4.1.2 Mounting with fixing rails (standard)

Mounting material required from the scope of supply:

Description	Use	Quantity	
		EVS9321-ES ... EVS9324-ES	EVS9325-ES EVS9326-ES
Fixing rails	Drive controller fixing	2	4

Dimensions

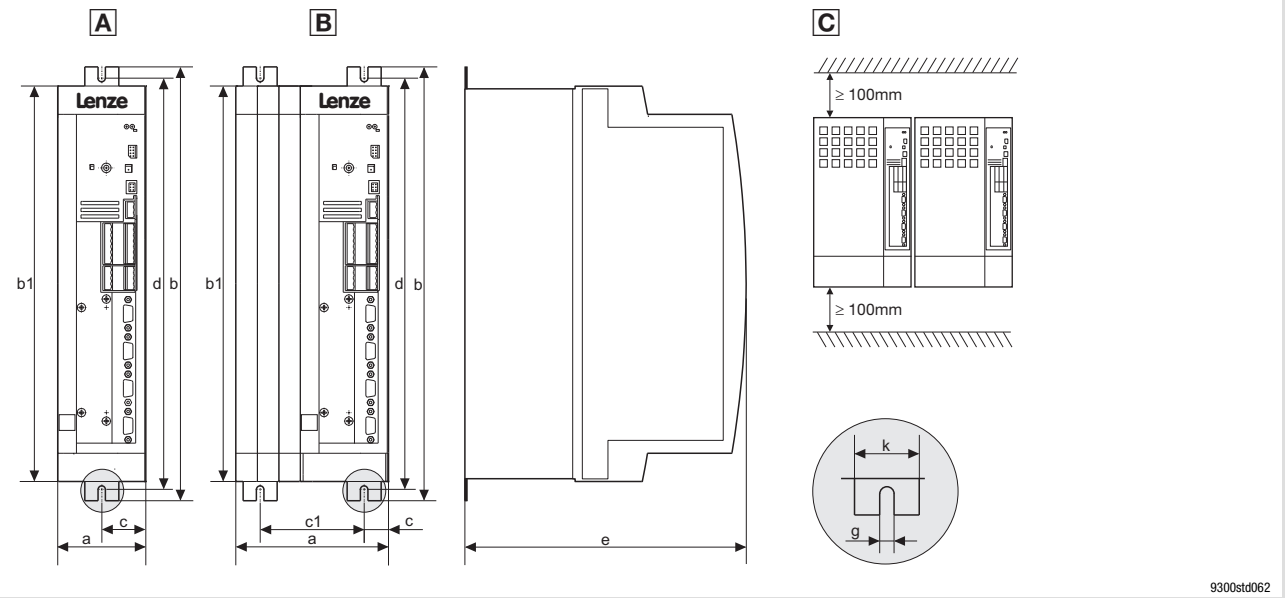


Fig. 4.1-1 Standard mounting with fixing rails 0.37 ... 11 kW

C Drive controllers can be mounted side by side without spacing

9300		Dimensions [mm]									
Type		a	b	b1	c	c1	d	d1	e [1]	g	k
EVS9321-ES EVS9322-ES	A	78	384	350	39	-	365	–	250	6.5	30
EVS9323-ES EVS9324-ES	A	97	384	350	48.5	-	365	–	250	6.5	30
EVS9325-ES EVS9326-ES	B	135	384	350	21.5	92	365	–	250	6.5	30

1) For a fieldbus module plugged onto X1, consider mounting space for connecting cables

Mounting

► Attach the fixing rails to the housing of the drive controller.

4.1.3 Thermally separated mounting (push-through technique)

For mounting in push-through technique you have to use the controller type EVS93xx-**ES**. Additionally you will require the mounting set for push-through technique:

Type	Mounting set
EVS9321-ES, EVS9322-ES	EJ0036
EVS9323-ES, EVS9324-ES	EJ0037
EVS9325-ES, EVS9326-ES	EJ0038

Dimensions

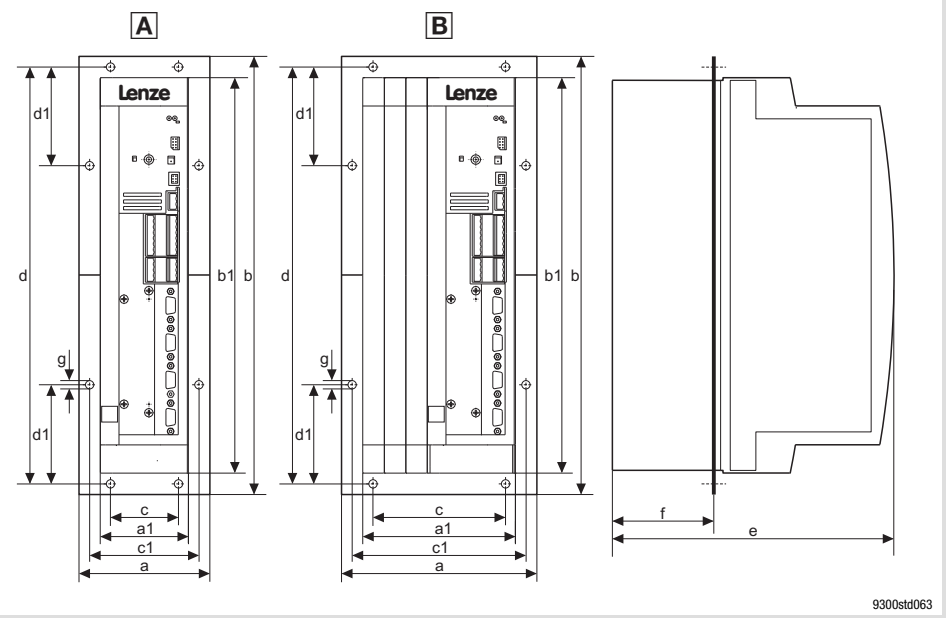


Fig. 4.1-2 Dimensions for thermally separated mounting 0.37 ... 11 kW

9300		Dimensions [mm]										
Type		a	a1	b	b1	c	c1	d	d1	e [1]	f	g
EVS9321-ES EVS9322-ES	A	112.5	78	385.5	350	60	95.5	365.5	105.5	250	92	6.5
EVS9323-ES EVS9324-ES	A	131.5	97	385.5	350	79	114.5	365.5	105.5	250	92	6.5
EVS9325-ES EVS9326-ES	B	169.5	135	385.5	350	117	152.5	365.5	105.5	250	92	6.5

1) For a fieldbus module plugged onto X1, consider mounting space for connecting cables

Mounting cutout in control cabinet

9300		Dimensions [mm]	
Type		Width	Height
EVS9321-ES EVS9322-ES	A	82	350
EVS9323-ES EVS9324-ES	A	101	350
EVS9325-ES EVS9326-ES	B	139	350

4.1.4 Mounting in ”cold plate” technique

The drive controllers can be mounted in ”cold plate” technique, e.g. on collective coolers. For this purpose, the drive controllers of type EVS93xx-**C**Sx must be used.

Mounting material required from the scope of supply:

Description	Use	Quantity		
		EVS9321-CS EVS9322-CS	EVS9323-CS EVS9324-CS	EVS9325-CS EVS9326-CS
Fixing bracket	Controller fixing	2	2	2
Sheet metal screw 3.5 × 13 mm (DIN 7981)	Mounting the fixing bracket to the controller	6	6	6

Requirements for collective coolers

The following points are important for safe and reliable operation of the controller:

- ► Good thermal connection to the cooler
  - – The contact surface between the collective cooler and the controller must be at least as large as the cooling plate of the controller.
  - – Plane contact surface, max. deviation 0.05 mm.
  - – When attaching the collective cooler to the controller, make sure to use all specified screw connections.
- ► Observe the thermal resistance R_{th} given in the table. The values are valid for controller operation under rated conditions.

9300	Cooling path	
	Power to be dissipated	Heatsink - environment
Type	P_v [W]	R_{th} [K/W]
EVS9321-CS	24	1.45
EVS9322-CS	42	0.85
EVS9323-CS	61	0.57
EVS9324-CS	105	0.33
EVS9325-CS	180	0.19
EVS9326-CS	360	0.10

Ambient conditions

- ► The rated data and the derating factors at increased temperature also apply to the ambient temperature of the drive controllers.
- ► Temperature at the cooling plate of the drive controller: max. 75 °C.

Dimensions

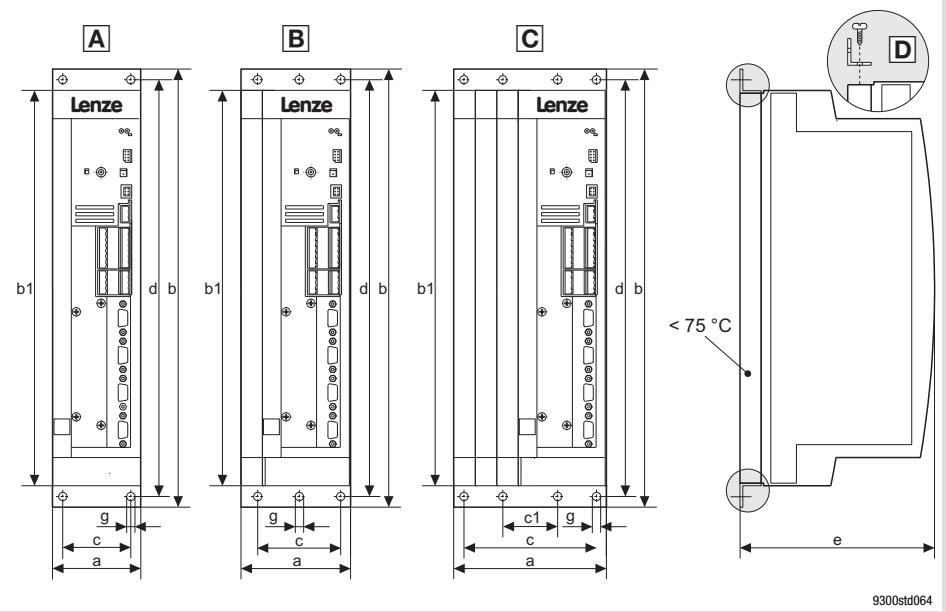


Fig. 4.1-3 Dimensions for mounting in "cold plate" technique 0.37 ... 11 kW

9300		Dimensions [mm]							
Type		a	b	b1	c	c1	d	e [1]	g
EVS9321-CS EVS9322-CS	A	78	381	350	48	–	367	168	6.5
EVS9323-CS EVS9324-CS	B	97	381	350	67	–	367	168	6.5
EVS9325-CS EVS9326-CS	C	135	381	350	105	38	367	168	6.5

1) For a fieldbus module plugged onto X1, consider mounting space for connecting cables

Mounting

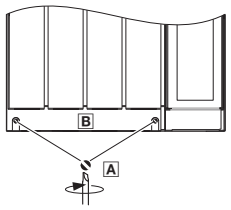
Apply heat conducting paste before screwing together the cooler and cooling plate of the drive controller so that the heat transfer resistance is as low as possible.

1. Fasten the fixing bracket with sheet metal screws 3.5 × 13 mm at the top and bottom of the drive controller D.
2. Clean the contact surface of cooler and cooling plate with spirit.
3. Apply a thin coat of heat conducting paste with a filling knife or brush.
   – The heat conducting paste in the accessory kit is sufficient for an area of approx. 1000 cm^2.
4. Mount the drive controller on the cooler.

4.2 Standard devices in the power range 15 ... 30 kW

4.2.1 Important notes

The accessory kit is located inside the controller.

Remove the cover of the drive controller	
	1. Remove the screws A 2. Lift cover B up and detach it

Mass of the devices

9300	Standard device	"Cold plate" device
Type	EVS93xx-**E**S [kg]	EVS93xx-**C**S [kg]
EVS9327-xS	13.5	9.5
EVS9328-xS	15.0	9.5
EVS9329-xS	15.0	–

4.2.2 Mounting with fixing brackets (standard)

Mounting material required from the scope of supply:

Description	Use	Quantity
Fixing bracket	Drive controller fixing	4
Raised countersunk head screw M5 × 10 mm (DIN 966)	Mounting of fixing bracket to the drive controller	4

Dimensions

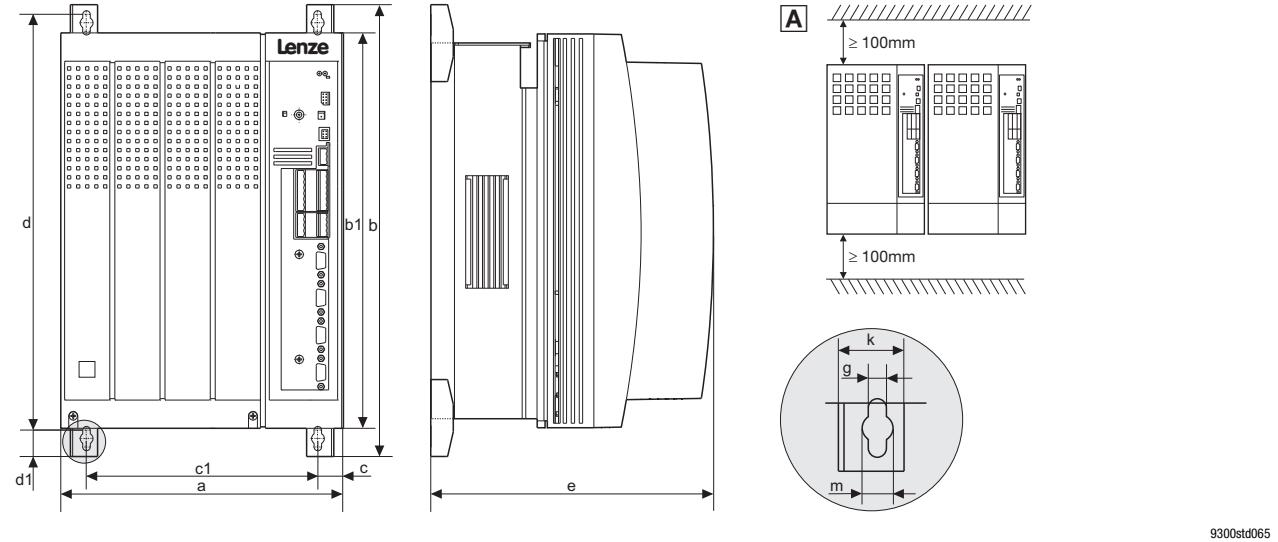


Fig. 4.2-1 Standard mounting with fixing brackets 15 ... 30 kW

A Drive controllers can be mounted side by side without spacing

9300	Dimensions [mm]										
Type	a	b	b1	c	c1	d	d1	e [1)]	g	k	m
EVS9327-ES EVS9328-ES EVS9329-ES	250	402	350	22	206	370	24	250	6.5	24	11

1) For a fieldbus module plugged onto X1, consider mounting space for connecting cables

Mounting

► Attach the fixing brackets to the heatsink plate of the drive controller.

4.2.3 Thermally separated mounting (push-through technique)

For mounting in push-through technique, the drive controller of type EVS93xx-**E**Sx must be used. In addition, the mounting set EJ0011 for the push-through technique is required.

Dimensions

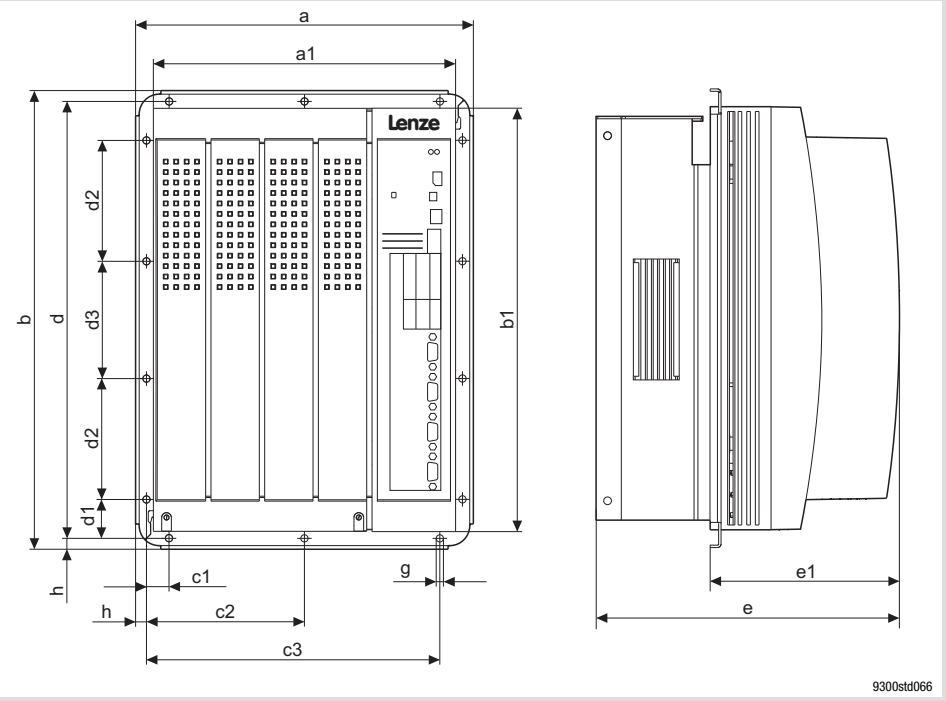


Fig. 4.2-2 Dimensions for thermally separated mounting 15 ... 30 kW

9300	Dimensions [mm]														
Type	a	a1	b	b1	c1	c2	c3	d	d1	d2	d3	e [1]	e1	g	h
EVS9327-ES EVS9328-ES EVS9329-ES	279.5	250	379.5	350	19	131	243	361.5	32	100	97	250	159.5	6	9

1) For a fieldbus module plugged onto X1, consider mounting space for connecting cables

Mounting cutout in control cabinet

9300	Dimensions [mm]	
Type	Width	Height
EVS9327-ES EVS9328-ES EVS9329-ES	236	336

4.2.4 Mounting in ”cold plate” technique

The drive controllers can be mounted in ”cold plate” technique, e.g. on collective coolers. For this purpose, the drive controllers of type EVS93xx-**C**Sx must be used.

Requirements for collective coolers

The following points are important for safe and reliable operation of the controller:

- Good thermal connection to the cooler
  - The contact surface between the collective cooler and the controller must be at least as large as the cooling plate of the controller.
  - Plane contact surface, max. deviation 0.05 mm.
  - When attaching the collective cooler to the controller, make sure to use all specified screw connections.
- Observe the thermal resistance R_{th} given in the table. The values are valid for controller operation under rated conditions.

9300	Cooling path	
	Power to be dissipated	Heatsink - environment
Type	P_v [W]	R_{th} [K/W]
EVS9327-CS	410	0.085
EVS9328-CS	610	0.057

Ambient conditions

- The rated data and the derating factors at increased temperature also apply to the ambient temperature of the drive controllers.
- Temperature at the cooling plate of the drive controller: max. 75 °C.

Dimensions

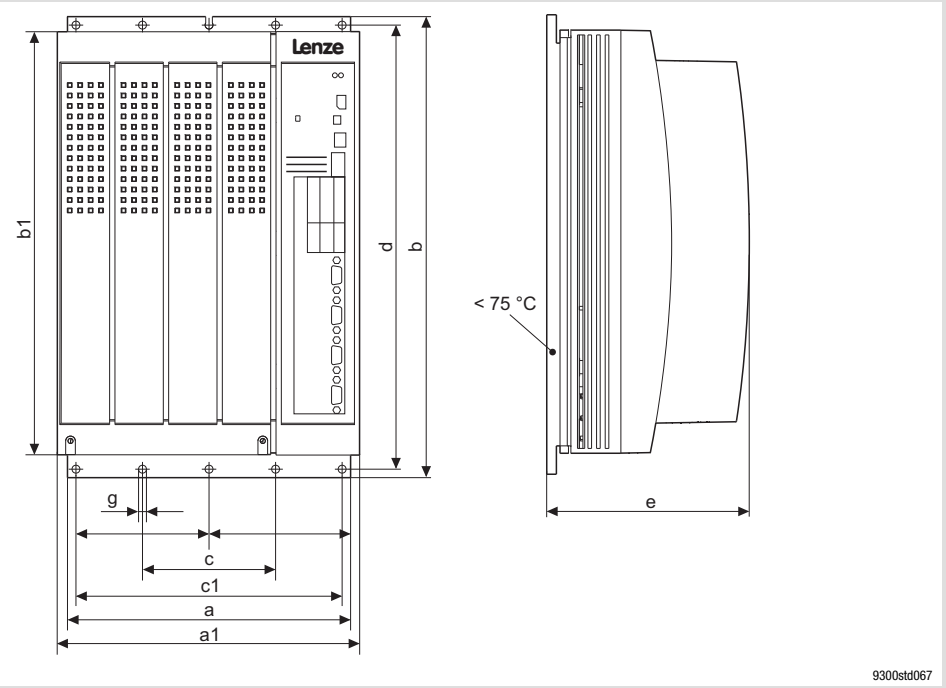


Fig. 4.2-3 Dimensions for mounting in "cold plate" technique 15 ... 22 kW

9300	Dimensions [mm]								
Type	a	a1	b	b1	c	c1	d	e [1)]	g
EVS9327-CS EVS9328-CS	234	250	381	350	110	220	367	171	6.5

1) For a fieldbus module plugged onto X1, consider mounting space for connecting cables

Mounting

Apply heat conducting paste before screwing together the cooler and cooling plate of the drive controller so that the heat transfer resistance is as low as possible.

1. Clean the contact surface of cooler and cooling plate with spirit.
2. Apply a thin coat of heat conducting paste with a filling knife or brush.
   – The heat conducting paste in the accessory kit is sufficient for an area of approx. 1000 cm^2.
3. Mount the drive controller on the cooler.