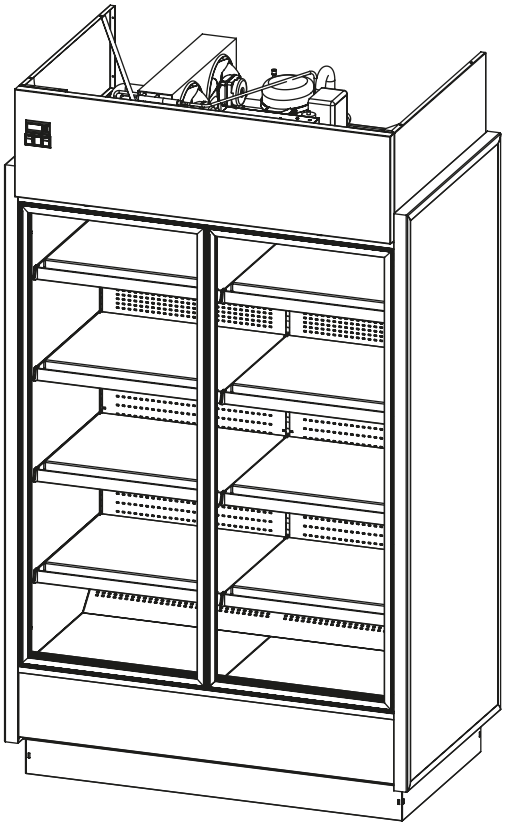
HYDRA KOOL



KGV SERIES - INSTALLATION AND OPERATION MANUAL - V0





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Fort Lauderdale, FL 33309
Tel.: 786.600.4687 / Toll Free: 844.218.8477
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5659 Royalmount Avenue
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1 General information

1.1 Case description

KGL series model (number) system.

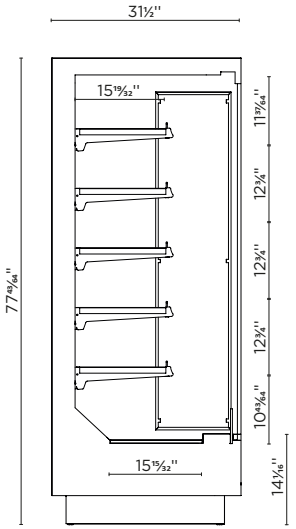
KGV MD 2 S
AAA BB C D

AAA	BB	C	D
Basic model	Model variation	Doors	Type of Unit.
	MD-Front doors	**2**	**S**-Self Contained
	MR-Front doors and rear doors	**3**	**R**-Remote

KGV MO 52 R
AAA BB CC D

AAA	BB	C	D
Basic model	Model variation	Doors	Type of Unit.
	MO-Open front	**50**"	**S**-Self Contained
		80"	

KGV SERIES



KGV-MO-XX-R



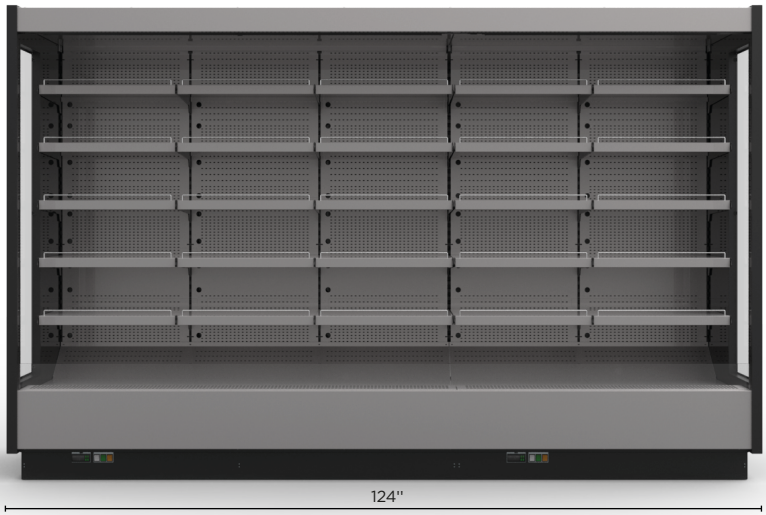
KGV-MO-XX-R



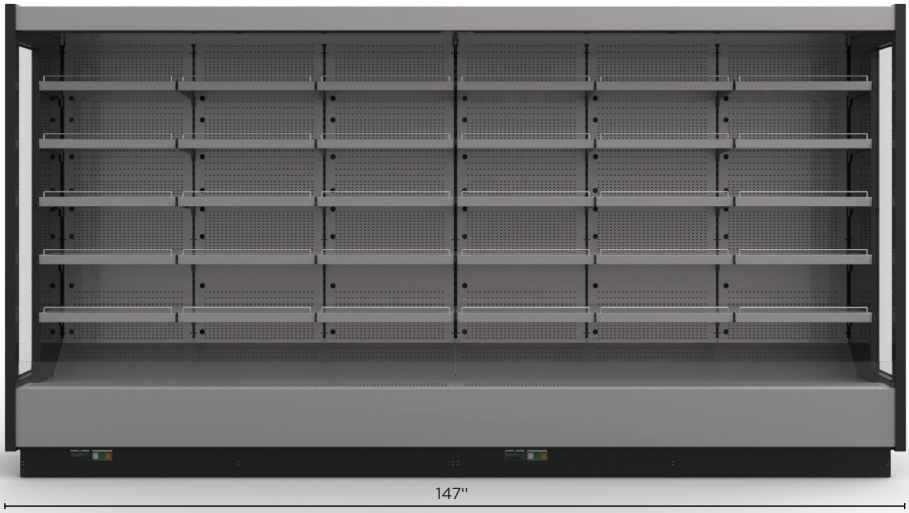
KGV-MO-XX-R



KGV-MO-XX-R

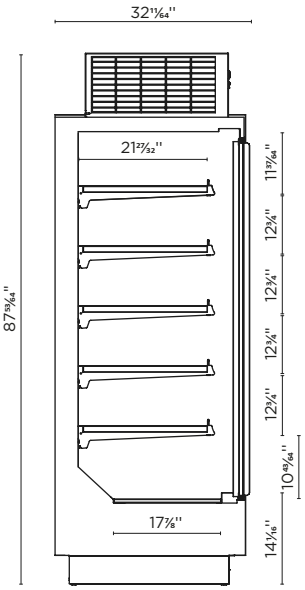


KGV-MO-XX-R

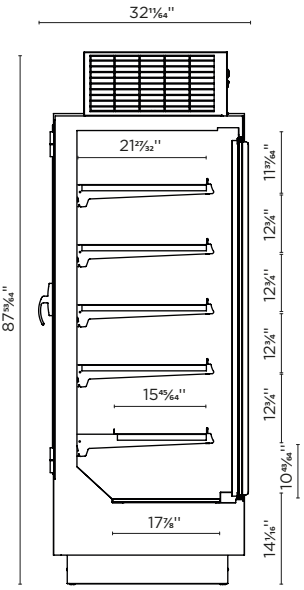


KGV-MO-XX-R

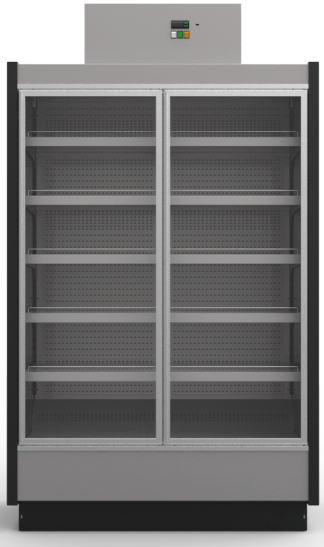
KGV SERIES



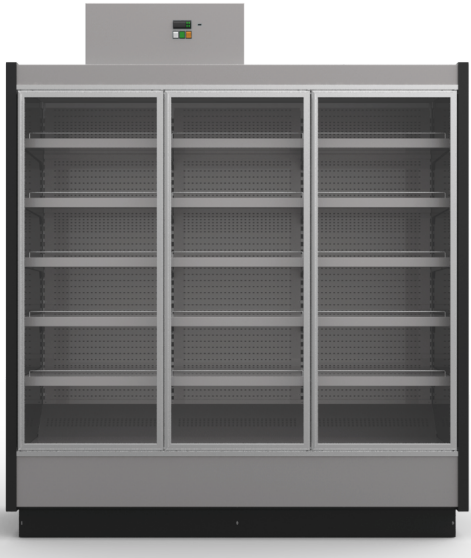
KGV-MD-XX-S



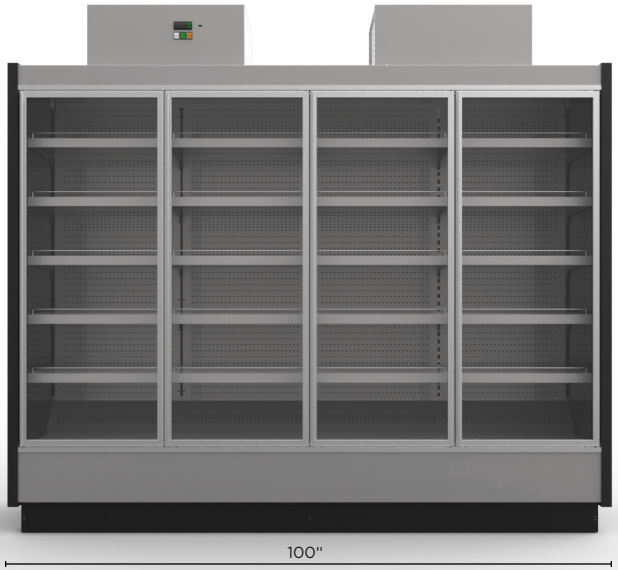
KGV-MR-XX-S



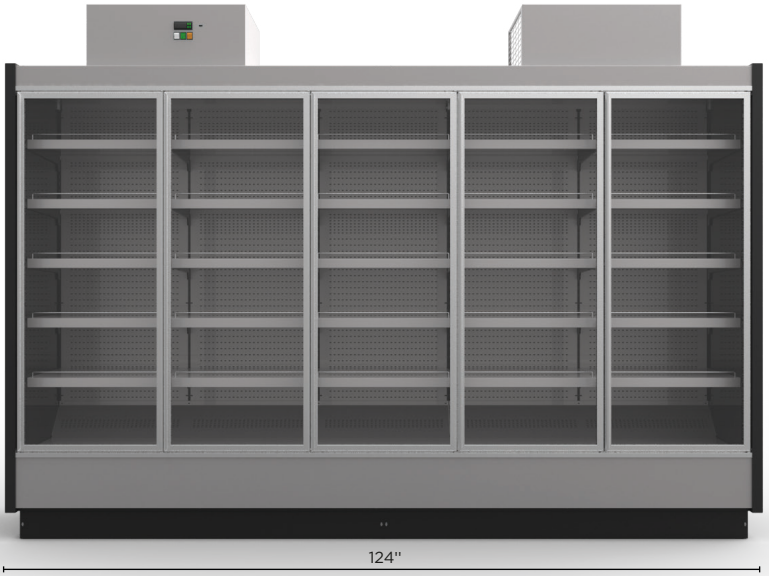
KGV-MD/MR-2-S



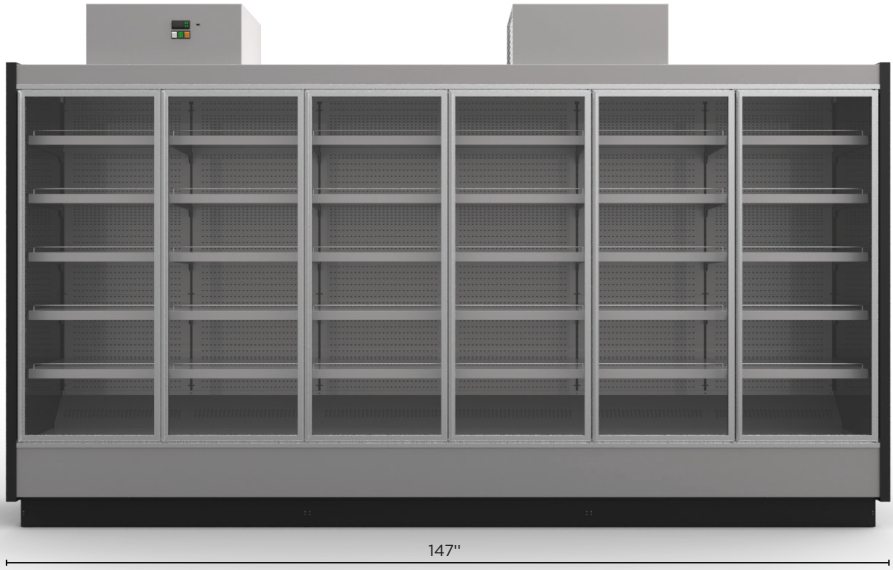
KGV-MD/MR-3-S



KGV-MD/MR-4-S

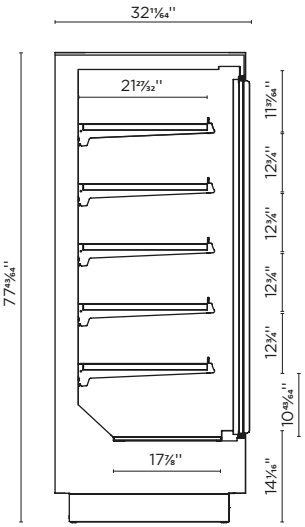


KGV-MD/MR-5-S

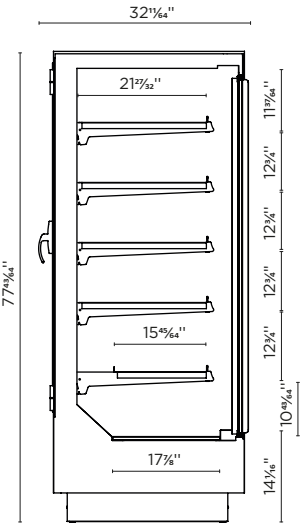


KGV-MD/MR-6-S

KGV SERIES



KGV-MD-XX-R



KGV-MR-XX-R



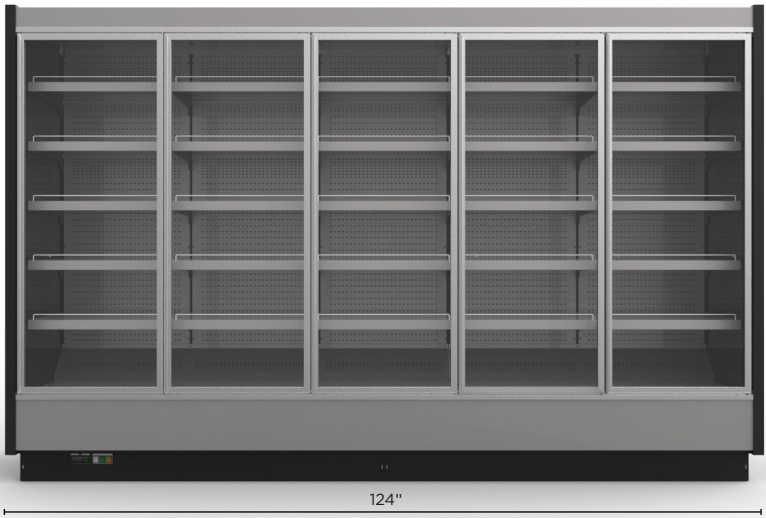
KGV-MD/MR-2-R



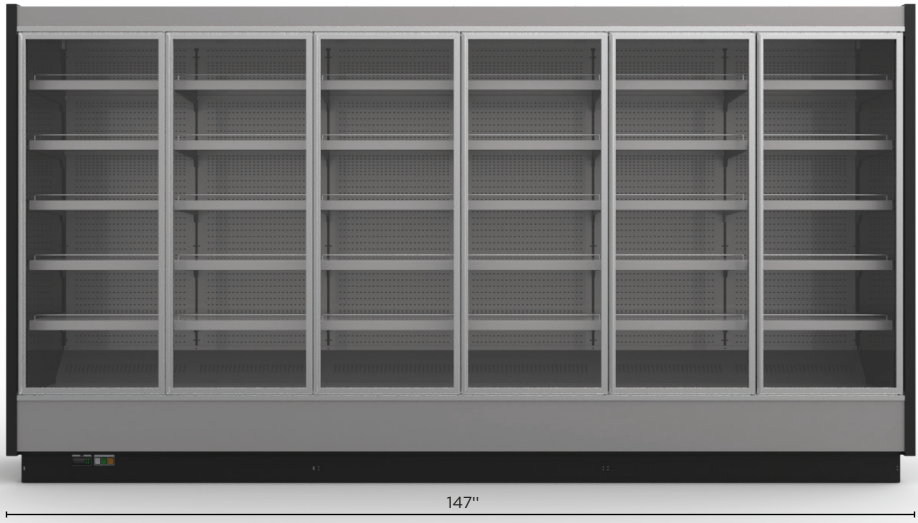
KGV-MD/MR-3-R



KGV-MD/MR-4-R



KGV-MD/MR-5-R



KGV-MD/MR-6-R

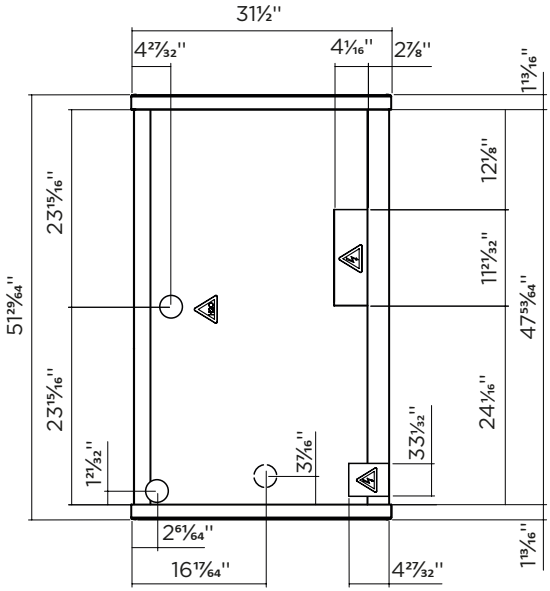
Implantation

Drain outlet

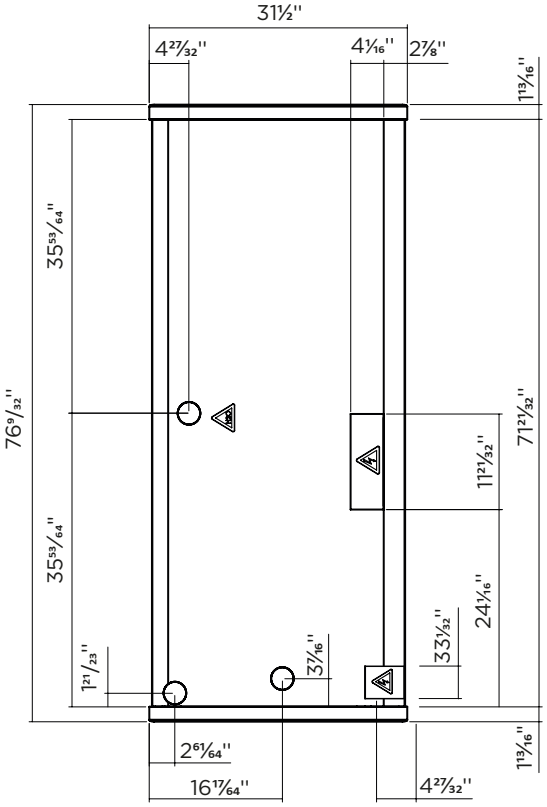
Switchboard

Upper output

Bottom output

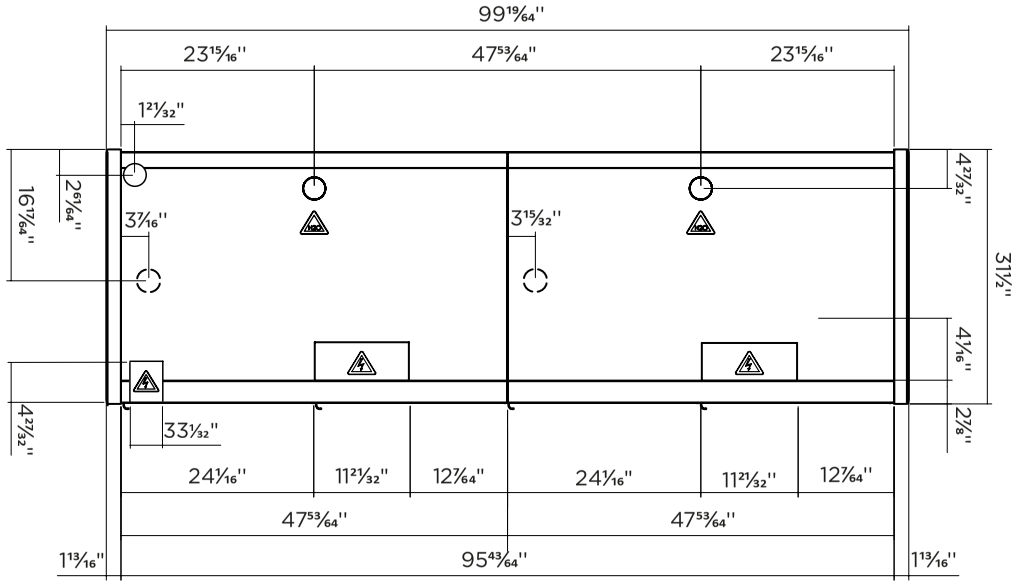


KGV-MD/MR-2-S(R)


31½''
4 27/32''
4 1/16''
2 1/8''
1 13/16''
35 53/64''
76 9/32''
35 53/64''
1 21/23''
3 7/16''
2 61/64''
16 17/64''
4 27/32''
11 21/32''
71 21/32''
24 1/16''
33 1/32''
1 13/16''
Front

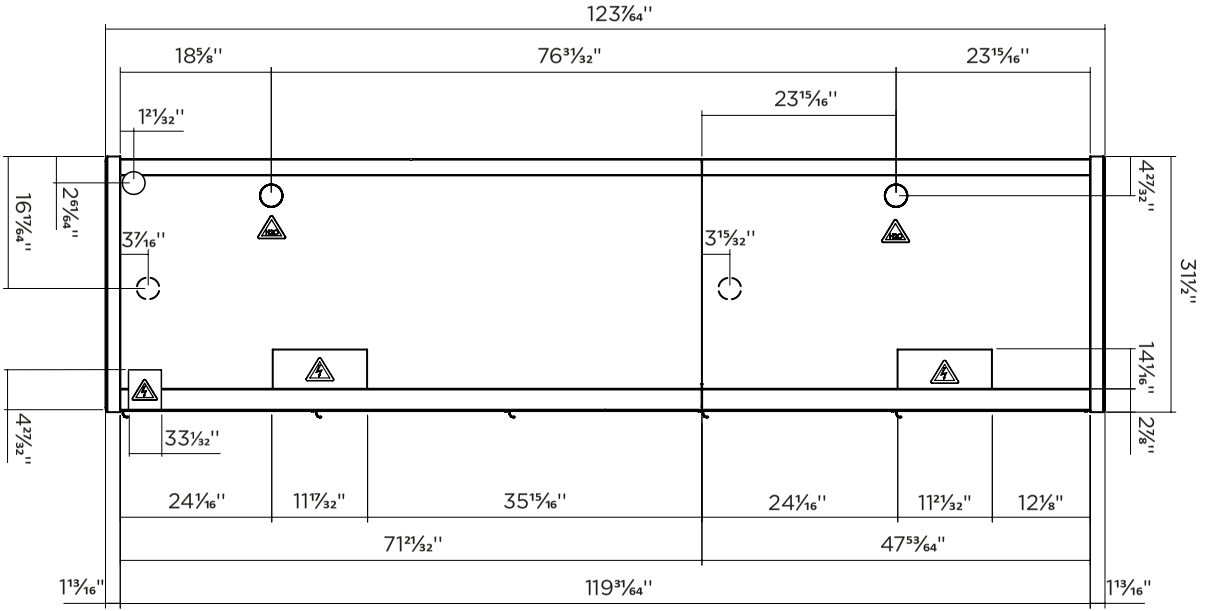
KGV-MD/MR-3-S(R)

KGV-MD/MR-4-S(R)

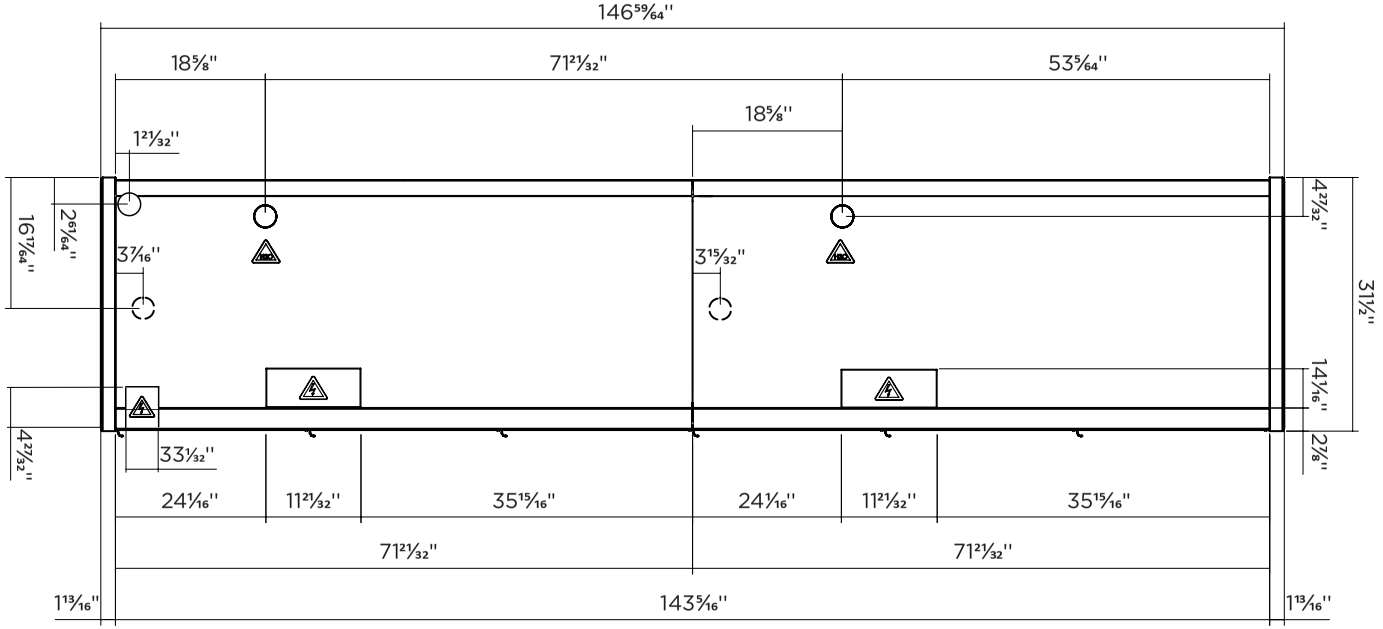


Front

KGV-MD/MR-5-S(R)


123 7/64"
18 5/8"
76 31/32"
23 15/16"
23 15/16"
1 21/32"
16 17/64"
2 61/64"
3 7/16"
3 15/32"
4 27/32"
31 1/2"
14 1/16"
2 7/8"
4 27/32"
33 1/32"
24 1/16"
11 17/32"
35 15/16"
24 1/16"
11 21/32"
12 1/8"
71 21/32"
47 53/64"
1 13/16"
119 31/64"
1 13/16"
Front

KGV-MD/MR-6-S(R)

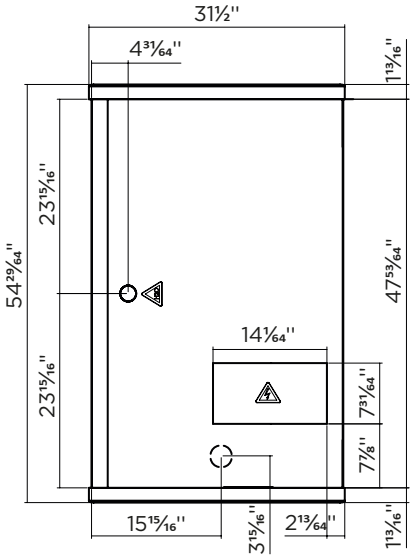


Front

Drain outlet

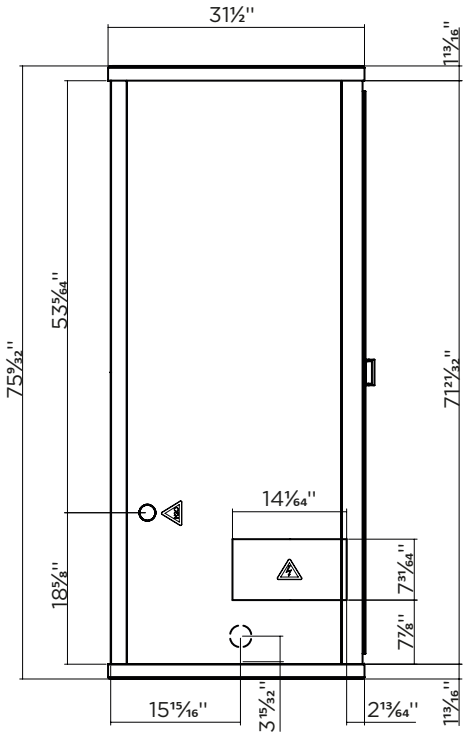
Switchboard

Bottom output

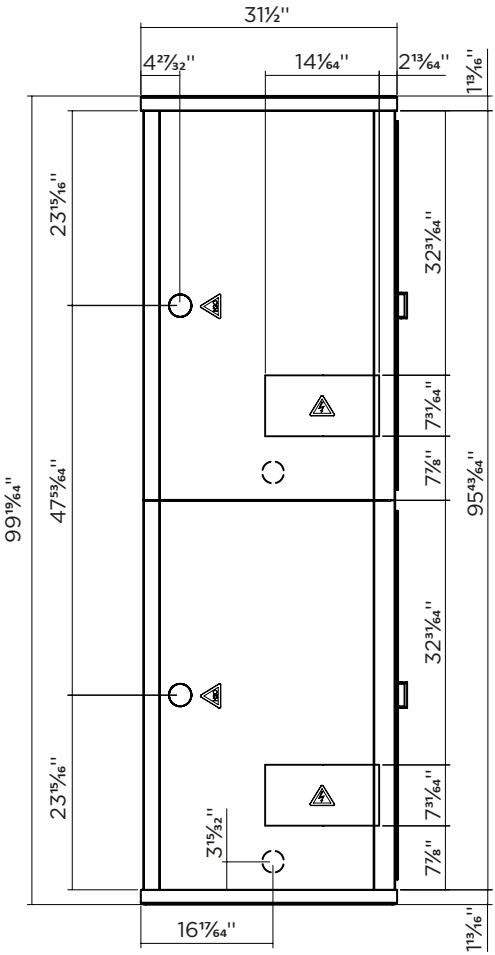


Front

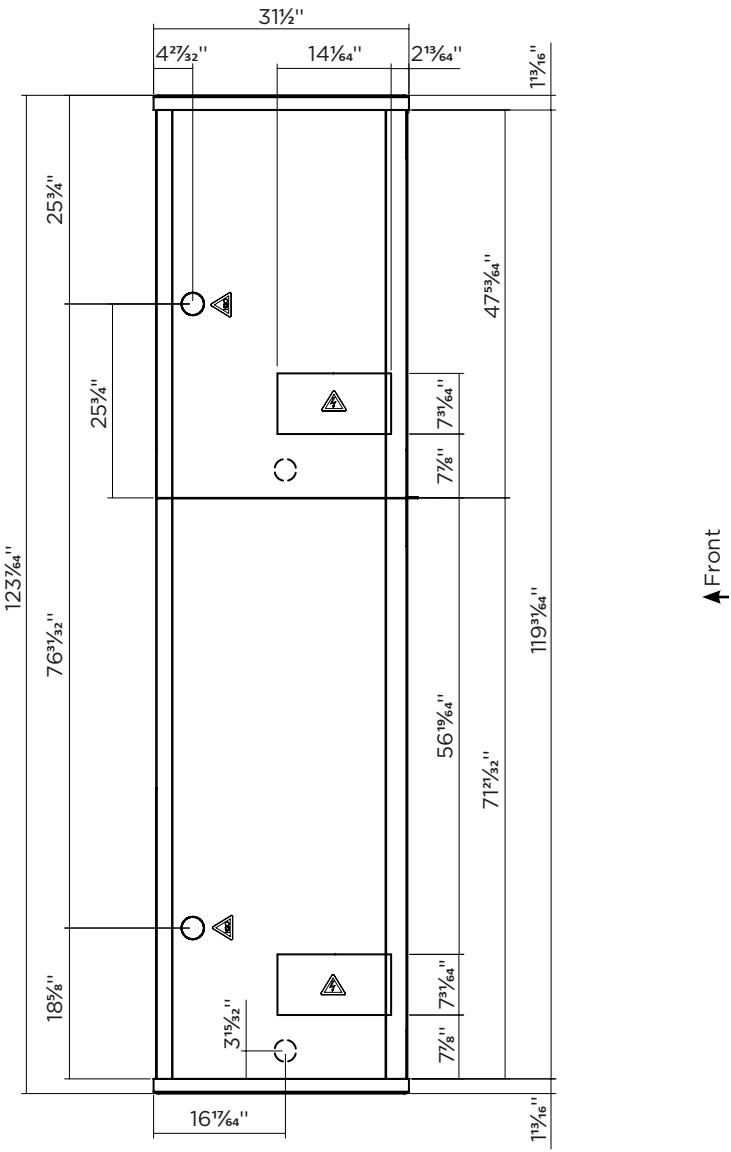
KGV-MO-2-R


31½''
1 13/16''
75 9/32''
53 25/64''
71 21/32''
14 1/64''
18 5/8''
7 31/64''
7 7/8''
15 15/16''
3 15/32''
2 13/64''
1 13/16''
Front

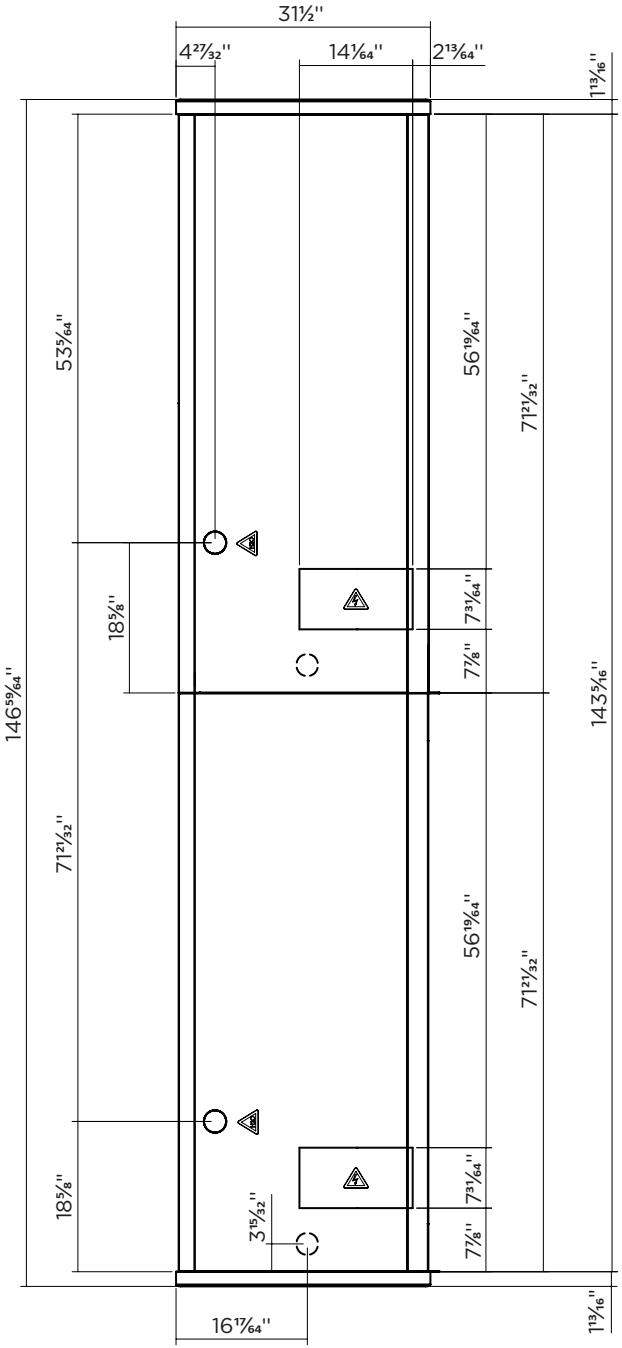
KGV-MO-3-R


31½''
4 27/32''
14 1/64''
2 13/64''
1 13/16''
99 19/64''
47 53/64''
23 15/16''
23 15/16''
32 31/64''
7 31/64''
7/8''
32 31/64''
7 31/64''
7/8''
95 43/64''
3 15/32''
16 17/64''
1 13/16''
Front

KGV-MO-4-R


31½''
4²⁷⁄₃₂''
14¹⁄₆₄''
2¹³⁄₆₄''
1³⁄₁₆''
25¾''
25¾''
47⁵³⁄₆₄''
7³¹⁄₆₄''
7⅞''
123⁷⁄₆₄''
76³¹⁄₃₂''
119³¹⁄₆₄''
56¹⁹⁄₆₄''
71²¹⁄₃₂''
18⅝''
3¹⁵⁄₃₂''
7³¹⁄₆₄''
7⅞''
16¹⁷⁄₆₄''
1³⁄₁₆''
Front

KGV-MO-5-R


31½''
4²⁷⁄₃₂''
14¹⁄₆₄''
2¹³⁄₆₄''
1¹³⁄₁₆''
53¹⁄₆₄''
56¹⁹⁄₆₄''
71²³⁄₃₂''
18⅝''
7³¹⁄₆₄''
7⅞''
146⁵⁹⁄₆₄''
143⁵⁄₁₆''
71²¹⁄₃₂''
56¹⁹⁄₆₄''
71²³⁄₃₂''
18⅝''
7³¹⁄₆₄''
7⅞''
3¹⁵⁄₃₂''
16¹⁷⁄₆₄''
1¹³⁄₁₆''
Front

KGV-MO-6-R

KGV series are intended for grab-n-go, beverage and produce, are type 1 equipment - 75°F/55%RH.
Temperature of the KGV-MD/MR is set for 32°F and the KGV-MO is set for 36°F.
All shelves of the KGV series have a 31 lb/ft² loading limit.

Model	Dimensions (LxDxH in inches)	Service dimensions (LxDxH in inches)	Volume (ft³)
KGV-MD-2-S(R)	51 29/64'' x 32 61/64'' x 87 3/4''	51 29/64'' x 56 59/64'' x 87 3/4''	37,63
KGV-MD-3-S(R)	75 9/32'' x 32 61/64'' x 87 3/4''	75 9/32'' x 56 59/64'' x 87 3/4''	56,37
KGV-MR-2-S(R)	51 29/64'' x 35 25/64'' x 87 3/4''	51 29/64'' x 77 33/64'' x 87 3/4''	37,63
KGV-MR-3-S(R)	75 9/32'' x 35 25/64'' x 87 3/4''	75 1/4'' x 77 33/64'' x 87 3/4''	56,37
KGV-MO-52-R	51 29/64'' x 31 1/2'' x 77 43/64''	51 29/64'' x 33 55/64'' x 77 43/64''	35,7
KGV-MO-76-R	75 9/32'' x 31 1/2'' x 77 43/64''	75 9/32'' x 33 55/64'' x 77 43/64''	53,4

2 Getting started with your KGV series

2.1 Location

To your new equipment perform well please respect the following warnings:

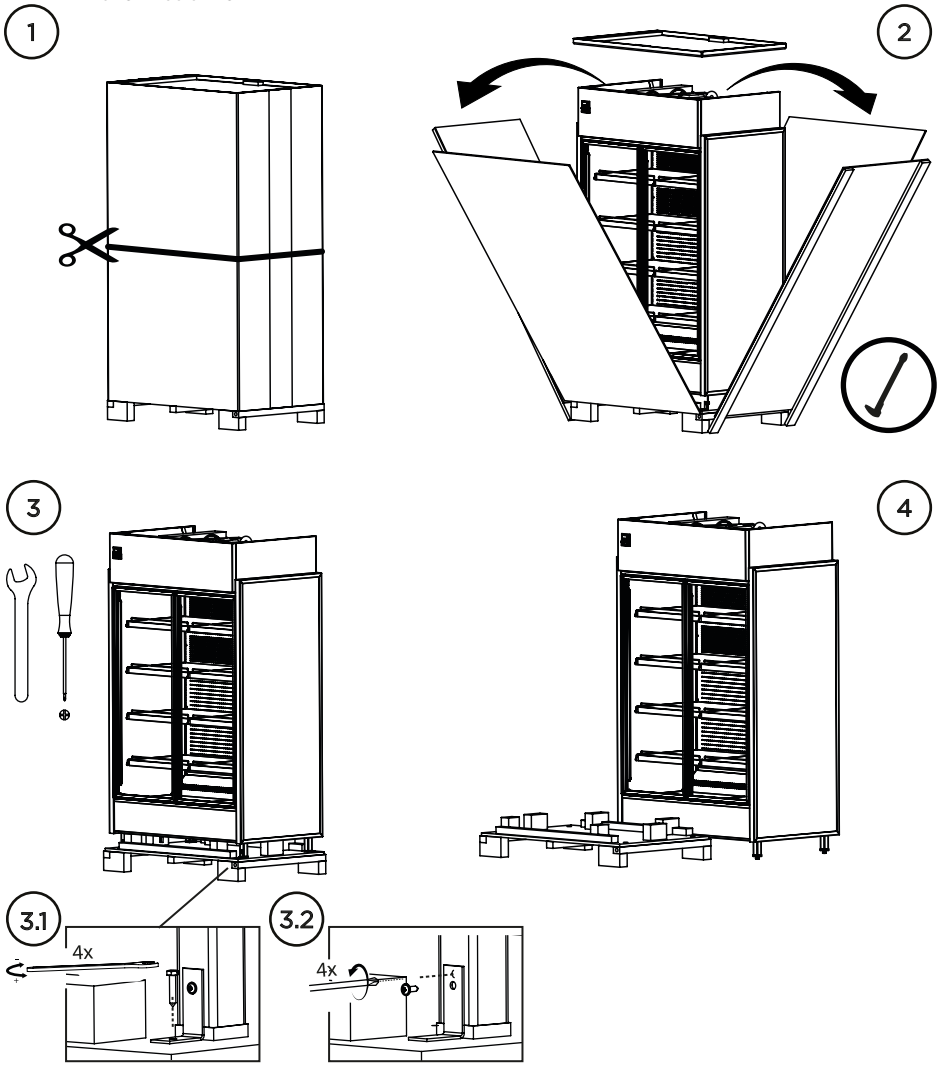
- ⚠ This is type 1 equipment, intended to work with 75°F / 55%RH.
- ⚠ This equipment is intended for maintaining temperature only.
- ⚠ Be sure products are not ambient temperature (must be cold).
- ⚠ This equipment must be located in an indoor environment.
- ⚠ Check for airdrafts and avoid them.
- ⚠ Air movement from ac units shouldn't be directed to the equipment.
- ⚠ The equipment must not be directly or indirectly exposed to the sun.
- ⚠ Check for rejected heat from another refrigeration units and avoid that.
- ⚠ Place the equipment in a levelled floor.
- ⚠ Do not obstruct the air way in front of the condenser.
- ⚠ Make sure there is a drain preparation (remotes only).
- ⚠ Models to be posittioned against a wall keep a safe distance of 2 3/8''.
- ⚠ After servicing always close the doors.

⚠ This equipment should be handled by a qualified technician.

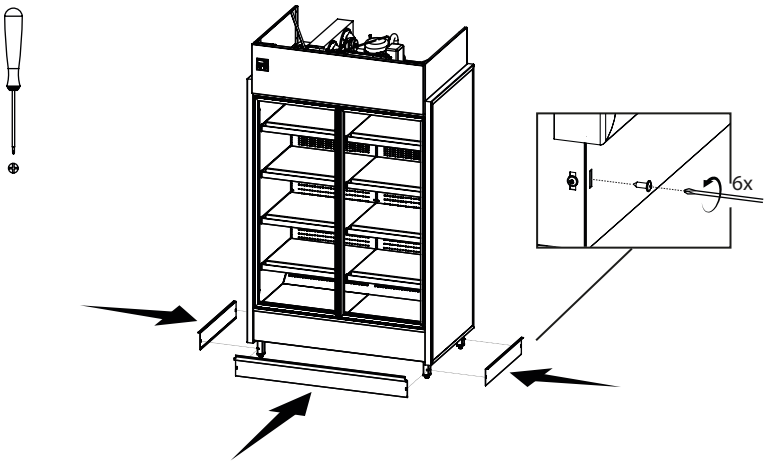
2.2 Uncrating

⚠ All operations must be done carefully.

⚠ All plastic protective films must be removed before using the equipment for the first time.



2.2.1 Bottom panels assembly



2.3 Check for damage

At the end of production HYDRA KOOL products are carefully inspected. No damaged units are sent out.
HYDRA KOOL doesn't take responsibility for damage between factory and client.

Possible damage on the unit must be checked to file a claim near the transportation company.

The unit must be checked in the following points:

Exterior panels

Doors

Shelves

Glasses

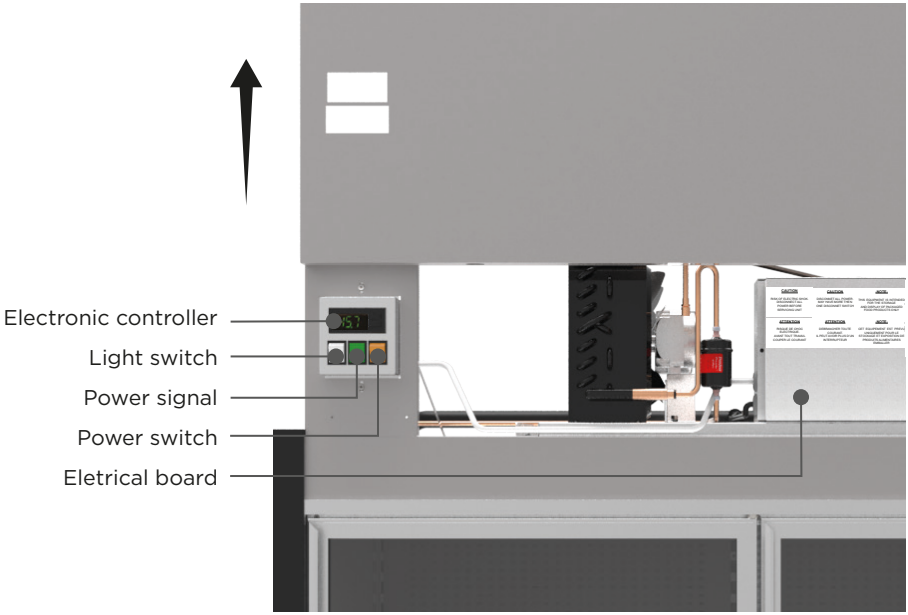
Paint job

Door handles

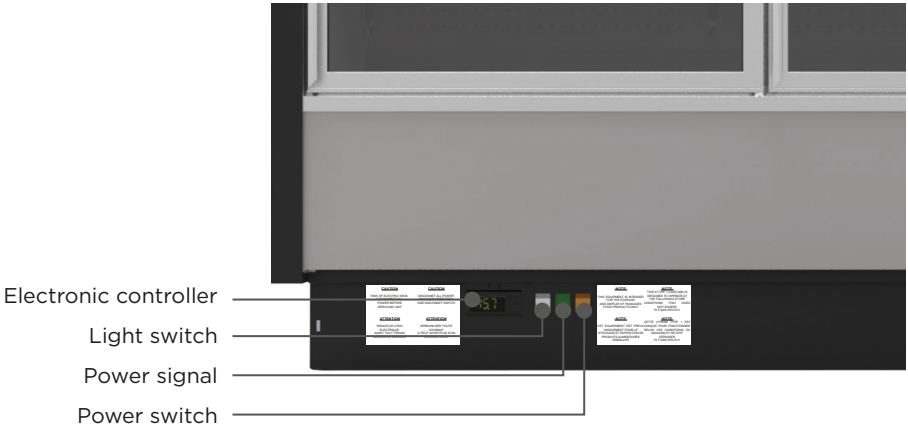
Top structure

2.4 Control panel and main features

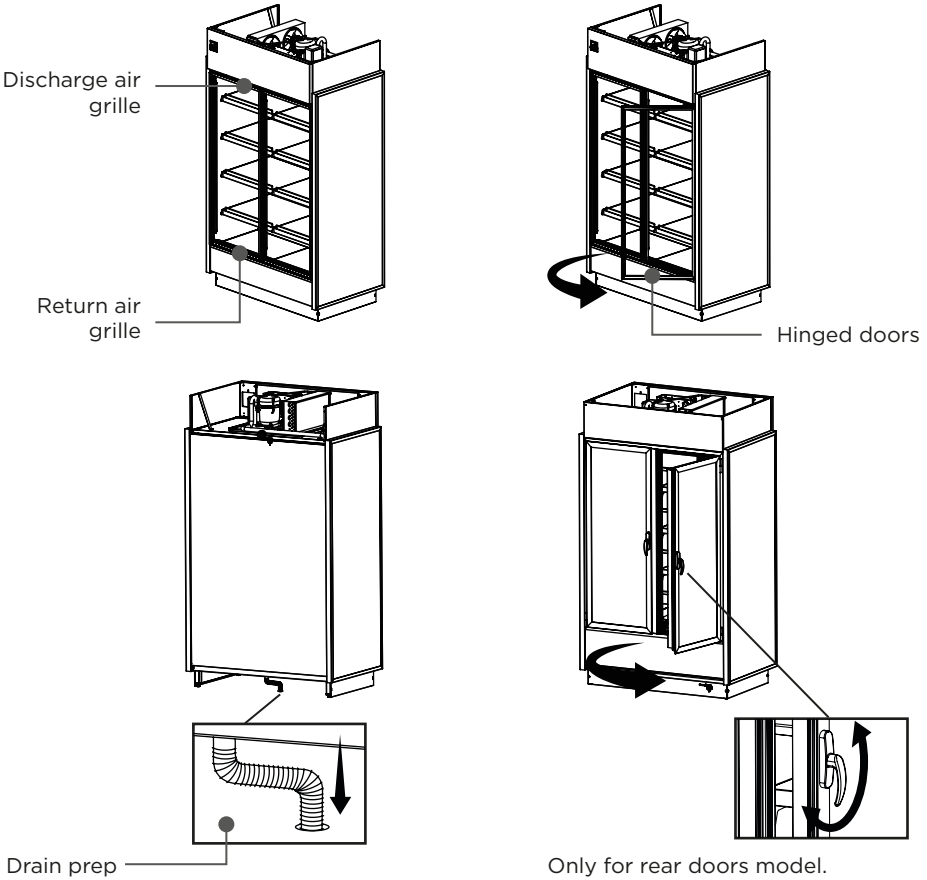
The pictures below, show the main features and all necessary controls.



Self contained control panel



Remote control panel



2.5 Check serial, model numbers and requested options

Before start your equipment, check the serial number, model numbers and requested options.
This inspection should be made visually in the following items:



Self contained name plate

MVP GROUP CORP.

COMMERCIAL REFRIGERATOR CONFORMS TO UL STANDARD 471 AND NSF STD 7 CERTIFIED TO CAN/CSA STD C22.2 NO. 120

For service, please call: (514) 737-9701

www.mvpgroupcorp.com

Intertek 4004083

HYDRA KOOL

Intertek

MADE IN PORTUGAL

120V CIRCUIT

EVAP PAN	DOOR HEATER	LIGTHS	ANTI-S FANS	EVAP FANS	COND FANS		COMP
						--AMPS--	
						---QTY---	
REF AMOUNT LEFT	REF AMOUNT RIGHT	REF TYPE				-PHASE-	
OZ	OZ					---HRTZ--	
						LRA---	

ETL MODEL

CASE FAMILY

SERIAL NO.

DATE MFG

PSI HIGH SIDE psig

PSI LOW SIDE psig

TOTAL CASE AMPS

MINI BRANCH CIRCUIT AMPACITY

MAX OVERCURRENT PROTECTION AMPS



Remote name plate

MVP GROUP CORP.

COMMERCIAL REFRIGERATOR CONFORMS TO UL STANDARD 471 AND NSF STD 7 CERTIFIED TO CAN/CSA STD C22.2 NO. 120

For service, please call: (514) 737-9701

www.mvpgroupcorp.com

Intertek 4004083

HYDRA KOOL

Intertek

MADE IN PORTUGAL

120V CIRCUIT

DOOR HEATER	LIGTHS	ANTI-S FANS	EVAP FANS	
				--AMPS--
				---QTY---
				-PHASE-
				--HRTZ--

ETL MODEL

CASE FAMILY

SERIAL NO.

DATE MFG

REF TYPE

PSI HIGH SIDE psig

PSI LOW SIDE psig

TOTAL CASE AMPS

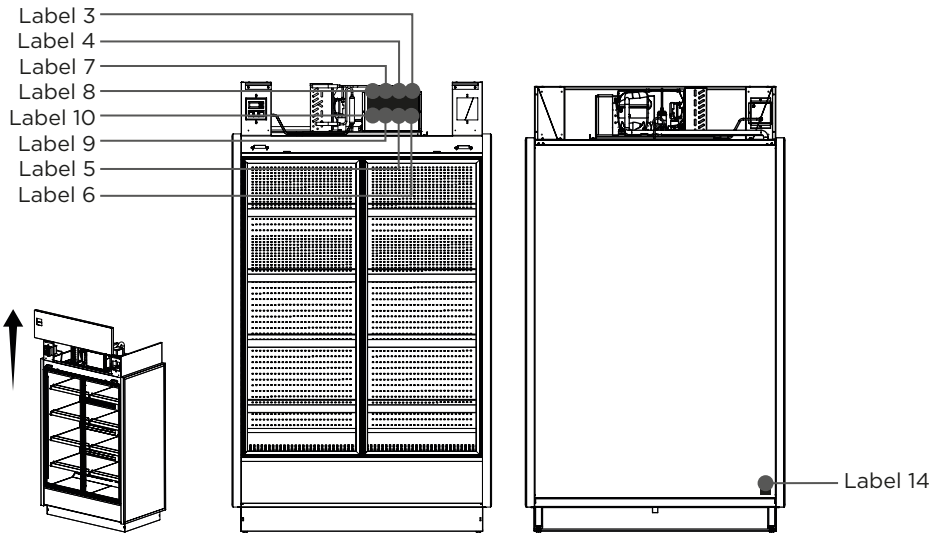
MINI BRANCH CIRCUIT AMPACITY

MAX OVERCURRENT PROTECTION AMPS

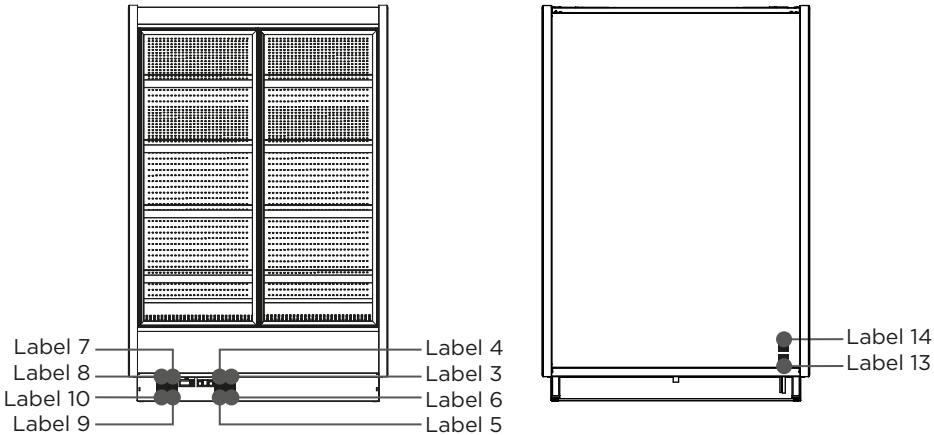
2.6 Warning/Caution labels

⚠ Before starting, HYDRA KOOL products have caution and warning labels to be respected.

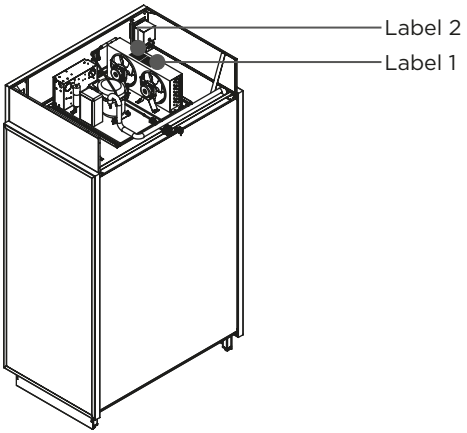
Self contained labels



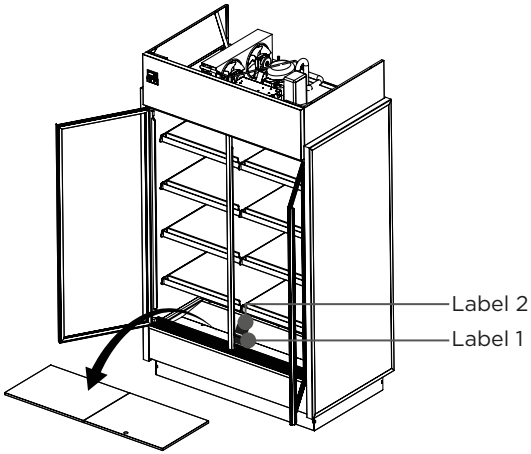
Remote labels



Condenser labels



Self contained and remote labels (evaporator). See 5.7 chapter (instructions to get to the evaporator).



Label 1

ATTENTION

PIÈCES MOBILES.
NE FAIRE PAS
FONCTIONNER AVEC
DES PIÈCES ENLEVER

Label 2

CAUTION

MOVING PARTS.
DO NOT OPERATE UNIT
WITH (PART) REMOVED

Label 3

-NOTE-

THIS A TYPE 1 CASE AND IS
DESIGNED TO OPERATE AT
THE FOLLOWING STORE
CONDITIONS THAT DOES NOT
EXCEED
75 F AND 55% R.H.

Label 4

-NOTE-

THIS EQUIPMENT IS INTENDED
FOR THE STORAGE
AND DISPLAY OF PACKAGED
FOOD PRODUCTS ONLY

Label 5

-NOTE-

CET EQUIPEMENT EST PREVU
UNIQUEMENT POUR LE
STOCKAGE ET EXPOSITION DE
PRODUITS ALIMENTAIRES
EMBALLER

Label 6

-NOTE-

CETTE VITRINE TYPE 1 EST
CONÇUE POUR FONCTIONNER
SELON LES CONDITIONS DU
MAGASIN ET NE DOIT DÉPASSER
75 F AND 55% R.H.

Label 7

CAUTION

DISCONNET ALL POWER.
MAY HAVE MORE THEN
ONE DISCONNET SWITCH

Label 8

CAUTION

RISK OF ELECTRIC SHOK.
DISCONNECT ALL
POWER BEFORE
SERVICING UNIT

Label 9

ATTENTION

DEBRANCHER TOUTE COURANT.
IL PEUT AVOIR PLUS D'UN INTERRUPTEUR

Label 10

ATTENTION

RISQUE DE CHOC ELECTRIQUE.
AVANT TOUT TRAVAIL COUPER LE COURANT

Label 11

CAUTION

HAZARDOUS MOVING PARTS.
DO NOT OPERATE UNIT WITH DECK PANS

Label 12

ATTENTION

PIÈCES MOBILES DANGEREUSES. NE FAIRE PAS FONCTIONNER AVEC DES PIÈCES ENLEVER

Label 13

ATENÇÃO EQUIPAMENTO SOB PRESSÃO DE AZOTO
ATTENTION EQUIPEMENT SOUS PRESSION D'AZOTE
CAUTION EQUIPMENT UNDER NITROGEN PRESSURE

Label 14

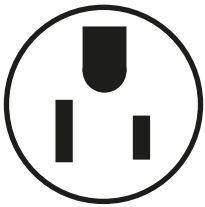
Warning

- This appliance requires a properly grounded dedicated circuit using a NEMA rated wall receptacle do not remove the grounding prong on the plug or the risk of an injury due to shock from the ungrounded electrical service may occur.

- This product can expose an individual to chemicals that have been identified by the state of California to possibly be dangerous leading to various diseases birth defects or other human reproductive system harm. For more information go to www.p65warnings.ca.gov.

2.7 Check your electrical installation

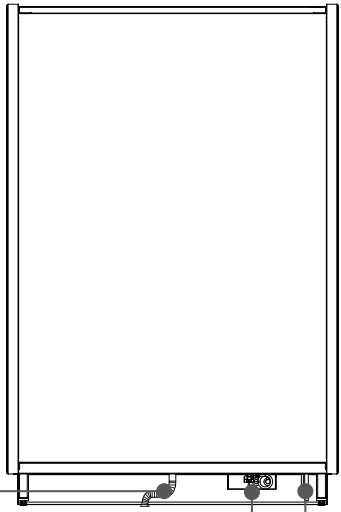
⚠ This equipment is intended to be connected to an outlet with 115V/ 60Hz/ 1 phase.



Nema-5-15P

2.8 Electrical, drain and refrigeration connections (remote only)

⚠ Installation and service must be performed by a professional technician

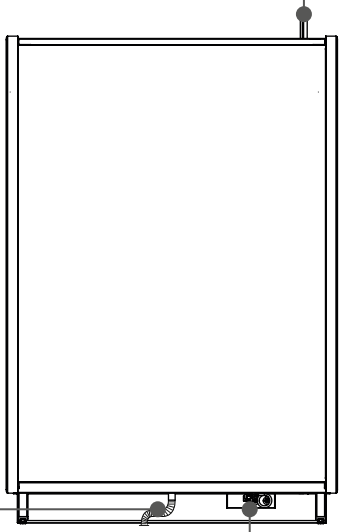


Prepare a drain installation.

All electrical connections must be done from the electrical board.

Equipments for remote installation come with nitrogen under pressure and an easy prep kit (tubing connections needed only) for installation.

Equipments for remote installation come with nitrogen under pressure and an easy prep kit (tubing connections needed only) for installation.

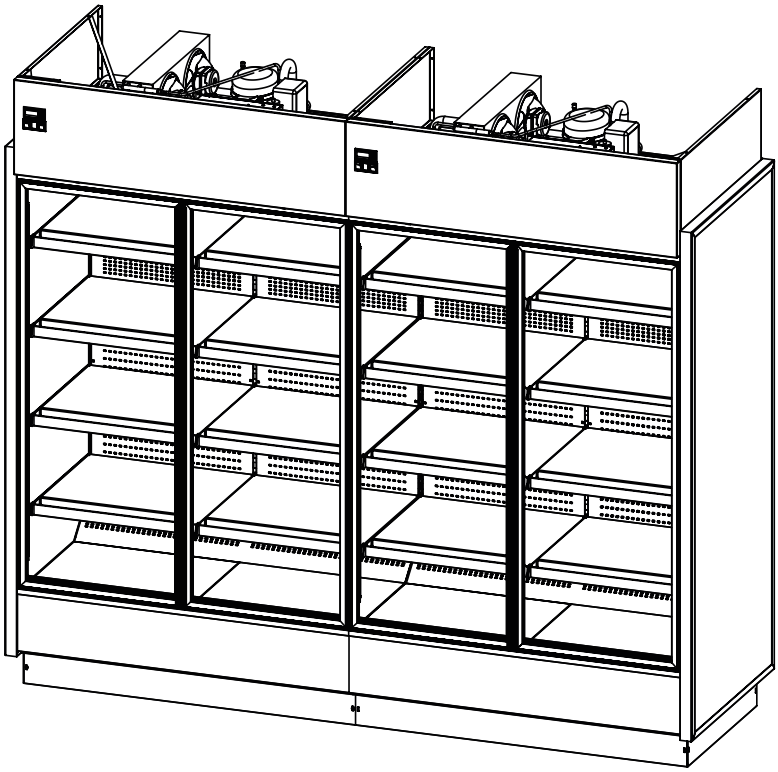


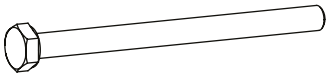
Prepare a drain installation.

All electrical connections must be done from the electrical board.

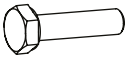
2.9 Joining

For joining follow the steps described.





3x - DIN933 M6x80



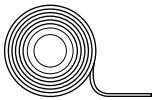
5x - DIN933 M6x20



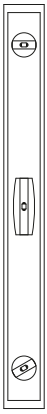
12x- DIN9021 M6



6x - DIN934 M6



2X FIT00201301 (344½")



1x



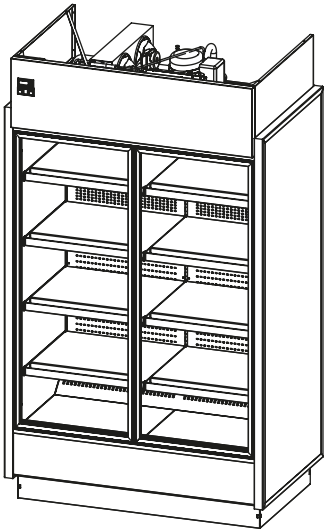
1x



1x



1x

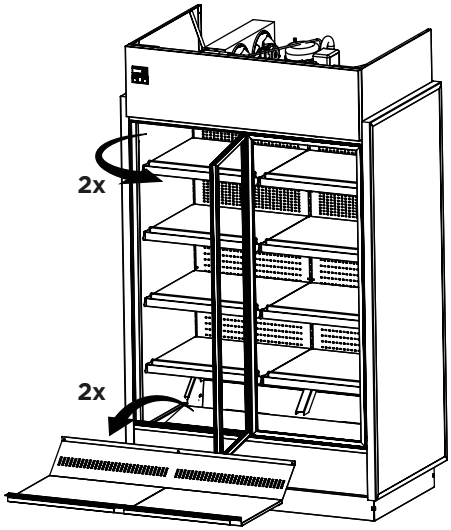


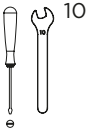
2x KGV-MD/MR

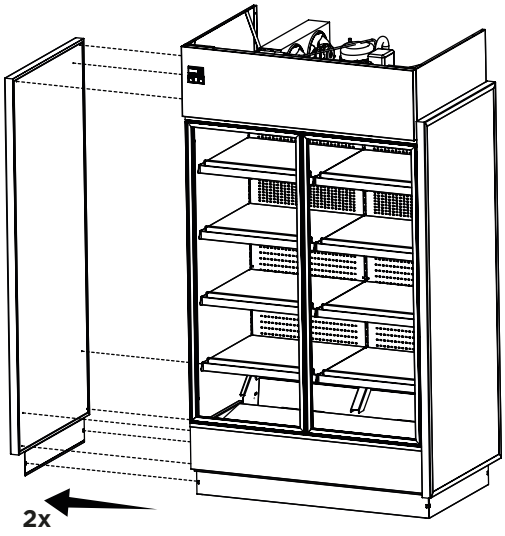


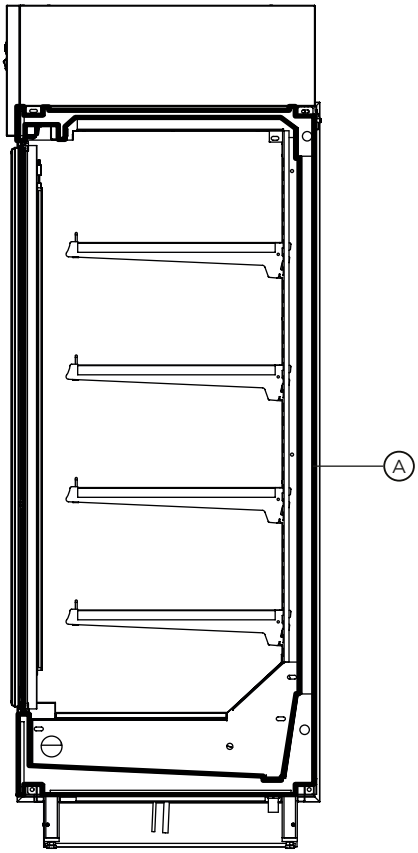
KIT0003U01000




2x
2x

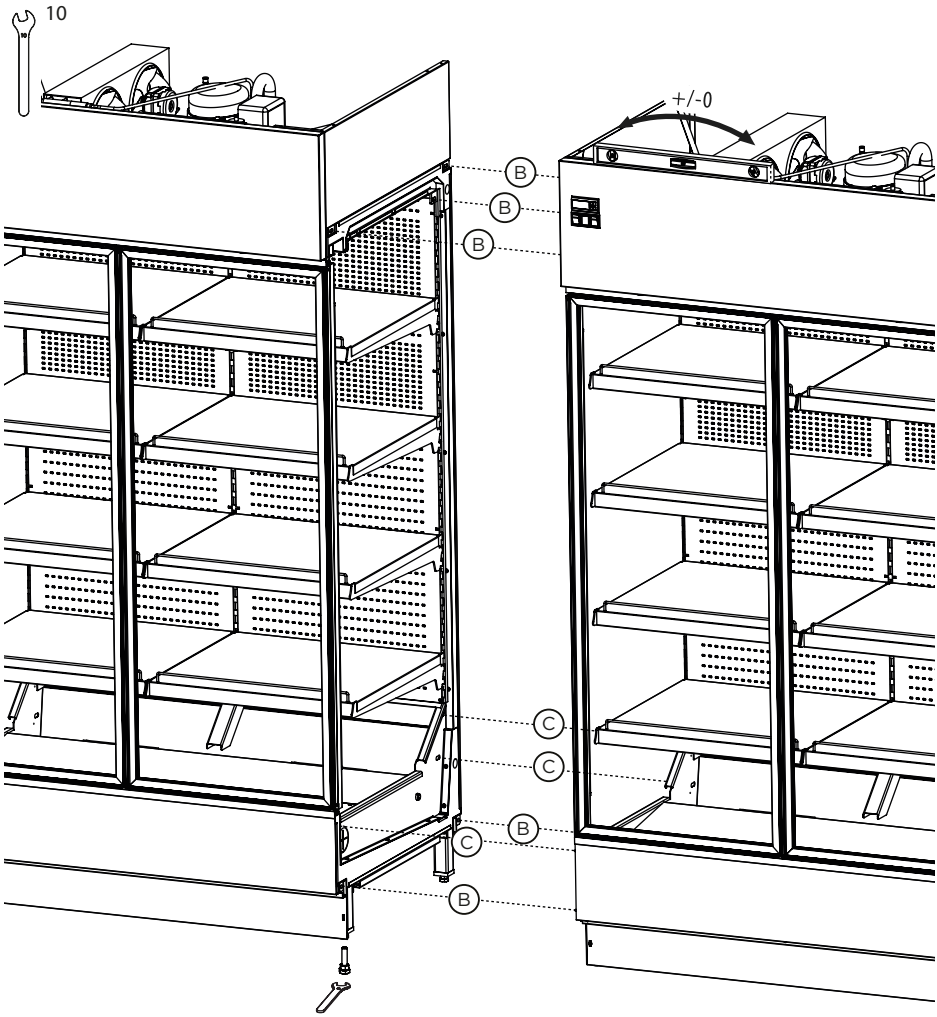

10

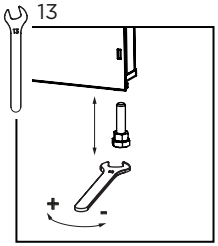

2x



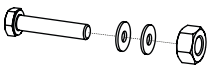


2x - FIT00201301 (344½")



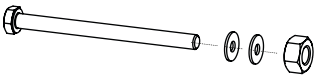


B

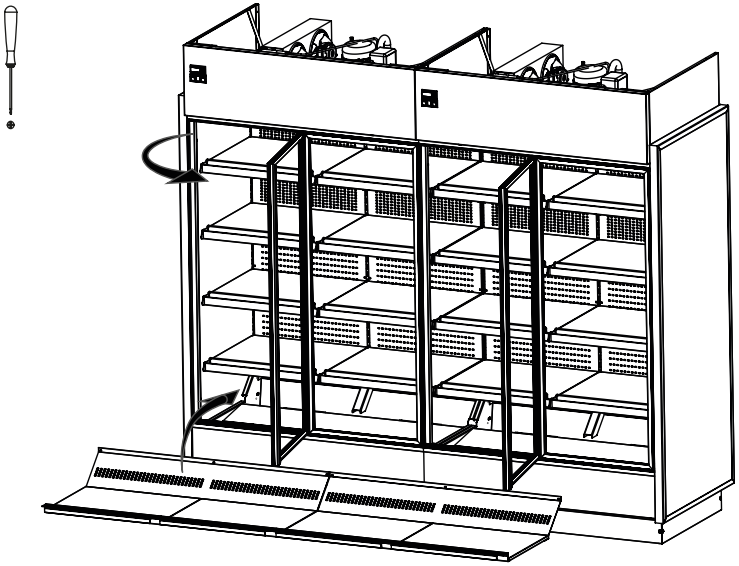


1x - DIN933 M6x20
2x - DIN9021 M6
1x - DIN934 M6

C



1x - DIN933 M6x80
2x - DIN9021 M6
1x - DIN934 M6



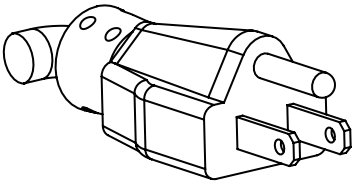
2.10 Plugging and start

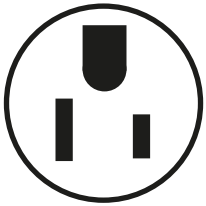
To start your equipment follow the steps:

1 - Check for page with parameters inside the manual.

2 - After uncrating and placed the equipment respecting all warnings set in 2.1 chapter, and all switches are set to off position, connect the equipment.

⚠ Make sure you have the correct outlet!





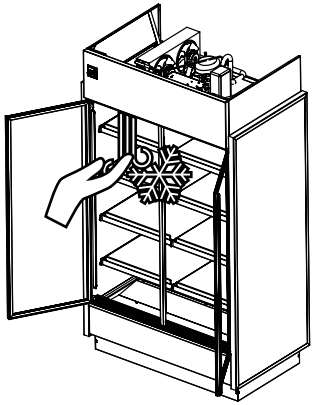
Nema-5-15P

3 - Check lights, using button referenced on chapter 2.4 If not working consult the maintenance chapter.

4 - Turn ON power button referenced in 2.4 chapter.

⚠ Noise will be heard when compressor starts! If compressor doesn't start, call a technician!

5 - Open the door and check for air movement in the discharge air grille.



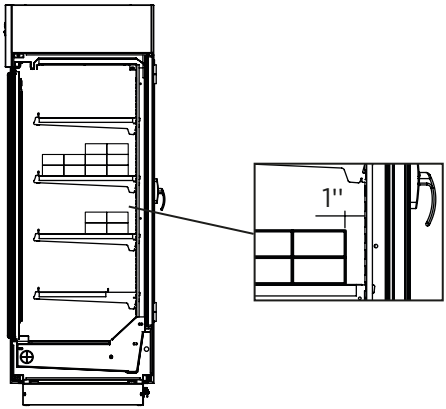
7 - Before loading, leave the equipment working for about 30 min.

8 - Load your KGV-Series.

⚠ Loading must be done respecting loading limits and weight per square foot mentioned in chapter 1.1.
This equipment is intended for maintaining temperature, be sure the products are cold, and not ambient temperature.

⚠ After loading check for any obstruction in the discharge and return air grilles.

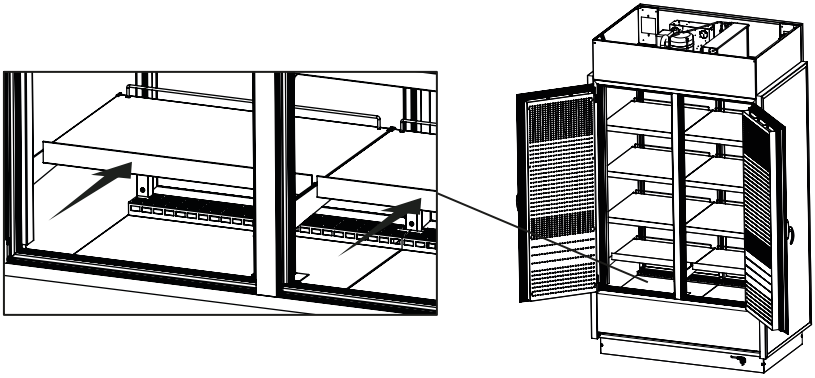
⚠ Maintain doors closed after servicing.



⚠ Respect 1'' distance to the back.

⚠ To load the KGV-MR series, deck, push the shelf forward.

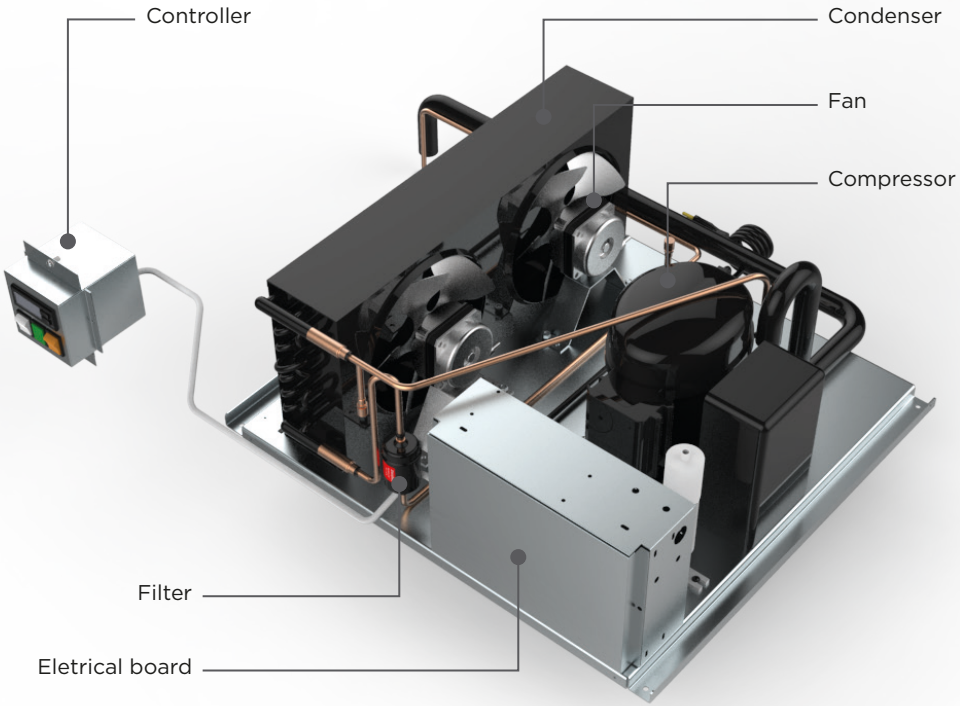
9 - If any problem encountered, see troubleshooting or call a technician!



3 Refrigeration

3.1 Self contained refrigeration equipment and defrost

The refrigeration equipment it's laid out in the top of the equipment.


Controller
Condenser
Fan
Compressor
Filter
Eletrical board

Model	Circuit pressure		Refrigerant and charge (OZ)	Defrost
	High side	Low side		
KGV-MD/MR-2-S(R)	331	174	R 404A 16,2	Automatic 2/day
KGV-MD/MR-2-S(R)	331	174	R 404A 24,7	Automatic 2/day

3.2 Refrigeration loads (remotes only)

Installation of remote equipment must be done by a qualified technician.

Model	BTU*/h	Expansion valve type	
KGV-MD/MR-2-R	3445	TS2	00
KGV-MD/MR-3-R	4430	TS2	00
KGV-MO-50-R	10458	TS2	00
KGV-MO-80-R	15542	TS2	00

*values presented are indicative for 14°F evap, and 90°F ambient

4 Electrical

4.1 Electrical specifications data

⚠ Electrical data can be found on the marking plate.

Standard equipment include led lighting in all shelves and top, and anti sweat heaters.

115V/60Hz/1 phase-self contained amps

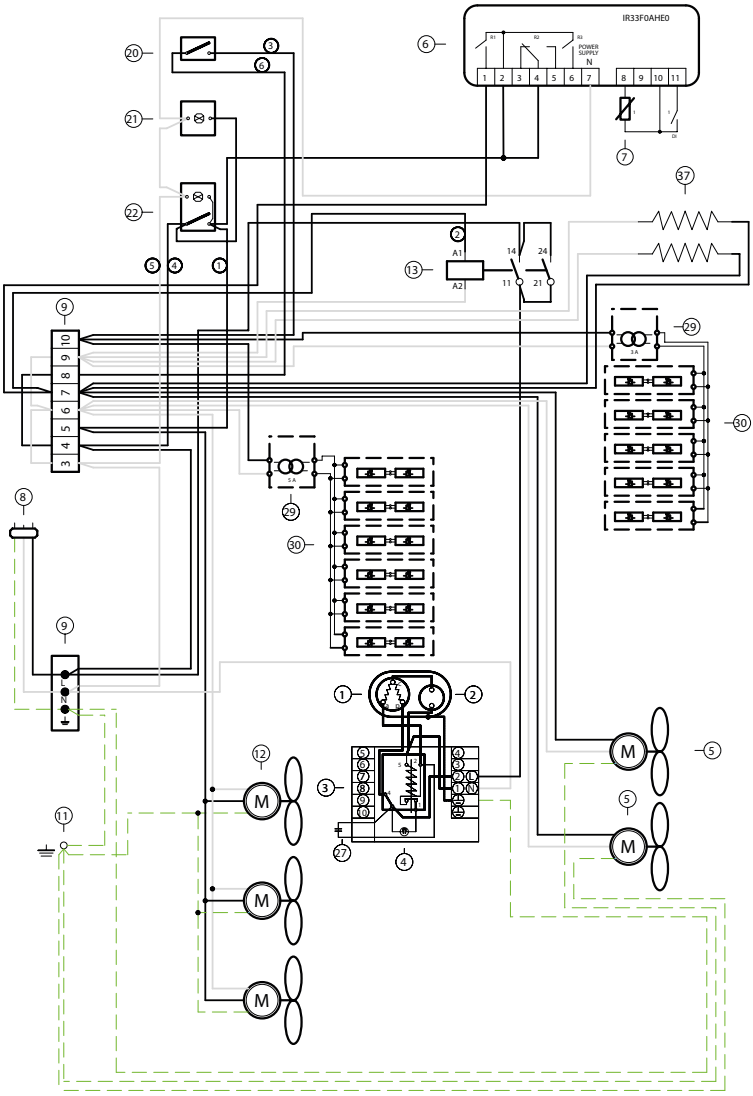
Model	Compressor F.L.A./L.R.A.	Lights (all shelves and top)	Fans		Anti sweat heaters		Total amps (self contained)
			EVP	CND	FRONT	REAR	
KGV-MD-2-S	9,6/49	0,35	0,7	0,9	0,38		11,93
KGV-MD-3-S	8,9/47	0,54	1,05	0,9	0,6		11,99
KGV-MR-2-S	9,6/49	0,21	0,7	0,9	0,38	1,32	13,11
KGV-MR-3-S	8,9/47	0,28	1,05	0,9	0,6	1,52	13,25

The data regards to standard options only.

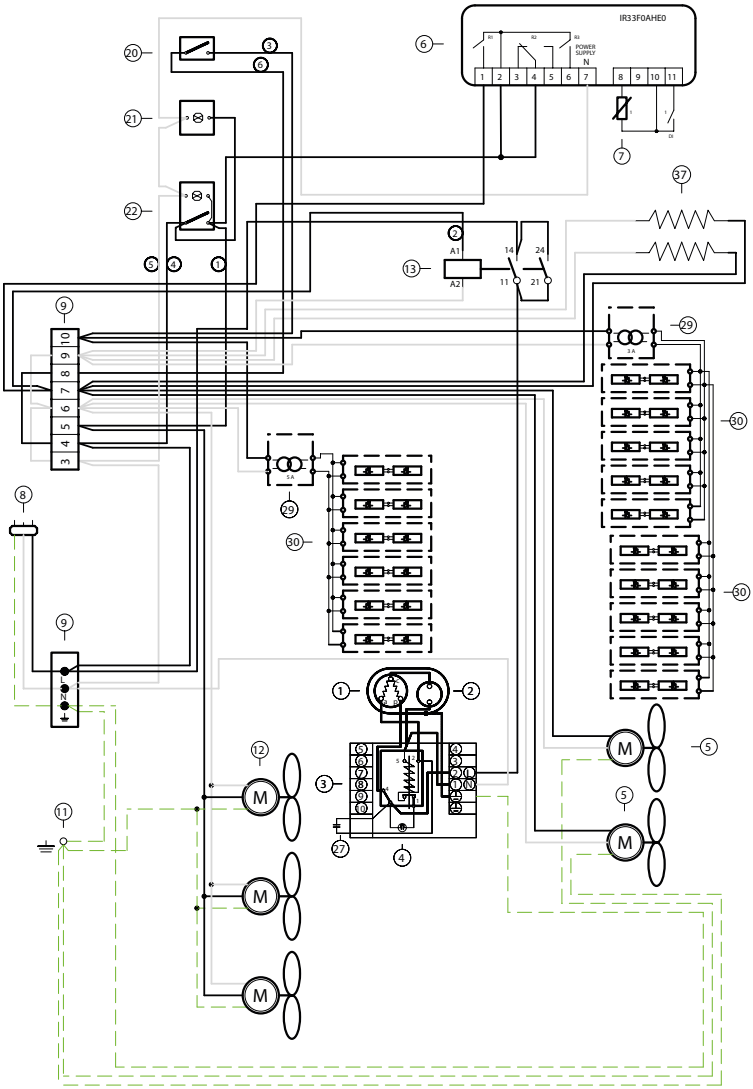
115V/60Hz/1 phase-remote amps

Model	Total amps (remote)
KGV-MD-2-R	1,7
KGV-MD-3-R	2,34
KGV-MR-2-R	2,61
KGV-MR-3-R	3,45
KGV-MO-50-R	1,40
KGV-MO-780-R	1,94

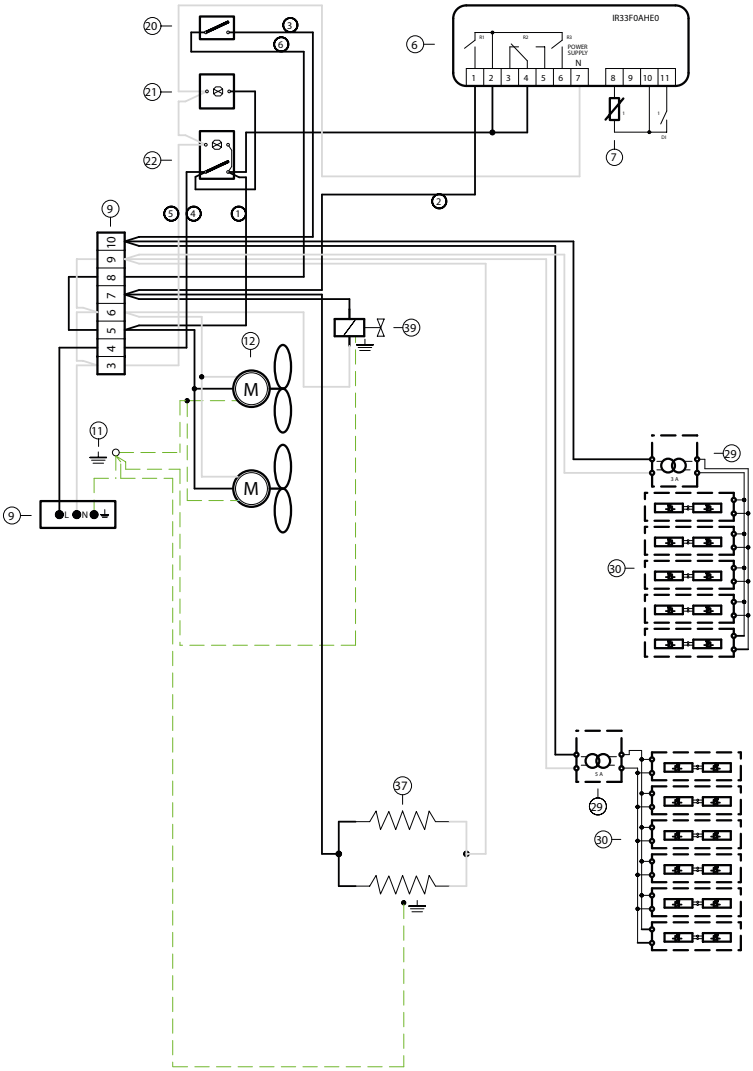
The data regards to standard options only.


IR33F0AHE0
POWER SUPPLY
N
A1
A2
14
24
11
21
M
M
M

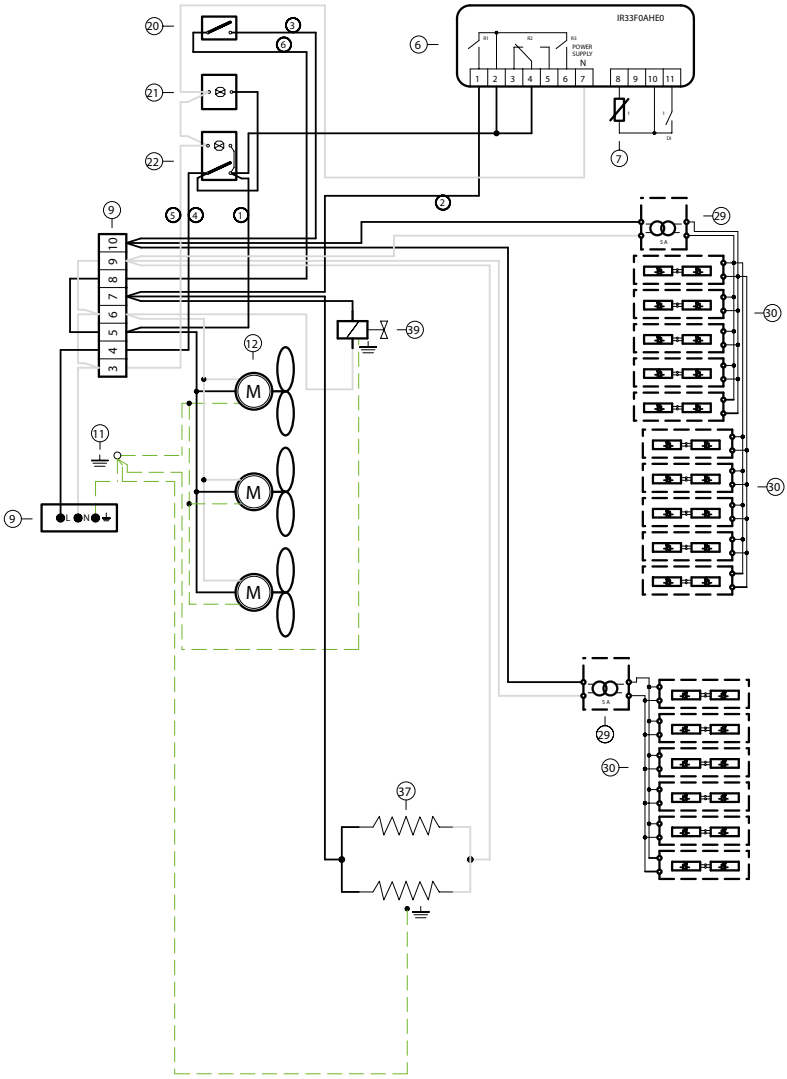
Nº	Discription
1	Compressor
2	Overload
3	Relay
4	Start capacitor
5	Condenser fan
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
13	Compressor relay
20	Lamp switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater


IR33F0AHE0
POWER SUPPLY
N
A1
A2
11
14
21
24
M
M
M
M
M

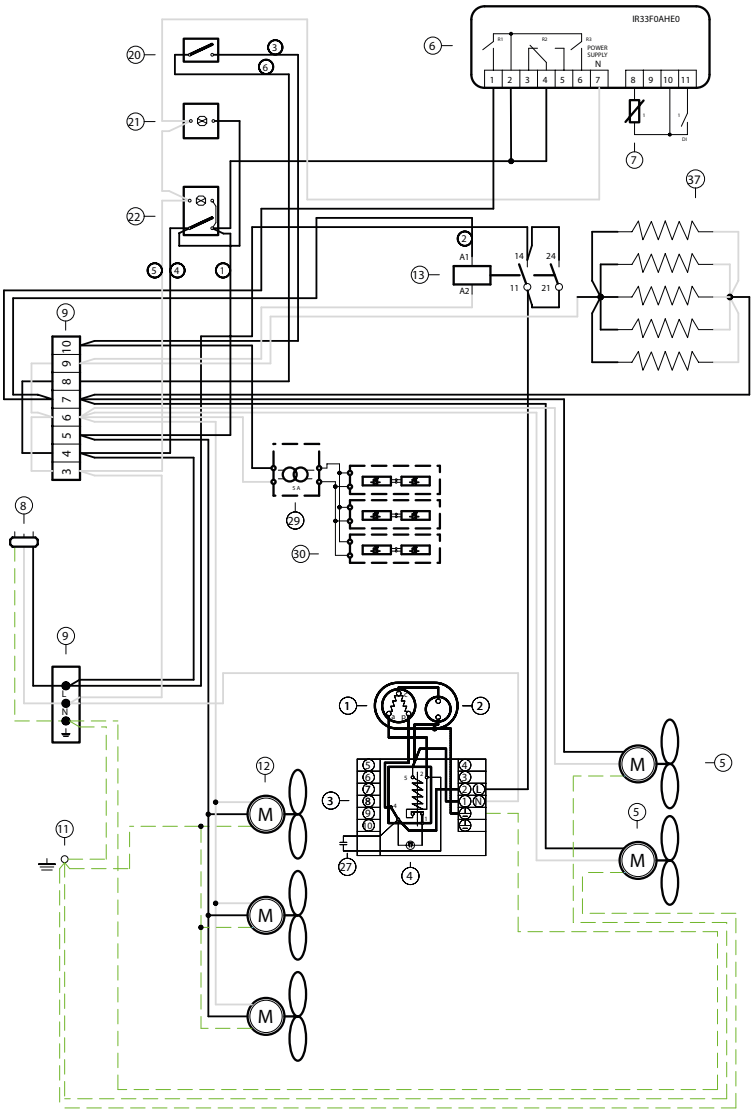
Nº	Discription
1	Compressor
2	Overload
3	Relay
4	Start capacitor
5	Condenser fan
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
13	Compressor relay
20	Light switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater


IR33F0AHE0
POWER SUPPLY
N
1 2 3 4 5 6 7
8 9 10 11
20
21
22
3
6
2
9
5 4 1
3 4 5 6 7 8 9 10
12
M
M
11
9
L N
39
29
2 A
30
37
29
5 A
30

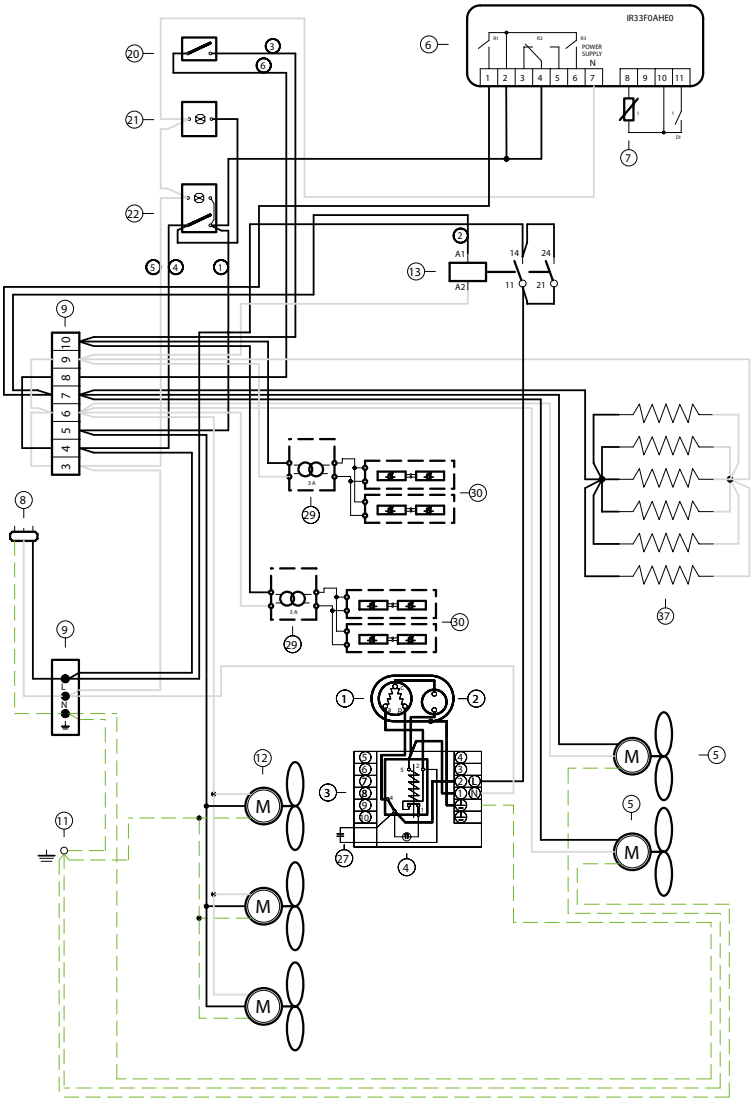
N°	Discription
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
20	Light switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater
39	Solenoide valve


IR33F0AHE0
POWER SUPPLY
N
1 2 3 4 5 6 7
8 9 10 11
M
M
M
L N
5 A
5 A

N°	Discription
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
20	Light switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater
39	Solenoide valve

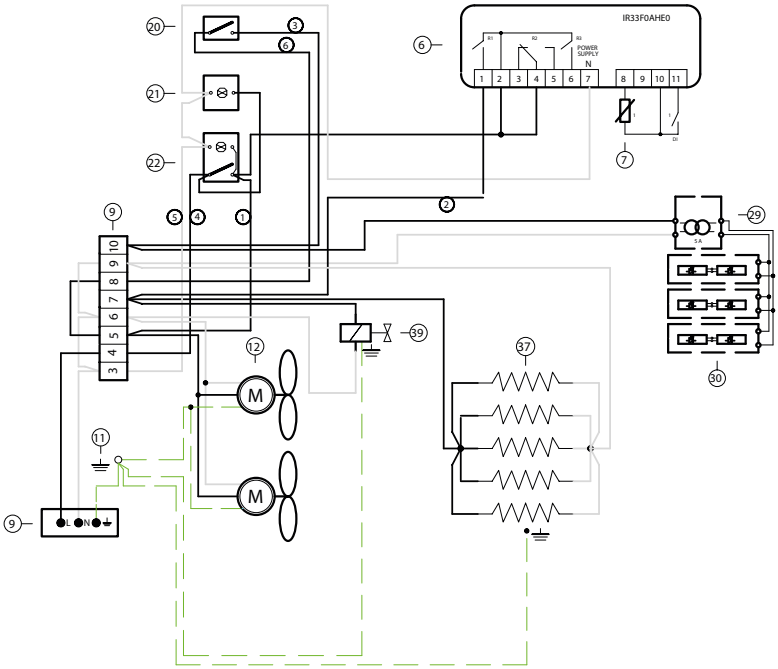

IR33F0AHE0
POWER SUPPLY
N
A1
A2
14
24
11
21
M
M
M
M
M

Nº	Discription
1	Compressor
2	Overload
3	Relay
4	Start capacitor
5	Condenser fan
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
13	Compressor relay
20	Light switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater

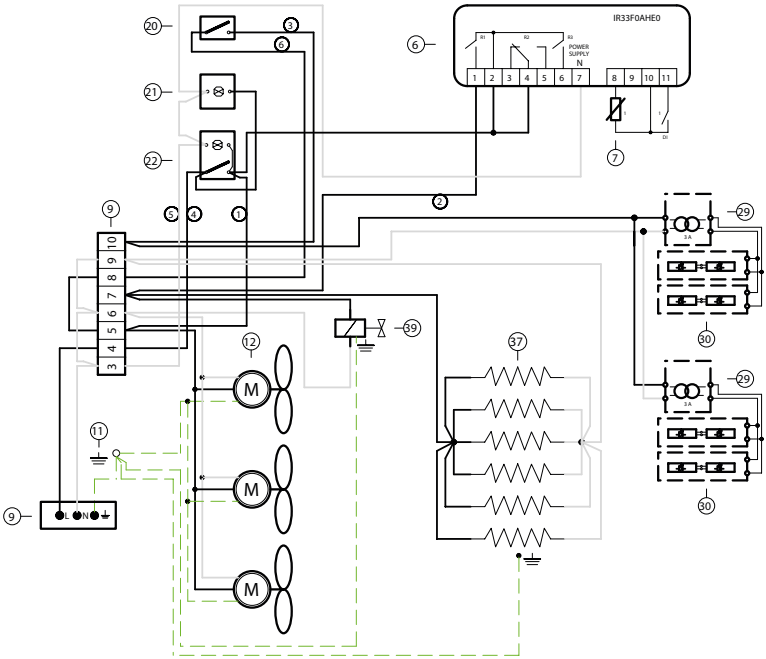

IR33F0AHE0
POWER SUPPLY
N
A1
A2
14
24
11
21
M
M
M
M

Nº	Discription
1	Compressor
2	Overload
3	Relay
4	Start capacitor
5	Condenser fan
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
13	Compressor relay
20	Light switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater

KGV-MR-2-R



N°	Discription
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
20	Light switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater
39	Solenoide valve


IR33F0AHE0
POWER SUPPLY
N
L
N
M
M
M

N°	Discription
6	Controller
7	Temperature probe
9	Terminal block
11	Ground connection
12	Evaporator fan
20	Light switch
21	Pilot light
22	Switch
27	Run capacitor
29	Transformer
30	Led lighting
37	Anti sweat heater
39	Solenoide valve

4.2 Electronic controller



Carel - IR33F0AHE0

TECHNICAL SPECIFICATIONS

	Model	Voltage	Power
Power supply	*IRxxxxExxxx*	*230 V~, 50/60 Hz*	*3 VA, 25 mA~max.*
	IRxxxxAxxxx	*115V~, 50/60 Hz*	*3 VA, 50 mA~max.*
	IRxxxxHxxxx	*115 to 230 V~, 50/60 Hz*	*6 VA, 50 mA~max.*
	IRxxxxLxxxx *IRxxxx0xxxx*	*12 to 24V~, 50/60 Hz, 12 to 30 Vdc* *12V~, 50/60 Hz, 12 to 18 Vdc*	*3 VA, 300 mA~/mAdc max.* *Use only SELV power supply*
Insulation guaranteed by the power supply	*IRxxxxExxxx* *IRxxxxAxxxx* *IRxxxxHxxxx*	*insulation in reference to very low voltage parts*	*reinforced* *6mm clearance, 8 mm creepage* *3750 V insulation*
		insulation from relay outputs	*basic* *3mm clearance, 4 mm creepage* *1250V insulation*
	IRxxxxLxxxx *IRxxxx0xxxx*	*insulation in reference to very low voltage parts*	*externally guaranteed by safety transformer (SELV power supply)*
		insulation from relay outputs	*reinforced* *6mm clearance, 8 mm creepage* *3750 V insulation*
Inputs	*S1 (probe 1)*	*NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx)*	
	S2 (probe 2)	*NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx)*	
	DI 1 *S3 (probe 3)*	*free contact, contact resistance < 10 Ω, closing current 6 mA* *NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx)*	
	DI 2 *S4 (probe 4)*	*free contact, contact resistance < 10 Ω, closing current 6 mA* *NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx)*	
	Maximum ditance of probes and digital inputs less than 10 m. ***Note:** during installation keep the power and loads connection separate from probe cables, digital inputs, repeater display and supervisory system.*		
Probe type	*Std. CAREL NTC*	*10 kΩ at 25 °C, - 50T90 °C range*	
		measurement error:	*1 °C in the - 50T50 °C range*
			3 °C in the - 50T90 °C range
	NTC high temperature	*50 kΩ at 25 °C, - 40T150 °C range*	
		measurement error:	*1,5 °C in the - 20T115 °C range*
			4 °C in the - 20T115 °C range
	PTC std. CAREL (specific model)	*985 Ω a 25 °C, range da - 50T150 °C*	
		measurement error:	*2 °C in the - 50T50 °C range*
			4 °C in the - 50T150 °C range

Relay outputs	*depending on the model*					
		EN 60730-1			*UL 873*	
	model	*relay*	*250 V~*	*operating cycles*	*250 V~*	*operating cycles*
	IRxxxx(E,A) (P,Q,S,U,V,X,Y,Z)xxx	*R2 (*)*	*5(1)A*	*100000*	*5 A resistive 1FLA 6 LRA C 300*	*300000*
	IRxxxx(E,A) (N,R,C,B,A,M,L,T)xxx	*R3 (*)*	*5(1)A*	*100000*	*5 A resistive 1FLA 6 LRA C 300*	*300000*
	IRxxxx(E,A) (N,R,C,B,A,M,L,T)xxx IRxxxx(O,L,H) (N,R,C,B,A,M,L,T)xxx	*R1,R2 R2,R3 R4 (*)*	*8 (4)A N.O. 6 (4)A N.C. 2 (2)A N.O./N.C.*	*100000*	*8 A resistive 2FLA 12 LRA C300*	*300000*
	IRxxxx(E,A) (P,Q,S,U,V,X,Y,Z)xxx IRxxxx(O,L,H) (N,R,C,B,A,M,L,T)xxx	*R1 R1 (*)*	*12 (2)A N.O./N.C.*	*100000*	*12 A resistive 5FLA 30 LRA C300*	*300000*
	insulation from very low voltage parts			*reinforced*		
				6 mm clearance, 8 mm creepage		
				3750 V insulation		
	insulation between the relay outputs indipendent			*basic*		
				3 mm clearance, 4 mm creepage		
				1250 V insulation		
SSR outputs	Max output voltage : 12 Vdc, Output resistance: 600 Ω, Max output current: 20 mA					

(*): Relay not suitable for fluorescent loads (neon lights, ...) that use starters (ballasts) with phase-shift capacitors. Fluorescent lamps with electronic control devices or without phase-shift capacitors can be used, within the operating limits specified for each type of relay.

Connessioni		***Type of connection***			***Cross-section Max. current***
	Model	*Relay*	*P. Supply*	*Probes*	*for wires from 12 A 0.5 a 2.5 mm²*
	IRxxxxxx0xx	*screw*	*screw*	*screw*	
	IRxxxx(E,A)x1xx	*faston*	*faston*	*removable*	
	IRxxxxxx2xx	*removable*	*removable*	*removable*	
	IRxxxx(E,A)x3xx	*faston*	*faston*	*screw*	
	IRxxxx(E,A)x5xx	*vertical screw*	*vertical screw*	*vertical screw*	

the installer has to provide the correct dimensioning of the power supply and cable connection between the instruments and the loads. Depending on the model, the maximum current in the common terminals 1, 3 or 5 is 12 A. When using the controller at maximum operating temperature and full load, use cables featuring a maximum operating temperature of 105 °C at least.

⚠ Controller must be handled by a qualified technician.

Signals on the display

The blinking status indicates a request for activatuin that cannot be implemented until the end of the corresponding delay times.

Icon	Function	ON	OFF	blink	Startup
	COMPRESS.	compressor ON	comp. OFF	compressor request	
	FAN	fan ON	fan OFF	fan request	
	DEFROST	defrost in progress	defrost not required	defrost request	
AUX	**AUX**	auxiliary output AUX active	auxiliary output AUX not active	anti-sweat heater function active	
	ALARM	delayed external alarm (before the expiry of the time "A7")	no alarm present	alarms in normal operation (eg. high/low temp.) or alarm from ext. digital input immediate or delayed	
sent	**CLOCK**	at least one timed defrost has been set	no timed defrost is present	clock alarm	ON if Real-Time Clock present
	LIGHT	auxiliary output LIGHT ACTIVE	auxiliary output LIGHT NOT ACTIVE	anti-sweat heater function active	
	SERVICE		no malfunction	malfunction (eg. EEPROM error or probe fault)	
HACCP	**HACCP**	HACCP function	HACCP function enabled	HACCP alarm (HA and/or HF) not enabled	
	CONTINUOUS CYCLE	enabled	not enabled	request	

Controller must be handled by a qualified technician.

Buttons on the keypad

Normal operation

Button	Press. the button alone	Pressing together with other buttons		
Prg / **mute**	· if pressed for more than 5 s accessed the menu for setting type "F" (frequent) parameters · **in the event of alarm:** silences the audible alarm (buzzer) and disables the alarm relay	· if pressed for more than 5 s together with the **SET** button, accesses the menu for setting the type "C" (configuration) or downloading the parameters · if pressed for more than 5 s together with the **UP/AUX** button resets any alarm with manual reset	**Start-up :** if pressed for more than 5 s at start-up, starts the default parameter setting	**Automatic address assignment:** if pressed for 1 s enters the automatic serial address assigning procedure
▲ / **aux**	if pressed for more than 1 s, enables/disables the auxiliary output	· if pressed for more than 5 s together with **DOWN/DEF** button, enables/disables the continuous cycle operation · if pressed for more than 5 s with **SET** button, starts the procedure for printing the reports (function available, with management to be implemented) · if pressed for more than 5 s together with **PRG/MUTE** button, resets any active alarm with manual reset		
def / ▼	if pressed for more than 5 s, enables/disables a manual defrost	· if pressed for more than 5 s together with **UP/AUX** button, enables/disables the continuous cycle operation · if pressed for more than 1 s together with **SET** button, displays a submenu with the **HACCP** alarm parameters (HA, HAn, HF, HFn)		
Set	if pressed for more than 1 s, displays and/or set the set point	· if pressed for more than 5 s together with **PRG/MUTE** button, accesses the menu for setting the type "C" parameters "C" (configuration) or downloading the parameters · if pressed for more than 1 s together with **DOWN/DEF** button, displays a submenu with the **HACCP** alarm parameters (HA, HAn, HF, HFn) · if pressed for more than 5 s together with **UP/AUX,** starts the procedure for printing the report (function available, with management to be implemented)		

Main parameters

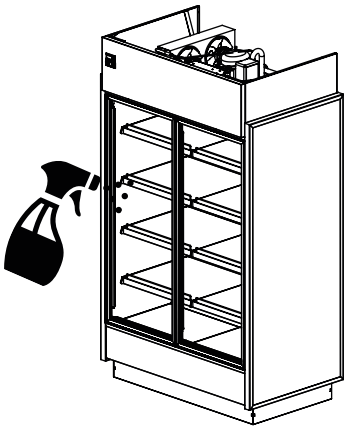
Symbol	Code	Parameter	Models	UOM	Type	Min	Max	Def.
	/3	Probe display response	MSYF	-	C	0	15	0
	/5	Select °C or °F 0: °C 1: °F	MSYF	flag	C	0	1	0
	/A2	Configuration of probe 2 (S2) 0: Probe absent 1: Product probe (display only) 2: Defrost probe 3: Condenser probe 4: Antifreeze probe	YF MS	- -	C C	0 0	4 4	2 2
	/c1	Calibration of probe 1	MSYF	°C/°F	C	-20	20	0,0
	St	Temperature set point	MSYF	°C/°F	F	rl	r2	0,0
	rd	Control delta	SYF	°C/°F	F	0,1	20	2,0
	c2	Minimum compressor OFF time	SYF	min	C	0	15	0
	dI dP1	Interval between defrosts Maximum defrost duration, evaporator	SYF SYF	hours min	F F	0 1	250 250	8 30

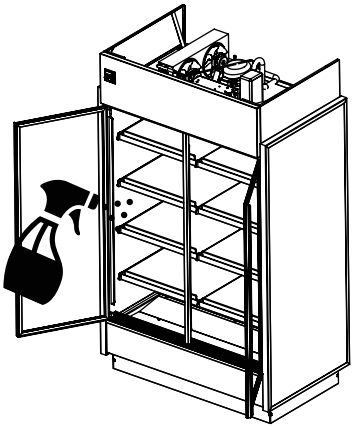
5 Maintenance

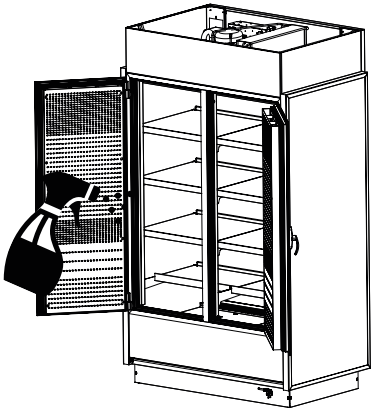
5.1 Cleaning

All operations must be done with the unit disconnected.

Clean surfaces (glass/metal/plastic) with soft detergents or warm water. Do not use abrasive cleanser.

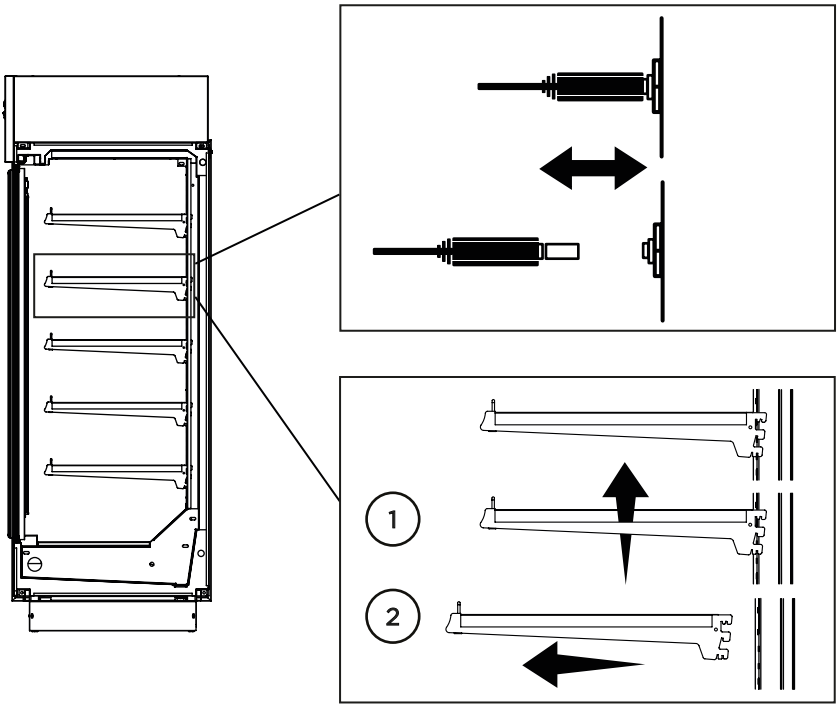




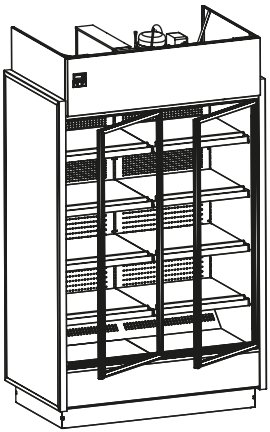


5.2 Shelf removing/adjustment

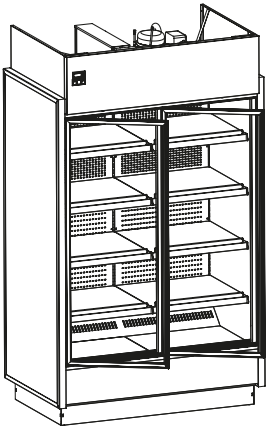
⚠ All operations must be done with the unit disconnected.



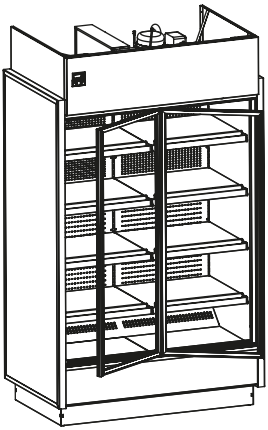
5.3 Front doors handling
5.3.1 Doors positions



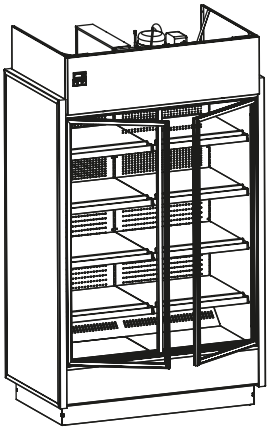
A-A



B-B



A-B



B-A

5.4 Door installation

⚠ All operations must be done with the unit disconnected.

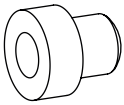
⚠ All operations must be done carefully.



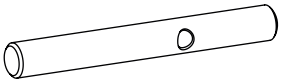
2x - DIN916 M4X10



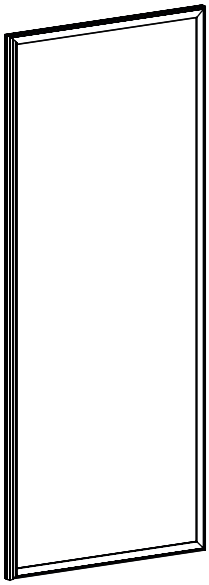
1x - CAS00202000



1x - CAS00301000



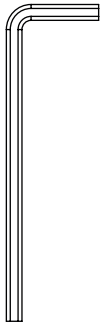
1x - VEI00101000



1X POR00102060



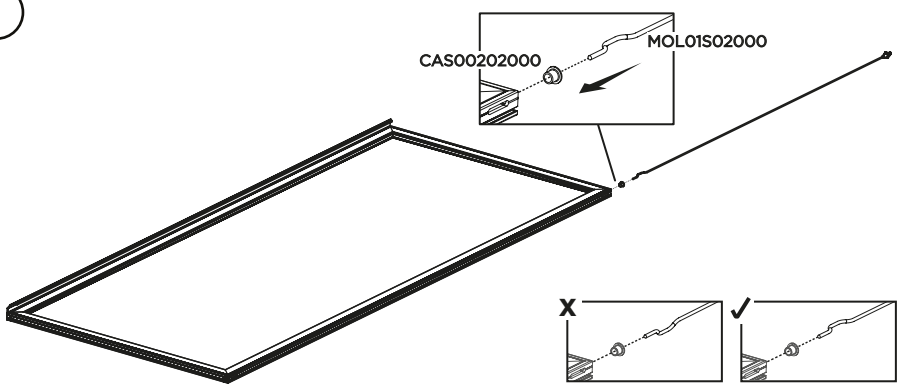
1X MOL01S02000



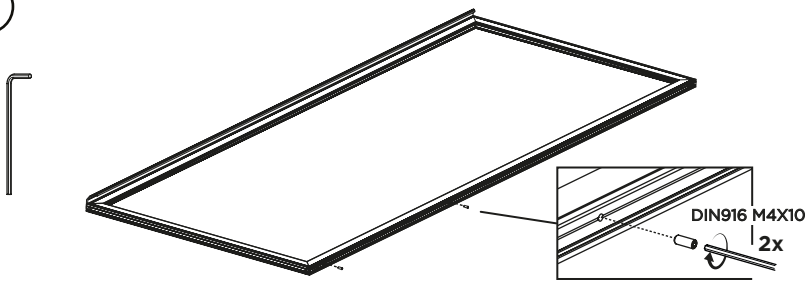
1x
UMB 2

A

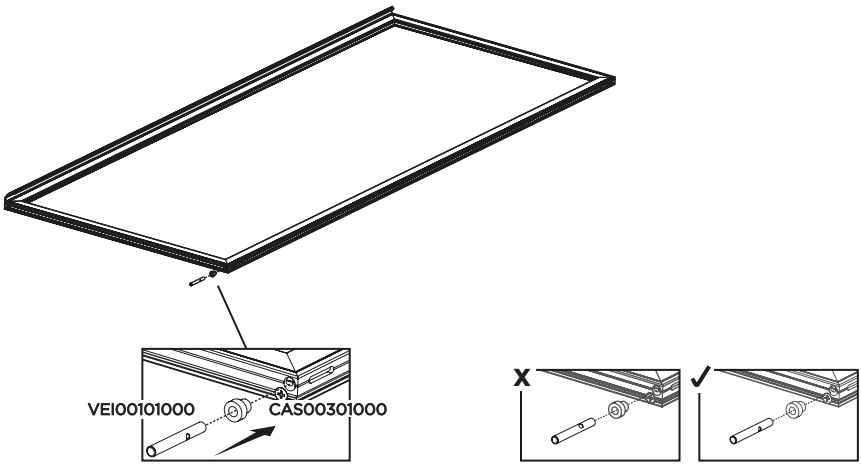
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CAS00202000
MOL01S02000
X
✓

2

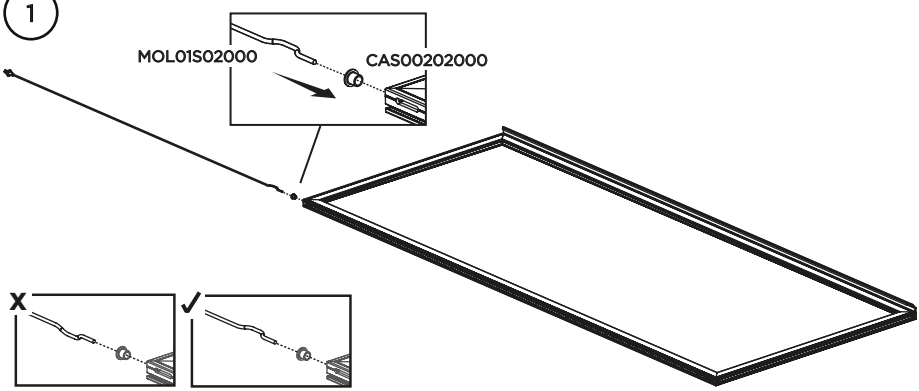

DIN916 M4X10
2x

3

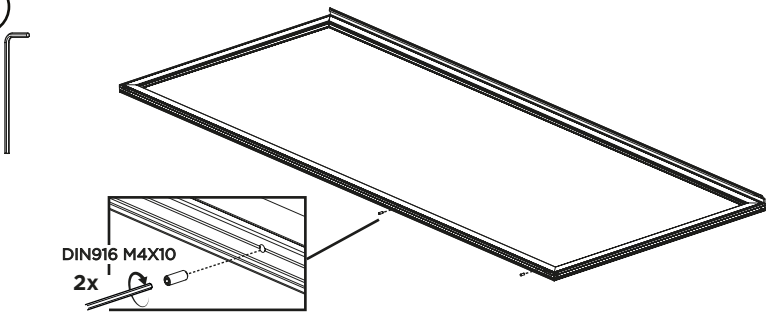

VEI00101000
CAS00301000
X
✓

B

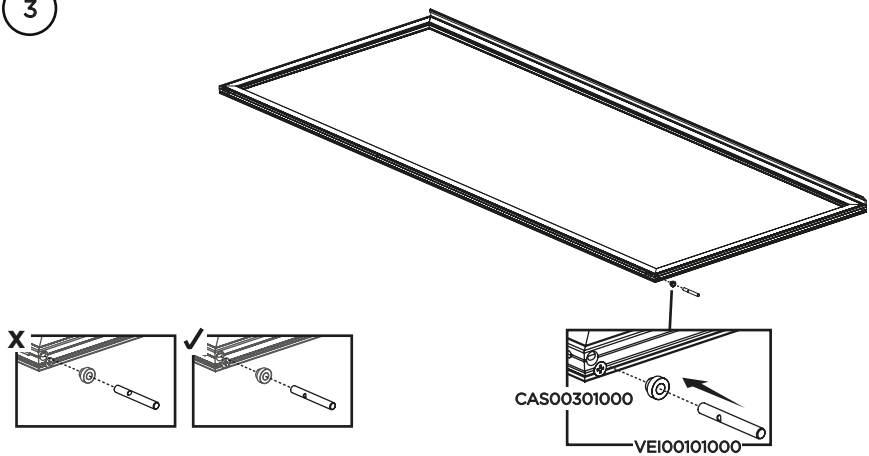
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MOL01S02000
CAS00202000
X
✓

2

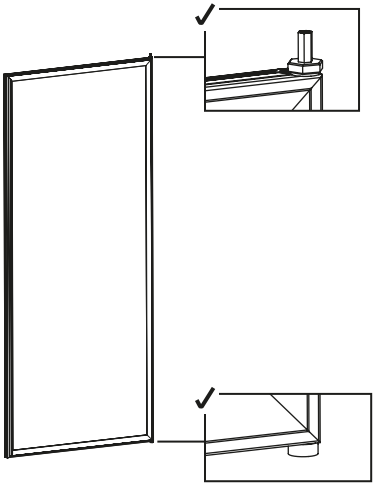

DIN916 M4X10
2x

3

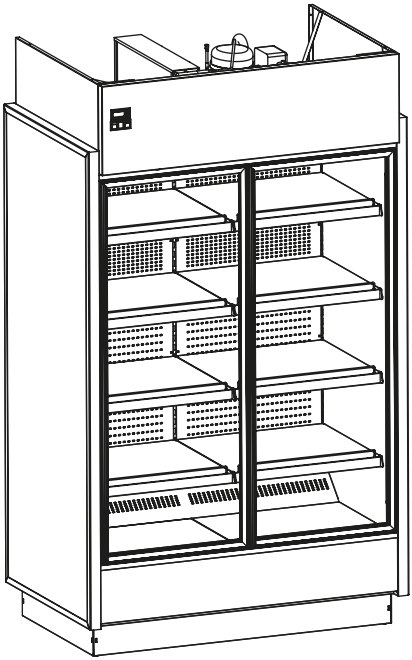

X
✓
CAS00301000
VEI00101000



2x - DIN916 M5X16



2x - POR07M03060



1x - KGV-MD/MR-X-S(R)



1x

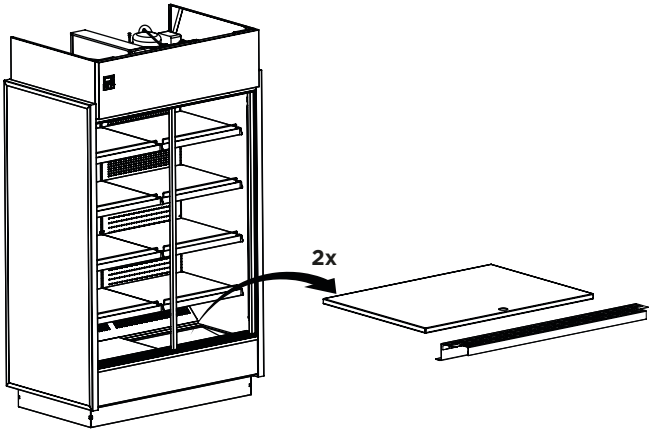


1x
UMB 2

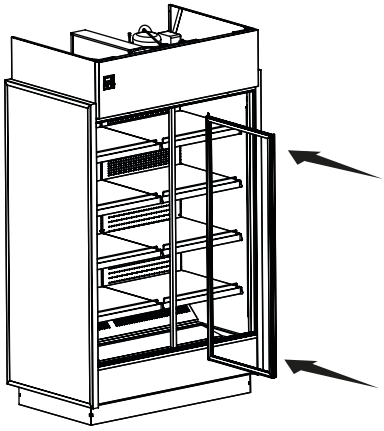


1x
UMB 2.5

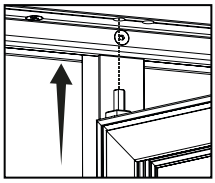
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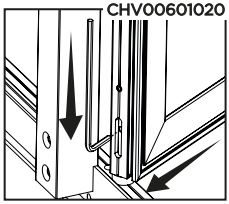
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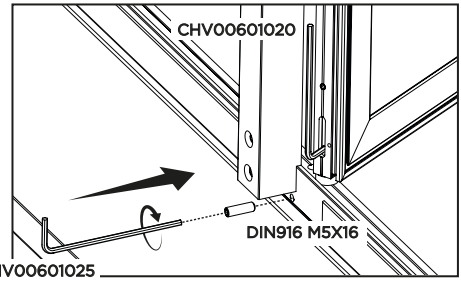
2.1



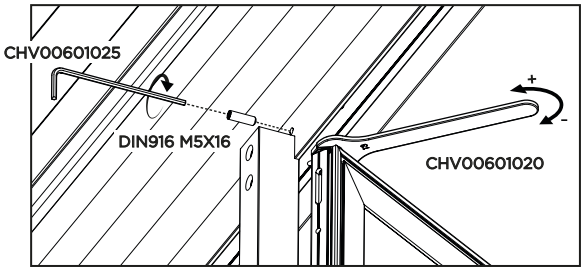
2.2



3



4

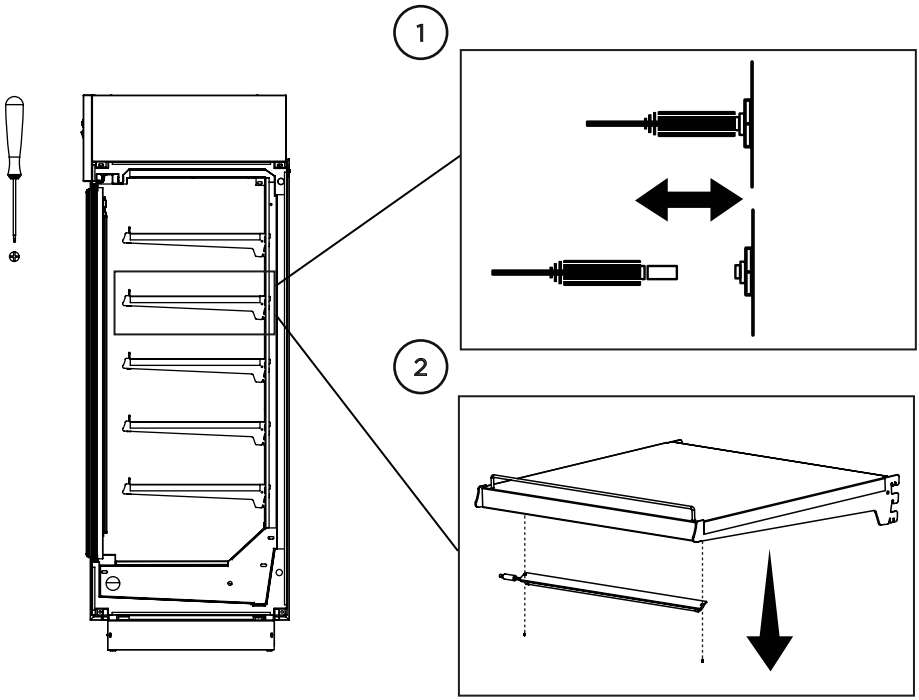


5.5 Light substitution

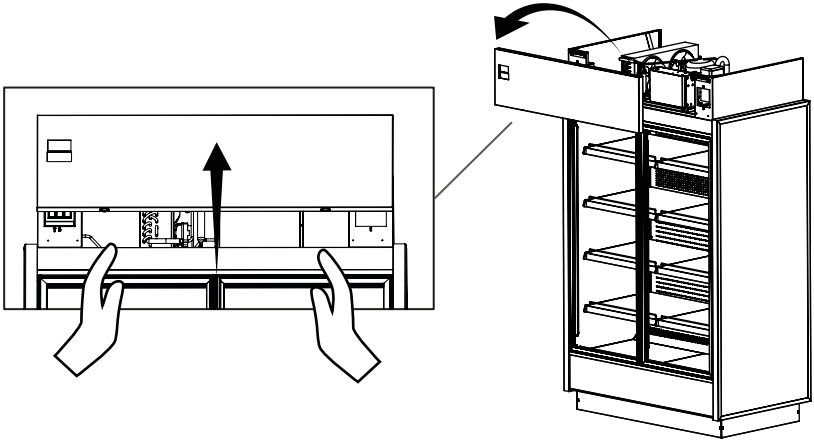
To replace lights follow the steps:

⚠ All operations must be done with the unit disconnected.

- Disconnect the light
- Unscrew the light and remove the light
- Insert a new light in the same place of the old one
- Screw the light and connect it
- Plug and turn on the light



5.6 Panel removal



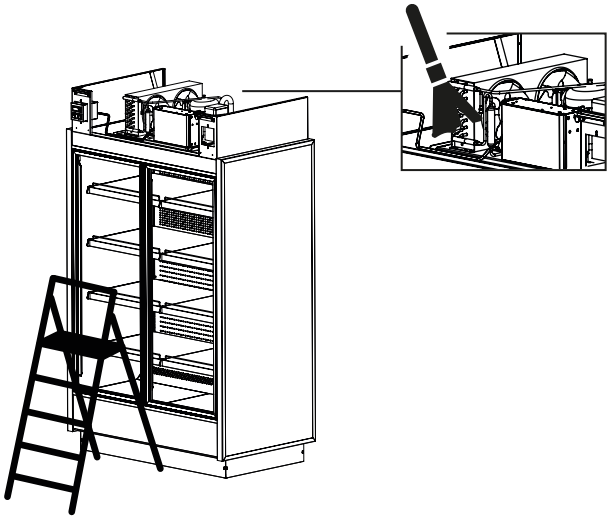
5.7 Condenser cleaning

⚠ This operation must be performed by a qualified technician.

⚠ All operations must be done with the unit disconnected.

Condenser must be regularly cleaned (every month). Use a brush or vacuum it. To get to the condensator must remove frontal panel.

⚠ It is recommended a ladder to perform condenser cleaning.



5.8 Evaporator cleaning

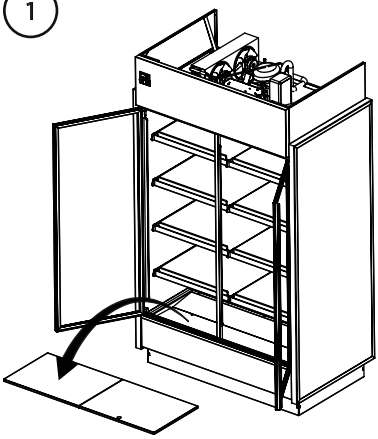
⚠ This operation must be performed by a qualified technician.

⚠ All operations must be done with the unit disconnected.

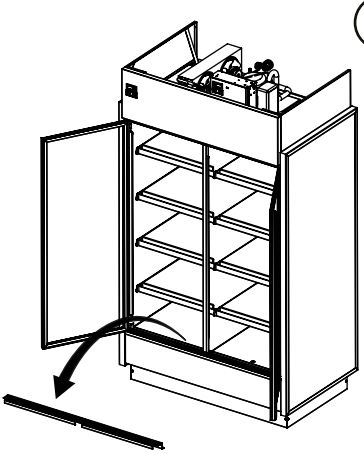
To access the evaporator:

- Open your unit
- Lift and remove exposition panels
- Remove return air grille
- Use tool for the screws and clean

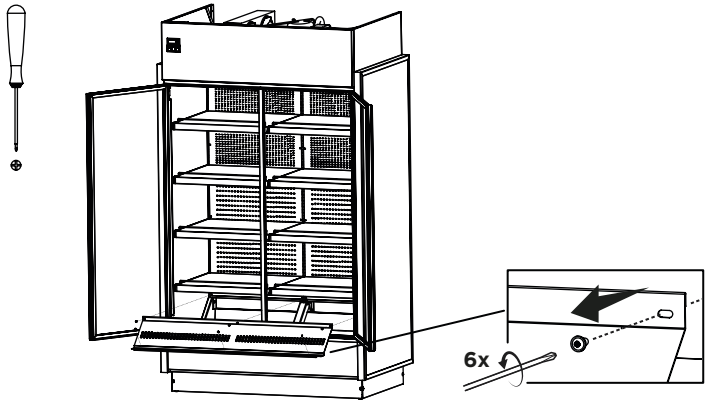
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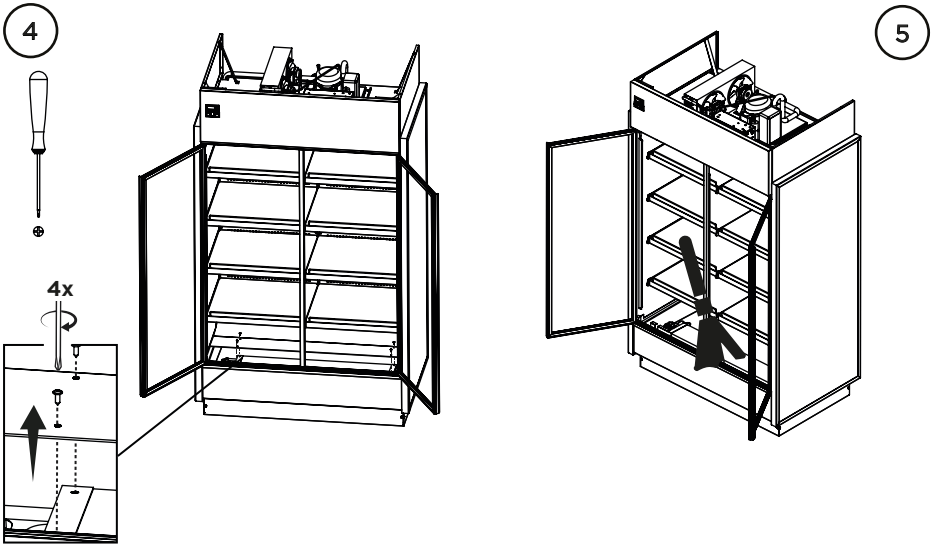


2



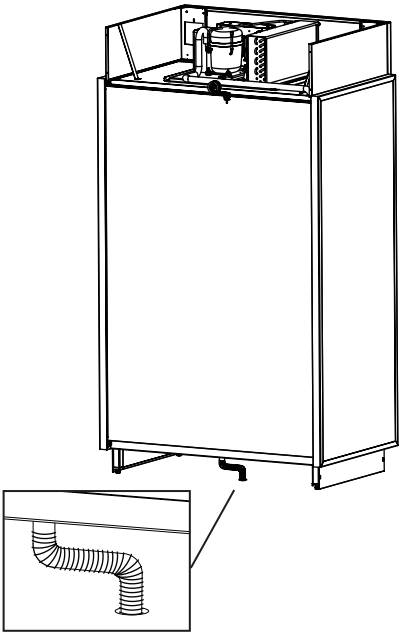
3





5.9 Drain inspection

⚠ Check for drain obstruction and correct position every month.



6 Troubleshooting/Service

6.1 Troubleshooting

⚠ This operation must be performed by a qualified technician.

Doors not closing:

- Check for leveled floor.
- Check for obstruction.
- Remove doors and check the bearings.

Lights not working:

- Check light switch position.
- Check light connections.

Warm case temperature:

- Check for air return grille obstruction.
- Check for air drafts.
- Check store temperature.
- Check for condenser obstruction and cleaning.
- Check for frozen evaporator.
- Check set point.
- Display area is over filled.
- Check proper door sealing.

Fans not working:

- Check electrical connections.
- Check for any debris.

Case not aligning:

- Check for leveled floor.
- Check instructions for joining.

Display not working:

- Check main power switch position..
- Check electrical connections.

Compressor not starting:

- Disconnect switch open.
- Blown fuse.
- Overload protective tripped.
- Low charge of refrigerant.

Relay defective.

Equipment runs constantly:

Condenser dirty.

Condenser fan malfunction.

Temperature and relative humidity too high.

Starting relay burns out:

Low voltage.

High voltage.

Compressor short cycles.

Incorrect running capacitor.

Incorrect relay.

Head pressure too high:

Unit overcharged.

Air or other non condensable gases in the system.

Clogged condenser.

Defective condenser fan motor.

Unit location too hot.

Restriction in charge line.

Head pressure too low:

Insufficient refrigerant charge.

Leak in the system.

Cold location.

Noisy unit:

Compressor oil charge low.

Fan blade causing vibrations.

Tube rattle.

Loose parts.

Case not leveled.

6.2 Service

⚠ This operation must be performed by a qualified technician.

⚠ For spare parts, contact your distributor.

Service by	Type of action	Date	Serial number and model

7 Warranty

12 months warranty for all parts and labour from the invoice date. A new part will be provided free of charge. Defective part must be returned to the manufacturer.

Warranty claims: All claims must include model number, serial number, date of purchase, date of installation and additional information about the supposed defect.

All service work must be authorized by MVP group.

MVP group reserves the right to select the service company.

Loss of food or other damages caused by faulty equipment aren't covered by this warranty.

Warranty does not cover damage when uncrating.

Work made necessary, by lack of maintenance or cleaning are not covered by this warranty.

Warranty does not cover damage or malfunction result of improper use or installation.

Warranty does not cover negligence, misuse and operation on wrong voltage.

Warranty does not apply if the serial number is altered or defaced.

Failure to comply with the instructions in this manual shall avoid warranty.

8 Notes



MVP GROUP CORPORATION
www.mvpgroupcorp.com