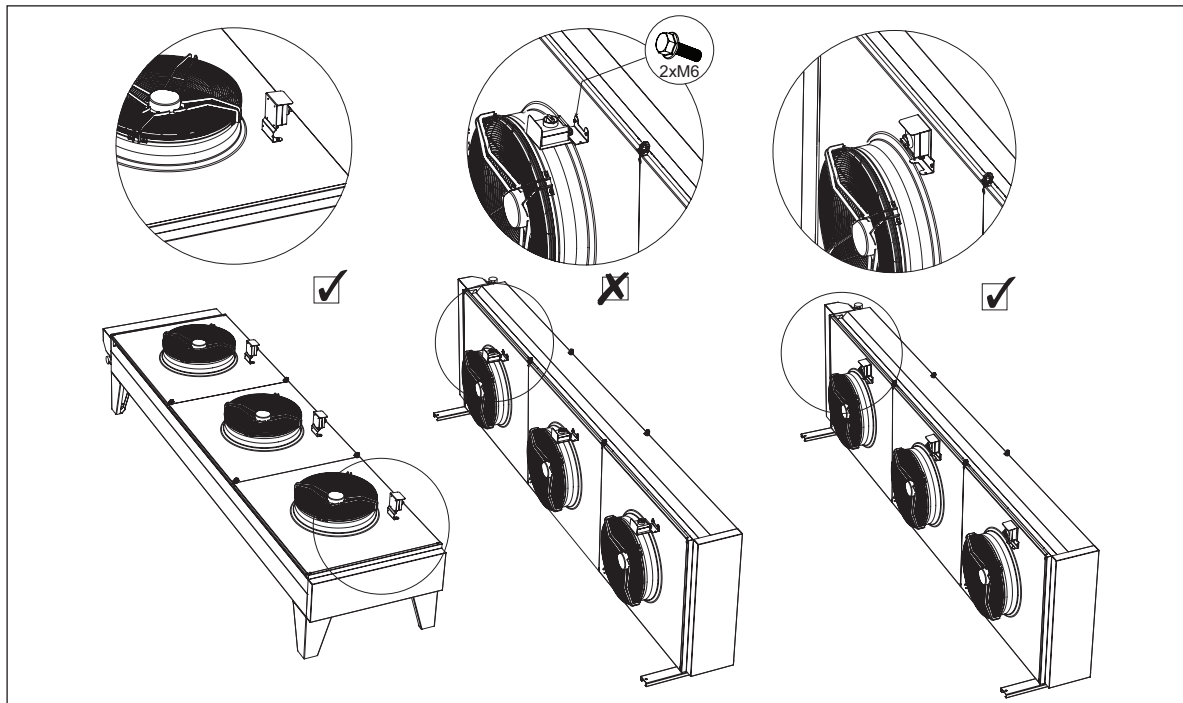
5.27 Switchboard

If a switchboard option is selected, it is delivered by the factory in the final installation layout. For AC fans different airflow installation corresponds to a different electrical board and manifold cover plate.



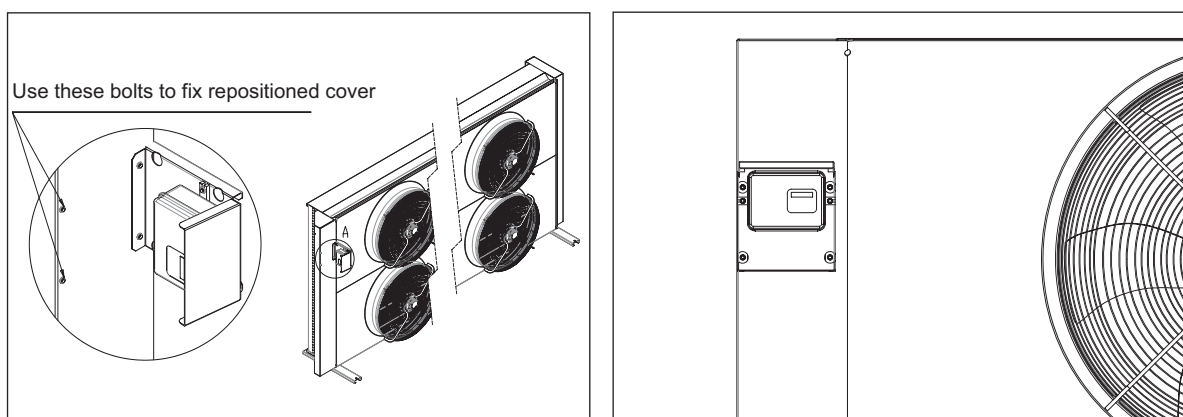
5.28 Switch on/off (option SW)

If switch on/off (SW) is selected, the default positioning is for vertical airflow installation. The cover design is such that it can be used both for horizontal and vertical airflow installation. To adjust the switch positioning to the actual positioning on site: unscrew the cover fixing screws, turn it as shown and replace fixing screws.



5.29 Master controller (options CBMx and ECCBMx)

If master controller is included in the scope of supply (when CBMx or ECCBMx options are selected), the default positioning is for vertical airflow installation. The cover design is such that it can be used both for horizontal and vertical airflow installation. If units are installed with horizontal airflow repositioning might be needed on site: unscrew the cover fixing screws, turn it as shown and replace fixing screws.



6 Operation



6.1 Start-up procedure

The following checks are to be performed at system start-up.

- Close the liquid-in valve and open the liquid-out valve.
- Open unit vent plug and then fill the unit while venting.
- When all air has been discharged from the liquid circuit, close unit vent plug.
- Start liquid pump.
- Open system inlet valve slowly until the appropriate liquid flow is reached.
- Verify there are no leaks in the liquid circuit and connections.
- Switch on fan power supply.
- Start the fans and verify fan direction.
- After some operating time, check the absence of air in the liquid circuit (vent if needed) and verify that current absorption does not exceed the value as given in the technical specifications.

6.2 Shutdown

If the unit requires emptying for maintenance, system shutdown or dismantling, proceed as follows:

- Stop liquid supply and switch off electrical power supply.
- Make sure neither liquid nor power supply can be resumed accidentally or unexpectedly.
- Close liquid-in and liquid out valves.
- Install a proper hose at the drain valves. Open venting and draining valves. Attention: fluid may be hot.
- Make sure all drained liquid will be collected in a suitable vessel.
- Compressed air helps to drain in less time. Compressed air shall be oil free.
- Make sure neither liquid nor power supply can be resumed accidentally or unexpectedly.
- Drain all liquid into a suitable vessel.
- Evacuate the coil to remove any remaining liquid.



7 Maintenance

Always follow guidelines and instructions as given in product manual AHE00050.



7.1 Fan motor maintenance

- Check that all components are properly attached and no damages can be seen.
- If the bearings make a rustling noise, replace the electric motor or its bearings.
- If motors are provided with grease nipples or without life bearings, normal lubrication period is ~15000 hours. Grease amount and type are given in motor nameplate/motor manual. If you use other grease, check the compatibility.

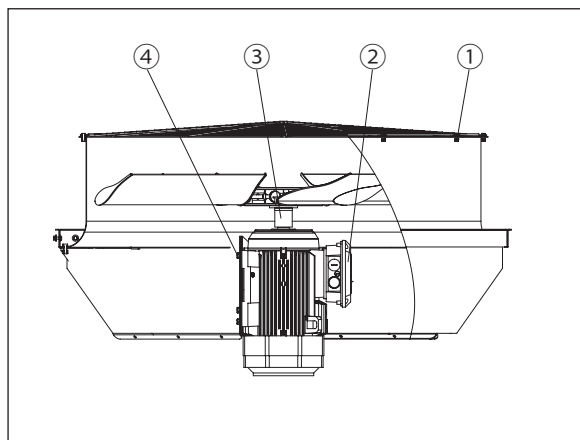
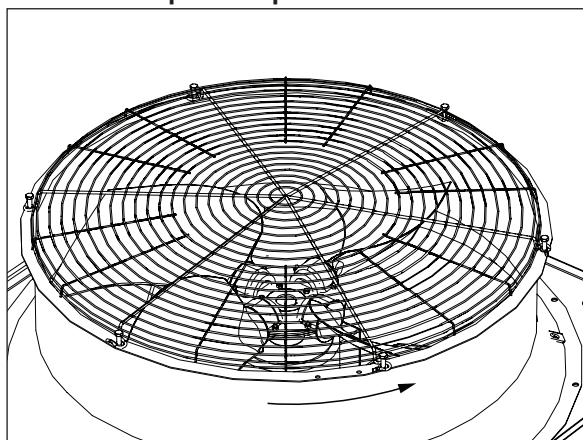
For greasing procedure please refer to motor manual.



- During standstills (e.g. in winter) run the fans for 3-4 hours at least once a month. It is also recommended to change the fans starting sequence when using the fans for capacity regulation.
- Other components (blade, motor bracket, fan grid) do not require any maintenance.



7.2 Fan impeller replacement



- Remove the fan grid (1) by loosening the screws and rotating it.
- Unscrew the fan impeller locking screw (3) and pull out the fan impeller using an extractor.
- Clean and lubricate the shaft.
- Place the new fan impeller into the shaft (do not forget the wedge). Do not knock the blade into the shaft: the motor bearings easily damage.
- Stroke at the shaft end HI-TEMP 343 RTV silicone rubber sealing spray. Silicone rubber sealing spray prevents the water running along the joint between the blade hub and the motor shaft into the motor.
- Place a washer at the shaft end, on the silicone rubber sealing. Lock the fan impeller hub by a fixing screw into the motor axle. When tightening the fixing screw, some sealing compound presses out through the washer edge and hole. This shows that enough silicone rubber sealing spray has been used.
- Remount the fan grid and tighten fasteners.
- Restore power supply and
- Make a test-run to check the fan correct rotation direction.

7.3 Fan motor replacement

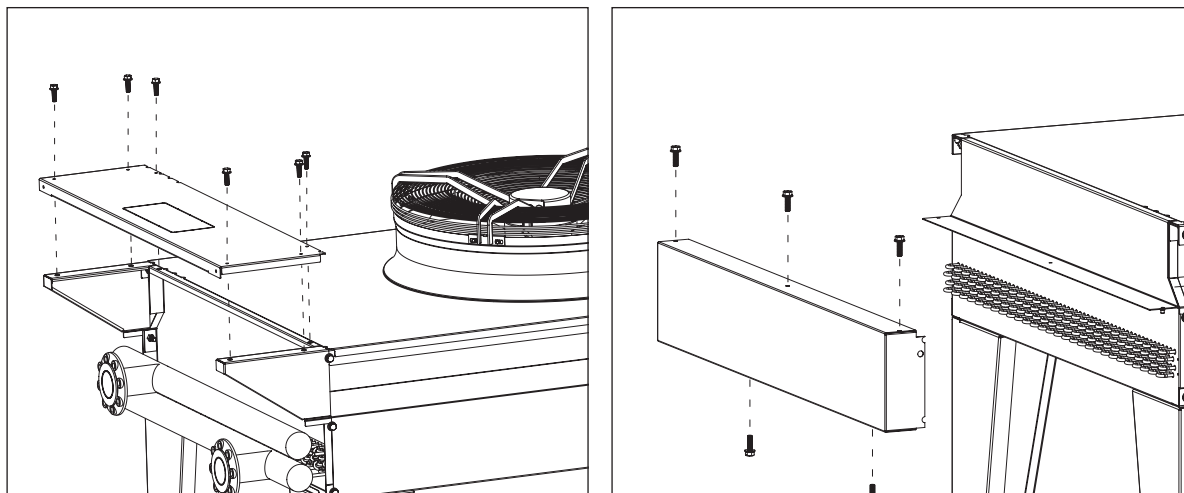
Always use spare part motors supplied by Alfa LU-VE to guarantee their applicability to operating conditions.

- Remove the fan impeller (see paragraph "7.2 Fan impeller replacement").
- Open the motor junction box (2) and make sure that the motor is off.
- Remove the electric cable.
- Hold the fan motor with a proper lifting device to avoid it falling inside the unit. Loose its four fixing screws (4).
- Pull out the fan motor.
- Install the new motor following the steps in reverse order.

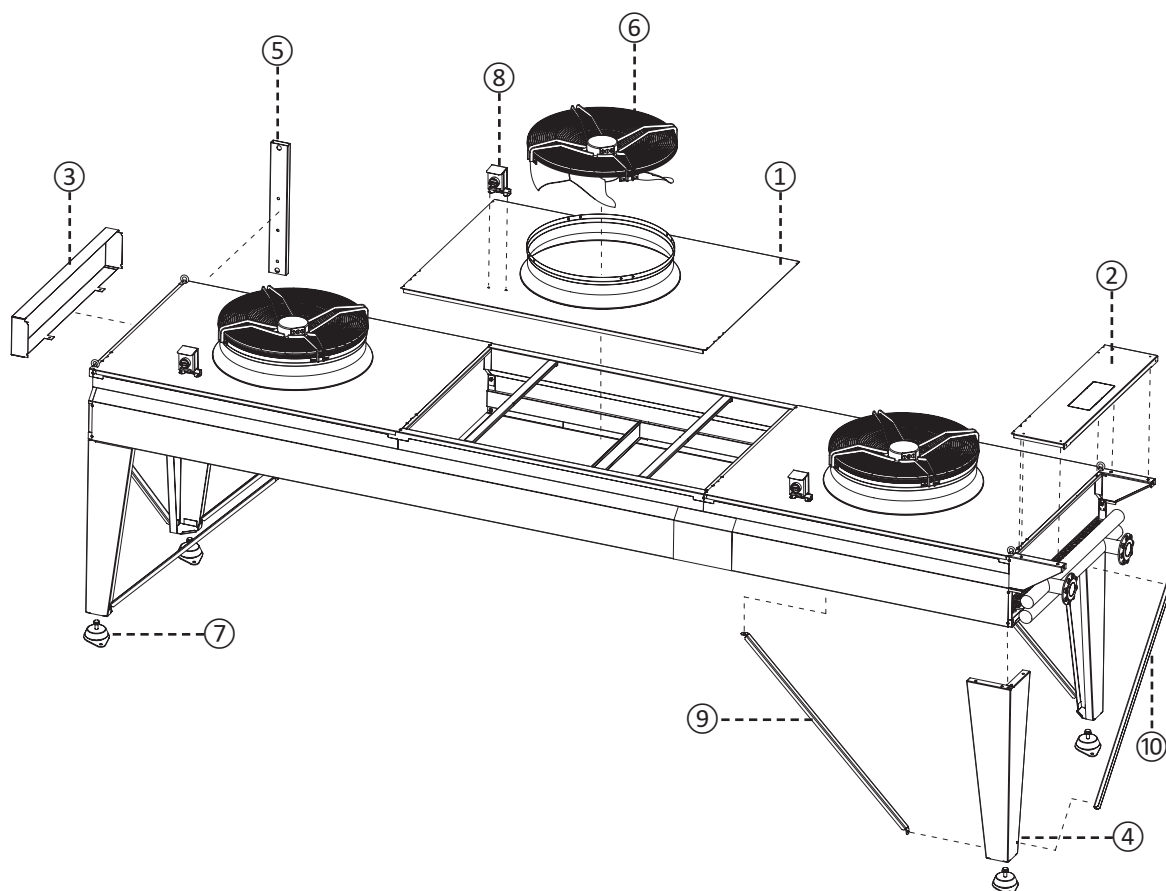
- Check the minimum blade point gap (3 mm).
 - Remount the fan grid and tighten fasteners.
 - Restore power supply.
- Make a test-run to check the fan correct rotation direction.

7.4 End covers

End covers can be removed for inspection, cleaning and maintenance purposes. To remove them, loosen fixing bolts.



8 Spare parts



Spare parts for AlfaBlue

Component	Partfinder	On request
① Fan plate		✓
② Connection cover		✓
③ Bend cover		✓
④ Mounting feet for vertical airflow		✓
⑤ Mounting feet for horizontal airflow		✓
⑥ Fan		✓
⑦ Vibration damper	✓	
⑧ Switch ON/OFF	✓	
⑨ Wind braces for 1200 mm feet (length side)		✓
⑩ Wind braces for 1200 mm feet (width side)		✓

Contact your local Alfa LU-VE representative for spare parts order and assistance.

Appendix: maintenance plan

			Anni di funzionamento																						
			Commissioning																						
Equipaggiamento	Tipo di attività	Frequenza	Criterio di accettazione	Condizione operativa	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Scambiatore aria/acqua	Pacco alettato degli scambiatori	3 Mesi	Verificare che non sia contaminato e che non sia ostruito da materiali impropri. Se le alette si piegano, è possibile raddrizzarle utilizzando l'apposito utensile (pettine)	In funzionamento																					
Scambiatore aria/acqua	Ventilatori	3 Mesi	Per rilevare l'eventuale accumulo di sporcizia e/o la presenza di vibrazioni insolite che potrebbero danneggiare il ventilatore o lo scambiatore	In funzionamento																					
Scambiatore aria/acqua	Carpenteria	3 Mesi	Verificare che la verniciatura non sia danneggiata e/o che non ci siano segni di corrosione.	Fuori servizio																					
Scambiatore aria/acqua	Controllo e verifica corretto serraggio delle viterie. Identificazione di qualsiasi tipo di deformazione e/o distorsione dei profili e/o i giunti.	1 Anno	La sicurezza degli elementi di fissaggio dei ventilatori e l'integrità dei componenti devono essere controllati integralmente come parte della normale routine di manutenzione. Particolare attenzione va dedicata al controllo delle viti di fissaggio e del bilanciamento delle pale dei ventilatori.	Fuori servizio																					
Scambiatore aria/acqua	Ripristino strati protettivi	1 Anno	Verificare che non ci siano segni di corrosione.	Fuori servizio																					
Scambiatore aria/acqua	Avvio motori elettrici	4 Anni	Controllare che non vi siano ostruzioni che impediscano la rotazione delle pale controllare il dispositivo di protezione termica eventualmente sostituire l'elettroventilatore. In caso di motori rimasti spenti per lungo periodo. Avviare motori per una durata di 4 ore.	In funzionamento																					
Scambiatore aria/acqua	Controlli sul serraggio	1 Anno	Stringere gli elementi di fissaggio	Fuori servizio																					



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