



KINVARO T-SLIM



G* GRASS®

KINVARO T-SLIM

Super slim lifter mechanism with clean lines and simple shape created for maximum storage







Kinvaro T-Slim unites aesthetics, maximum stability, and the art of movement into one.

Inspiring classic design

The Kinvaro T-Slim is another development from Grass that embodies the vision of a minimalist look with stable construction and perfect motion. The T-Slim provides a horizontal wall cabinet mechanism that offers two mounting options.

It can be integrated into the cabinet's sidewall or screwed on directly to the sidewall. In either application, there is just a thin view of hardware seen in the opened position. The slim 12mm mechanism allows for even more room for storing your favorite things.

The Kinvaro T-Slim combines convenient functionality, the highest quality materials, and precision through to the last detail. All properties that you can expect from a Grass product. The Kinvaro T-Slim is a classic design that will be a great source of inspiration for kitchen and furniture designers alike.



reddot winner 2020



KINVARO T-SLIM LIFTER SYSTEMS

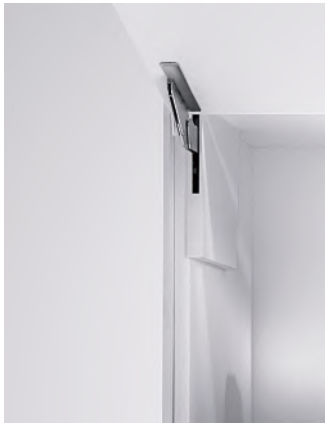
The right choice, for many reasons.
Safe. Precise. Reliable.



See It – Now you don't

Kinvaro T-Slim is the thinnest movement system created for maximum storage space. This doesn't only sound good – it looks good.

With the extremely slim design of the Kinvaro T-Slim, all functional components of the flap fitting can be entirely milled into the cabinet wall. The result is a hardware application with invisible technology and maximum space. In short, the Kinvaro T-Slim ensures full use of the storage room available.



Kinvaro T-Slim also offers a classic surface-mount type that can be mounted on the sidewall of the cabinet with the addition of a simple adapter. Kinvaro T-Slim offers a cover cap that is fitted over the mechanism. The caps are available in Stone, Ice, and Silver but can also be painted to the color of your choice.



T-Slim is the right choice

There are a lot of good reasons to choose Kinvaro T-Slim.



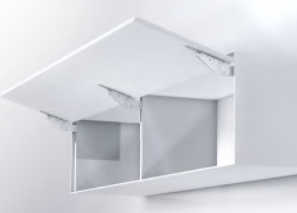
Heavy fronts can be connected with a clip – quickly, safely, and without tools. The Kinvaro T-Slim offers 3-dimensional adjustment in height, side, and gap correction. The stay-put action allows you to open the flap at any angle and will stay put in that position.

Let your creativity run wild with applications for the Kinvaro T-Slim, a new functional movement system with a lot of heart.

A strong trio for a broader span

Wall cabinets with front lifters provide storage space at an ergonomically perfect height. They are easy to reach, and items are quickly accessible. For this reason, wall cabinets are gaining in popularity for a new type of storage system. Wide fronts for cabinetry are as popular as ever. Their advantages are apparent. Wide fronts avoid gaps and, when opened, reveal much more storage space. With Kinvaro T-Slim, for cabinet widths of more than 1,200mm (47 1/4"), simply add an additional flap fitting. This creates a powerful trio that increases the load capacity by 50 percent.

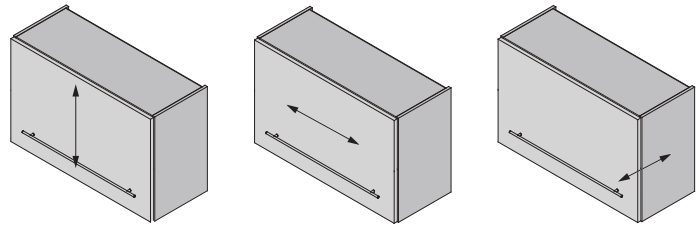
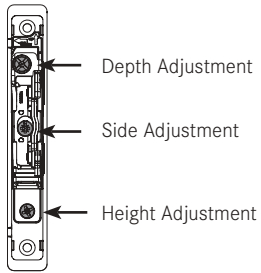
Table of Content

	Description	Adjustment	Page
	Technical Information		6
	Kinvaro T-Slim for Wooden Fronts <ul style="list-style-type: none"> • Slim, screw-on flap fitting for high design requirements and more storage space in the wall cabinet • Holds flap securely in any position • Adjustable spring force 	<ul style="list-style-type: none"> • Height adjustment $\pm 2.5\text{mm}$ • Side adjustment $\pm 2.0\text{mm}$ • Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$ 	8
	Kinvaro T-Slim for Wide Wooden Fronts <ul style="list-style-type: none"> • Slim, screw-on flap fitting for high design requirements and more storage space in the wall cabinet • Holds flap securely in any position • Adjustable spring force 	<ul style="list-style-type: none"> • Height adjustment $\pm 2.5\text{mm}$ • Side adjustment $\pm 2.0\text{mm}$ • Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$ 	10
	Kinvaro T-Slim for Wooden Fronts, Inset <ul style="list-style-type: none"> • Flush inset flap fitting for high design requirements and maximum storage space • Holds flap securely in any position • Adjustable spring force 	<ul style="list-style-type: none"> • Height adjustment $\pm 2.5\text{mm}$ • Side adjustment $\pm 2.0\text{mm}$ • Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$ 	12
	Kinvaro T-Slim for Wide Wooden Fronts, Inset <ul style="list-style-type: none"> • Flush inset flap fitting for high design requirements and maximum storage space • Holds flap securely in any position • Adjustable spring force 	<ul style="list-style-type: none"> • Height adjustment $\pm 2.5\text{mm}$ • Side adjustment $\pm 2.0\text{mm}$ • Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$ 	14

Metric Conversions														
mm	1	1.5	2	2.5	3	5	5.5	6	7	8	10.7	12	13.6	14.2
in	1/16	1/16	1/16	1/8	1/8	3/16	3/16	1/4	1/4	5/16	7/16	1/2	9/16	9/16
mm	15	17	18	19	20	21	22	24	25	26	30.2	32	33	38
in	9/16	11/16	11/16	3/4	13/16	13/16	7/8	15/16	1	1	1 3/16	1 1/4	1 5/16	1 1/2
mm	40	43	46	47	50	53	54	56	57	59.5	60	63	64	66
in	1 9/16	1 11/16	1 13/16	1 7/8	1 15/16	2 1/16	2 1/16	2 3/16	2 1/4	2 5/16	2 3/8	2 1/2	2 1/2	2 5/8
mm	67	69	70	73	74	76	77	80	84	87	89	94	100	119
in	2 5/8	2 11/16	2 3/4	2 3/4	2 15/16	3	3 1/16	3 1/8	3 5/16	3 7/16	3 1/2	3 11/16	3 15/16	4 11/16
mm	129.9	147.7	155	177.5	185									
in	5 1/8	5 13/16	6 1/8	7	7 5/16									

Technical Information

Kinvaro T-Slim



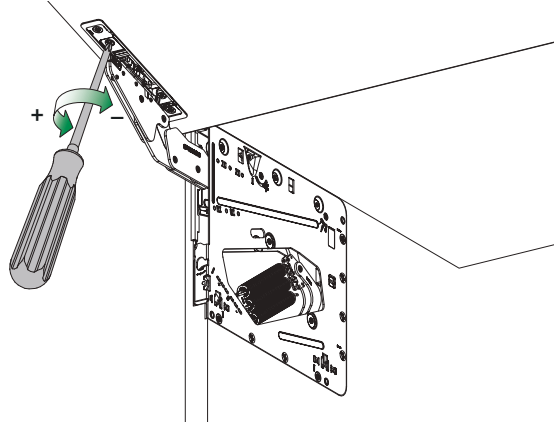
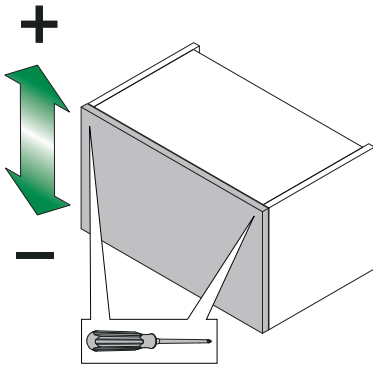
Height adjustment
 $\pm 2.5\text{mm}$

Side Adjustment
 $\pm 2\text{mm}$

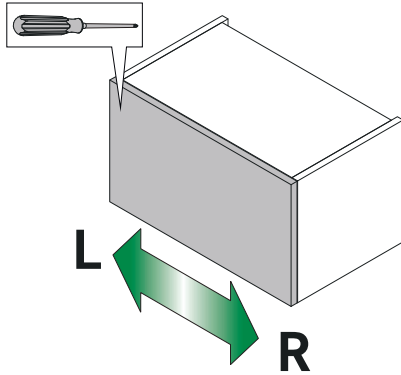
Depth adjustment
 $+3/-1\text{mm}$

All adjustment options can be made independently of one another

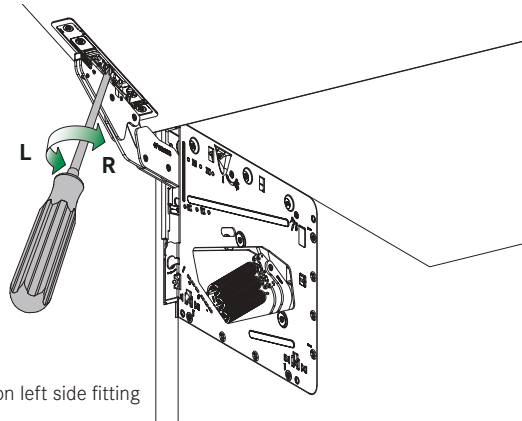
Height Adjustment



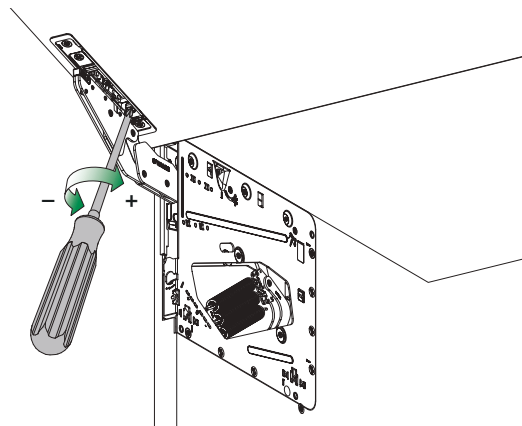
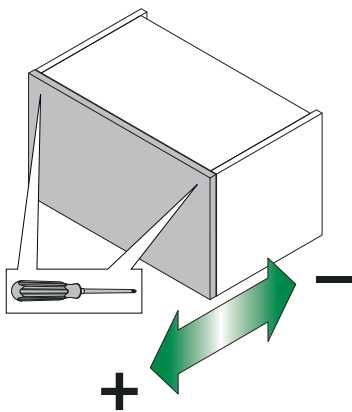
Side Adjustment



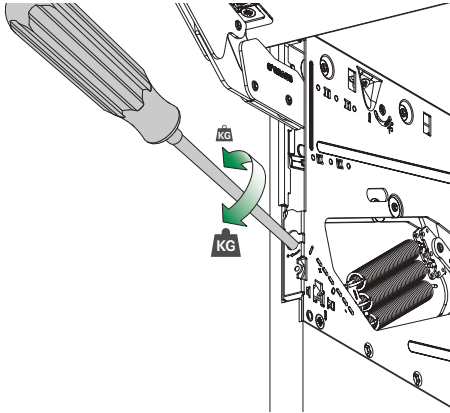
Note:
Side adjustment only made on left side fitting



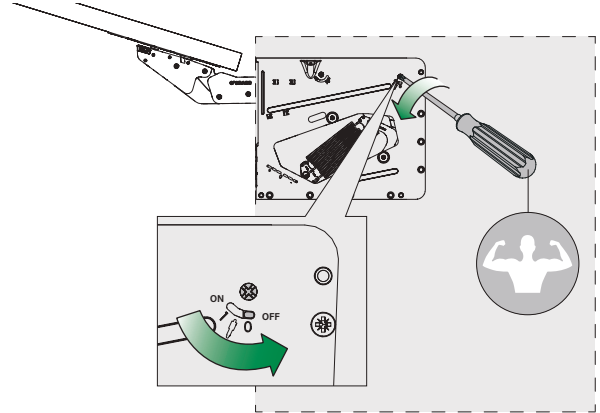
Depth Adjustment



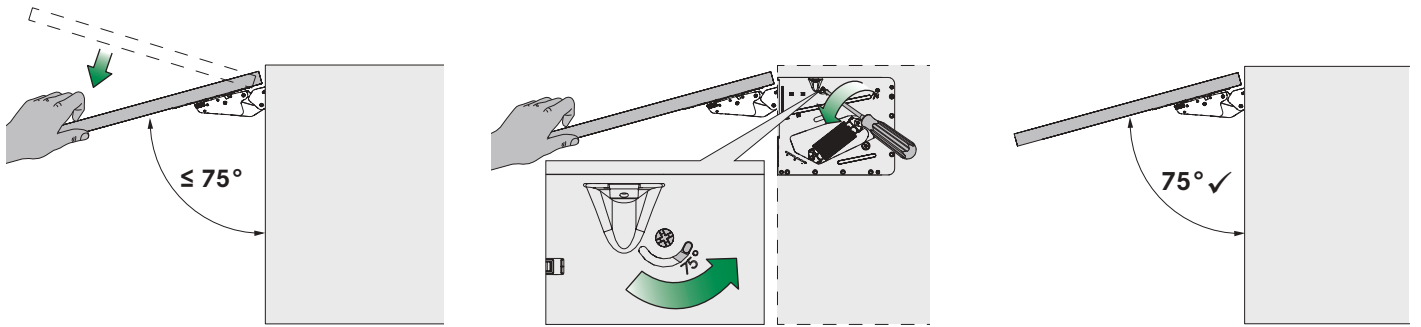
Adjusting the Spring Force



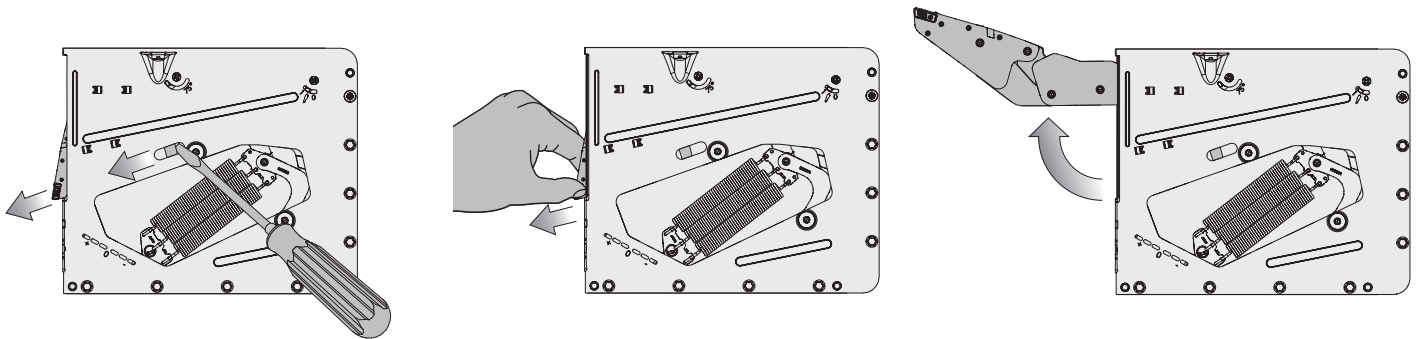
Deactivating the Closing Damper



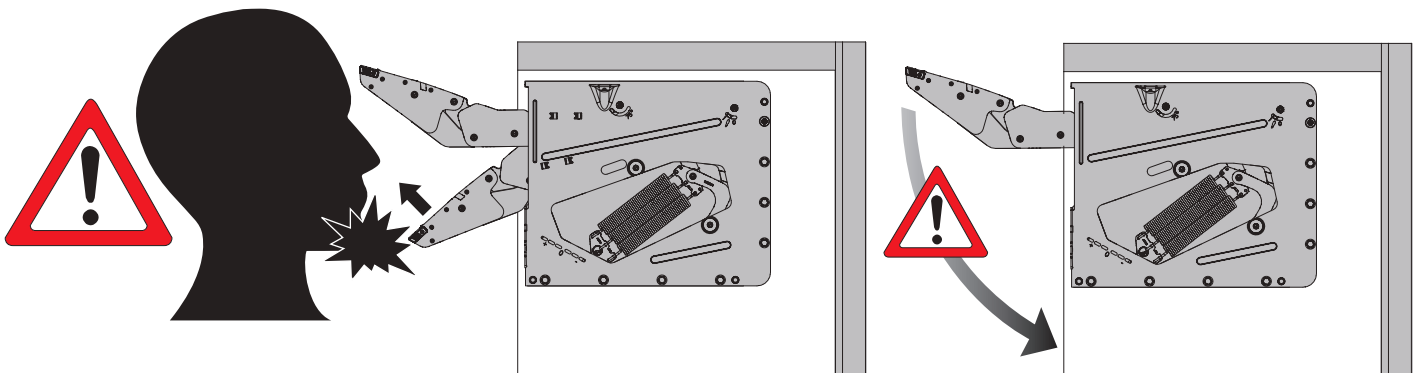
Activating the Opening Angle Limiting Stay



Emergency Opening When the Fitting is Closed

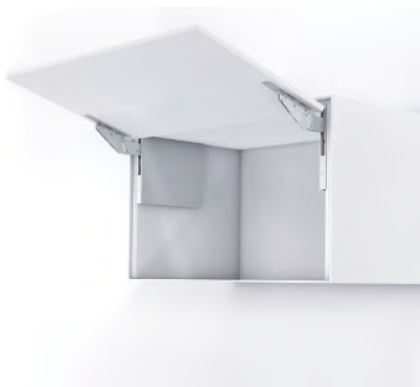


Warning



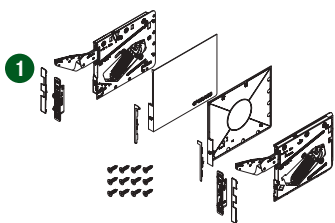
Kinvaro T-Slim

T-Slim lift-up flap fitting for wooden fronts (surface-mount)



- Slim flap fitting for high design requirements and more storage space in the wall cabinet
- Holds flap securely in any position
- Adjustable spring force
- Fast, tool-free clip fitting of the front
- Flap with 3-dimensional adjustment: height ± 2.5 mm, side ± 2.0 mm, depth $+3.0$ mm / -1.0 mm
- 107° opening angle
- Integrated, opening angle reduction clip with optional activation (75°)
- Three different power factors
- Can be used for flaps made from wood and wood-based products
- Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
- Integrated Soft-close damper (Soft-close damper can be switched on/off)

Kinvaro T-Slim Set for Wood Fronts

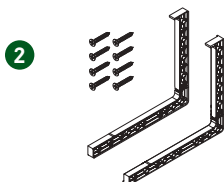


Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
250 - 550	F151149002 201	F151149003 201	F151149004 201	1
500 - 1100	F151149005 201	F151149006 201	F151149007 201	1
1000 - 2250	F151149008 201	F151149009 201	F151149010 201	1

Set consists of:

- 1a** 1 - Fitting Set, left/right
- 1b** 1 - Front Connector Set, left/right
- 1c** 12 - Screws
- 1d** 3 - Cover Caps, 3 left/3 right
- 1e** 1 - Installation Instructions

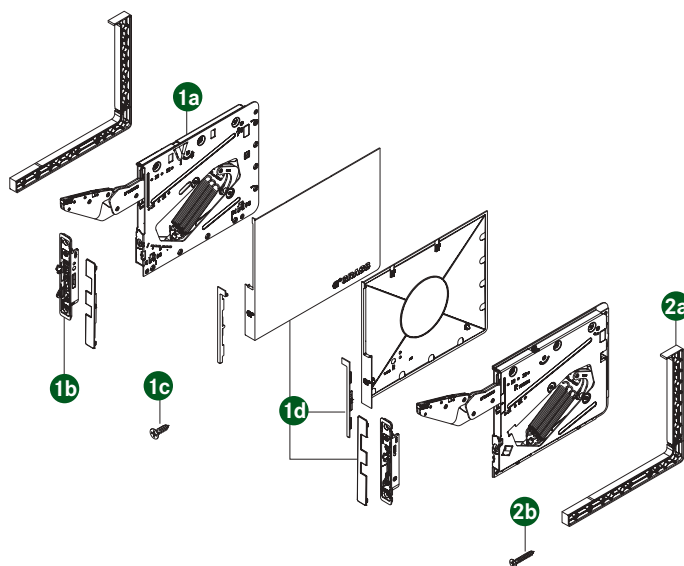
Adapter Set



Description	Item No. Stone	Item No. Silver	Item No. Ice	PU
Adapter set for screw-mounting	F161149020 204	F161149021 204	F161149022 204	5

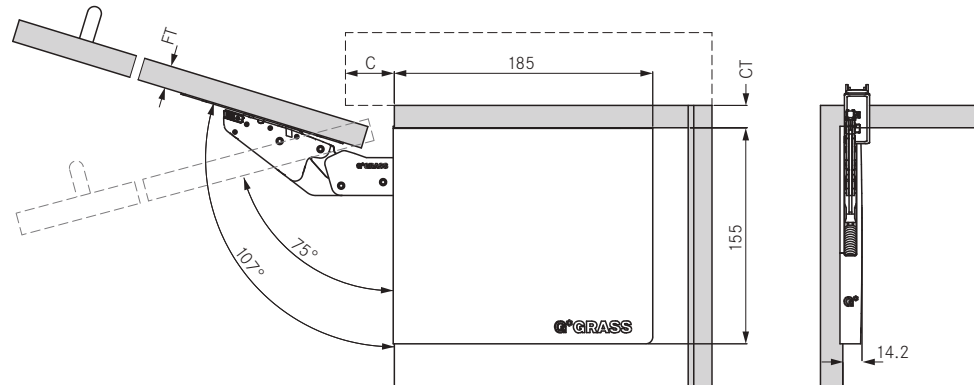
Set consists of:

- 2a** 1 - Adapter, left/right
- 2b** 8 - Screws



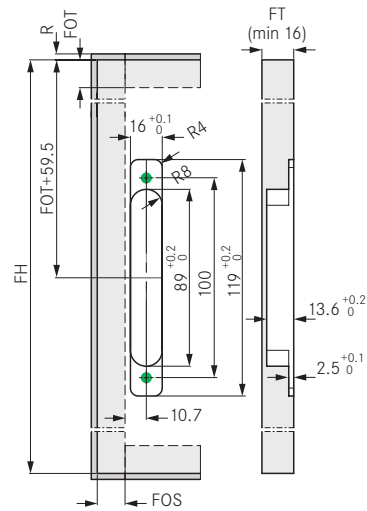
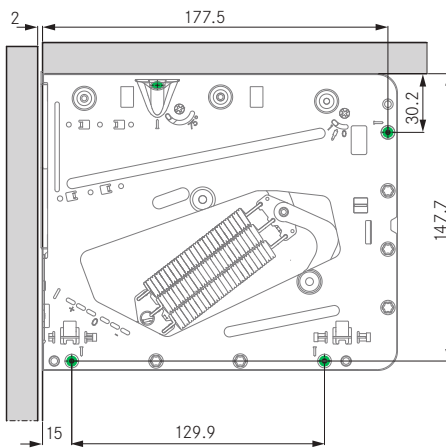
PU - Packaging unit

Required Space



Side Wall Screw-on Position

Front Milling Position



Cornice

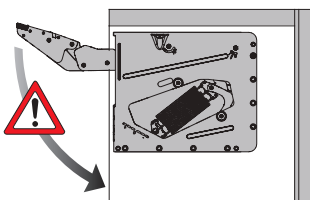
Reveal

Flap Weight

Flap Thickness (FT)	Cabinet Top Panel (CT)					
	16	18	19	20	22	24
16	67	74	77	80	87	94
18	60	67	70	73	80	87
19	57	64	67	70	77	84
20	54	60	63	67	73	80
21	50	56	60	63	69	76
22	47	53	57	60	66	73
24	40	46	50	53	60	67
26	33	40	43	46	53	60
32	12	19	22	25	32	38
	Cornice (C)					

Flap Thickness (FT)	Front Overlay Top (FOT)				
	15	17	19	21	22
16	1	1	1	1	1
18	1	1	1	1	1
19	1	1	1	1	1
20	1	1	1	1	1
21	1	1	1	1	1
22	1	1	1	1	1
24	1.5	1	1	1	1
26	3	2.5	1.5	1	1
32	8	7	6	5.5	5
	Reveal (R)				

Flap Height (FH)	Power Factor (LF)		
	250 - 550	500 - 1100	1000 - 2250
7 7/8" (200)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.1 (2.5 - 5.5)	11.0 - 24.9 (5.0 - 11.3)
9 13/16" (250)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.7 (2.0 - 4.4)	8.8 - 19.8 (4.0 - 9.0)
11 13/16" (300)	1.8 - 4.0 (0.8 - 1.8)	(3.7 - 8.2 (1.7 - 3.7)	7.3 - 16.5 (3.3 - 7.5)
13 3/4" (350)	1.5 - 3.5 (0.7 - 1.6)	3.1 - 6.8 (1.4 - 3.1)	6.4 - 14.1 (2.9 - 6.4)
15 3/4" (400)	1.3 - 3.1 (0.6 - 1.4)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.3 (2.5 - 5.6)
17 11/16" (450)	1.3 - 2.6 (0.6 - 1.2)	2.4 - 5.3 (1.1 - 2.4)	4.9 - 11.0 (2.2 - 5.0)
19 11/16" (500)	1.1 - 2.4 (0.5 - 1.1)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.9 (2.0 - 4.5)
21 5/8" (550)	1.1 - 2.2 (0.5 - 1.0)	2.0 - 4.4 (0.9 - 2.0)	4.0 - 9.0 (1.8 - 4.1)
	Flap Weight in lb(kg)		



Calculation of Power Factor (LF):

$$\{(\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)} = \text{LF}$$

Note: Power factor can only be calculated in metric

WARNING

Caution - risk of injury!

Fitting is spring-tensioned!

CT = Cabinet top panel

C = Cornice

FH = Flap height

FOB = Front overlay, bottom

FOS = Front overlay, side

FOT = Front overlay, top

FT = Flap thickness

LF = Power factor

R = Reveal

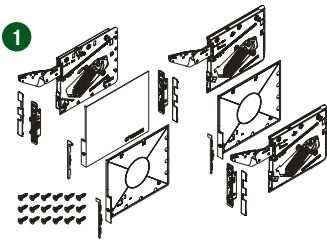
Kinvaro T-Slim

T-Slim lift-up flap fitting for wide wooden fronts (surface-mount)



- Slim flap fitting for high design requirements and more storage space in the wall cabinet
- Additional fitting for wide fronts
- Holds flap securely in any position
- Adjustable spring force
- Fast, tool-free clip fitting of the front
- Flap with 3-dimensional adjustment:
height ± 2.5 mm, side ± 2.0 mm,
depth $+3.0$ mm / -1.0 mm
- 107° opening angle
- Can be used for flaps made from wood and wood-based products
- Integrated, opening angle reduction clip with optional activation (75°)
- Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
- Integrated Soft-close damper (Soft-close damper can be switched on/off)

Kinvaro T-Slim Set for Wide Wood Fronts

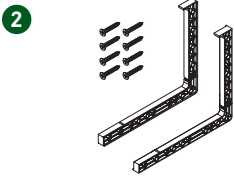


Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
1500 - 3375	F151149027201	F151149028201	F151149029201	1

Set consists of:

- 1a** 1 - Fitting Set, 1 left/2 right
- 1b** 1 - Front Connector Set, 1 left/2 right
- 1c** 18 - Screws
- 1d** 3 - Cover Caps, 3 left/6 right
- 1e** 1 - Installation Instructions

Adapter Set

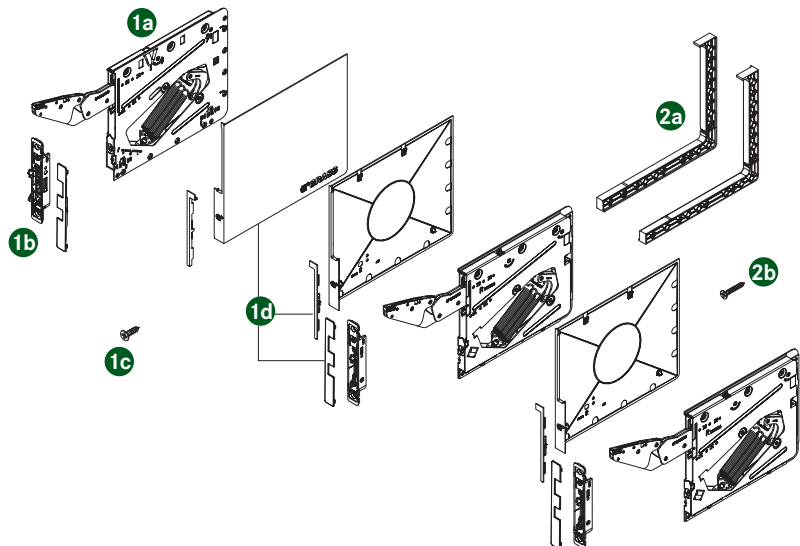


Description	Item No. Stone	Item No. Silver	Item No. Ice	PU
Adapter set for screw-mounting	F161149020204	F161149021204	F161149022204	5

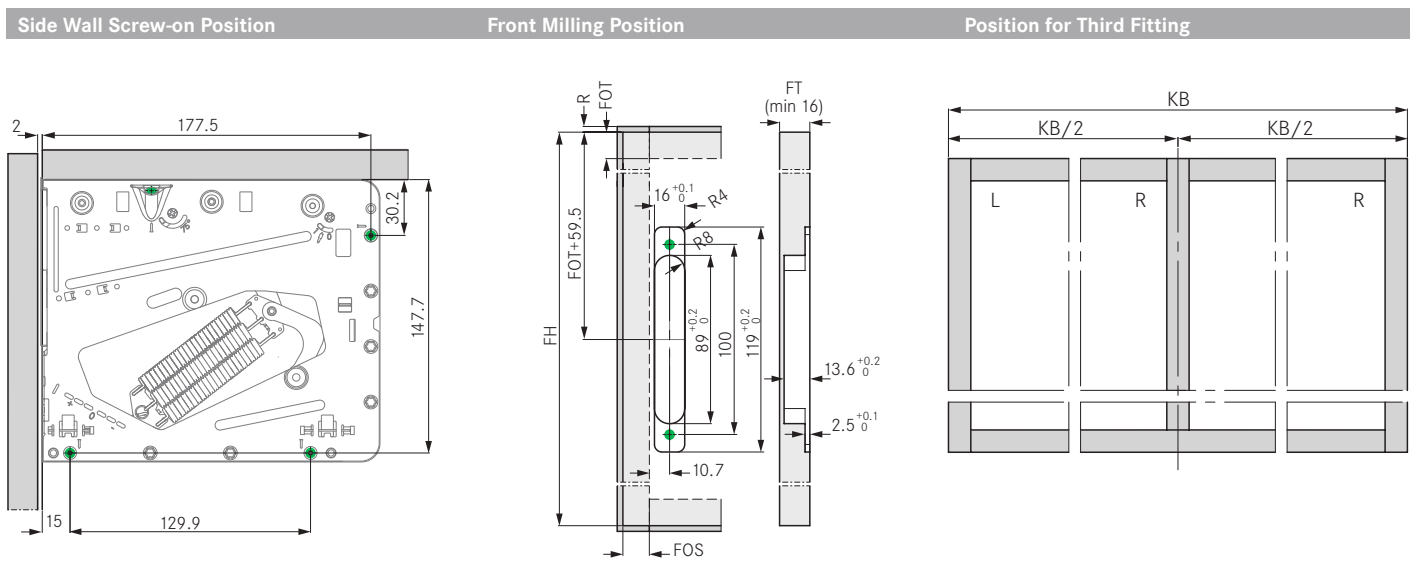
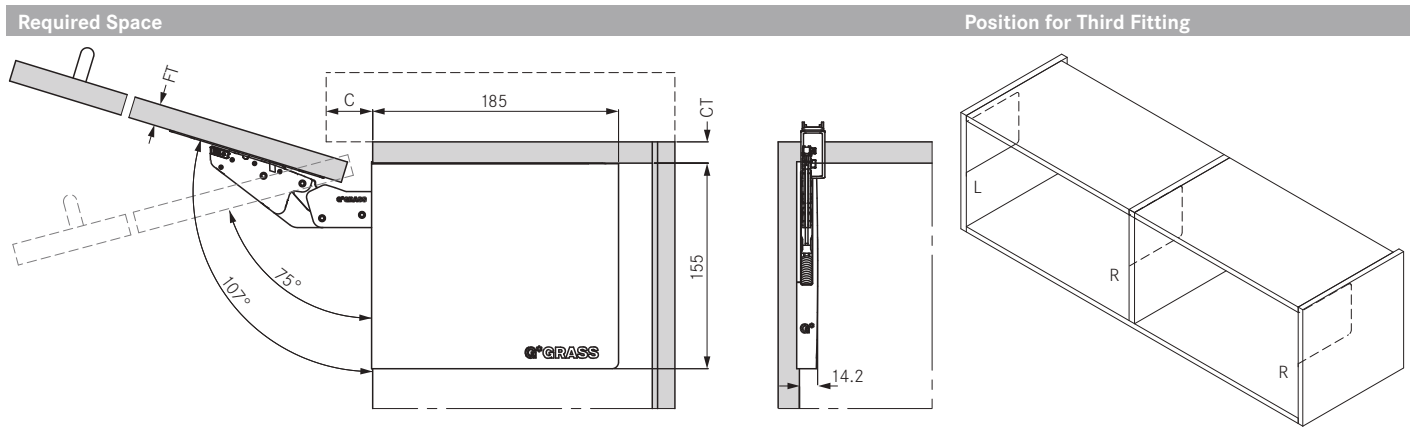
Set consists of:

Note: 2 adapter sets are required for mounting wide flap

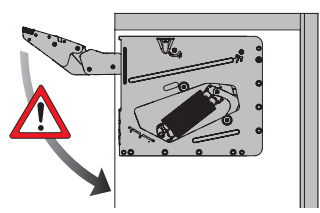
- 2a** 1 - Adapter, left/right
- 2b** 8 - Screws



PU - Packaging unit



Cornice		Reveal		Flap Weight	
Cabinet Top Panel (CT)		Front Overlay Top (FOT)		Power Factor (LF)	
	16 18 19 20 22 24		15 17 19 21 22		1500 - 3375
16	67 74 77 80 87 94	16	1 1 1 1 1	7 7/8" (200)	15.5 - 37.3 (7.5 - 16.9)
18	60 67 70 73 80 87	18	1 1 1 1 1	9 13/16" (250)	13.2 - 29.8 (6.0 - 13.5)
19	57 64 67 70 77 84	19	1 1 1 1 1	11 13/16" (300)	11.0 - 24.9 (5.0 - 11.3)
20	54 60 63 67 73 80	20	1 1 1 1 1	13 3/4" (350)	9.5 - 21.2 (4.3 - 9.6)
21	50 56 60 63 69 76	21	1 1 1 1 1	15 3/4" (400)	8.4 - 18.5 (3.8 - 8.4)
22	47 53 57 60 66 73	22	1 1 1 1 1	17 11/16" (450)	7.3 - 16.5 (3.3 - 7.5)
24	40 46 50 53 60 67	24	1.5 1 1 1 1	19 11/16" (500)	6.6 - 15.0 (3.0 - 6.8)
26	33 40 43 46 53 60	26	3 2.5 1.5 1 1	21 5/8" (550)	6.0 - 13.4 (2.7 - 6.1)
32	12 19 22 25 32 38	32	8 7 6 5.5 5		
	Cornice (C)		Reveal (R)		Flap Weight in lb(kg)



Calculation of Power Factor (LF):
 $((\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)}) = \text{LF}$

Note: Power factor can only be calculated in metric

WARNING
 Caution - risk of injury!
 Fitting is spring-tensioned!

- CT = Cabinet top panel
- C = Cornice
- FH = Flap height
- FOB = Front overlay, bottom
- FOS = Front overlay, side
- FOT = Front overlay, top
- FT = Flap thickness
- LF = Power factor
- R = Reveal

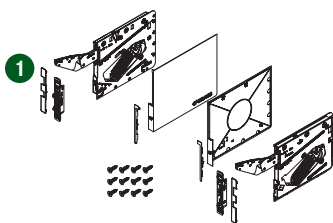
Kinvaro T-Slim

T-Slim lift-up flap fitting for wooden fronts (inset)



- Flush inset flap fitting for high design requirements and maximum storage space
- Holds flap securely in any position
- Adjustable spring force
- Fast, tool-free clip fitting of the front
- Flap with 3-dimensional adjustment: height ± 2.5 mm, side ± 2.0 mm, depth $+3.0$ mm / -1.0 mm
- 107° opening angle
- Integrated, opening angle reduction clip with optional activation (75°)
- Three different power factors
- Can be used for flaps made from wood and wood-based products
- Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
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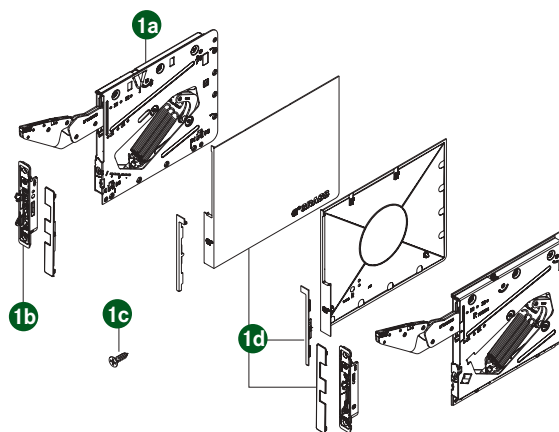
Kinvaro T-Slim Set for Wood Fronts



Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
250 - 550	F151149002 201	F151149003 201	F151149004 201	1
500 - 1100	F151149005 201	F151149006 201	F151149007 201	1
1000 - 2250	F151149008 201	F151149009 201	F151149010 201	1

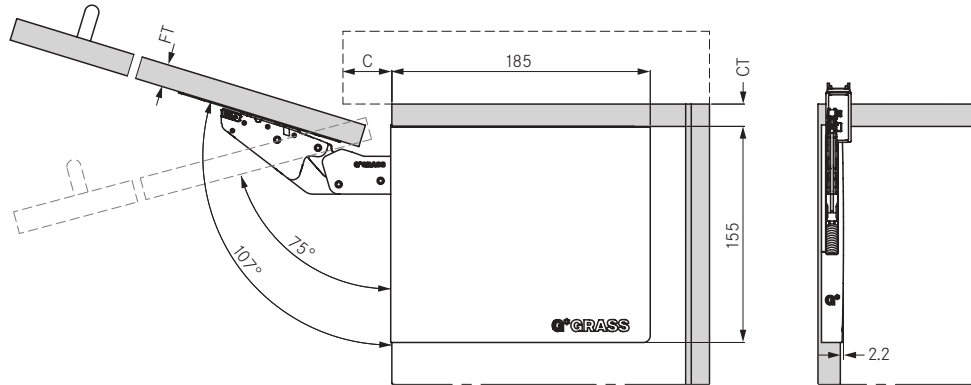
Set consists of:

- 1a** 1 - Fitting Set, left/right
- 1b** 1 - Front Connector Set, left/right
- 1c** 12 - Screws
- 1d** 3 - Cover Caps, 3 left/3 right
- 1e** 1 - Installation Instructions



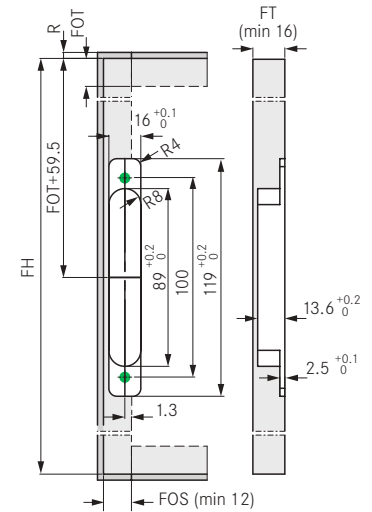
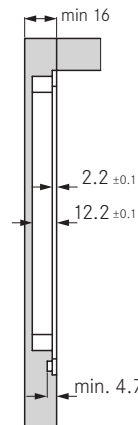
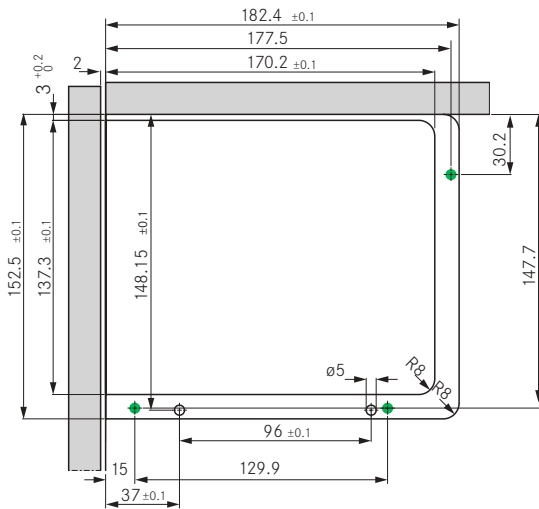
PU - Packaging unit

Required Space



Side Wall Screw-on Position

Front Milling Position



Cornice

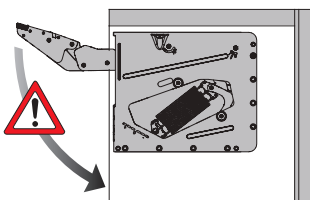
Reveal

Flap Weight

Flap Thickness (FT)	Cabinet Top Panel (CT)					
	16	18	19	20	22	24
16	67	74	77	80	87	94
18	60	67	70	73	80	87
19	57	64	67	70	77	84
20	54	60	63	67	73	80
21	50	56	60	63	69	76
22	47	53	57	60	66	73
24	40	46	50	53	60	67
26	33	40	43	46	53	60
32	12	19	22	25	32	38
	Cornice (C)					

Flap Thickness (FT)	Front Overlay Top (FOT)				
	15	17	19	21	22
16	1	1	1	1	1
18	1	1	1	1	1
19	1	1	1	1	1
20	1	1	1	1	1
21	1	1	1	1	1
22	1	1	1	1	1
24	1.5	1	1	1	1
26	3	2.5	1.5	1	1
32	8	7	6	5.5	5
	Reveal (R)				

Flap Height (FH)	Power Factor (LF)		
	250 - 550	500 - 1100	1000 - 2250
7 7/8" (200)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.1 (2.5 - 5.5)	11.0 - 24.9 (5.0 - 11.3)
9 13/16" (250)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.7 (2.0 - 4.4)	8.8 - 19.8 (4.0 - 9.0)
11 13/16" (300)	1.8 - 4.0 (0.8 - 1.8)	(3.7 - 8.2 (1.7 - 3.7)	7.3 - 16.5 (3.3 - 7.5)
13 3/4" (350)	1.5 - 3.5 (0.7 - 1.6)	3.1 - 6.8 (1.4 - 3.1)	6.4 - 14.1 (2.9 - 6.4)
15 3/4" (400)	1.3 - 3.1 (0.6 - 1.4)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.3 (2.5 - 5.6)
17 11/16" (450)	1.3 - 2.6 (0.6 - 1.2)	2.4 - 5.3 (1.1 - 2.4)	4.9 - 11.0 (2.2 - 5.0)
19 11/16" (500)	1.1 - 2.4 (0.5 - 1.1)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.9 (2.0 - 4.5)
21 5/8" (550)	1.1 - 2.2 (0.5 - 1.0)	2.0 - 4.4 (0.9 - 2.0)	4.0 - 9.0 (1.8 - 4.1)
	Flap Weight in lb(kg)		



Calculation of Power Factor (LF):

$$((\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)}) = \text{LF}$$

Note: Power factor can only be calculated in metric

WARNING

Caution - risk of injury!

Fitting is spring-tensioned!

CT = Cabinet top panel

C = Cornice

FH = Flap height

FOB = Front overlay, bottom

FOS = Front overlay, side

FOT = Front overlay, top

FT = Flap thickness

LF = Power factor

R = Reveal

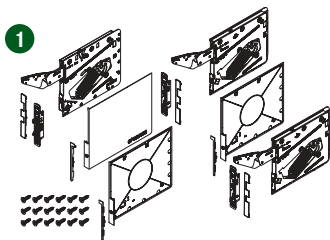
Kinvaro T-Slim

T-Slim lift-up flap fitting for wide wooden fronts (inset)



- Flush inset flap fitting for high design requirements and maximum storage space
- Additional fitting for wide fronts
- Holds flap securely in any position
- Adjustable spring force
- Fast, tool-free clip fitting of the front
- Flap with 3-dimensional adjustment:
height ± 2.5 mm, side ± 2.0 mm,
depth $+3.0$ mm / -1.0 mm
- 107° opening angle
- Can be used for flaps made from wood and wood-based products
- Integrated, opening angle reduction clip with optional activation (75°)
- Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
- With integrated Soft-close damper (Soft-close damper can be switched on/off)

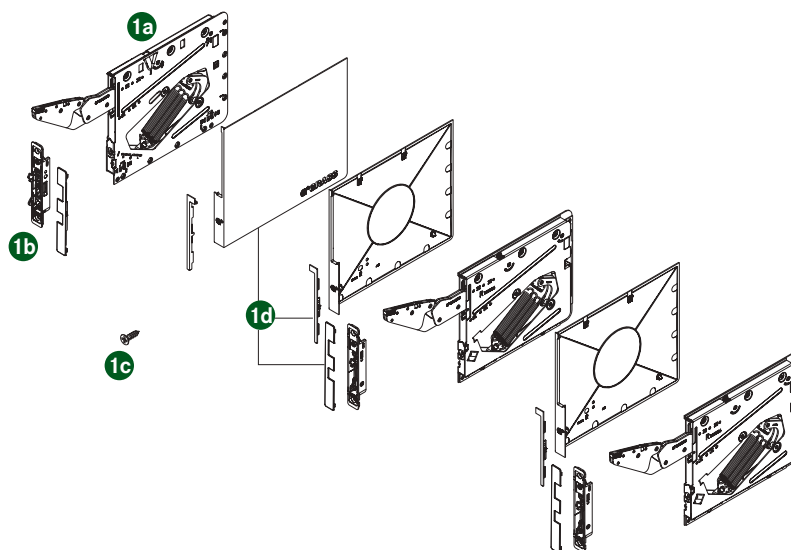
Kinvaro T-Slim Set for Wide Wood Fronts



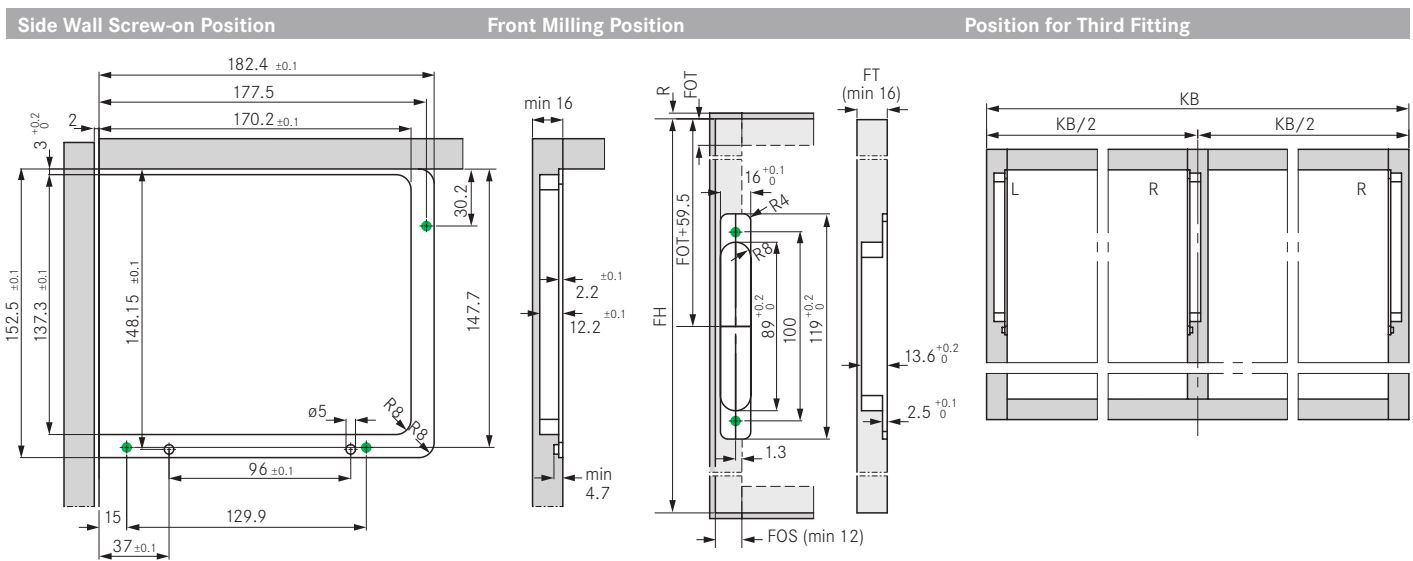
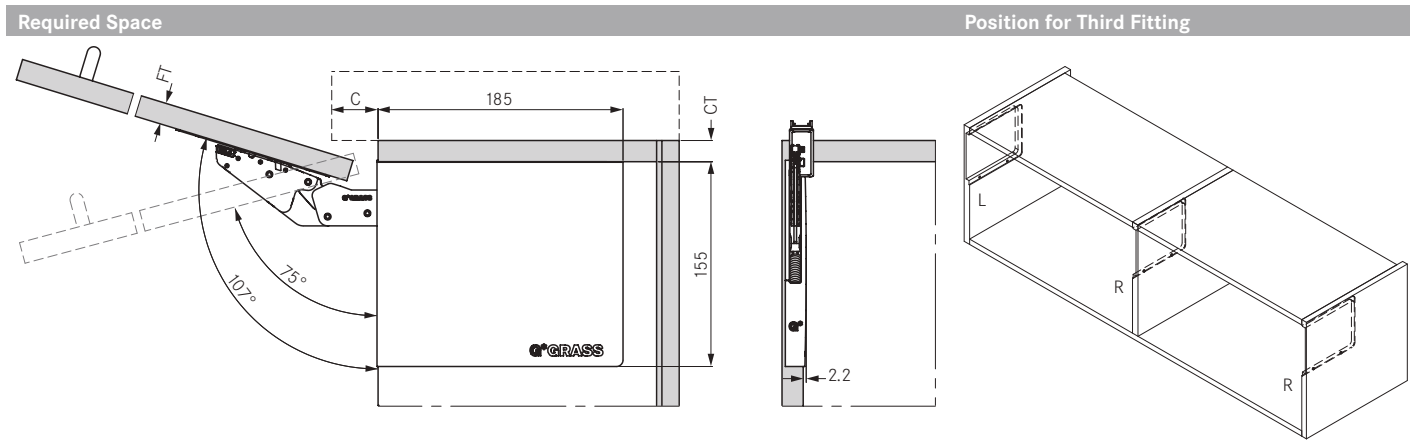
Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
1500 - 3375	F151149027201	F151149028201	F151149029201	1

Set consists of:

- 1a** 1 - Fitting Set, 1 left/2 right
- 1b** 1 - Front Connector Set, 1 left/2 right
- 1c** 18 - Screws
- 1d** 3 - Cover Caps, 3 left/6 right
- 1e** 1 - Installation Instructions



PU - Packaging unit



Cornice Reveal Flap Weight

Flap Thickness (FT)	Cabinet Top Panel (CT)				
	16	18	19	20	24
16	67	74	77	80	94
18	60	67	70	73	87
19	57	64	67	70	84
20	54	60	63	67	80
21	50	56	60	63	76
22	47	53	57	60	73
24	40	46	50	53	67
26	33	40	43	46	60
32	12	19	22	25	38

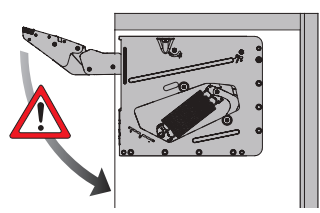
Cornice (C)

Flap Thickness (FT)	Front Overlay Top (FOT)				
	15	17	19	21	22
16	1	1	1	1	1
18	1	1	1	1	1
19	1	1	1	1	1
20	1	1	1	1	1
21	1	1	1	1	1
22	1	1	1	1	1
24	1.5	1	1	1	1
26	3	2.5	1.5	1	1
32	8	7	6	5.5	5

Reveal (R)

Flap Height (FH)	Power Factor (LF)	
	1500 - 3375	
7 7/8" (200)	15.5 - 37.3 (7.5 - 16.9)	
9 13/16" (250)	13.2 - 29.8 (6.0 - 13.5)	
11 13/16" (300)	11.0 - 24.9 (5.0 - 11.3)	
13 3/4" (350)	9.5 - 21.2 (4.3 - 9.6)	
15 3/4" (400)	8.4 - 18.5 (3.8 - 8.4)	
17 11/16" (450)	7.3 - 16.5 (3.3 - 7.5)	
19 11/16" (500)	6.6 - 15.0 (3.0 - 6.8)	
21 5/8" (550)	6.0 - 13.4 (2.7 - 6.1)	

Flap Weight in lb(kg)



Calculation of Power Factor (LF):

$$\{(\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)} = \text{LF}$$

Note: Power factor can only be calculated in metric

WARNING
 Caution - risk of injury!
 Fitting is spring-tensioned!

- CT = Cabinet top panel
- C = Cornice
- FH = Flap height
- FOB = Front overlay, bottom
- FOS = Front overlay, side
- FOT = Front overlay, top
- FT = Flap thickness
- LF = Power factor
- R = Reveal



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