


instructions for installation



COSMOS 4 ECO ***GALAXIE 4 ECO***



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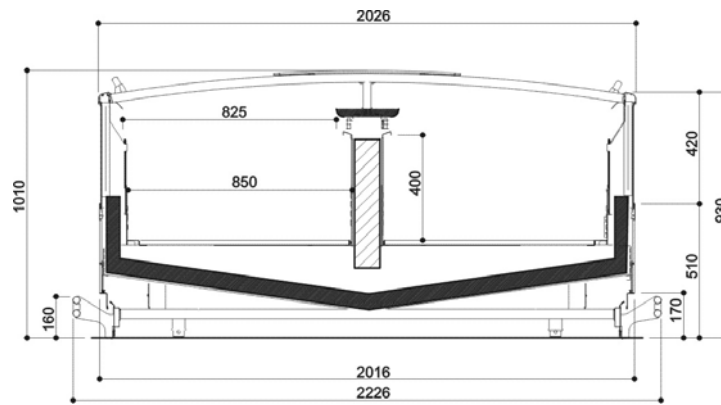
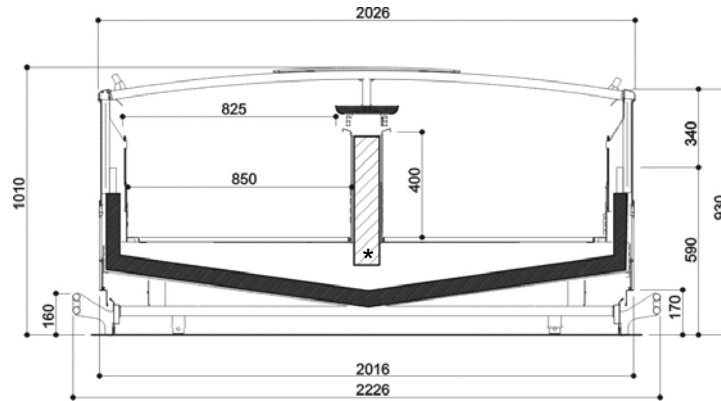
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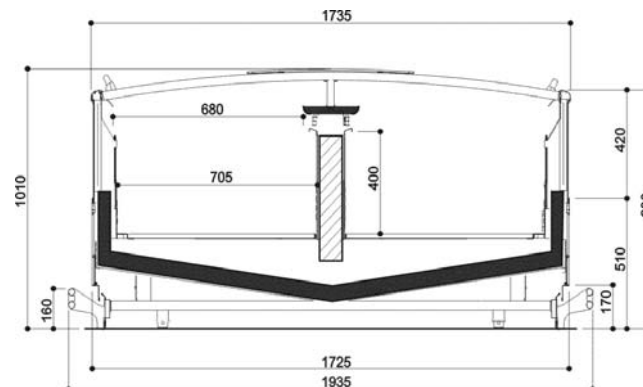
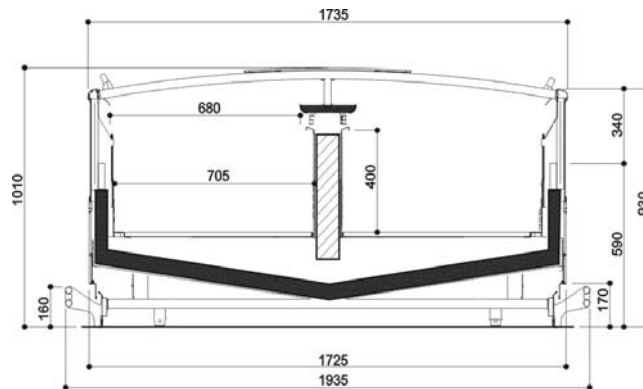
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COSMOS 4 ECO LG300 - HG400

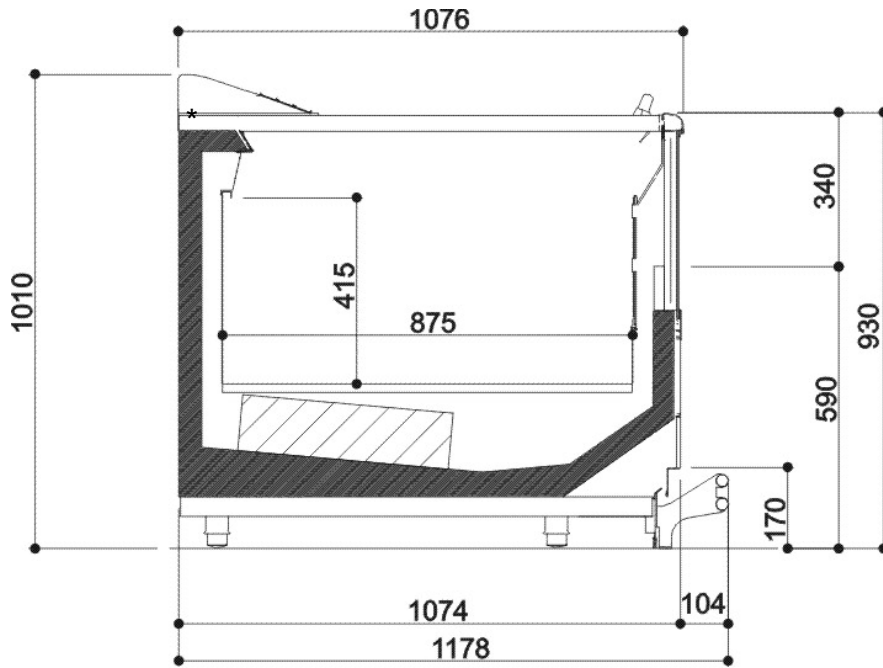


GALAXIE 4 ECO LG300 - HG400

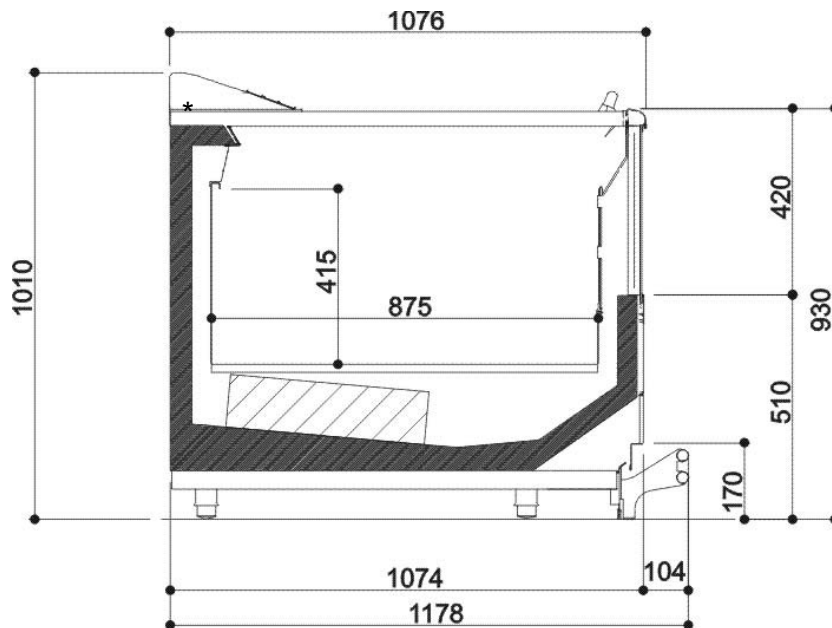



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COSMOS 4 ECO- GALAXIE 4 ECO TG LG300



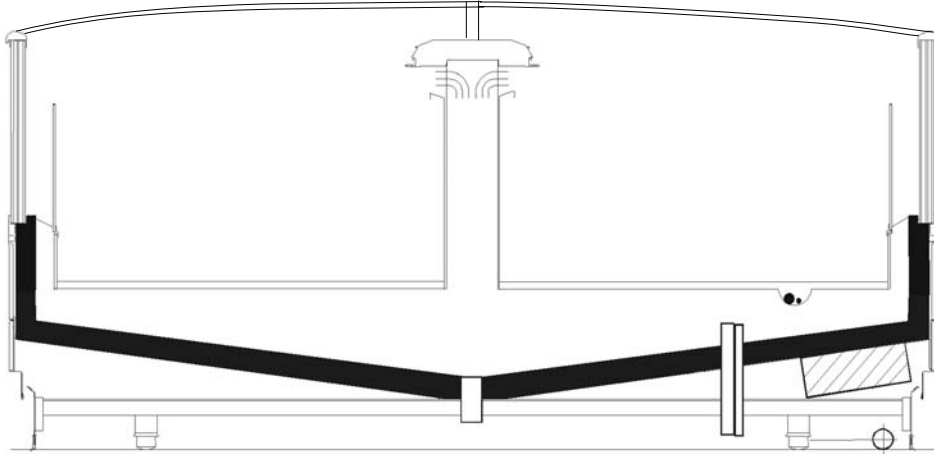
COSMOS 4 ECO - GALAXIE 4 ECO TG HG400



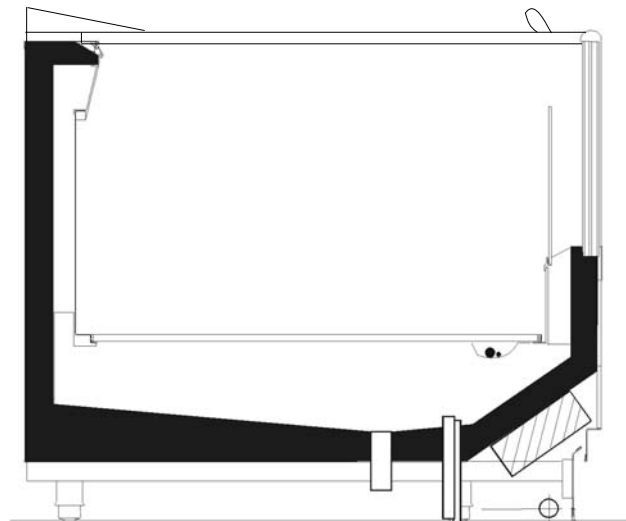
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INSTALLATION DIAGRAMS

CONNECTIONS - CROSS SECTION FOR TORTUGA STRAIGHT CABINETS




CONNECTIONS - CROSS SECTION FOR TORTUGA END CABINET



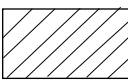
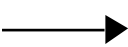

water drain outlet Ø40 ● way in of refrigerating pipes

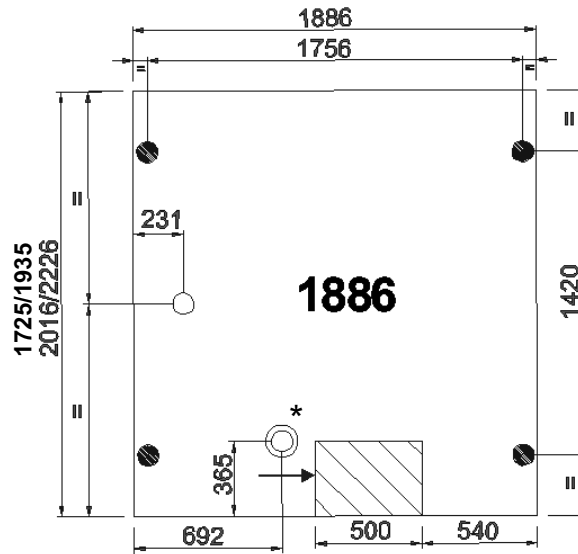
refrigerating connection
 inlet Ø 10 mm electrical board
 outlet Ø 20 mm

way out of drain piping

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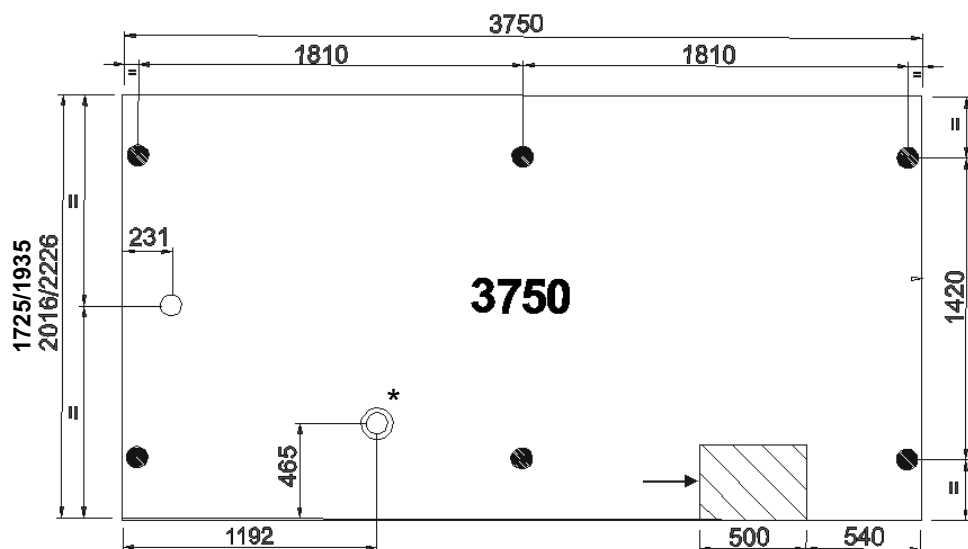
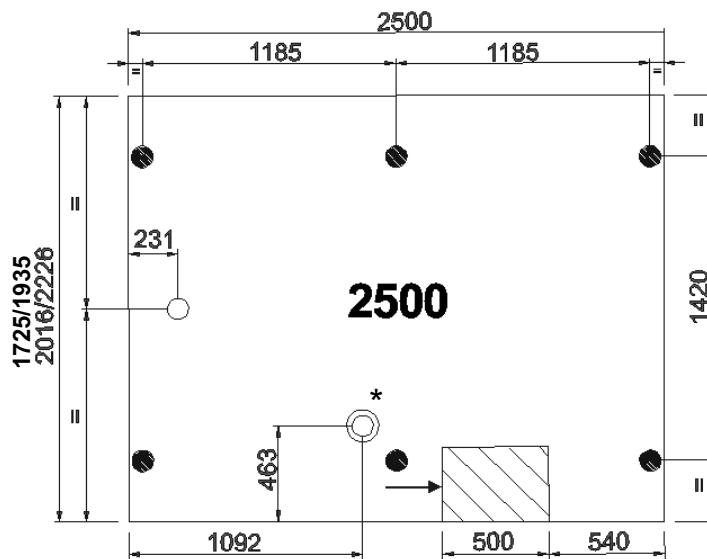
CONNECTION PLANS - TORTUGA LINEAR CABINETS - without endwalls


- feet
- water drain outlet Ø40
- ⊙ refrigerating connection
-  electrical board
-  electrical board inlet
-  controller EKC201C



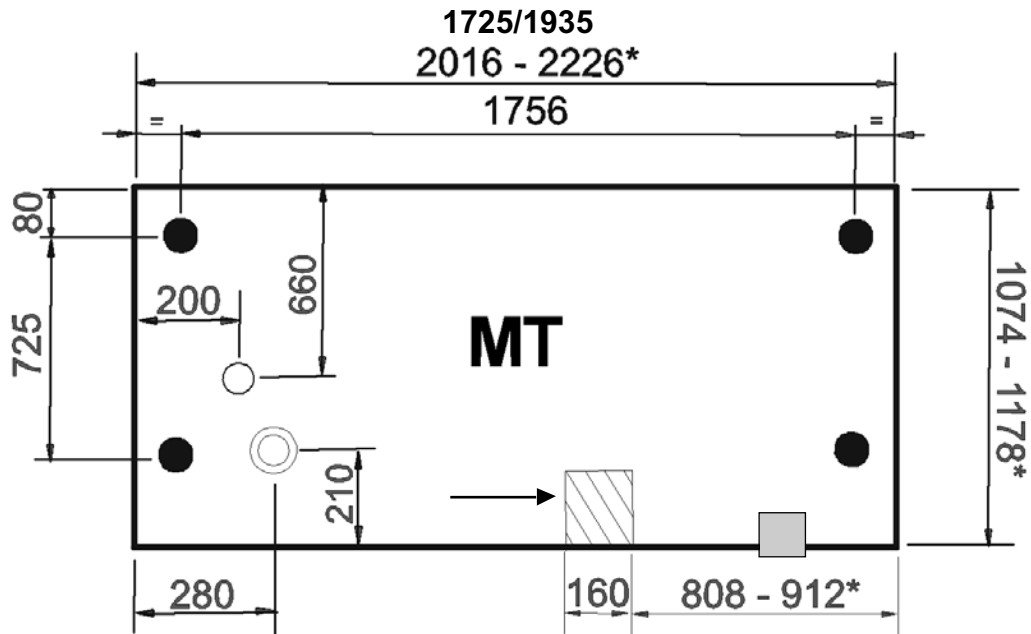
Blind endwall thickness = 51mm
 Glass endwall thickness = 70 mm

IMPORTANT: do not unscrew cabinet feet completely. The upper edge of the handrail must be 995 mm above ground.



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CONNECTION PLAN - TORTUGA END CABINET




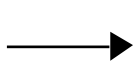
* -optional bumper rail

● feet

○ water drain outlet Ø40

⊙ refrigerating connection

 electrical board

 electrical board inlet

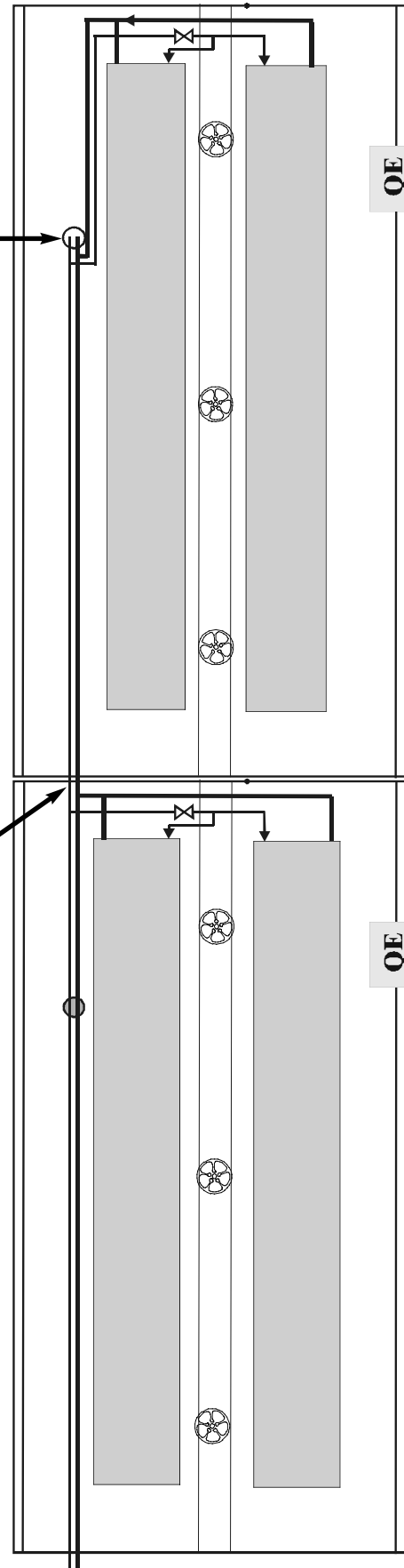
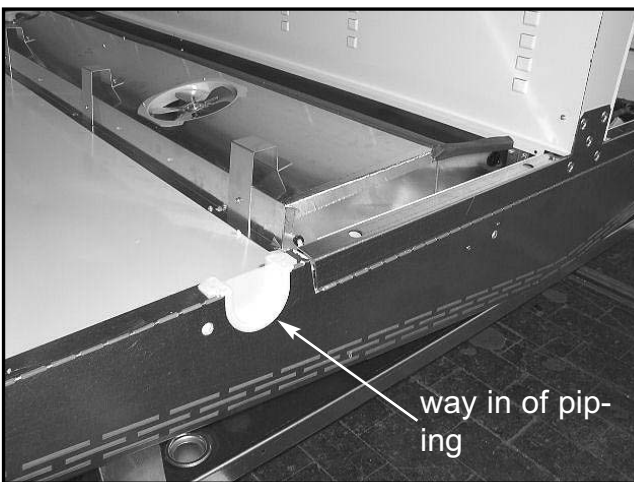
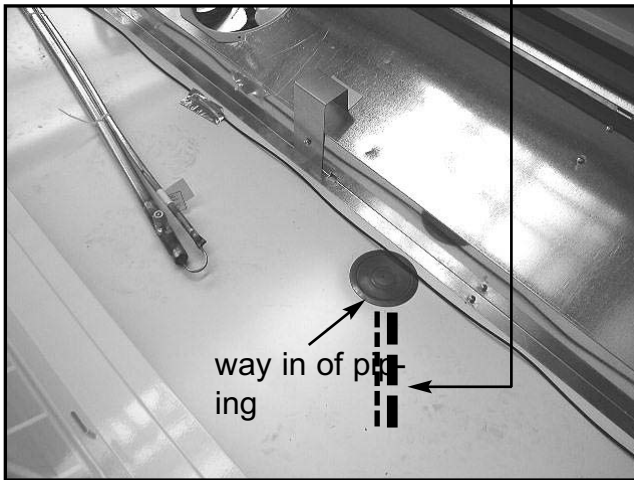
 controller EKC201C

IMPORTANT: do not unscrew cabinet feet completely. The upper edge of the handrail must be 995 mm above ground.

CONNECTION OF PIPES INSIDE THE BASE DECK

After sliding the pipes into the base deck, seal the hole again.

The suction pipe must be insulated just outside the cabinet. It is not necessary to insulate it inside the base deck.



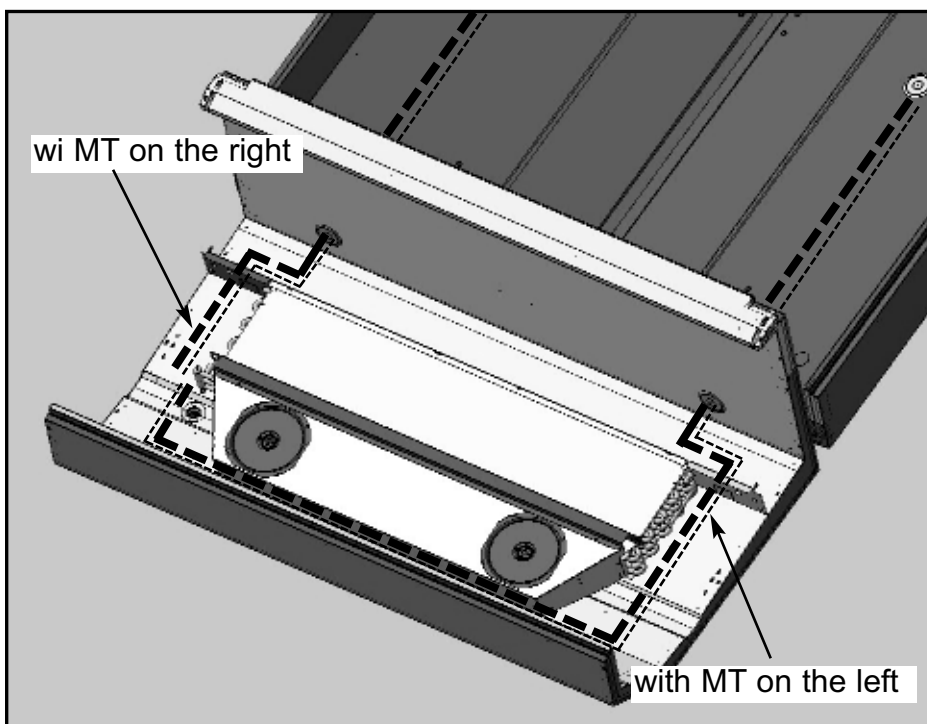
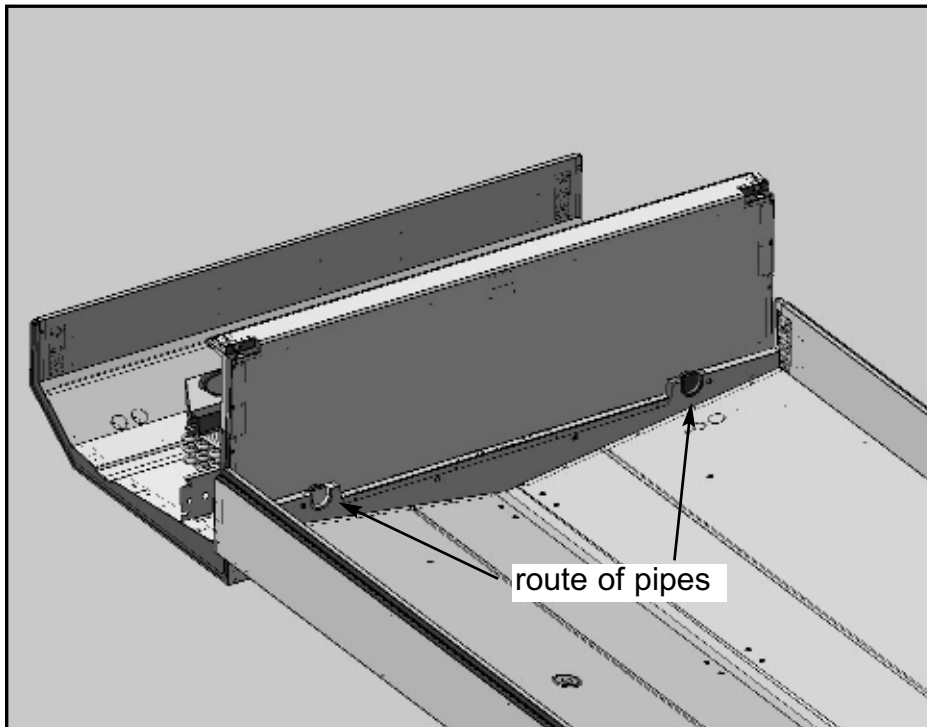
- discharge piping
- suction piping


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REFRIGERATING CONNECTION IN THE CHEST HEAD CASE

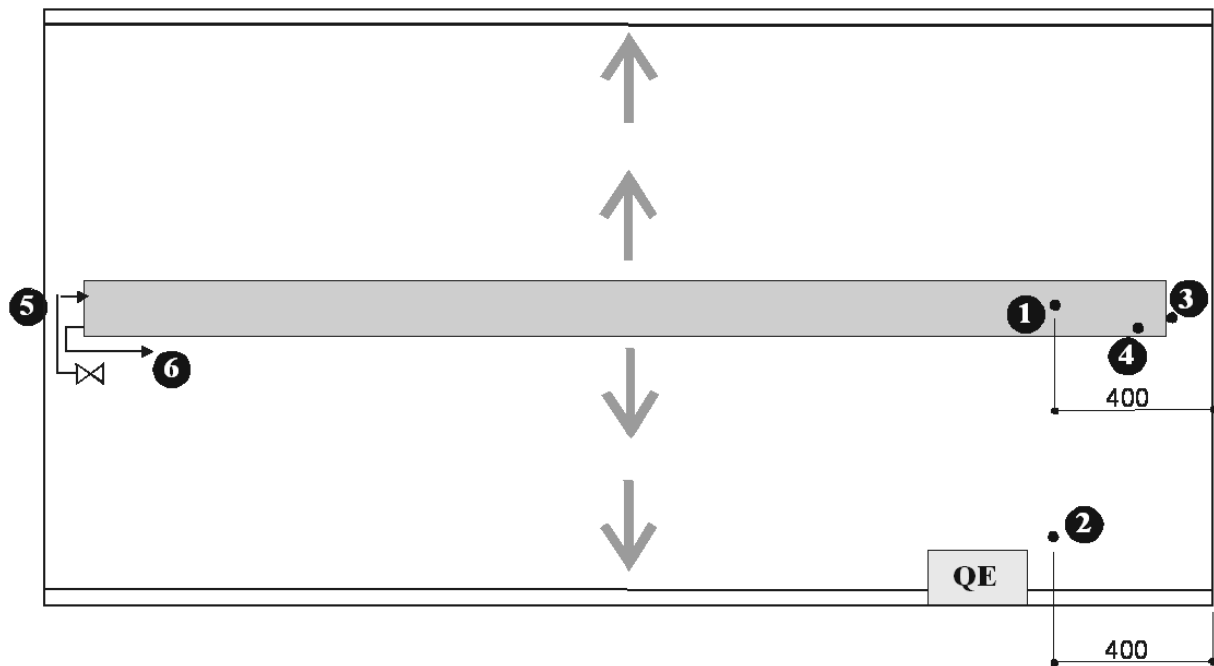
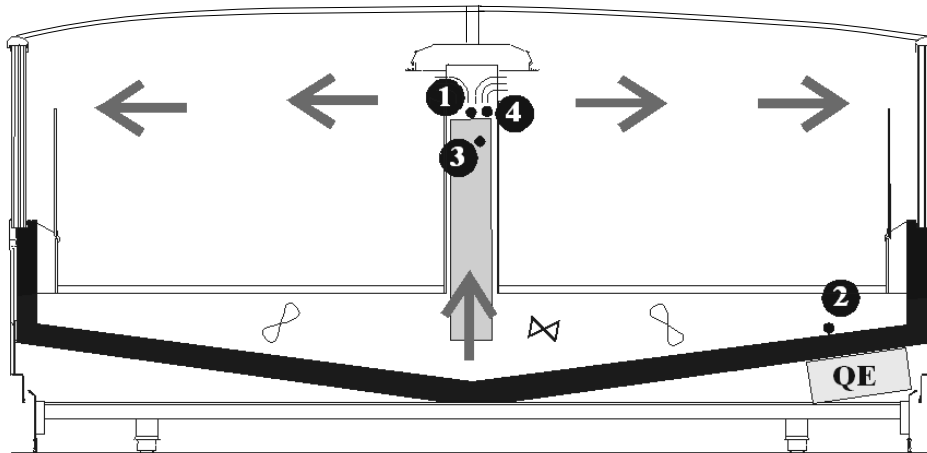
The route of pipes entering the cabinets is on the back of the cabinet, where the piping enters straight cabinets

As for the route of pipes between straight cabinets and MTs, follow the diagram below.




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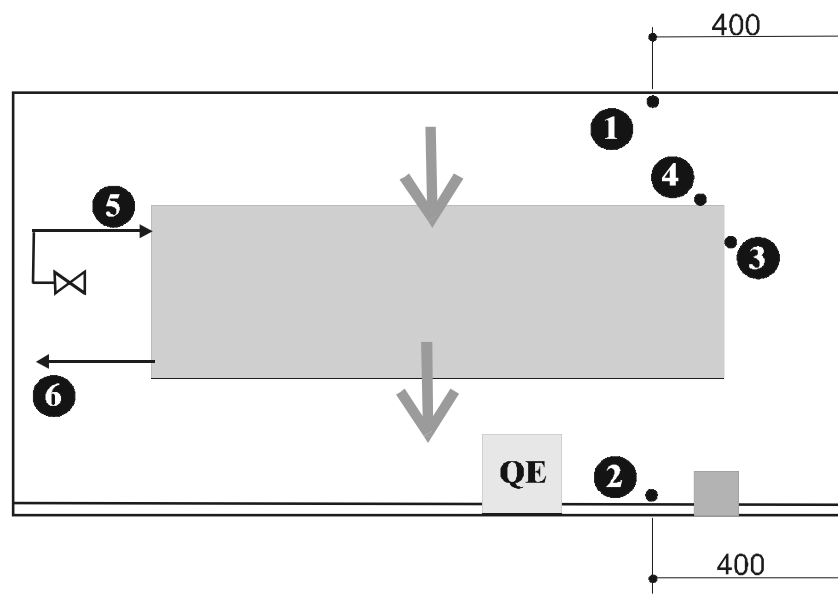
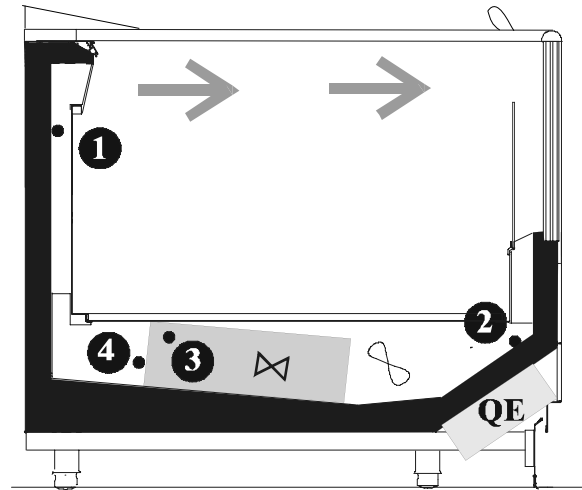
POSITION OF PROBES - STRAIGHT CABINETS




- ❶ air-outlet probe sensor (AO)
- ❷ air-inlet probe sensor (AR)
- ❸ defrost-end probe sensor (ED)
- ❹ safety thermostat
- ❺ evaporator in-going piping Ø10 mm . without thermostatic valve Ø12 mm
- ❻ evaporator out-going piping Ø20 mm

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POSITION OF PROBES - END CABINETS



- ❶ air-discharge probe sensor (AO)
- ❷ air-return probe sensor (AR)
- ❸ defrost-end probe sensor (ED)
- ❹ safety thermostat
- ❺ evaporator in-going piping Ø10 mm - without thermostatic valve Ø12 mm
- ❻ evaporator out-going piping Ø20 mm

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REQUIRED HEAT EXTRACTION RATE - ADJUSTMENT


EN ISO 23953-2005
CLA 3 : 25°C - 60% UR

M	C	T _o (°C)	Q (W) *					
			W/m		188	250	375	TG/MT
COSMOS 4 ECO	3L2	-34	410		775	1030	1540	510
GALAXIE 4 ECO	3L2	-34	390		735	975	1465	490

* Con luci spente/with lights switched off/avec éclairage éteint

S.L.C.									
M	C	Ctrl		Type	N/24 h	Def			
		Ci °C	Co °C			T°ter °C	t _d min	t _{egout} min	t _{ventil} min
COSMOS 4 ECO	3L2	-31	-32	Electric Electrique Elettrico	1	+5	30	2	0
GALAXIE 4 ECO	3L2	-31	-32		1	+5	30	2	0

t_d = defrost time / t_{egout} = drip time / t_{ventil} = fan-restart delay time

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HEAT EXTRACTION RATE VARIATION CONTINGENT ON ENVIRONMENTAL CLASS

CLA	Température bulbe sec	Humidité relative	Facteur de correction pour bilan thermique	Correction température d'évaporation	Dégivrage
	<i>Dry bulb temperature</i>	<i>Relative humidity</i>	<i>Correction factor for heat extraction rate</i>	<i>Evaporating temperature</i>	<i>Defrost</i>
	Temperatura bulbo secco	Umidità relativa	Fattore di correzione per la potenza frigorifera	Correzione della temperatura di evaporazione	Sbrinamento
	°C	%	Φ_o	T_o	N / 48h
2	22	65	(Φ_o CLA 3) x 0,96	Reference	1
3	25	60	Reference		1
4	30	55	(Φ_o CLA 3) x 1,08		1
6	27	70			

Ø DISCHARGE PIPING / SUCTION

FLUIDE FRIGORIGENE / REFRIGERANT / FLUIDO FRIGORIGENO											
M	Ø (mm) ASPIRATION SUCTION ASPIRAZIONE										Ø (mm) LIQUIDE LIQUID LIQUIDA
	2P	188	200	210	3P	250	4P	375	5P		
4 ECO		22		22		22		22			10




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**STRAIGHT CABINET
 PRINCIPLE OF OPERATION**

	NORMAL OPERATION	DEFROSTING	DRIPPING (2 min)	NORMAL OPERATION
FANS	ON	ON	ON	ON
OFF	OFF	OFF	OFF	OFF
EVAPORATOR HEATER	ON	OFF	OFF	ON
OFF	OFF	ON	ON	OFF
AIR-RETURN HEATER	ON	OFF	OFF	ON
OFF	OFF	ON	ON	OFF
SOLENOID	ON	OFF	OFF	ON
OFF	OFF	ON	ON	OFF
DRIP-TRAY HEATER	ON	OFF	OFF	ON
OFF	OFF	ON	ON	OFF
DRIPPING	ON	ON	OFF	ON
OFF	OFF	OFF	ON	OFF

**END CABINET
 PRINCIPLE OF OPERATION**

	NORMAL OPERATION	DEFROSTING	NORMAL OPERATION
FANS	ON	ON	ON
OFF	OFF	OFF	OFF
DRIP-TRAY EVAPOR. HEATER	ON	OFF	ON
OFF	OFF	ON	OFF
AIR-RETURN HEATER	ON	OFF	ON
OFF	OFF	ON	OFF
SOLENOID	ON	OFF	ON
OFF	OFF	ON	OFF


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ELECTRICAL INPUT

MODELS	Length	Energy saving fans					Antimist heaters					Lighting																							
												Fluo lamps			Led lamps																				
							To add with right glass end wall		To add with left glass end wall			Handrail			Handrail			Counter																	
		230 Vac mono 50 Hz																																	
	Nr	W	A	W	A	W	A	W	A	W	A	Nr	W	A	●	Nr	W	A	Nr	W	A														
COSMOS 4 ECO	188	4	24	0,12	202	0,9	51	0,22	51	0,22	4	84	0,41	a	4	57	0,28	4	57	0,28	b	4	35	0,17	4	35	0,17	c	4	48	0,23	4	48	0,23	
		a	4	79	0,38	4	79	0,38	b	4	48	0,23	4	48	0,23	c	4	62	0,30	4	62	0,30													
		a	6	119	0,57	6	119	0,57	b	6	73	0,35	6	73	0,35	c	6	93	0,45	6	93	0,45													
	250	4	24	0,12	249	1,1	51	0,22	51	0,22	4	112	0,54	a	2	29	0,14	2	29	0,14	b	2	18	0,09	2	18	0,09	c	2	24	0,12	2	24	0,12	
		a	4	79	0,38	4	79	0,38	b	4	48	0,23	4	48	0,23	c	4	62	0,30	4	62	0,30													
		a	6	119	0,57	6	119	0,57	b	6	73	0,35	6	73	0,35	c	6	93	0,45	6	93	0,45													
	375	6	36	0,17	360	1,6	51	0,22	51	0,22	6	168	0,81	a	2	20	0,10	2	20	0,10	b	2	13	0,06	2	13	0,06	c	2	17	0,08	2	17	0,08	
		a	4	57	0,28	4	57	0,28	b	4	35	0,17	4	35	0,17	c	4	48	0,23	4	48	0,23													
		a	4	79	0,38	4	79	0,38	b	4	48	0,23	4	48	0,23	c	4	62	0,30	4	62	0,30													
	End of Line	2	14	0,07	166	0,7						2	42	0,20	a	6	119	0,57	6	119	0,57	b	6	73	0,35	6	73	0,35	c	6	93	0,45	6	93	0,45
		a	2	29	0,14	2	29	0,14	b	2	18	0,09	2	18	0,09	c	2	24	0,12	2	24	0,12													
		a	4	57	0,28	4	57	0,28	b	4	35	0,17	4	35	0,17	c	4	48	0,23	4	48	0,23													
GALAXIE 4 ECO	188	4	24	0,12	202	0,9	49	0,21	49	0,21	4	84	0,41	a	4	57	0,28	4	57	0,28	b	4	35	0,17	4	35	0,17	c	4	48	0,23	4	48	0,23	
		a	4	79	0,38	4	79	0,38	b	4	48	0,23	4	48	0,23	c	4	62	0,30	4	62	0,30													
		a	6	119	0,57	6	119	0,57	b	6	73	0,35	6	73	0,35	c	6	93	0,45	6	93	0,45													
	250	4	24	0,12	249	1,1	49	0,21	49	0,21	4	112	0,54	a	2	20	0,10	2	20	0,10	b	2	13	0,06	2	13	0,06	c	2	17	0,08	2	17	0,08	
		a	4	79	0,38	4	79	0,38	b	4	48	0,23	4	48	0,23	c	4	62	0,30	4	62	0,30													
		a	6	119	0,57	6	119	0,57	b	6	73	0,35	6	73	0,35	c	6	93	0,45	6	93	0,45													
	375	6	36	0,17	360	1,6	49	0,21	49	0,21	6	168	0,81	a	2	20	0,10	2	20	0,10	b	2	13	0,06	2	13	0,06	c	2	17	0,08	2	17	0,08	
		a	4	57	0,28	4	57	0,28	b	4	35	0,17	4	35	0,17	c	4	48	0,23	4	48	0,23													
		a	4	79	0,38	4	79	0,38	b	4	48	0,23	4	48	0,23	c	4	62	0,30	4	62	0,30													
	End of Line	2	14	0,07	157	0,7						2	26	0,13	a	6	119	0,57	6	119	0,57	b	6	73	0,35	6	73	0,35	c	6	93	0,45	6	93	0,45
		a	2	29	0,14	2	29	0,14	b	2	18	0,09	2	18	0,09	c	2	24	0,12	2	24	0,12													
		a	4	57	0,28	4	57	0,28	b	4	35	0,17	4	35	0,17	c	4	48	0,23	4	48	0,23													

MODELS	Length	Defrost								
		hot gas			Electrical					
				230V mono			230V mono	230V tri	400V tri	
		Nr	W	A	Nr	W	A	A	A	A
COSMOS 4 ECO	188	2	1326	5,8	5	2649	11,5	6,6	3,8	
	250	2	1795	7,8	5	3603	15,7	9,0	5,2	
	375	2	2758	12,0	5	5479	23,8	13,8	7,9	
	End of Line	1	542	2,4	3	1967	8,6	4,9	2,8	
GALAXIE 4 ECO	188	2	1326	5,8	5	2649	11,5	6,6	3,8	
	250	2	1795	7,8	5	3603	15,7	9,0	5,2	
	375	2	2758	12,0	5	5479	23,8	13,8	7,9	
	End of Line	1	441	1,9	3	1618	7,0	4,1	2,3	

●	a : LED Advance range color 4100 K
	b : LED Advance range color 5700 K
	c : LED Value range color 4100 K

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THERMOSTATIC VALVE FEATURES



H-

CARACTERISTIQUES DETENDEURS THERMOSTATIQUES MARQUE DANFOSS - SANS MOP - GAMME B - AVEC ADAPTATEUR A BRASER

*THERMOSTATIC EXPANSION VALVES REQUIREMENTS TRADE MARK DANFOSS -
WITHOUT MOP - RANGE B - WITH BRAZING ADAPTER*

CARATTERISTICHE DELLA VALVOLA TERMOSTATICA TIPO DANFOSS - SENZA MOP - GAMMA B - CON
ADATTATORE A BRASARE

Règles de sélection :

- puissance frigorifique utile et température d'évaporation en chambre d'essai à 25 °C 60% HR classe 3;
- pression de condensation correspondant à la température à + 35 °C ;
- sous-refroidissements de 10 K / 30 K.

Selection rules :

- useful refrigeration capacity and test room evaporation temperature of 25 °C. 60% RH class 3;
- condensation pressure corresponding to temperature of + 35 °C ;
- subcoolings 10 K / 30 K.

Regole di selezione:

- Potenza frigorifera utile e temperatura di evaporazione in camera di prova a 25 °C 60% UR classe 3;
- Pressione di condensazione corrispondente alla temperatura di +35 °C;
- Sottoraffreddamenti di 10 K / 30 K.

		R404A			
		Gamme Range Gamma - B			
		10 K		30 K	
M	L	TYPE MODEL TIPO	ORIFICE ORIFICE ORIFICIO	TYPE MODEL TIPO	ORIFICE ORIFICE ORIFICIO
COSMOS 4 ECO	188	TES2	01	TES2	00
	250		01		01
	375		02		01
	TG/MT		00		0X
GALAXIE 4 ECO	188		01		00
	250		01		01
	375		02		01
	TG/MT		00		0X

Les données frigorifiques sont établies pour des meubles ayant des détendeurs réglés pour obtenir une surchauffe de l'ordre de 5 K

The data are given for cabinets having expansion valves adapted for having a superheat temperature of 5 K.

I dati frigoriferi fanno riferimento ai mobili con valvola termostatica regolata per avere un surriscaldamento di 5K.

ORD.	DATE	ORD.	DATE
A		D	
B		E	
C		F	


CARACTERISTIQUES DETENDEURS ELECTRONIQUES MARQUE DANFOSS
H-
ELECTRONIC EXPANSION VALVES REQUIREMENTS TRADE MARK DANFOSS
CARATTERISTICHE DELLA VALVOLA ELETTRONICA MARCA DANFOSS
Règles de sélection :

- puissance frigorifique utile et température d'évaporation en chambre d'essai à 25 °C 60% HR classe 3 ;
- pression de condensation correspondant à la température de + 35 °C ;
- sous-refroidissement de 10 K / 30 K ;
- prise en compte de la surcapacité de 60% et du degré d'ouverture de la vanne compris entre 50 et 75% maxi conseillés par DANFOSS.

Selection rules :

- useful refrigeration capacity and test room evaporation temperature of 25 °C 60% RH class 3 ;
- condensation pressure corresponding to temperature of + 35 °C ;
- subcooling 10 K / 30 K ;
- provision for 60% of overcapacity and valve opening between 50 and 75% max as recommended by DANFOSS.

Regole di selezione :

- potenza frigorifera utile alla temperatura d'evaporazione in camera di prova a 25°C 60%UR classe3;
- pressione di condensazione corrispondente alla temperatura di 35°C;
- sottoraffreddamento 10 K / 30 K;
- sovra capacità del 60% e grado di apertura compreso tra 50 e 75% massimo consigliato da DANFOSS.

		R404A			
M	L	TYPE MODEL TIPO	ORIFICE ORIFICE ORIFICIO		
			Sous-refroidissement Subcooling Sottoraffreddamento		
				10 K	30 K
COSMOS 4 ECO	188	AKV 10	2	2	
	250		2	2	
	375		3	3	
	TG/MT		1	1	
GALAXIE 4 ECO	188		2	2	
	250		2	2	
	375		3	3	
	TG/MT		1	1	

Les données frigorifiques sont établies pour des meubles ayant des détendeurs réglés pour obtenir une surchauffe de l'ordre de 5 K

The data are given for cabinets having expansion valves adapted for having a superheat temperature of 5 K.

I dati frigoriferi fanno riferimento ai mobili con valvola termostatica regolata per avere un surriscaldamento di 5K.

ORD.	DATE	ORD.	DATE
A		D	
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C		F	



EEV - R744 - Danfoss

H-

CARACTERISTIQUES DETENDEURS ELECTRONIQUES MARQUE DANFOSS
ELECTRONIC EXPANSION VALVES REQUIREMENTS TRADE MARK DANFOSS
CARATTERISTICHE DELLA VALVOLA ELETTRONICA MARCA DANFOSS

Règles de sélection:

- « puissance frigorifique utile et température d'évaporation en chambre d'essai à 25 °C 60% HR classe 3;
- « pression de condensation correspondant à la température de -7 °C;
- « sous-refroidissement de 4 K;
- « prise en compte de la surcapacité de 60% (3L3) et du degré d'ouverture de la vanne compris entre 50 et 75% maxi conseillés par DANFOSS

Selection rules:

- « useful refrigeration capacity and test room evaporation temperature of 25 °C 60% RH class 3;
- « condensation pressure corresponding to temperature of -7 °C;
- « subcooling 4 K;
- « provision for 60% of overcapacity (3L3) and valve opening between 50 and 75% max as recommended by DANFOSS.

Regole di selezione:


- « potenza frigorifera utile e temperatura di evaporazione in camera di prova a 25 °C 60% UR classe 3;
- « pressione di condensazione corrispondente alla temperatura di -7°C;
- « sottoraffreddamento 4 K;
- « sovra capacità del 60% (3L3) e grado di apertura compreso tra 50 e 75% massimo consigliato da DANFOSS.

		R744 subcritical application	
		3L2	
Model	L	TYPE MODEL TIPO	ORIFICE ORIFICE ORIFICIO
COSMOS 4 ECO	188	AKV10	1
	250		1
	375		2
	TG/MT		1
GALAXIE 4 ECO	188		1
	250		1
	375		2
	TG/MT		1

Les données frigorifiques sont établies pour des meubles ayant des détendeurs réglés pour obtenir une surchauffe de l'ordre de 5K

The data are given for cabinets having expansion valves adapted for having a superheat temperature of 5K.

I dati frigoriferi fanno riferimento ai mobili con valvola termostatica regolata per avere un surriscaldamento di 5K.

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		ORD.	DATE	ORD.	DATE		
CABINET: TORTUGA - CHAP. N° 8 DOC. N° QSM000318E CHAPTER: WIRING DIAGRAMS		A		D		DATE OF 1st ISSUE: 04.Aug.06	
		B		E			
		C		F			



EEV - R744 CAREL E2V

EC11-9

CARACTERISTIQUES DETENDEURS ELECTRONIQUES MARQUE CAREL ELECTRONIC EXPANSION VALVES REQUIREMENTS TRADE MARK CAREL CARATTERISTICHE DELLA VALVOLA ELETTRONICA MARCA CAREL

Règles de sélection:

- ⚡ puissance frigorifique utile et température d'évaporation en chambre d'essai à 25 °C 60% HR classe 3;
- ⚡ pression de condensation correspondant à la température de -7 °C;
- ⚡ sous-refroidissement de 4 K.

Selection rules:

- ⚡ useful refrigeration capacity and test room evaporation temperature of 25 °C 60% RH class 3;
- ⚡ condensation pressure corresponding to temperature of -7 °C;
- ⚡ subcooling 4 K.

Regole di selezione:

- ⚡ potenza frigorifera utile e temperatura di evaporazione in camera di prova a 25 °C 60% UR classe 3;
- ⚡ pressione di condensazione corrispondente alla temperatura di -7°C;
- ⚡ sottoraffreddamento 4 K.

		R744 subcritical application	
		3L2	
M	L	TYPE	
		MODEL TIPO	
COSMOS 4 ECO	188	E2V05	
	250	E2V05	
	375	E2V05	
	TG/MT	E2V05	
GALAXIE 4 ECO	188	E2V05	
	250	E2V05	
	375	E2V05	
	TG/MT	E2V05	

Les données frigorifiques sont établies pour des meubles ayant des détendeurs réglés pour obtenir une surchauffe de

The data are given for cabinets having expansion valves adapted for having a superheat temperature of 5 K.

I dati frigoriferi fanno riferimento ai mobili con valvola termostatica regolata per avere un surriscaldamento di 5K.

ORD.	DATE	ORD.	DATE
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EEV - R404A CAREL E2V

EC11-9

CARACTERISTIQUES DETENDEURS ELECTRONIQUES MARQUE CAREL
ELECTRONIC EXPANSION VALVES REQUIREMENTS TRADE MARK CAREL
CARATTERISTICHE DELLA VALVOLA ELETTRONICA MARCA CAREL

Règles de sélection:

- _ puissance frigorifique utile et température d'évaporation en chambre d'essai à 25 °C 60% HR classe 3;
- _ pression de condensation correspondant à la température de +35 °C;
- _ sous-refroidissement de 10 K / 30 K.

Selection rules:

- _ useful refrigeration capacity and test room evaporation temperature of 25 °C 60% RH class 3;
- _ condensation pressure corresponding to temperature of +35°C;
- _ subcooling 10 K / 30 K.

Regole di selezione:


- _ potenza frigorifera utile e temperatura di evaporazione in camera di prova a 25 °C 60% UR classe 3;
- _ pressione di condensazione corrispondente alla temperatura di +35°C;
- _ sottoraffreddamento 10 K / 30 K.

		R404A	
		Sous-refroidissement <i>Subcooling</i> Sottoraffreddamento	
		10 K	30 K
M	L	TYPE MODEL TIPO	TYPE MODEL TIPO
COSMOS 4 ECO	188	E2V05	E2V05
	250	E2V05	E2V05
	375	E2V09	E2V05
	TG/MT	E2V05	E2V05
GALAXIE 4 ECO	188	E2V05	E2V05
	250	E2V05	E2V05
	375	E2V09	E2V05
	TG/MT	E2V05	E2V05

Les données frigorifiques sont établies pour des meubles ayant des détendeurs réglés pour obtenir une surchauffe de

The data are given for cabinets having expansion valves adapted for having a superheat temperature of 5 K.

I dati frigoriferi fanno riferimento ai mobili con valvola termostatica regolata per avere un surriscaldamento di 5K.

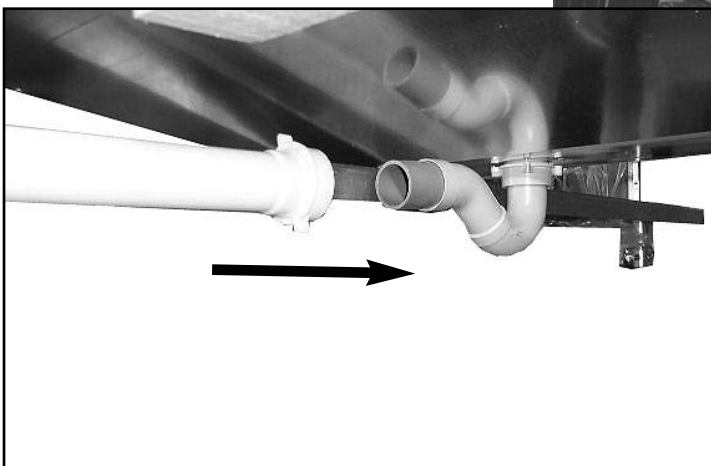
 TECHNICAL DOCUMENTATION	CHAPTER REVISION STATUS				SIGNED IN CONFORMITY WITH APPROVED ORIGINAL	PAGE: 1/1
	ORD.	DATE	ORD.	DATE		
CABINET: TORTUGA - CHAP. N° 9.1 DOC. N° QSM000318E CHAPTER: CABINET HANDLING	A		D			DATE OF 1st ISSUE: 04.Aug.06
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CABINET HANDLING

To handle these cabinets it is necessary to use fork-lift trucks equipped with extended forks. The cabinet must be hoisted as shown in the photos. Insert the forks under the stringers aimed for protection, which are under the cabinet.




CAUTION: while handling the cabinet, mind the U-trap underneath, which could be damaged by mishandling



The cabinet is attached a 50 cm long piece of pipe (diameter 40) that needs to be mounted on the U-trap at the time of installation.

When installing, check that the U-trap is correctly inserted in the flange/basket at the bottom of the cabinet. Note: when positioning the pipe on the U-trap, it is advisable to inspect the same.

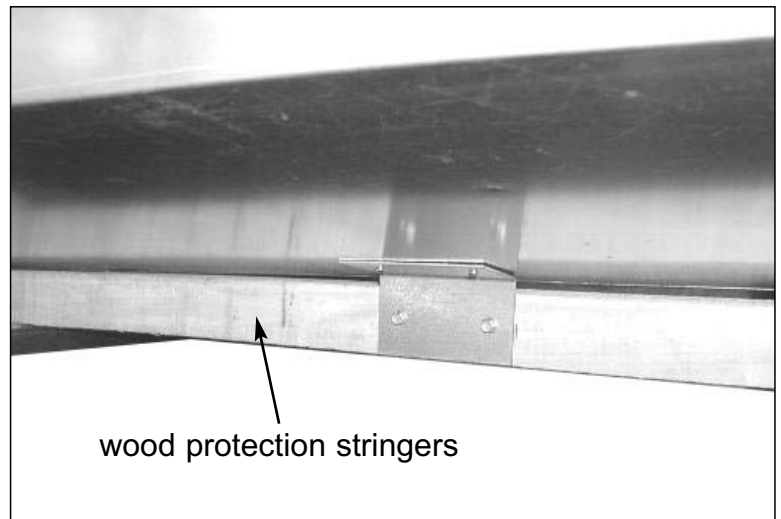
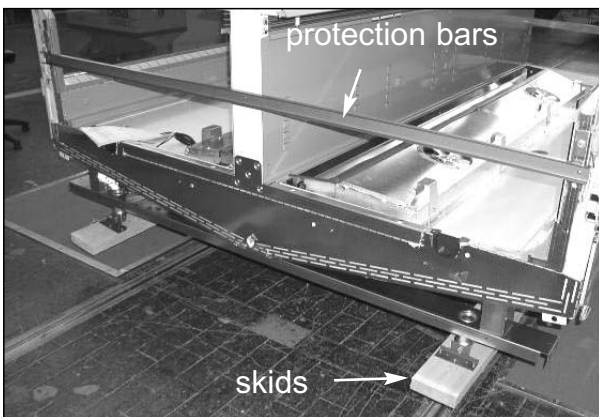
	TECHNICAL DOCUMENTATION	CHAPTER REVISION STATUS				SIGNED IN CONFORMITY WITH APPROVED ORIGINAL	PAGE: 1/10
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CABINET: TORTUGA - CHAP. N° 10 DOC. N° QSM000318E CHAPTER: CABINET MULTIPLEXING		A		D		DATE OF 1st ISSUE: 04.Aug.06	
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CABINET MULTIPLEXING

UNPACK THE CABINETS

Remove the side bars that are meant to protect the cabinet during transportation as well as the wood skids. Remove the wood stringers located under the cabinet, which are meant to protect this during transportation (see photo).

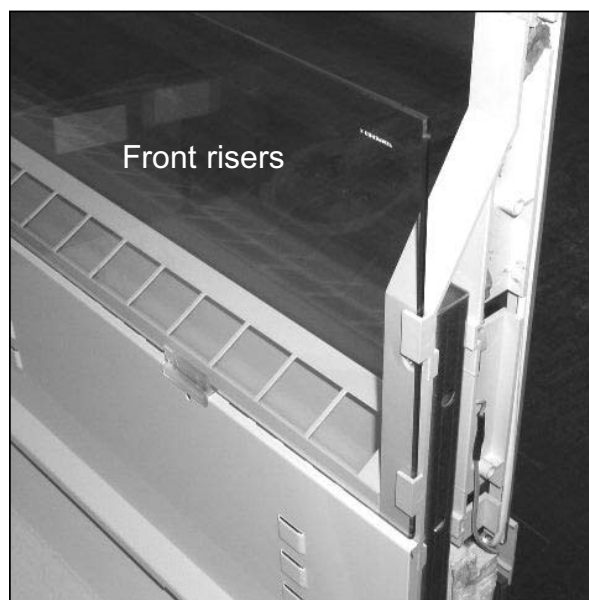
Unpack the cabinets with the utmost care to avoid scratching or denting.



WHERE NECESSARY, INSTALL THE ELECTRICAL BOARD AS INDICATED IN CHAPTER 11.1.

REMOVE FRONT RISERS, BOTTOM PLATES AND COUNTER COVER

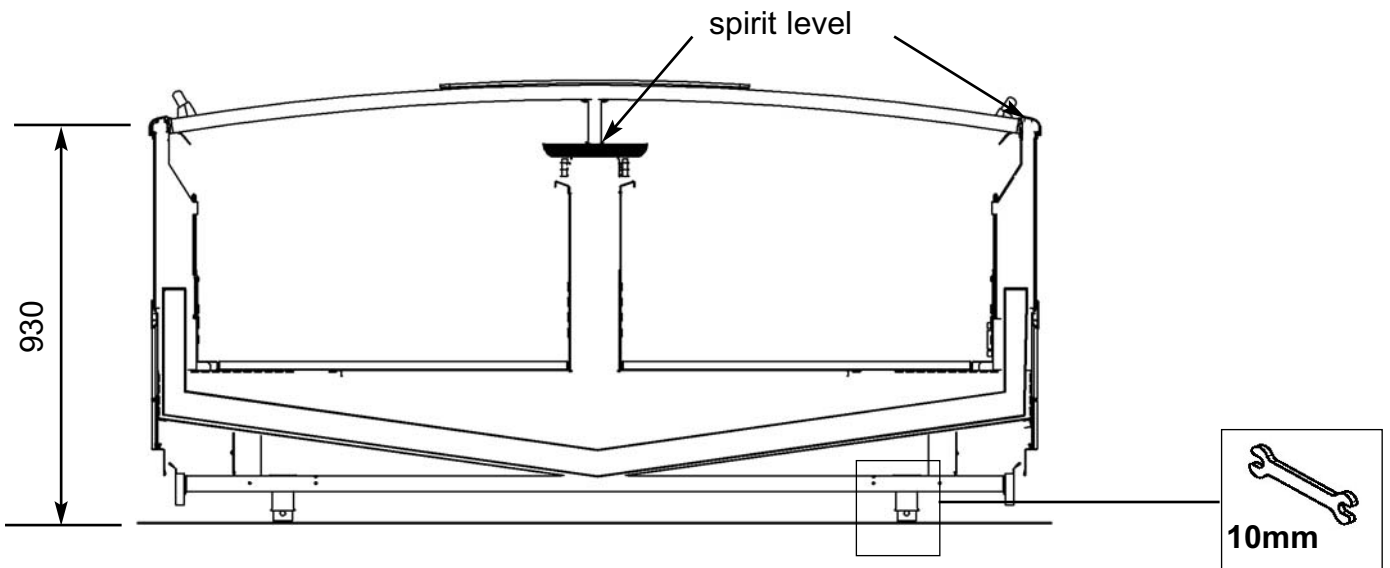
Remove front risers from the cabinet side to be multiplexed. Remove the bottom plates.



PLACE THE FIRST CABINET

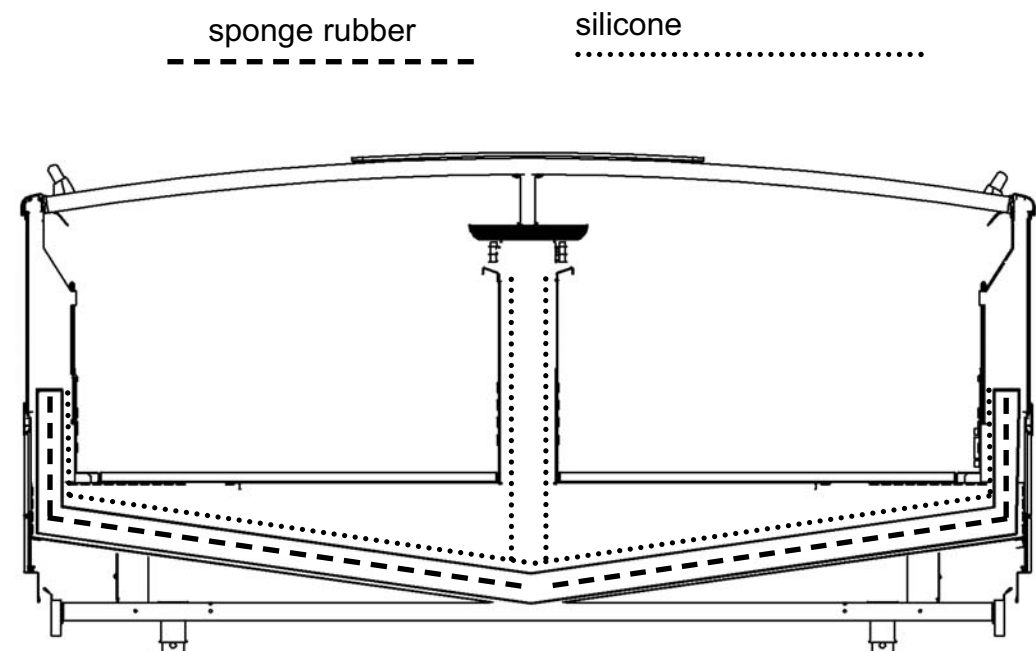
Bring the cabinet wherever this is to be installed. **When mutiplexing includes an end cabinet, position the end cabinet first. Check that it is level** both crossways and lengthwise by the use of a spirit level. Level the cabinet by a 10mm wrench.

CAUTION: do not fully unscrew the feet of the cabinet. The cabinet is delivered, the feet are NOT IN THEIR FINAL POSITION; the height of the cabinet is bigger then design height. This is why, when installing, it is necessary to alter the height of feet in order for the upper edge of the handrail to be **930mm high**



APPLY SPONGE RUBBER AND SILICONE

Apply sponge rubber and a smooth seam of silicone onto the side of one of the cabinets to be multiplexed following the instructions in the figure.

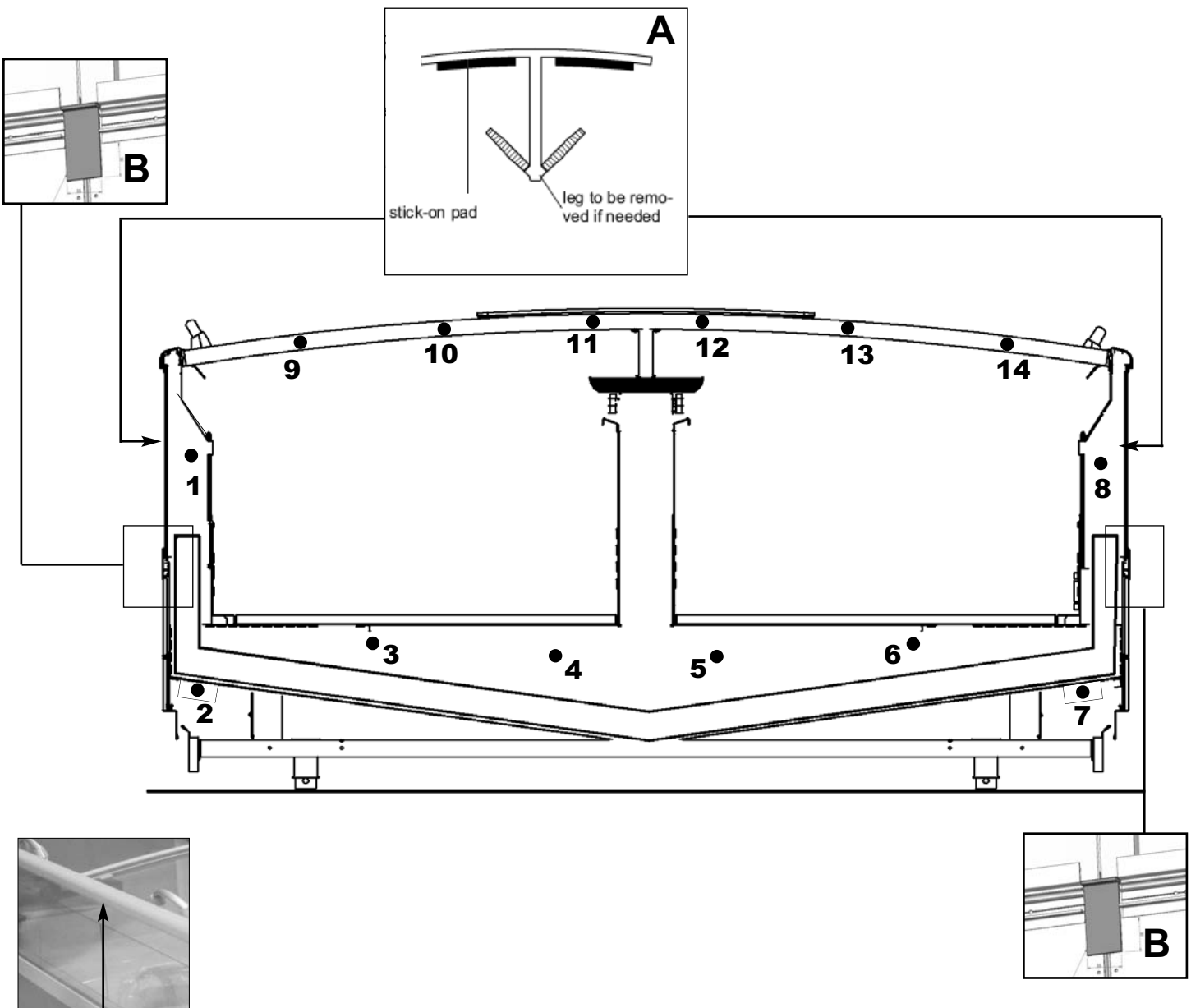


BRING THE CABINETS TOGETHER AND JOIN THEM


Before bringing the cabinets near each other **place the front glazing joint covers (A) and the bumper rail joint covers (B) for the counter alignment** onto one of the cabinets to be multiplexed. Bring the cabinets near each other and check their levelness. Then join them following the sequence below:

- A) points 3-4-5-6 by hex-head screws M8x90;
- B) points 2-7 by hex-head screws M8x55 and the respective nuts;
- C) points 1-8 by hex-head screws M8x55 and the respective nuts.
- D) points 9-10-11-12-13-14-15 by hexagon socket thin head cap screws M4x30

Note: The front glazing joint covers can be also installed after the multiplexing. In this case, remove the leg and use the stick-on pad to fix the joint covers on the glazing.



For best alignment between the glazing of straight cabinets and end cabinets, use the embedded plastic "all-purpose" handrail pieces when multiplexing the cabinets. Place them on their respective supports when it comes to aligning the glazings. Once the cabinets have been multiplexed, remove the "all-purpose" handrail-piece, which will later be used for the assembly of handrails, as explained further on in this document.

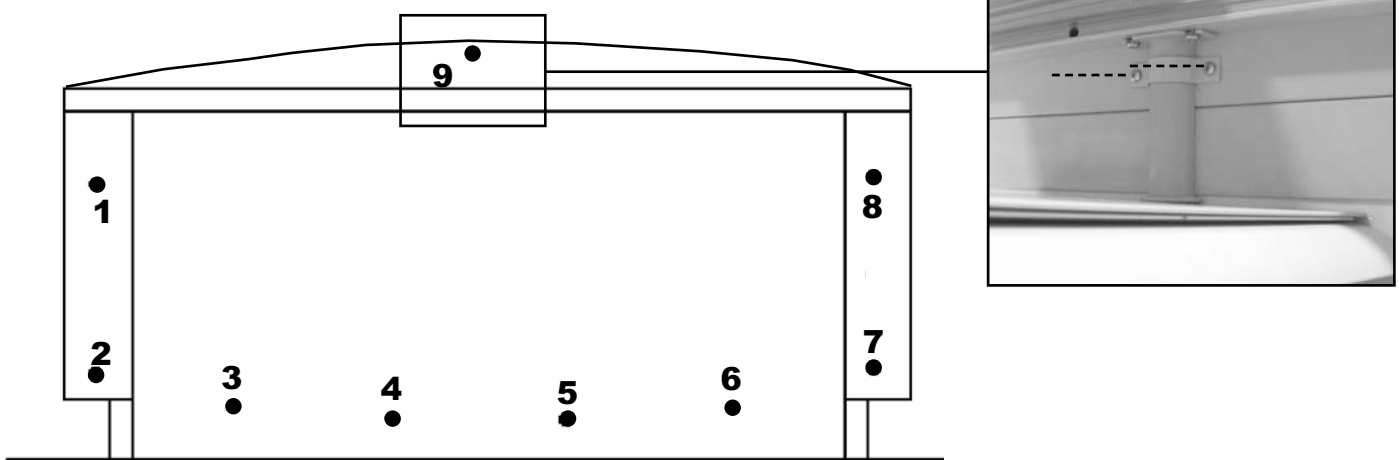
 TECHNICAL DOCUMENTATION	CHAPTER REVISION STATUS				SIGNED IN CONFORMITY WITH APPROVED ORIGINAL	PAGE: 4/10
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CABINET: TORTUGA - CHAP. N° 10 DOC. N° QSM000318E CHAPTER: CABINET MULTIPLEXING	A		D			DATE OF 1st ISSUE: 04.Aug.06
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JOINING A STRAIGHT CABINET TO A END CABINET

When multiplexing straight cabinets with an end cabinet, bring the cabinets close to each other, check their levelness and then join them following the sequence below: A) points 3-4-5-6 by hex-head screws M6x55 and the respective nuts; B) points 2-7 by hex-head screws M6x55 and the respective nuts; C) points 1 and 8 woods for wood 5x50; point 9 by two self-tapping screw.

IMPORTANT: When mutiplexing includes an end cabinet, position the end cabinet first. Check that it is level both crossways and lengthwise by the use of a spirit level

MOBILE DI TESTA



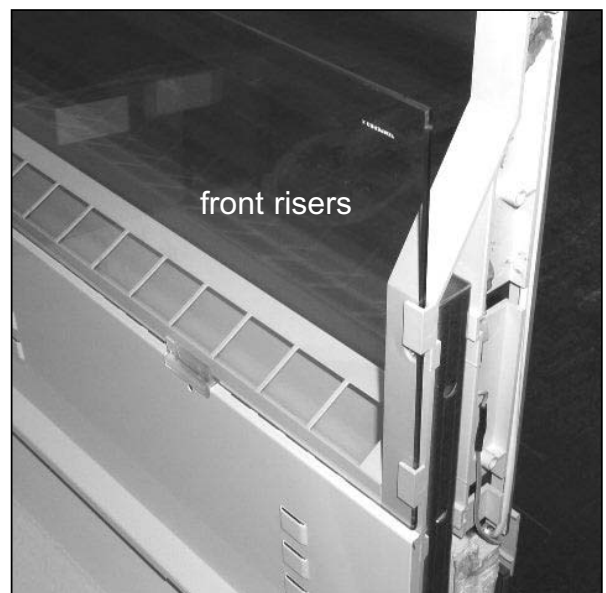
PLACE SCREW CAPS


When the cabinets have been joined, place screw caps on the linear cabinets, in points 1 and 10.



PUT FRONT RISERS BACK IN PLACE

Put the previously removed front risers back in place.



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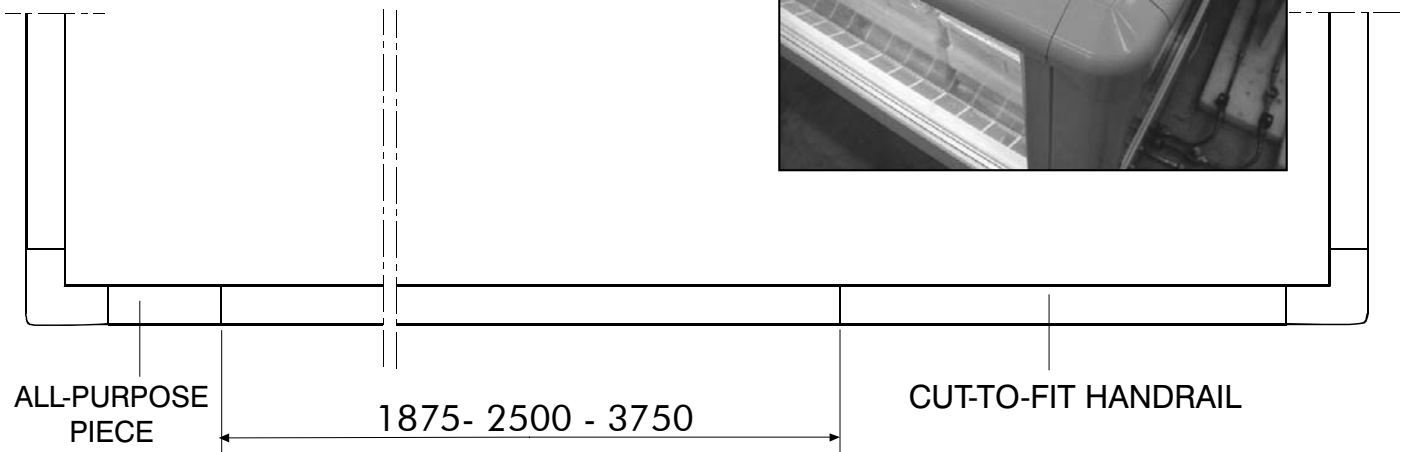
INSTALL HANDRAILS

Side handrails and corner pieces are factory-assembled. **The side handrails of end cabinets are mounted on the cabinet instead. This is why it is necessary to remove them prior to executing the steps described below for the "all purpose" handrail piece.**

To enable a perfect alignment of the handrails on the front of multiplexed cabinets, some pieces of the effective cabinet length (1880, 2500 or 3750 mm) plus an all-purpose piece are attached.

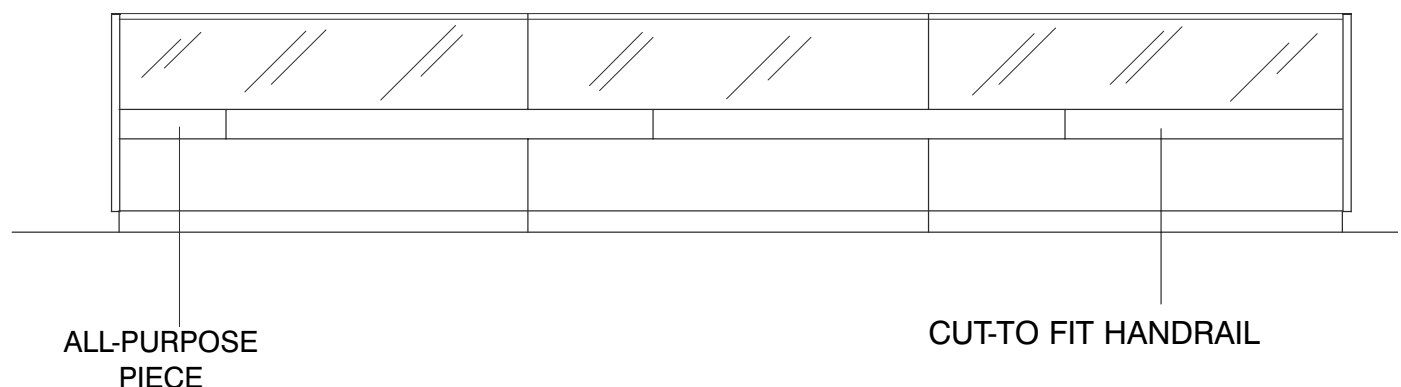
Before being mounted, the handrails need to be properly cooled inside the base deck of the cabinet for some time.


Then place the all-purpose handrail flush to one of the corner pieces on the profiles, and then all the others but the last likewise. Determine the remaining length, cut the last handrail to fit and install it on the profile.



PLACE THE INTEGRAL BUMPER RAIL

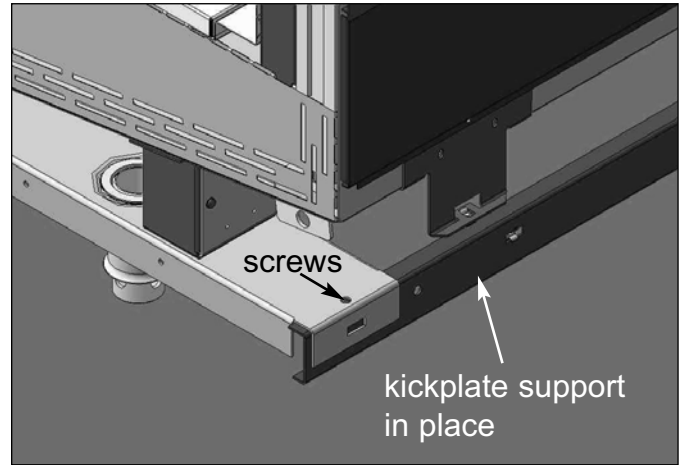
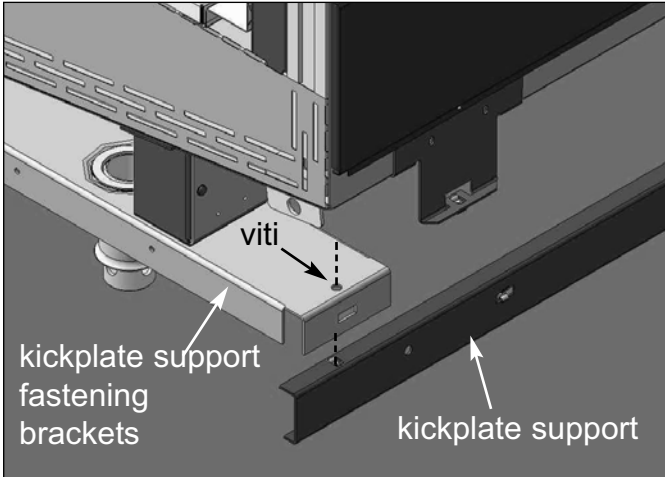
To enable a perfect alignment of the plastic bumper rails integral with the cabinet, an extra "all-purpose" piece, which is to be used to bring bumper rails back or forward. Mount the all-purpose handrail flush to one of the endwalls on the supports, and then all the others but the last likewise. Determine the remaining length, trim the last bumper rail to fit and secure it to the support.



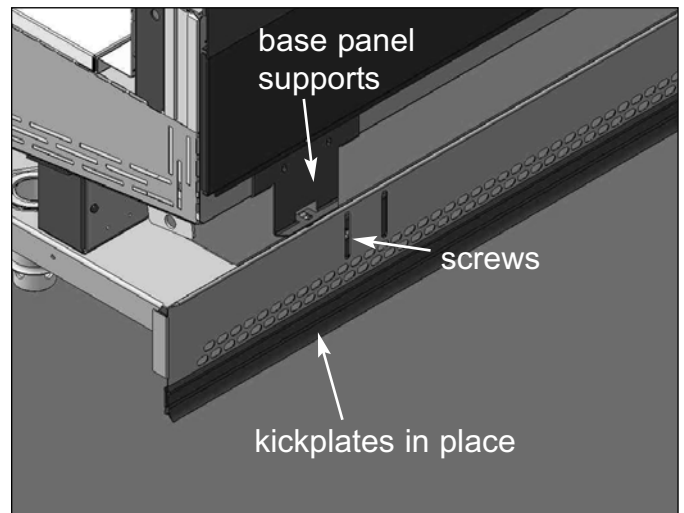
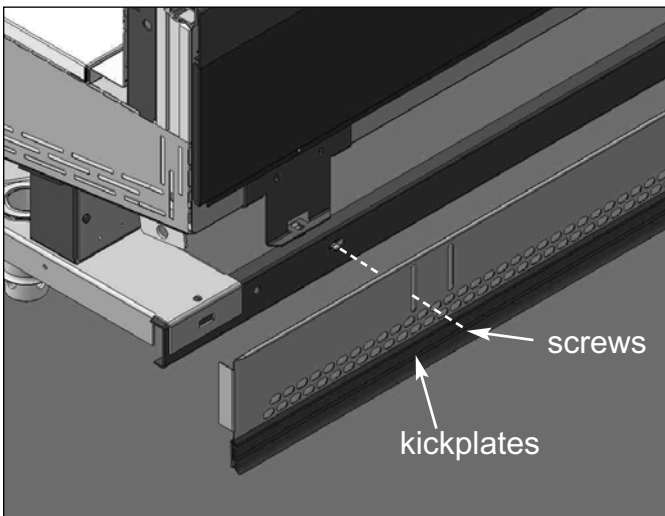
 TECHNICAL DOCUMENTATION	CHAPTER REVISION STATUS				SIGNED IN CONFORMITY WITH APPROVED ORIGINAL	PAGE: 6/10
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CABINET: TORTUGA - CHAP. N° 10 DOC. N° QSM000318E CHAPTER: CABINET MULTIPLEXING	A		D			DATE OF 1st ISSUE: 04.Aug.06
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	C		F			

INSTALL THE BASE PANEL AND KICKPLATES

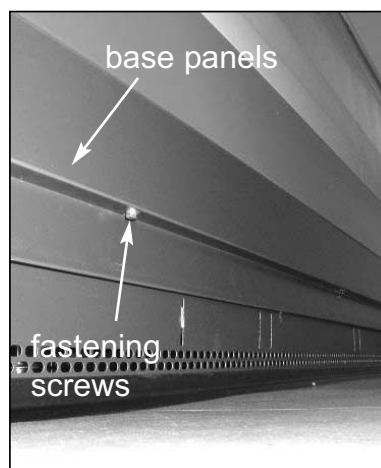
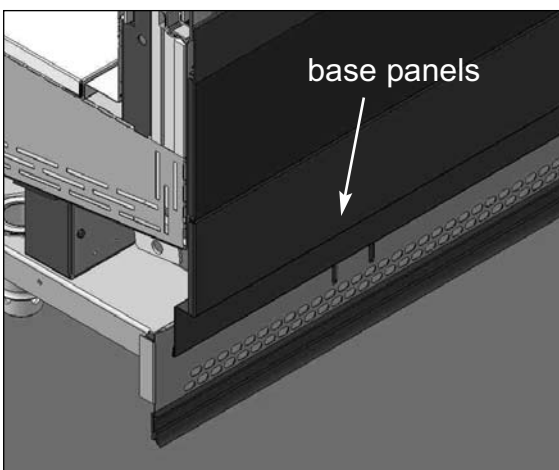
Place the support for the kickplate and screw it onto the appropriate supports using the screws attached, as shown in the figure.



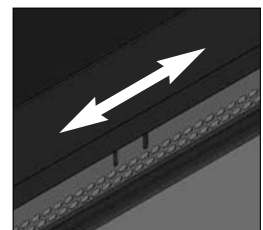
Place the kickplates onto the just installed supports by the screws supplied, as shown in the figures.




Lastly, install and fasten the base panels to their supports on the cabinet using the screws attached.



IMPORTANT: the base panels of MT (head cabinet) feature slots to be used when adjusting the position of panels horizontally.



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	B		E			
	C		F			


ASSEMBLY OF OPTIONAL STAINLESS-STEEL BUMPER RAIL

Place the stringer in the holding stirrups.

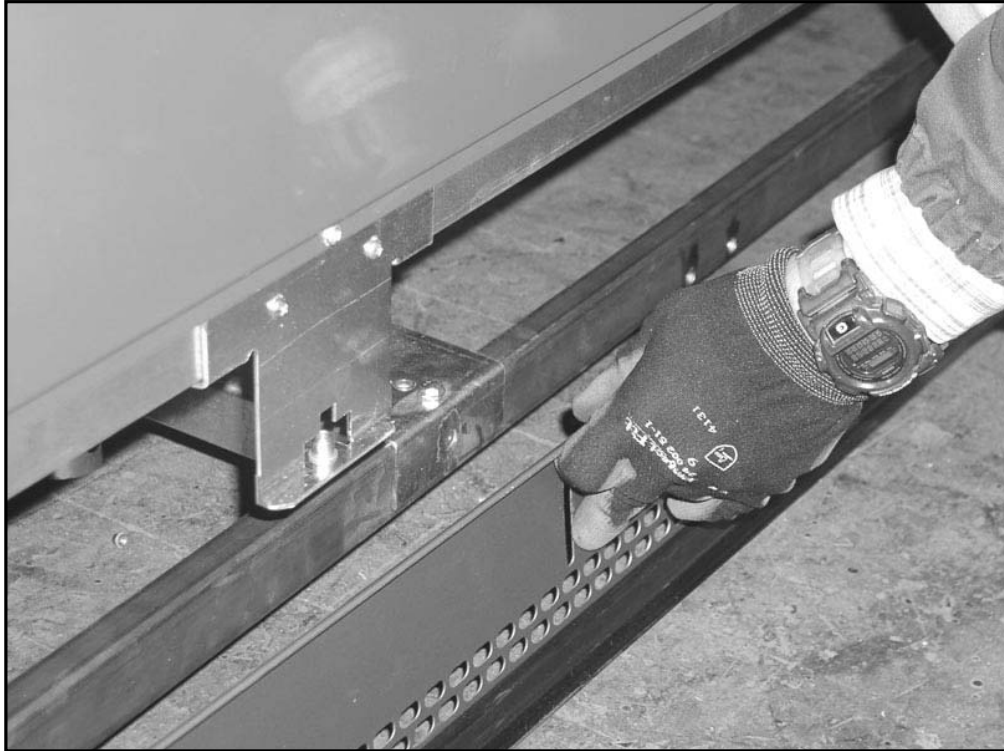


Fasten the stringers to the stirrups using the attached hex-head screws M6X30+washers




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Lean the kickplates onto the just-assembled stringers.

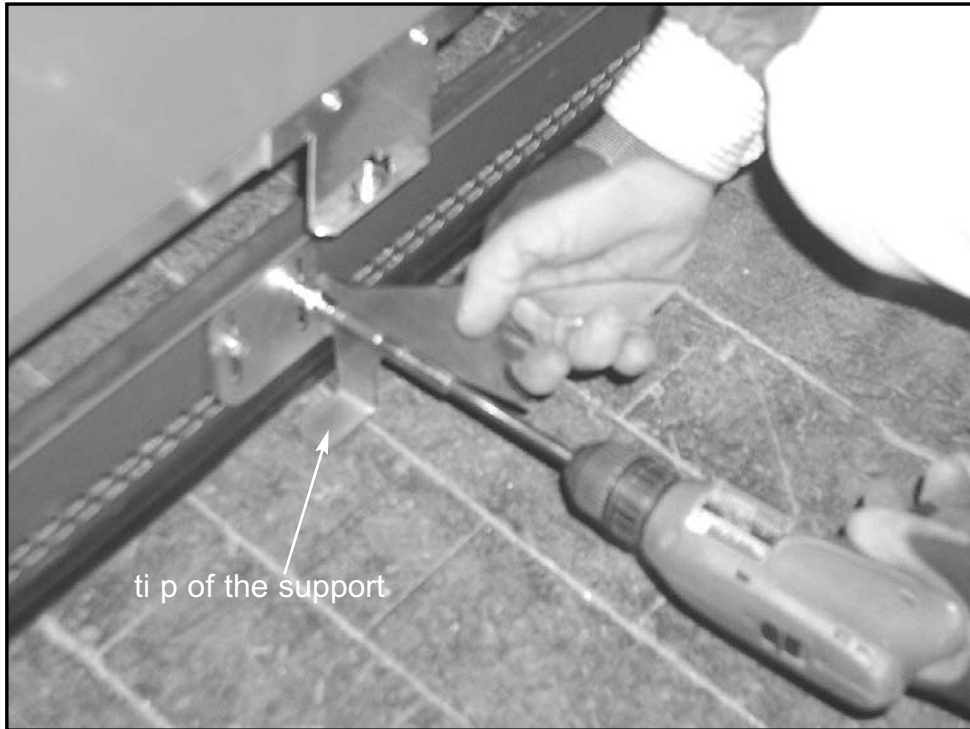


Install bumper rail supports using the holes on the stringers and the slots on the bumper rail.




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	C		F			

Fasten the bumper-rail supports using the appropriate hex-head M6x30+washers supplied; **ensure that the tip of the support is in direct contact with the floor.**



Place tubular stainless-steel bumper rails on their supports and the bumper rails with bends using the appropriate joints. The bumper rail for end and head case has welded strengtheners between the two tube elements (so creating a single piece) and welded inserts on the bends to be used for alignment with front bumper rails.



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Place and fasten the attached tubular bumper rail stop blocks using the Allen screw.



 DOCUMENTAZIONE TECNICA	STATO DI REVISIONE CAPITOLO				IN CONFORMITA' CON L'ORIGINALE APPROVATO	PAG.: 1/1
	ORD.	DATA	ORD.	DATA		
MOBILE: COSMOS 4 ECO - GALAXIE 4 ECO N° CAP. 8 N° DOC. QSM000845E CAPITOLO: SCHEMI ELETTRICI	A		D			
	B		E			
	C		F			
						DATA 1ª EMISSIONE: 16.02.12

Lastly, mount bottom panels on their supports and secure them from below with hex-head screws M4x15.

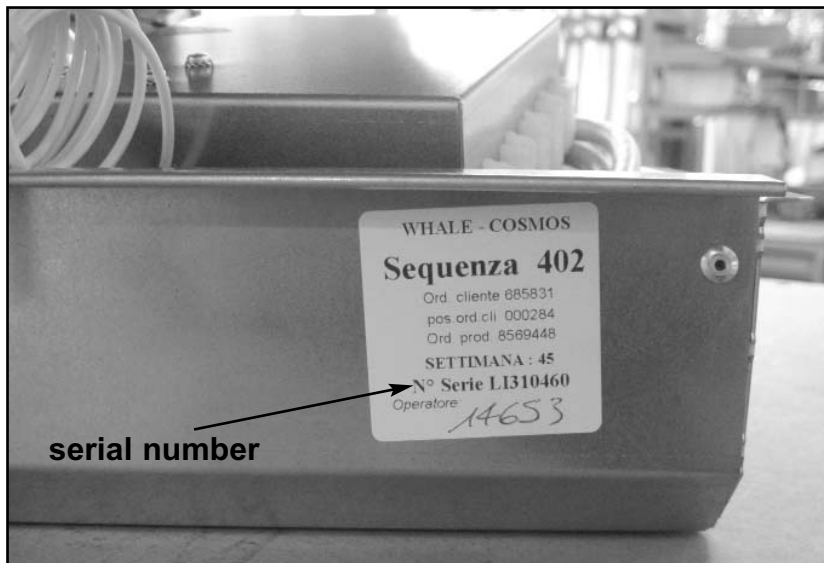


 DOCUMENTAZIONE TECNICA	STATO DI REVISIONE CAPITOLO				IN CONFORMITA' CON L'ORIGINALE APPROVATO	PAG.: 1/1
	ORD.	DATA	ORD.	DATA		
MOBILE: COSMOS 4 ECO - GALAXIE 4 ECO N° CAP. 8 N° DOC. QSM000845E CAPITOLO: SCHEMI ELETTRICI	A		D		DATA 1ª EMISSIONE: 16.02.12	
	B		E			
	C		F			

INSTALLATION OF ELECTRIC BOARD

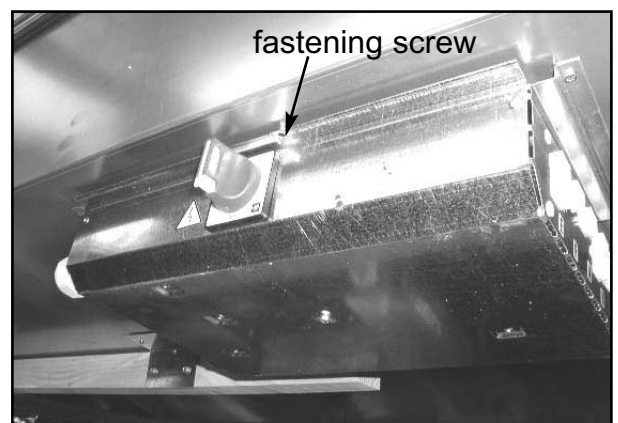
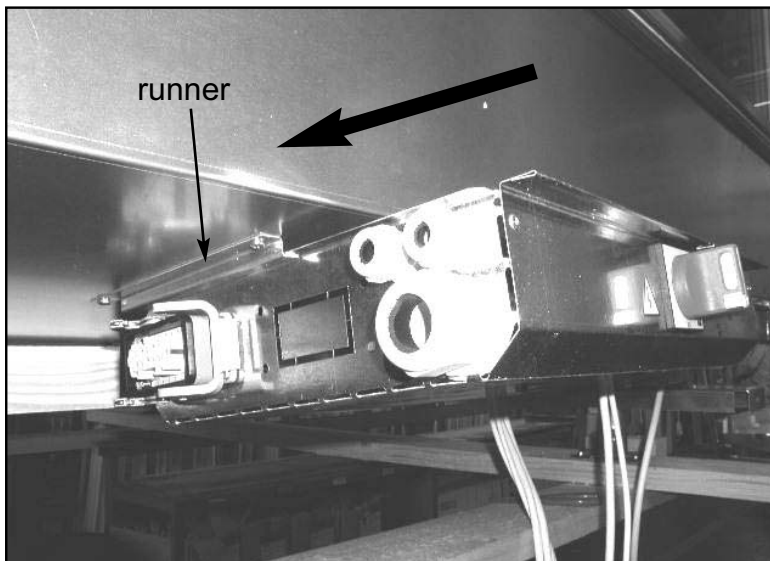
The electrical board of many models is supplied separately in order to avoid damage during transportation. It is therefore necessary to install it on site.


How to identify the electrical board correctly: Electrical boards are marked with the order number, position and **SERIAL NUMBER**. Using the production label attached to the cabinet it is possible to track down the electrical board of every cabinet with no margin for errors.



Place the electrical board in the respective runners under the cabinet, on the side opposite the drain.

Fasten the electrical board using a self-tapping screw as shown in the picture.

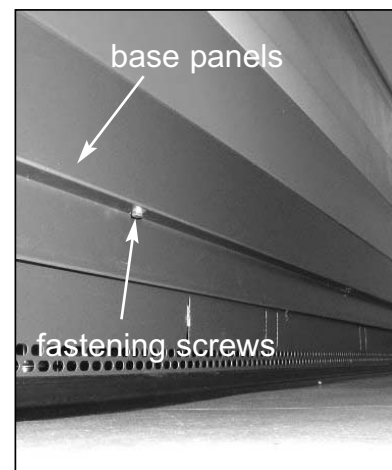
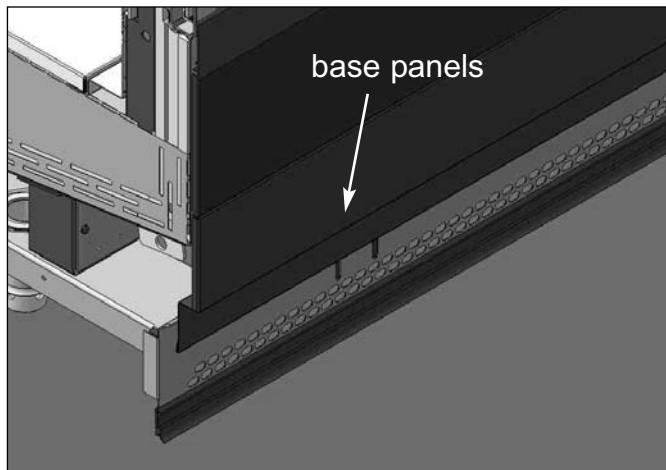


 DOCUMENTAZIONE TECNICA	STATO DI REVISIONE CAPITOLO				IN CONFORMITA' CON L'ORIGINALE APPROVATO	PAG.: 1/1
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MOBILE: COSMOS 4 ECO - GALAXIE 4 ECO N° CAP. 8 N° DOC. QSM000845E CAPITOLO: SCHEMI ELETTRICI	A		D			
	B		E			
	C		F			
					DATA 1° EMISSIONE: 16.02.12	

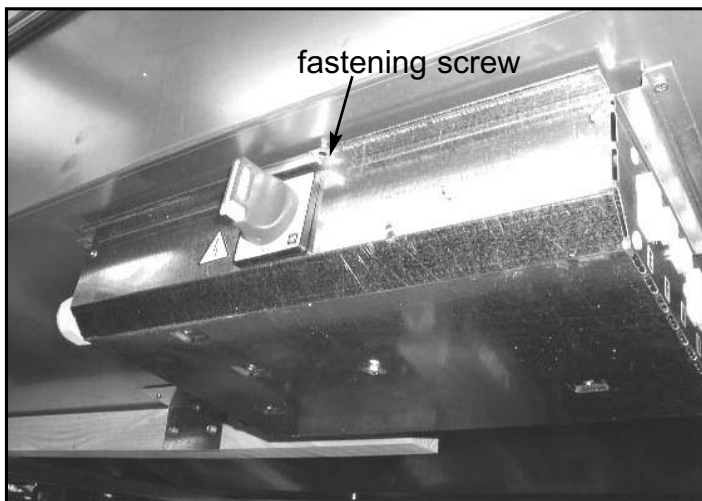
INSTALLATION OF ELECTRIC BOARD

When it is necessary to perform jobs on the electrical board, proceed as explained below.

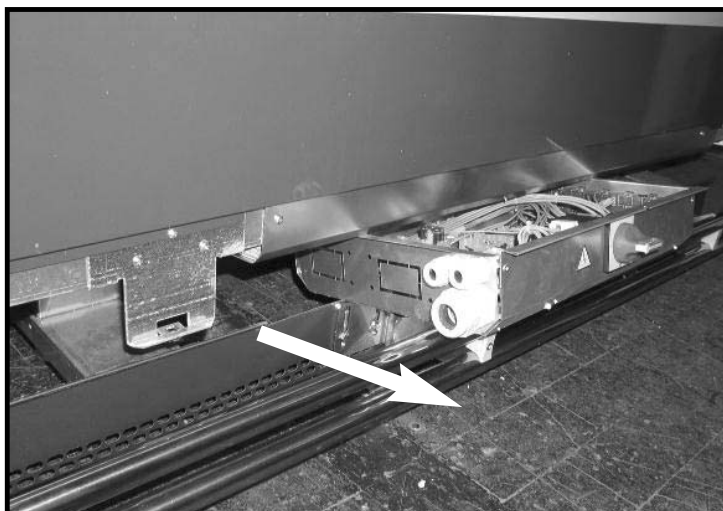
Unscrew and remove the base panel.



Remove the screw fastening the electrical board.



Pull the electrical board off the runner.



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	C		F			

INSTALLATION OF PLEXIGLAS DIVIDERS

Dividers are necessary to keep ventilation separate on BT cabinets when defrosting processes are not in synch.

The dividers will be entered following the rules below:

MASTER1/MASTER-SLAVE/TERMINAL-BOARD

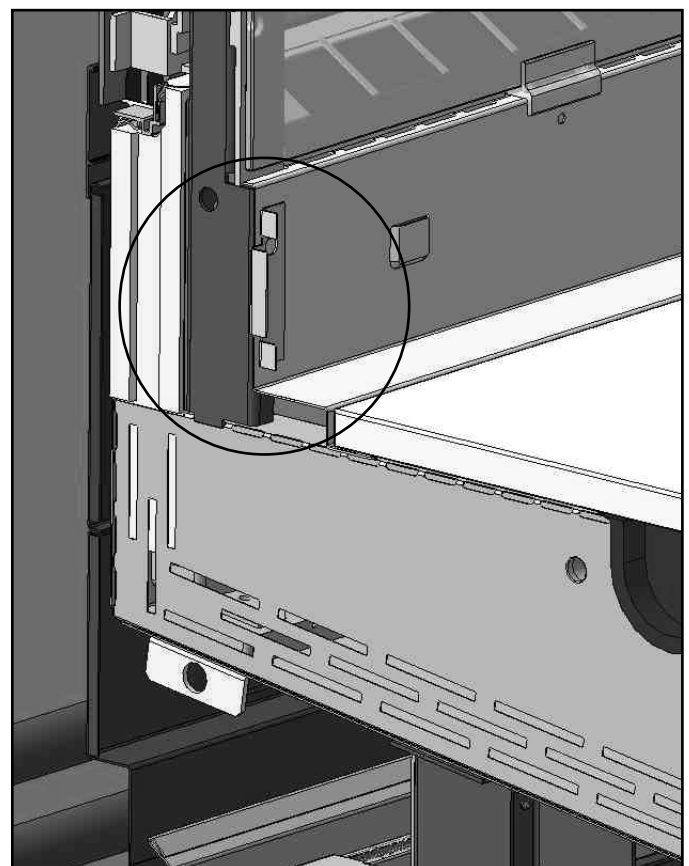
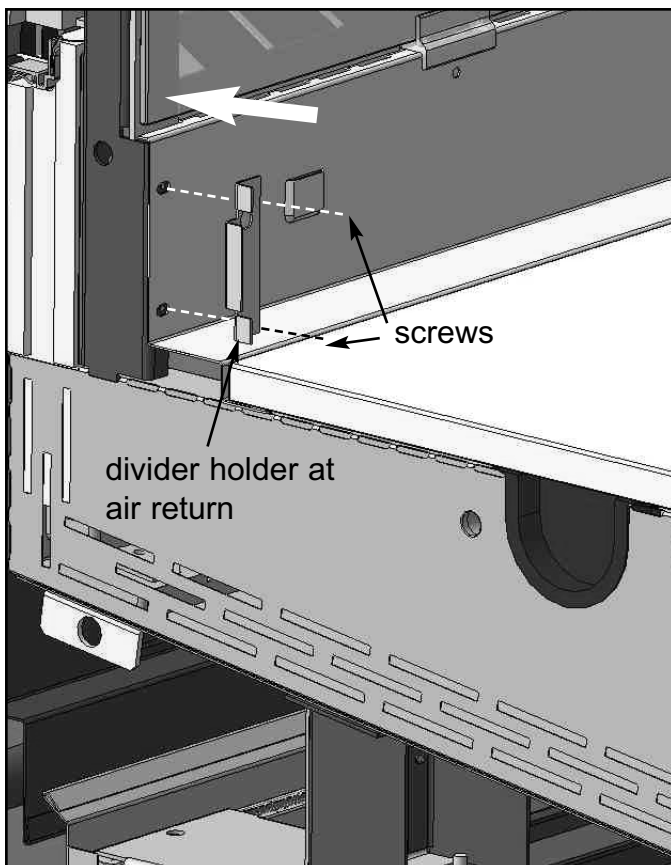
- 1 TECHNICAL RUN = q.ty 0
- 2 TECHNICAL RUNS = q.ty 1
- 3 TECHNICAL RUNS = q.ty 3 etc.

We wish to remind you that technical runs can be made up as follows

MASTER 1	1 CABINET
MASTER/SLAVE	1-2-3 CABINETS
TERMINAL BOARD	1-2-3 CABINETS
MASTER 2 (2EV)	1 or 2 CABINETS

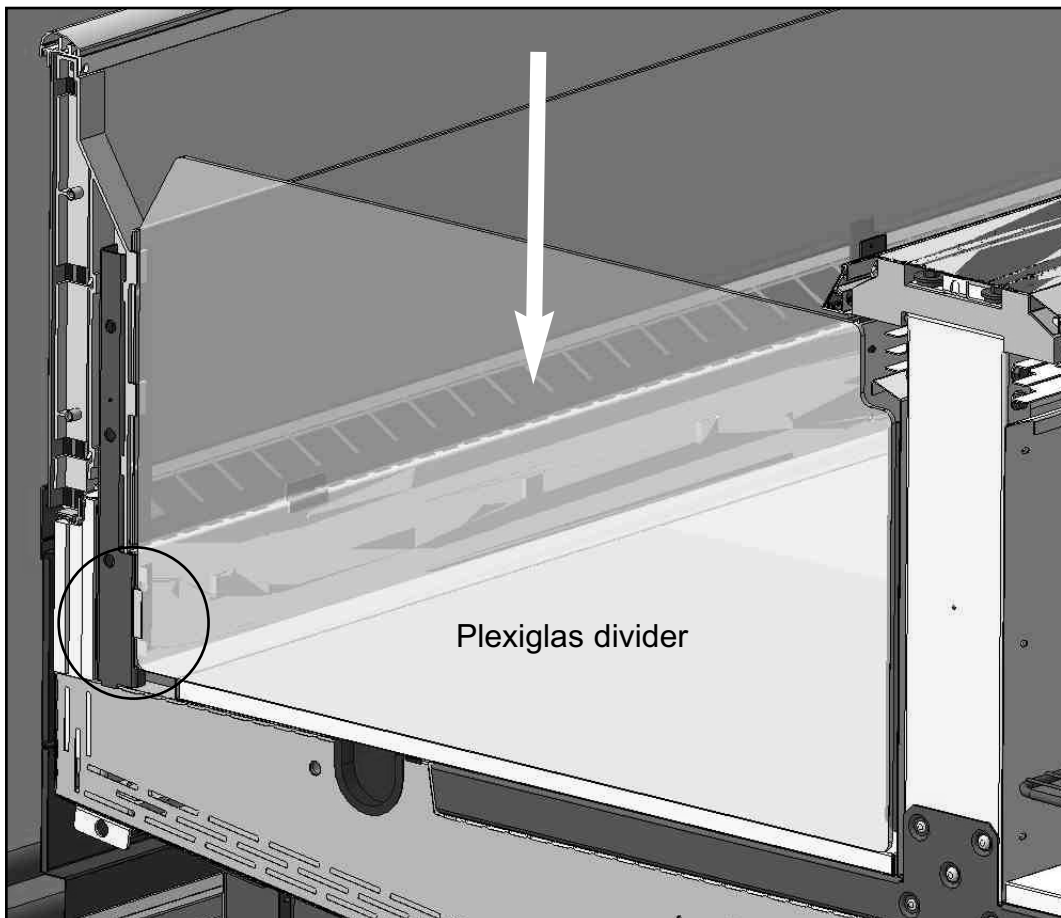
Technical Plexiglas dividers are not required between straight cabinets and head cabinets.

Place divider holders in the air return area as shown in the figures.

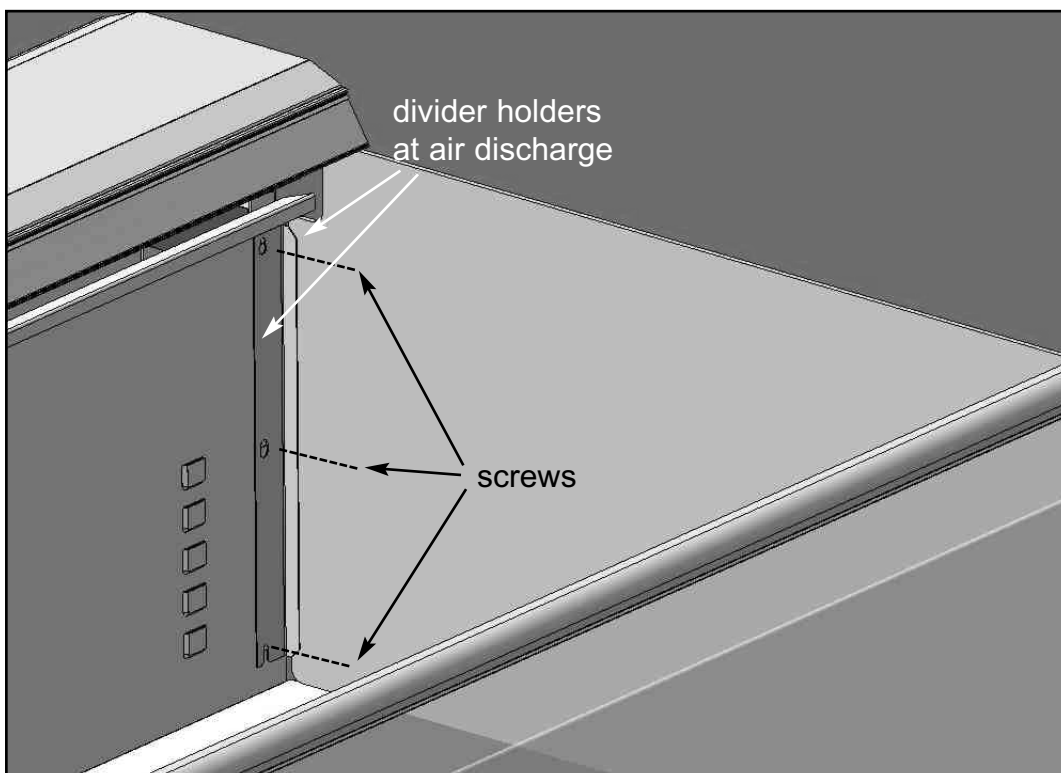



	DOCUMENTAZIONE TECNICA	STATO DI REVISIONE CAPITOLO				IN CONFORMITA' CON L'ORIGINALE APPROVATO	PAG.: 1/1
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Slide Plexiglas dividers into the just-installed holders.



To complete divider installation, fasten them in the air-discharge area using the appropriate holders. **These must be placed on both sides of the divider.**

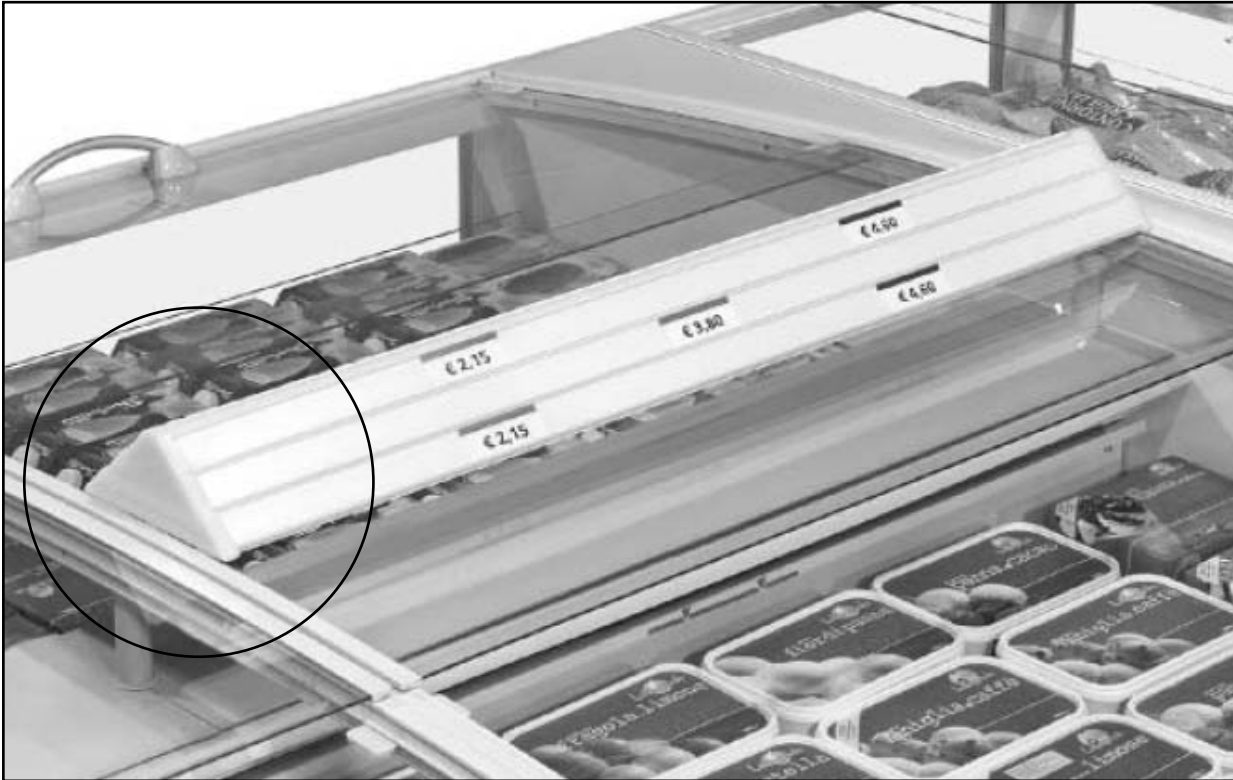


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	C		F			

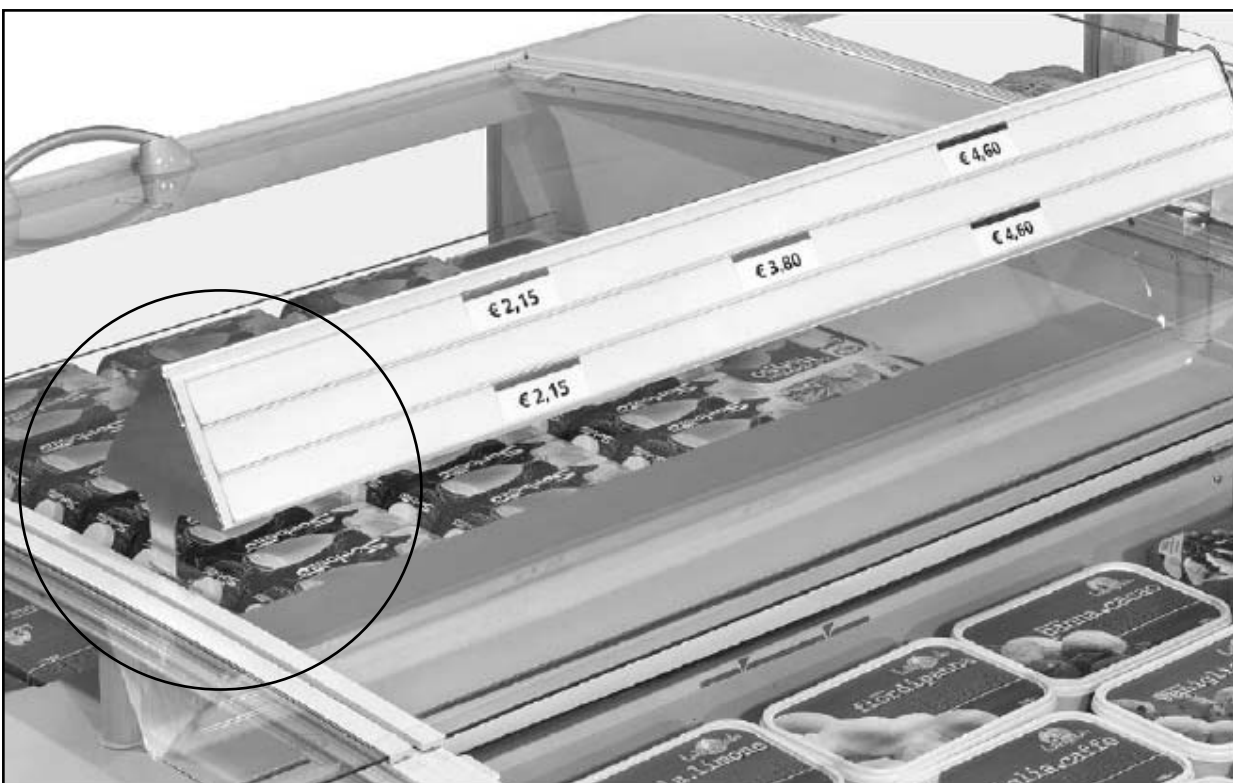
TICKET HOLDER INSTALLATION

3 rows 40 mm ticket holder, with two different possible installations.

Laid on the central glass (by adhesive ribbon)



Raised over the central glass (by adhesive ribbon)



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	B		E			
	C		F			
						DATA 1° EMISSIONE: 16.02.12


CLEANING – LINEAR CABINET

To clean completely the side glasses, push the central glass to reach the top part.



To clean the central glass pull it in order to reach the central area.



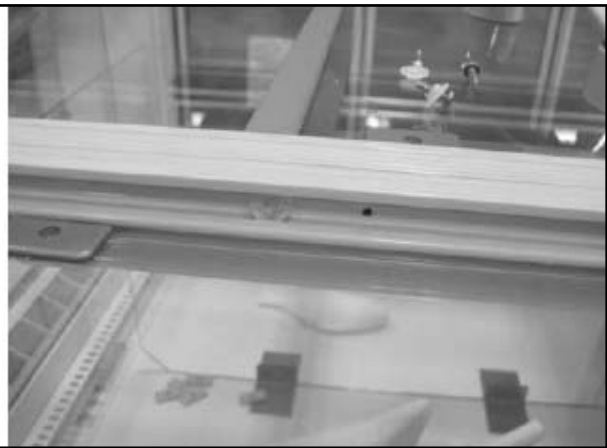
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	C		F			

CLEANING THE HEAD CABINET

Remove the handle.



Remove the blocking system on the rail.



Pull the back glass for cleaning on both sides

