



KINVARO



**G\* GRASS®**

## KINVARO LIFTER SYSTEMS

Modern design, innovative technology and ease of operation for wall cabinetry.





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Exclusive lifter systems – Kinvaro provides the perfect solution for every application.

Parallel lifters. Bi-fold lifters. Lift-up systems. Drop-down systems.

**Wall cabinets have become a popular storage solution for the kitchen and office area.**

Our Kinvaro lifter systems redefine the principle of the classic wall cabinet. Stable and reliable in movement, easy and quiet in application, ergonomically well designed and comfortable to operate. Kinvaro represents innovative design and functional movement.



## KINVARO LIFTER SYSTEMS

Easy to open with complete access to the cabinet contents and gentle, silent closing of the lift door.

These are the key features of the Kinvaro System.



**Kinvaro L-80**  
**Parallel Lifter System**

The single panel front opens upwards in a smooth, even motion, with absolute precision and in parallel with the wall cabinet. The stay put feature holds the front in any required position - regardless of door weight and material. In closing: the integrated Soft-closing damper system is fully adjustable and ensures a smooth and uniform closing action for all door weights.



**Kinvaro F-20**  
**Bi-Fold Lifter System**

In one effortless motion, the Bi-fold Lifter system is designed to move two horizontal doors together to offer maximum access to the cabinet's interior. Yet the lower door is still in easy reach for closing. Lifter doors can be built with flat or wood panels in a face frame or frameless application for the design look you want to achieve.



**Kinvaro T-Series**  
**Lift-Up Systems**

Distinguished by its simplicity, the T-series Lifter opens a single door that pivots the door to the top of the wall cabinet. The integrated Soft-close and its stay put feature contribute to the functionality of these Lifters. Available for face frame and frameless applications.



**Kinvaro D**  
**Drop-down Systems**

Kinvaro D flap system, paired with the Tiomos Flap hinge, revitalizes drop-down cabinet applications by creating aesthetically clean lines, a minimalistic look, and easy access into the cabinet contents.

|   | Description   | Page |
|---|---|------|
|    | <b>Kinvaro F-20 Bi-fold Lifter</b> <ul style="list-style-type: none"> <li>• Holds flap securely in any position</li> <li>• Adjustable spring force</li> <li>• Tool free attachment of door assembly to cabinet</li> <li>• Soft-closing with integrated adjustable damping</li> <li>• For frame and frameless cabinetry</li> </ul>   | 6    |
|    | <b>Kinvaro L-80 Parallel Lifter</b> <ul style="list-style-type: none"> <li>• Holds flap securely in any position</li> <li>• Extremely smooth movement</li> <li>• Adjustable spring force</li> <li>• Soft-closing with integrated adjustable damping</li> <li>• For frame and frameless cabinetry</li> </ul>   | 12   |
|    | <b>Kinvaro T-65 lift-up fitting</b> <ul style="list-style-type: none"> <li>• Variable opening angle - holds flap securely at any angle between 45° and 100°</li> <li>• Allows additional cabinet installation above</li> <li>• Soft-closing with integrated adjustable damping</li> <li>• For light to medium weight doors</li> <li>• For frame and frameless cabinetry</li> </ul>        | 16   |
|   | <b>Kinvaro T-71 lift-up fitting</b> <ul style="list-style-type: none"> <li>• Variable opening angle - holds flap securely at any angle between 45° and 110°</li> <li>• Allows additional cabinet installation above</li> <li>• Self-closing with integrated adjustable damping</li> <li>• Tool free attachment of door to cabinet</li> <li>• For frame and frameless cabinetry</li> </ul> | 20   |
|  | <b>Kinvaro T-76 lift-up fitting</b> <ul style="list-style-type: none"> <li>• Variable opening angle - holds flap securely at any angle between 45° and 110°</li> <li>• Allows additional cabinet installation above</li> <li>• Self-closing with integrated adjustable damping</li> <li>• Tool free attachment of door to cabinet</li> <li>• For frame and frameless cabinetry</li> </ul> | 24   |
|  | <b>Kinvaro T-57 lift-up fitting</b> <ul style="list-style-type: none"> <li>• Opening angle adjustable to 75° or 90°</li> <li>• Simple installation</li> <li>• Allows additional cabinet installation above</li> </ul>   | 28   |
|   | <b>Kinvaro Flap Stays</b>   | 31   |
|  | <b>Kinvaro D-M and Kinvaro D-S</b> <ul style="list-style-type: none"> <li>• Drop-down cabinet application</li> <li>• Opening angle adjustable</li> <li>• Installs horizontally and vertically</li> <li>• Works with Tiomos Flap hinge</li> </ul>  | 32   |
|  | <b>Tiomos Flap Hinge</b> <ul style="list-style-type: none"> <li>• 90° opening angle</li> <li>• 3-dimensional adjustment</li> <li>• Accommodates flap thickness up to 19mm</li> <li>• Works with Kinvaro D-M and D-S</li> </ul>  | 40   |
|  | <b>Kinvaro T-105 flap stay</b> <ul style="list-style-type: none"> <li>• Variable opening angle - holds flap securely at any angle between 45° and 105°</li> <li>• For wood and aluminum doors</li> <li>• Adjustable spring force</li> <li>• Convenient access, front lifts clear of the work area</li> <li>• Allows additional cabinet installation above</li> </ul>                      | 42   |
|   | <b>Kinvaro Assembly Aids</b> <ul style="list-style-type: none"> <li>• Installation accessories for Kinvaro Lifters</li> </ul>   | 45   |

# Kinvaro F-20

## Bi-Fold Lifter



- Holds flap securely in any position
- Extremely smooth movement
- Adjustable spring force
- Integrated adjustable closing damper
- Flap with 3-dimensional adjustment – height, side, angle: Direct adjustment  $\pm 1.5\text{mm}$
- Hinge with 3-dimensional adjustment – height, side, depth
- Opening limiter adjustable to  $90^\circ$
- Wide range of applications for many different flap materials
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Pre-assembled Euro screws and positioning pins for easy mounting of the fitting to the side wall
- Extremely strong
- Weight 9.7 to 42.3 lb (4.4 to 19.2 kg)
- Range of flaps:  
Width:  $15 \frac{3}{4}'' - 47 \frac{1}{4}''$  (400 – 1200mm)  
Height:  $22 \frac{1}{16}'' - 35 \frac{7}{16}''$  (560 – 900mm)
- Cover caps in grey

### APPLICATION RANGE

| Cabinet height  | Guide lever | Flap weight incl. handle lb (kg) |                          |                          |
|---|-------------|----------------------------------|--------------------------|--------------------------|
|   |             | Spring B                         | Spring C                 | Spring D                 |
| 22 $\frac{1}{16}'' - 23 \frac{19}{32}''$ (560 – 599)  | Type 3      | 9.7 – 27.8 (4.4 – 12.6)          | -                        | -                        |
| 23 $\frac{5}{8}'' - 25 \frac{9}{16}''$ (600 – 649)    | Type 4      | -                                | 15.0 – 34.8 (6.8 – 15.8) | -                        |
| 25 $\frac{19}{32}'' - 27 \frac{17}{32}''$ (650 – 699) | Type 5      | -                                | 14.8 – 37.3 (6.7 – 16.9) | -                        |
| 27 $\frac{9}{16}'' - 29 \frac{1}{2}''$ (700 – 749)    | Type 6      | -                                | 14.3 – 36.2 (6.5 – 16.4) | -                        |
| 29 $\frac{17}{32}'' - 31 \frac{15}{32}''$ (750 – 799) | Type 7      | -                                | -                        | 19.0 – 42.3 (8.6 – 19.2) |
| 31 $\frac{1}{2}'' - 33 \frac{7}{16}''$ (800 – 849)    | Type 7      | -                                | -                        | 17.2 – 39.7 (7.8 – 18.0) |
| 33 $\frac{15}{32}'' - 35 \frac{7}{16}''$ (850 – 900)  | Type 7      | -                                | -                        | 14.3 – 36.4 (6.5 – 16.5) |

### ORDER INFORMATION

| Kinvaro F-20 set |                      |                      |                      |    |
|------------------|----------------------|----------------------|----------------------|----|
| Cabinet height   | Spring B             | Spring C             | Spring D             | PU |
| 560 – 599        | <b>F152145238201</b> |                      |                      | 1  |
| 600 – 649        |                      | <b>F152145241201</b> |                      | 1  |
| 650 – 699        |                      | <b>F152145243201</b> |                      | 1  |
| 700 – 749        |                      | <b>F152145244201</b> |                      | 1  |
| 750 – 900        |                      |                      | <b>F152145247201</b> | 1  |

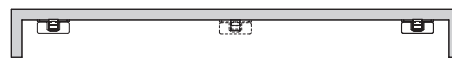
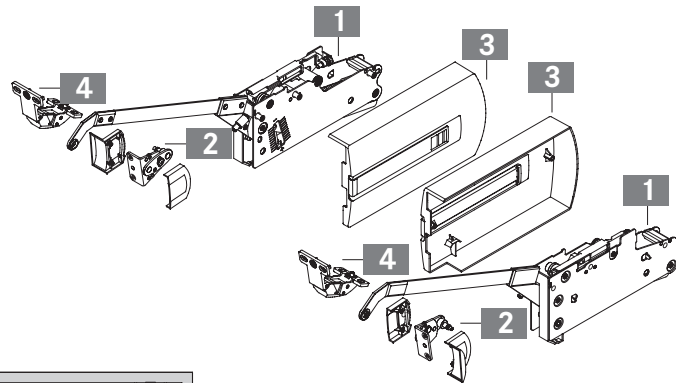
| Face frame adapter, Kinvaro F-20 set                            |         |                      |    |
|---|---------|----------------------|----|
| Description   | Overlay | Item No.             | PU |
| Face frame adapter (2x) for wood frames with fixing screws (8x) | 13 – 17 | <b>F151135906201</b> | 1  |

#### Note:

Please order separately: Tiomos  $120^\circ$  hinges with spring, without Soft-close, and Tiomos base plates for top panel.

**Kinvaro F-20 set** comprises:

- 1 Fitting, right and left (1x)
  - 2 Screw-on bracket for wood, incl. cover caps (2x)
  - 3 Cover caps on right and left (1x)
  - 4 Break away center hinges (2x)
- Paper template (1x), Installation instructions (1x)



**Number of hinges at top panel**  
For cabinet widths  $\geq 900\text{mm}$ , 3 hinges are recommended.

PU – Packaging unit

### ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR CABINET HEIGHT 560 – 799

| Required space   | Side wall drilling positions  | Side wall drilling distance   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
|--|---|---|----|------|---|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|-----------|---|-----|
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| KH   | Type  | B   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 560 – 569  | 3   | 183   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 570 – 579  | 3   | 168   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 580 – 589  | 3   | 153   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 590 – 599  | 3   | 138   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 600 – 609  | 4   | 208   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 610 – 619  | 4   | 198   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 620 – 629  | 4   | 178   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 630 – 639  | 4   | 168   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 640 – 649  | 4   | 158   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 650 – 699  | 5   | 225   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 700 – 749  | 6   | 235   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 750 – 799  | 7   | 250   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| Front: installation for wooden and frame flaps (min 45mm width)  | Front: drilling distance  | Front: drilling distance  |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| <p><b>WARNING</b></p> <p><b>Important! Caution - risk of injury! Fitting is spring-tensioned!</b></p> <p><b>Calculation of door width (all measurements in inches)</b></p> $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ <p>Example: <math>\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''</math></p> | <p style="text-align: right; font-size: small;">* Pre-drilling required - Ø 2mm</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>KH</th> <th>Type</th> <th>C</th> </tr> </thead> <tbody> <tr><td>560 – 569</td><td>3</td><td>145</td></tr> <tr><td>570 – 579</td><td>3</td><td>160</td></tr> <tr><td>580 – 589</td><td>3</td><td>175</td></tr> <tr><td>590 – 599</td><td>3</td><td>190</td></tr> <tr><td>600 – 609</td><td>4</td><td>138</td></tr> <tr><td>610 – 619</td><td>4</td><td>148</td></tr> <tr><td>620 – 629</td><td>4</td><td>168</td></tr> <tr><td>630 – 639</td><td>4</td><td>178</td></tr> <tr><td>640 – 649</td><td>4</td><td>188</td></tr> <tr><td>650 – 699</td><td>5</td><td>146</td></tr> <tr><td>700 – 749</td><td>6</td><td>156</td></tr> <tr><td>750 – 799</td><td>7</td><td>166</td></tr> </tbody> </table> | KH | Type | C | 560 – 569 | 3 | 145 | 570 – 579 | 3 | 160 | 580 – 589 | 3 | 175 | 590 – 599 | 3 | 190 | 600 – 609 | 4 | 138 | 610 – 619 | 4 | 148 | 620 – 629 | 4 | 168 | 630 – 639 | 4 | 178 | 640 – 649 | 4 | 188 | 650 – 699 | 5 | 146 | 700 – 749 | 6 | 156 | 750 – 799 | 7 | 166 |
| KH   | Type  | C   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 560 – 569  | 3   | 145   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 570 – 579  | 3   | 160   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 580 – 589  | 3   | 175   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 590 – 599  | 3   | 190   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 600 – 609  | 4   | 138   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 610 – 619  | 4   | 148   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 620 – 629  | 4   | 168   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 630 – 639  | 4   | 178   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 640 – 649  | 4   | 188   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 650 – 699  | 5   | 146   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 700 – 749  | 6   | 156   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| 750 – 799  | 7   | 166   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |
| <p>Calculation of flap weight</p> <p>Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap</p> <p><sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup></p> <p><sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting</p>  |   |   |    |      |   |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |           |   |     |

#### Metric Conversions

|      |                               |                              |                              |                                |                                |                               |                               |                                |                                |                               |                                |                                |                               |                              |                               |                               |                               |
|------|-------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| MM   | 2                             | 3.5                          | 4                            | 5                              | 8.5                            | 9                             | 10                            | 11                             | 13                             | 14.5                          | 15                             | 16                             | 17                            | 19                           | 25                            | 31                            | 32                            |
| INCH | <sup>3</sup> / <sub>32</sub>  | <sup>1</sup> / <sub>8</sub>  | <sup>5</sup> / <sub>32</sub> | <sup>3</sup> / <sub>16</sub>   | <sup>11</sup> / <sub>32</sub>  | <sup>11</sup> / <sub>32</sub> | <sup>13</sup> / <sub>32</sub> | <sup>7</sup> / <sub>16</sub>   | <sup>1</sup> / <sub>2</sub>    | <sup>9</sup> / <sub>16</sub>  | <sup>19</sup> / <sub>32</sub>  | <sup>5</sup> / <sub>8</sub>    | <sup>21</sup> / <sub>32</sub> | <sup>3</sup> / <sub>4</sub>  | <sup>31</sup> / <sub>32</sub> | <sup>17</sup> / <sub>32</sub> | <sup>1</sup> / <sub>4</sub>   |
| MM   | 40                            | 41                           | 45                           | 50                             | 63                             | 64                            | 103                           | 119                            | 123                            | 128                           | 170                            | 174                            | 180                           | 181                          | 186                           | 254                           | 260                           |
| INCH | <sup>19</sup> / <sub>16</sub> | <sup>15</sup> / <sub>8</sub> | <sup>13</sup> / <sub>4</sub> | <sup>131</sup> / <sub>32</sub> | <sup>215</sup> / <sub>32</sub> | <sup>2</sup> / <sub>12</sub>  | <sup>41</sup> / <sub>16</sub> | <sup>411</sup> / <sub>16</sub> | <sup>427</sup> / <sub>32</sub> | <sup>51</sup> / <sub>16</sub> | <sup>611</sup> / <sub>16</sub> | <sup>627</sup> / <sub>32</sub> | <sup>73</sup> / <sub>32</sub> | <sup>71</sup> / <sub>8</sub> | <sup>75</sup> / <sub>16</sub> | 10                            | <sup>101</sup> / <sub>4</sub> |

#### LEGEND

- B Drilling dimension - side wall
- C Drilling dimension - front
- F Flap
- FAS Front overlay, side
- KH Cabinet height
- FAO Front overlay, top

# Kinvaro F-20

## Bi-Fold Lifter

### ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR CABINET HEIGHT 800 – 900

| Required space   | Side wall drilling positions | Side wall drilling distance   |      |      |   |           |      |           |           |   |     |
|--|------------------------------|---|------|------|---|-----------|------|-----------|-----------|---|-----|
|  |                              | <table border="1"> <thead> <tr> <th>KH</th> <th>Type</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>800 – 849</td> <td>7</td> <td>103</td> </tr> <tr> <td>850 – 900</td> <td>7</td> <td>110</td> </tr> </tbody> </table> | KH   | Type | B | 800 – 849 | 7    | 103       | 850 – 900 | 7 | 110 |
|  |                              | KH  | Type | B    |   |           |      |           |           |   |     |
| 800 – 849  | 7                            | 103   |      |      |   |           |      |           |           |   |     |
| 850 – 900  | 7                            | 110   |      |      |   |           |      |           |           |   |     |
| <table border="1"> <thead> <tr> <th colspan="2">Shelf distance</th> </tr> <tr> <th>KH</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>800 – 849</td> <td>≤293</td> </tr> <tr> <td>850 – 900</td> <td>≤312</td> </tr> </tbody> </table> |                              | Shelf distance  |      | KH   | D | 800 – 849 | ≤293 | 850 – 900 | ≤312      |   |     |
| Shelf distance   |                              |   |      |      |   |           |      |           |           |   |     |
| KH   | D                            |   |      |      |   |           |      |           |           |   |     |
| 800 – 849  | ≤293                         |   |      |      |   |           |      |           |           |   |     |
| 850 – 900  | ≤312                         |   |      |      |   |           |      |           |           |   |     |

| <p><b>WARNING</b></p> <p><b>Important! Caution - risk of injury! Fitting is spring-tensioned!</b></p> | Front: installation for wooden flaps (min 45mm width)  | Front: drilling distance               |   |    |      |   |           |   |
|---|--|--|---|----|------|---|-----------|---|
|   | <p><b>Calculation of door weight (all measurements in inches)</b><br/>             Flap width x flap height x flap thickness x density<sup>(2)</sup> + handle weight<sup>(3)</sup> = flap weight</p> <p>Example: 23 5/8" x 15 3/4" x 3/4" x .0307 lb/in<sup>3</sup> + 1.1 lb = 9.67 lb</p> | <p>* Pre-drilling required - Ø 2mm</p> | <table border="1"> <thead> <tr> <th>KH</th> <th>Type</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>800 – 900</td> <td>7</td> <td>304</td> </tr> </tbody> </table> | KH | Type | C | 800 – 900 | 7 |
| KH  | Type   | C                                      |   |    |      |   |           |   |
| 800 – 900   | 7  | 304                                    |   |    |      |   |           |   |

| Calculation of flap weight  | Number of hinges for top panel  |
|---|---|
| <p>Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap</p> <p><sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup></p> <p><sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting</p> | <p>For cabinet widths ≥ 900mm, 3 hinges recommended for top panel</p> |

#### Metric Conversions

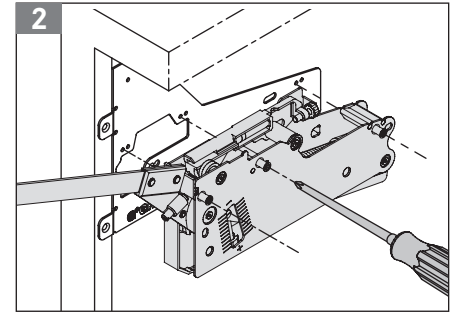
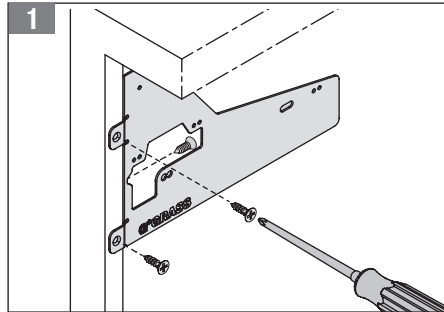
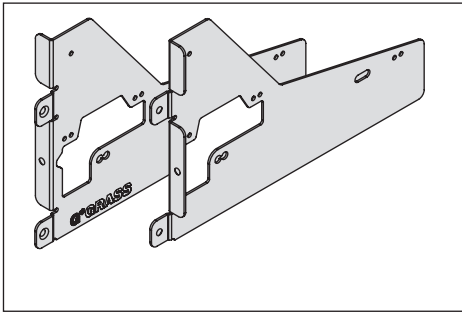
| MM   | 2      | 3.2   | 3.5    | 4     | 5     | 5.5   | 8       | 8.5     | 9     | 10      | 11      | 12.5    | 14.5   | 15      | 16     | 19  | 25     |
|------|--------|-------|--------|-------|-------|-------|---------|---------|-------|---------|---------|---------|--------|---------|--------|-----|--------|
| INCH | 3/32   | 1/8   | 1/8    | 5/32  | 3/16  | 7/32  | 5/16    | 11/32   | 11/32 | 13/32   | 7/16    | 1/2     | 9/16   | 19/32   | 5/8    | 3/4 | 31/32  |
| MM   | 31     | 32    | 40     | 41    | 45    | 48    | 50      | 63      | 64    | 96      | 119     | 123     | 128    | 170     | 186    | 254 | 260    |
| INCH | 1 7/32 | 1 1/4 | 1 9/16 | 1 5/8 | 1 3/4 | 1 7/8 | 1 31/32 | 2 15/32 | 2 1/2 | 3 25/32 | 4 11/16 | 4 27/32 | 5 1/16 | 6 11/16 | 7 5/16 | 10  | 10 1/4 |

#### LEGEND

- B Drilling dimension - side wall
- C Drilling dimension - front
- F Reveal
- FAS Front overlay, side
- KH Cabinet height
- D Distance
- FAO Front overlay, top
- FH Flap height
- LWK Inside cabinet width
- LHK Inside cabinet height



### ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



| Required space | Side wall drilling positions | Side wall drilling distance |      |     |
|----------------|------------------------------|-----------------------------|------|-----|
|                |                              | LHK                         | Type | B   |
|                |                              | 528 - 537                   | 3    | 183 |
|                |                              | 538 - 547                   | 3    | 168 |
|                |                              | 548 - 557                   | 3    | 153 |
|                |                              | 558 - 567                   | 3    | 138 |
|                |                              | 568 - 577                   | 4    | 208 |
|                |                              | 578 - 587                   | 4    | 198 |
|                |                              | 588 - 597                   | 4    | 178 |
|                |                              | 598 - 607                   | 4    | 168 |
|                |                              | 608 - 617                   | 4    | 158 |
|                |                              | 618 - 627                   | 5    | 225 |
| 668 - 717      | 6                            | 235                         |      |     |
| 718 - 767      | 7                            | 250                         |      |     |

| Front: installation for wooden and frame flaps (min. 45mm width)  | Front: drilling distance |      |     |
|---|--------------------------|------|-----|
|   | LHK                      | Type | C   |
| <p><b>Calculation of door width (all measurements in inches)</b></p> $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ <p>Example: <math>\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times 3 \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''</math></p> <p>* Pre-drilling required - Ø 2mm</p> | 528 - 537                | 3    | 145 |
|   | 538 - 547                | 3    | 160 |
|   | 548 - 557                | 3    | 175 |
|   | 558 - 567                | 3    | 190 |
|   | 568 - 577                | 4    | 138 |
|   | 578 - 587                | 4    | 148 |
|   | 588 - 597                | 4    | 168 |
|   | 598 - 607                | 4    | 178 |
|   | 608 - 617                | 4    | 188 |
|   | 618 - 627                | 5    | 146 |
| 668 - 717   | 6                        | 156  |     |
| 718 - 767   | 7                        | 166  |     |

**Calculation of flap weight**

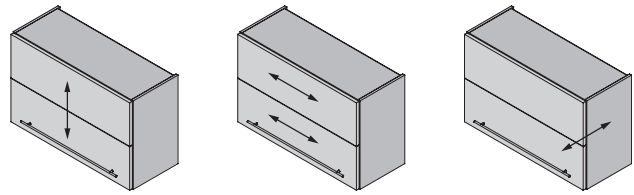
Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap

<sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup>

<sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

# Kinvaro F-20

## Bi-Fold Lifter



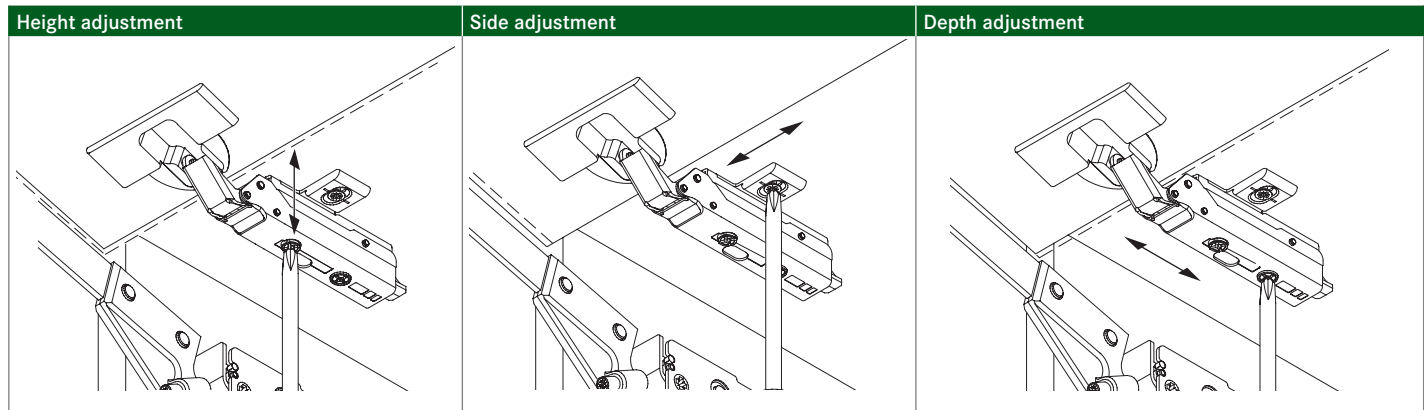
Height adjustment  
+/-1.5mm

Side adjustment  
+/- 2mm

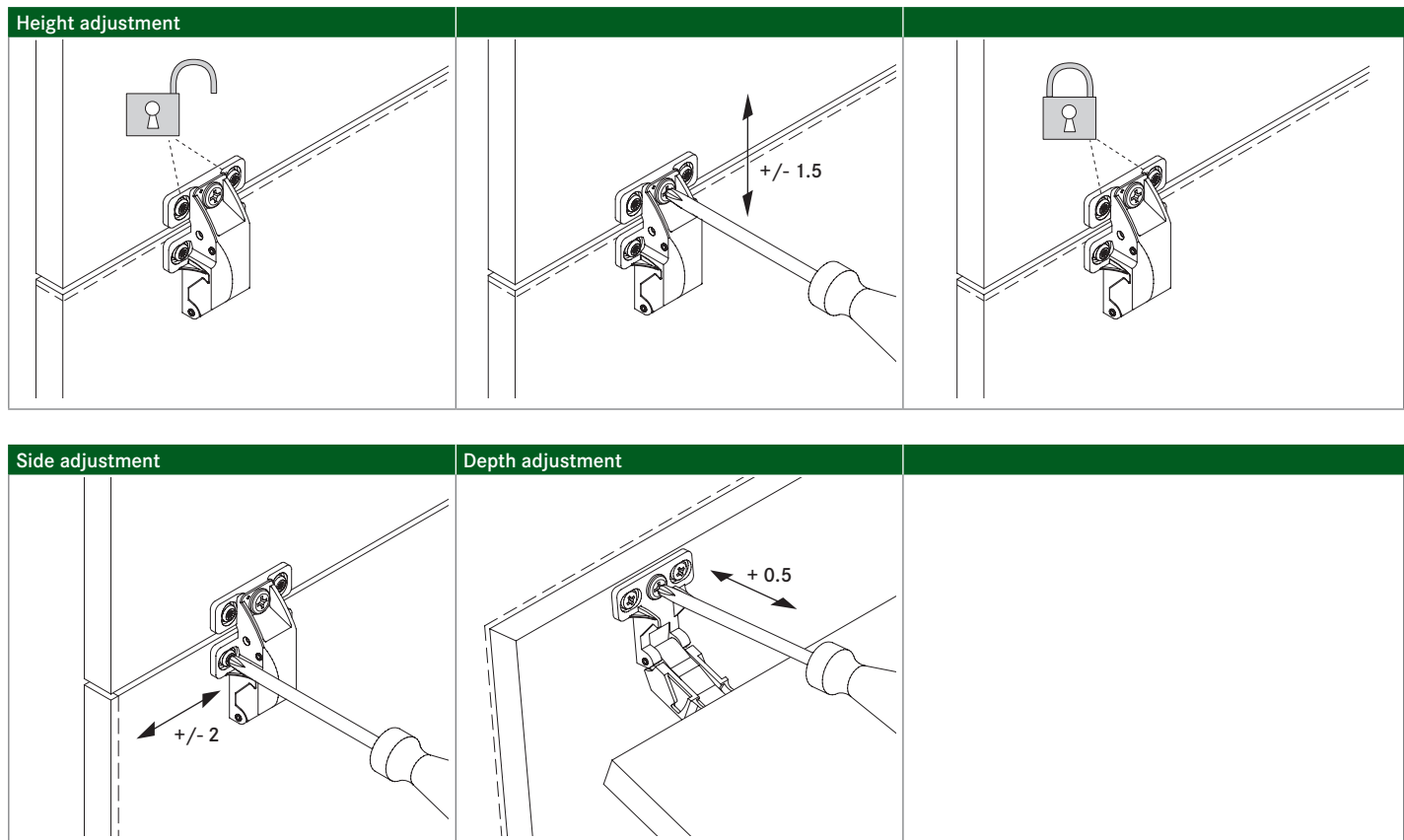
Depth adjustment  
+/- 0.5mm

All adjustments can be carried out independently of each other.

### ADJUSTMENT OPTIONS FOR HINGE IN CABINET TOP PANEL



### ADJUSTMENT OPTIONS FOR INTERMEDIATE HINGE



### ADJUSTMENT OPTIONS

|  |                                   |                                     |
|--|-----------------------------------|-------------------------------------|
| <p>Adjusting the flap closing position</p>     |                                   |                                     |
|  | <p>Adjusting the spring force</p> | <p>Adjusting the damping system</p> |
| <p>Adjusting the opening angle 90° to 120°</p> |                                   | <p>Note</p> <p><b>WARNING</b></p>   |

# Kinvaro L-80

## Parallel Lifter



- Holds flap securely in any position
- Extremely smooth movement
- Adjustable spring force
- Integrated adjustable closing damper
- Flap 3-dimensionally adjustable – height, side, angle: Direct adjustment  $\pm 1.5\text{mm}$
- Allows the use of cornices, pelmets, and attached lights
- Wide range of applications for many different flap materials
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Pre-assembled Euro screws and positioning pins for easy mounting of the fitting to the side wall
- Extremely strong
- Weight 4 to 32 lb (1.9 to 14.6 kg)
- Range of flaps:  
Width:  $17 \frac{23}{32}'' - 47 \frac{1}{4}''$  (450 – 1200mm)  
Height:  $13 \frac{25}{32}'' - 23 \frac{5}{8}''$  (350 – 600mm)
- Cover caps in grey

### APPLICATION RANGE

| Cabinet height  | Guide lever | Flap weight incl. handle lb (kg) |                         |                          |
|---|-------------|----------------------------------|-------------------------|--------------------------|
|   |             | Spring A                         | Spring B                | Spring C                 |
| $13 \frac{25}{32}'' - 14 \frac{17}{32}''$ (350 – 369) | Type 1      | 5.5 - 14.3 (2.5 – 6.5)           | 13.2 - 20.9 (6.0 – 9.5) | -                        |
| $14 \frac{9}{16}'' - 15 \frac{5}{16}''$ (370 – 389)   | Type 2      | 5.1 - 13.2 (2.3 – 6.0)           | 12.1 - 19.8 (5.5 – 9.0) | 18.7 - 21.2 (8.5 – 9.6)  |
| $15 \frac{11}{32}'' - 16 \frac{3}{32}''$ (390 – 409)  | Type 3      | 4.6 - 12.1 (2.1 – 5.5)           | 11.0 - 18.7 (5.0 – 8.5) | 17.6 - 22.3 (8.0 – 10.1) |
| $16 \frac{1}{8}'' - 16 \frac{7}{8}''$ (410 – 429)     | Type 4      | 4.2 - 11.0 (1.9 – 5.0)           | 9.9 - 17.6 (4.5 – 8.0)  | 16.5 - 32.2 (7.5 – 14.6) |
| $16 \frac{15}{16}'' - 23 \frac{5}{8}''$ (430 – 600)   | Type 5      | 4.4 - 9.9 (2.0 – 4.5)            | 8.8 - 16.5 (4.0 – 7.5)  | 15.4 - 32.2 (7.0 – 14.6) |

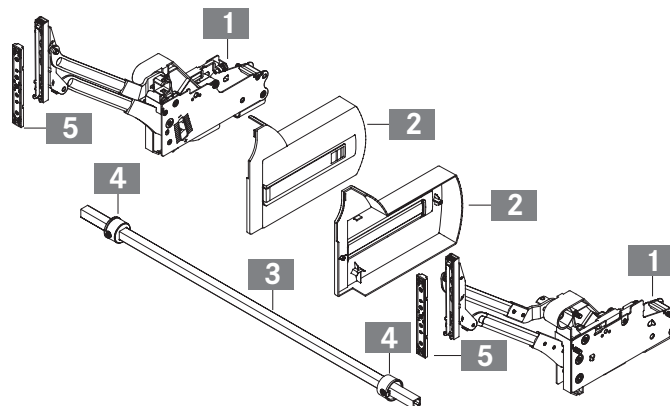
### ORDER INFORMATION

| Kinvaro L-80 set |               |               |               |    |  |
|------------------|---------------|---------------|---------------|----|--|
| Cabinet height   | Spring A      | Spring B      | Spring C      | PU |  |
| 350 – 369        | F152145248201 | F152147444201 | -             | 1  |  |
| 370 – 389        | -             | -             | -             |    |  |
| 390 – 409        | F152147441201 | F152145251201 | F152145252201 | 1  |  |
| 410 – 429        | F152147442201 | F152145281201 | -             | 1  |  |
| 430 – 600        | F152147443201 | F152145253201 | F152145254201 | 1  |  |

| Face Frame Adapter, Kinvaro L-80 set                             |         |               |    |
|--|---------|---------------|----|
| Description  | Overlay | Item No.      | PU |
| Face frame adapter, (2x) for wood screws with fixing screws (8x) | 13 – 17 | F151135906201 | 1  |

Kinvaro L-80 set comprises:

- 1 Fitting, right and left (1x)
  - 2 Cover caps on right and left (1x)
  - 3 1090mm cross bar for cutting to length (1x)
  - 4 Sliding sleeves (2x)
  - 5 Mounting plates (2x)
- Paper template (1x), Installation instructions (1x)



PU - Packaging unit

### ASSEMBLY AND INSTALLATION INSTRUCTIONS

| Required space   | Side wall drilling positions  | Side wall drilling distance  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
|--|---|--|------|---------|----|-----------|---|-----|-----------|-----|-----|-----------|-----|-----|-----------|-----|-----|-----------|---|-----|-----|-----|---|-----|-----|-----|--------------------|--|---|--------|---|----|---|----|---|----|
|  |   | <table border="1"> <thead> <tr> <th>Type</th> <th>min LHK</th> <th>D1</th> <th>D2</th> </tr> </thead> <tbody> <tr><td>1</td><td>312</td><td>161</td><td>304</td></tr> <tr><td>2</td><td>332</td><td>176</td><td>337</td></tr> <tr><td>3</td><td>352</td><td>191</td><td>370</td></tr> <tr><td>4</td><td>372</td><td>206</td><td>403</td></tr> <tr><td>5</td><td>392</td><td>221</td><td>436</td></tr> </tbody> </table><br><table border="1"> <thead> <tr> <th colspan="2">Cornice projection</th> </tr> <tr> <th>F</th> <th>KP max</th> </tr> </thead> <tbody> <tr><td>2</td><td>22</td></tr> <tr><td>3</td><td>35</td></tr> <tr><td>4</td><td>39</td></tr> </tbody> </table> | Type | min LHK | D1 | D2        | 1 | 312 | 161       | 304 | 2   | 332       | 176 | 337 | 3         | 352 | 191 | 370       | 4 | 372 | 206 | 403 | 5 | 392 | 221 | 436 | Cornice projection |  | F | KP max | 2 | 22 | 3 | 35 | 4 | 39 |
| Type   | min LHK   | D1   | D2   |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 1  | 312   | 161  | 304  |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 2  | 332   | 176  | 337  |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 3  | 352   | 191  | 370  |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 4  | 372   | 206  | 403  |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 5  | 392   | 221  | 436  |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| Cornice projection   |   |  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| F  | KP max  |  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 2  | 22  |  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 3  | 35  |  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 4  | 39  |  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| <p><b>WARNING</b></p> <p><b>Important!</b><br/>Caution - risk of injury!<br/>Fitting is spring-tensioned!</p> <p><b>Calculation of door width (all measurements in inches)</b></p> $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ <p>Example: <math>\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''</math></p> | <p>Front: installation for wooden and frame flaps (min 45mm width)</p> <p>* Pre-drilling required - Ø 2mm</p> | <p>Front: drilling distance</p> <table border="1"> <thead> <tr> <th>KH</th> <th>Type</th> <th>X</th> </tr> </thead> <tbody> <tr><td>350 - 369</td><td>1</td><td>190</td></tr> <tr><td>370 - 389</td><td>2</td><td>210</td></tr> <tr><td>390 - 409</td><td>3</td><td>230</td></tr> <tr><td>410 - 429</td><td>4</td><td>250</td></tr> <tr><td>430 - 600</td><td>5</td><td>270</td></tr> </tbody> </table> <p>Cutting dimensions<br/>Cross bar</p>  | KH   | Type    | X  | 350 - 369 | 1 | 190 | 370 - 389 | 2   | 210 | 390 - 409 | 3   | 230 | 410 - 429 | 4   | 250 | 430 - 600 | 5 | 270 |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| KH   | Type  | X  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 350 - 369  | 1   | 190  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 370 - 389  | 2   | 210  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 390 - 409  | 3   | 230  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 410 - 429  | 4   | 250  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| 430 - 600  | 5   | 270  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |
| <p>Calculation of flap weight</p> <p>Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap</p> <p><sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup></p> <p><sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting</p>  |   |  |      |         |    |           |   |     |           |     |     |           |     |     |           |     |     |           |   |     |     |     |   |     |     |     |                    |  |   |        |   |    |   |    |   |    |

#### Metric Conversions

|      |        |       |       |         |       |       |       |        |         |         |         |        |       |         |        |         |        |
|------|--------|-------|-------|---------|-------|-------|-------|--------|---------|---------|---------|--------|-------|---------|--------|---------|--------|
| MM   | 2      | 3.5   | 5     | 8       | 8.5   | 10    | 12    | 12.5   | 13      | 15      | 17      | 18     | 19    | 22      | 32     | 36      | 37     |
| INCH | 3/32   | 1/8   | 3/16  | 5/16    | 11/32 | 13/32 | 15/32 | 1/2    | 1/2     | 19/32   | 21/32   | 23/32  | 3/4   | 7/8     | 1 1/4  | 1 13/32 | 1 7/16 |
| MM   | 40     | 45    | 48    | 50      | 54    | 60    | 64    | 78     | 96      | 100     | 123     | 128    | 158   | 164     | 186    | 254     | 260    |
| INCH | 1 9/16 | 1 3/4 | 1 7/8 | 1 31/32 | 2 1/8 | 2 3/8 | 2 1/2 | 3 1/16 | 3 25/32 | 3 15/16 | 4 27/32 | 5 1/16 | 6 1/4 | 6 15/32 | 7 5/16 | 10      | 10 1/4 |

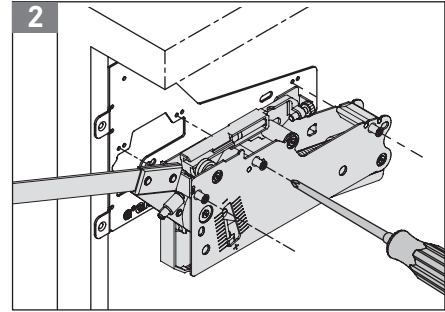
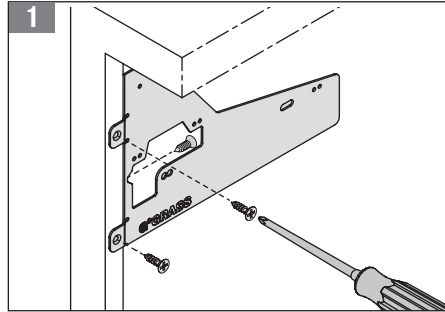
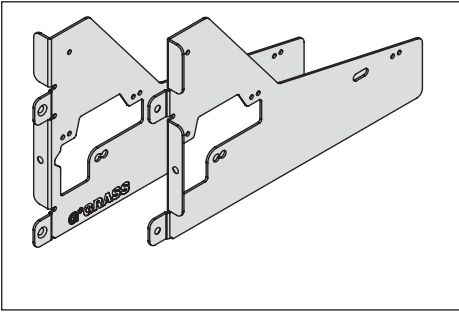
#### LEGEND

|     |                       |
|-----|-----------------------|
| D   | Distance              |
| F   | Reveal                |
| FAO | Front overlay, top    |
| FAS | Front overlay, side   |
| KH  | Cabinet height        |
| KP  | Cornice               |
| LHK | Inside cabinet height |
| LWK | Inside cabinet width  |
| X   | Drilling distance     |

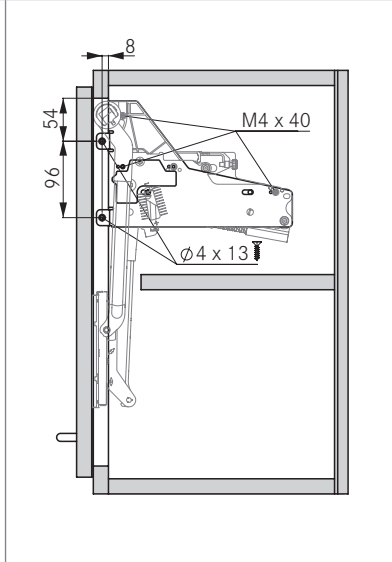
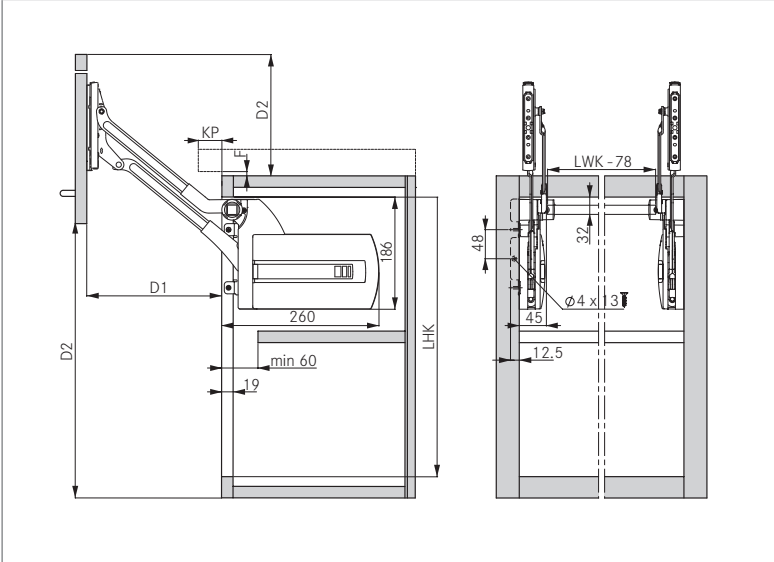
# Kinvaro L-80

## Parallel Lifter

### ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



| Required space | Side wall drilling positions | Side wall drilling distance |
|----------------|------------------------------|-----------------------------|
|----------------|------------------------------|-----------------------------|



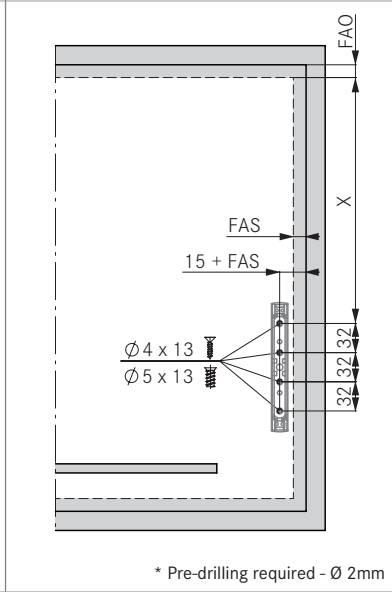
| Type | min LHK | D1  | D2  |
|------|---------|-----|-----|
| 1    | 312     | 161 | 304 |
| 2    | 332     | 176 | 337 |
| 3    | 352     | 191 | 370 |
| 4    | 372     | 206 | 403 |
| 5    | 392     | 221 | 436 |

| Cornice projection |        |
|--------------------|--------|
| F                  | KP max |
| 2                  | 22     |
| 3                  | 35     |
| 4                  | 39     |

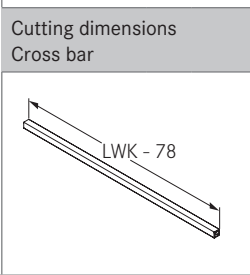
| Front: installation for wooden and frame flaps (min 45mm width) | Front: drilling distance |
|---|--------------------------|
|---|--------------------------|

**Calculation of door weight (all measurements in inches)**  
 Flap width x flap height x flap thickness x density<sup>(2)</sup> + handle weight<sup>(3)</sup> = flap weight

Example: 23 5/8" x 15 3/4" x 3/4" x .0307 lb/in<sup>3</sup> + 1.1 lb = 9.67 lb



| KH        | Type | X   |
|-----------|------|-----|
| 350 - 369 | 1    | 190 |
| 370 - 389 | 2    | 210 |
| 390 - 409 | 3    | 230 |
| 410 - 429 | 4    | 250 |
| 430 - 600 | 5    | 270 |



| Calculation of flap weight | Front: drilling distance |
|----------------------------|--------------------------|
|----------------------------|--------------------------|

Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap

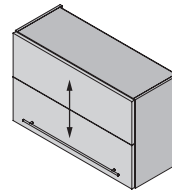
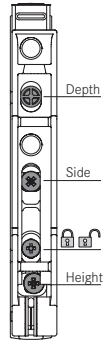
<sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup>

<sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

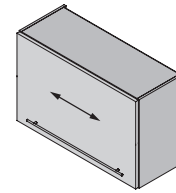
| Cutting dimensions |
|--------------------|
| Cross bar          |
| LWK - 78           |

# Kinvaro L-80

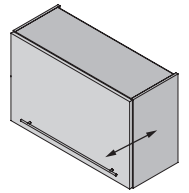
## Parallel Lifter



Height adjustment  
+/- 1.5mm



Side adjustment  
+/- 1.5mm



Depth adjustment  
+/- 1.5mm

All adjustments can be carried out independently of each other.

### ADJUSTMENT OPTIONS

| Unlocking | Height adjustment | Side adjustment |
|-----------|-------------------|-----------------|
|           |                   |                 |

| Depth adjustment | Locking |  |
|------------------|---------|--|
|                  |         |  |

| Adjusting the spring force | Adjusting the damping system | Note                  |
|----------------------------|------------------------------|-----------------------|
|                            |                              | <p><b>WARNING</b></p> |

# Kinvaro T-65

## Lift-up Flap Fitting



- Variable opening angle - holds flap securely at any angle between 45° and 100°
  - Extremely comfortable opening due to spring-supported opening mechanism
  - Adjustable spring force
  - Integrated adjustable closing damper
  - Adjustable flap height ±3.0mm
  - No hinges fitted to the top panel
  - Allows additional cabinet installation above
  - Can be used for wooden flaps or aluminum frames with glass insert
  - Face frame adapter available
  - Weight 1.3 to 16.3 lb (0.6 to 7.4 kg)
- Range of flaps:  
Width: up to 47 1/4" (up to 1200mm)  
Height: 9 27/32" - 23 5/8" (250 - 600mm)
- Cover caps in grey

### APPLICATION RANGE

| Cabinet height  | Flap weight incl. handle lb(kg) |                             |                            |
|-----------------|---------------------------------|-----------------------------|----------------------------|
|                 | Spring on one side yellow       | Spring on both sides yellow | Spring on both sides black |
| 9 27/32" (250)  | 2.0 - 4.6 (0.9 - 2.1)           | 4.0 - 9.3 (1.8 - 4.2)       | 5.3 - 16.3 (2.4 - 7.4)     |
| 11 13/16" (300) | 1.5 - 3.7 (0.7 - 1.7)           | 3.1 - 7.5 (1.4 - 3.4)       | 4.4 - 13.9 (2.0 - 6.3)     |
| 13 25/32" (350) | -                               | 2.2 - 6.4 (1.0 - 2.9)       | 3.7 - 11.9 (1.7 - 5.4)     |
| 15 3/4" (400)   | -                               | 1.8 - 5.5 (0.8 - 2.5)       | 3.3 - 10.4 (1.5 - 4.7)     |
| 17 23/32" (450) | -                               | 1.5 - 4.9 (0.7 - 2.2)       | 2.9 - 9.3 (1.3 - 4.2)      |
| 19 11/16" (500) | -                               | 1.3 - 4.4 (0.6 - 2.0)       | 2.9 - 8.6 (1.3 - 3.9)      |
| 21 21/32" (550) | -                               | -                           | 2.9 - 7.5 (1.3 - 3.4)      |
| 23 5/8" (600)   | -                               | -                           | 2.9 - 6.8 (1.3 - 3.1)      |

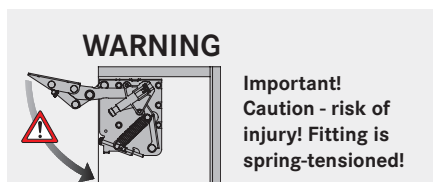
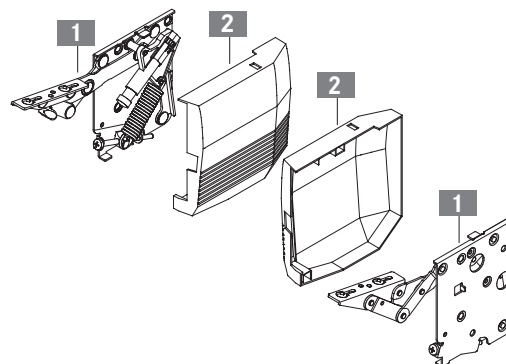
### ORDER INFORMATION

| Kinvaro T-65 set  |              |             |          |                      |    |
|---|--------------|-------------|----------|----------------------|----|
| Description   | Springs      | Version for | Overlay  | Item No.             | PU |
| Kinvaro T-65 on right without damper and on left with damper, pre-assembled springs black, incl. cover caps, 2 loose yellow springs | Black/yellow | wood        | variable | <b>F151147682201</b> | 1  |

| Face Frame Adapter, Kinvaro T-65 Kit                            |         |                      |    |
|---|---------|----------------------|----|
| Description   | Overlay | Item No.             | PU |
| Face frame adapter (2x) for wood frames with fixing screws (8x) | 13 - 17 | <b>F151135905201</b> | 1  |

#### Kinvaro T-65 set includes:

- 1 Fitting on the right without and on the left with damper (1x)
- 2 Cover caps on right and left (1x)  
Springs, yellow, loose (2x)  
Paper template (1x)  
Installation instructions (1x)



PU - Packaging unit



## Lift-up Flap Fitting

### ASSEMBLY AND INSTALLATION INSTRUCTIONS

|   |   |
|---|---|
| <p>Required space</p>   | <p>Side wall drilling positions</p>   |
| <p>Front: installation for flaps with narrow aluminum frame profiles (19mm)</p> <p>* Narrow aluminum frame profile (19mm)</p> | <p>Front: installation for wooden and frame flaps (min 45mm width)</p> <p>* Pre-drilling required - Ø 2mm</p> |

**Calculation of flap weight**

Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap

<sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup>

<sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

**Calculation of door width (all measurements in inches)**

$$\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$$

Example:  $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times 3 \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$

### Metric Conversions

|      |                 |                  |                   |                 |                  |                   |                 |                 |                 |                 |                 |                 |                  |                   |                   |                  |                  |
|------|-----------------|------------------|-------------------|-----------------|------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-------------------|-------------------|------------------|------------------|
| MM   | 2               | 3.2              | 6                 | 7.5             | 8                | 8.5               | 12              | 12.5            | 13              | 14              | 17              | 18              | 19               | 20                | 29                | 30               | 31               |
| INCH | $\frac{3}{32}$  | $\frac{1}{8}$    | $\frac{1}{4}$     | $\frac{9}{32}$  | $\frac{5}{16}$   | $\frac{11}{32}$   | $\frac{15}{32}$ | $\frac{1}{2}$   | $\frac{1}{2}$   | $\frac{9}{16}$  | $\frac{21}{32}$ | $\frac{23}{32}$ | $\frac{3}{4}$    | $\frac{13}{16}$   | $\frac{15}{32}$   | $\frac{13}{16}$  | $\frac{17}{32}$  |
| MM   | 32              | 33               | 34                | 38              | 40               | 42                | 45              | 47.5            | 48              | 54              | 64              | 133             | 135              | 144               | 147               | 156              | 260              |
| INCH | $1 \frac{1}{4}$ | $1 \frac{5}{16}$ | $1 \frac{11}{32}$ | $1 \frac{1}{2}$ | $1 \frac{9}{16}$ | $1 \frac{21}{32}$ | $1 \frac{3}{4}$ | $1 \frac{7}{8}$ | $1 \frac{7}{8}$ | $2 \frac{1}{8}$ | $2 \frac{1}{2}$ | $5 \frac{1}{4}$ | $5 \frac{5}{16}$ | $5 \frac{11}{16}$ | $5 \frac{13}{16}$ | $6 \frac{5}{32}$ | $10 \frac{1}{4}$ |

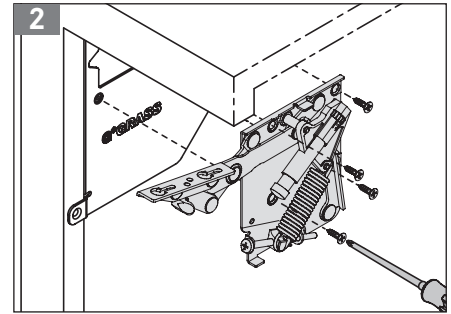
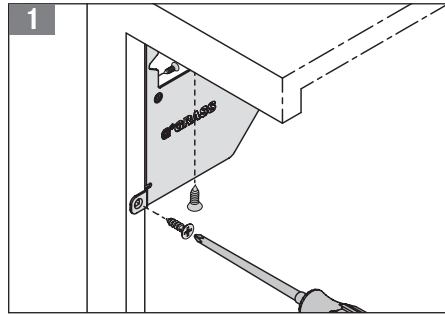
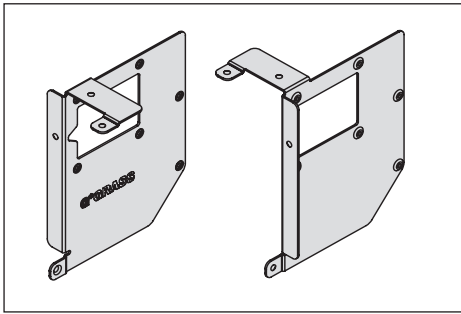
### LEGEND

- F Reveal
- FAS Front overlay, side
- FAO Front overlay, top

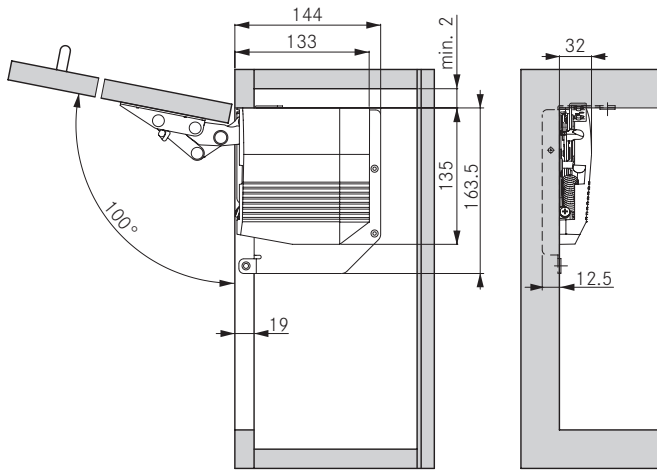
# Kinvaro T-65

## Lift-up Flap Fitting

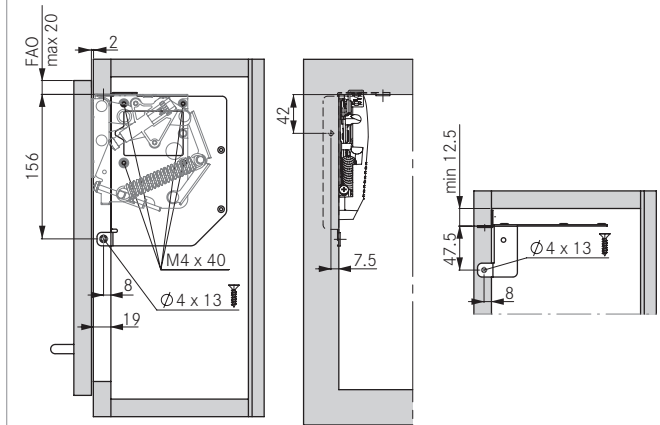
### ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



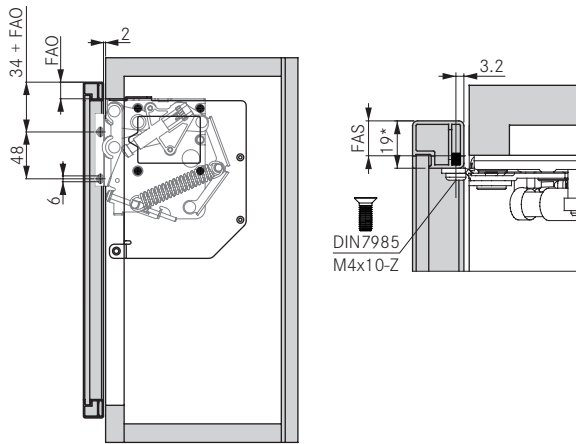
#### Required space



#### Side wall drilling positions

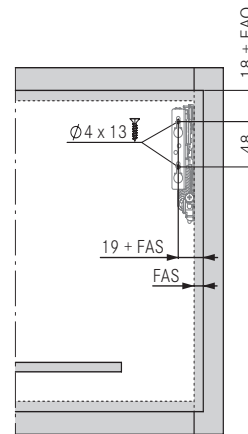


#### Front: installation for flaps with narrow aluminum frame profiles (19mm)



\* Narrow aluminum frame a profile (19mm)

#### Front: installation for wooden and frame flaps (min 45mm width)



\* Predrilling required - Ø 2mm

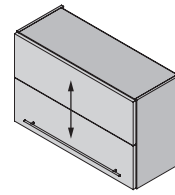
#### Calculation of flap weight

Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap

<sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup>

<sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

## Lift-up Flap Fitting



Height adjustment  
+/-3mm

### ADJUSTMENT OPTIONS

All adjustments can be carried out independently of each other.

| Height adjustment          | Locking                      |                       |
|----------------------------|------------------------------|-----------------------|
|                            |                              |                       |
| Adjusting the spring force | Adjusting the damping system |                       |
|                            |                              |                       |
|                            |                              | Note                  |
|                            |                              | <p><b>WARNING</b></p> |

# Kinvaro T-71

## Lift-up Fitting



- Variable opening angle - holds flap securely at any angle between 45° and 110°
- Extremely comfortable opening due to spring-supported opening mechanism
- Adjustable spring force
- Integrated adjustable closing damper
- Flap 3-dimensionally adjustable - height, side, angle: direct adjustment ±1.5mm
- No hinges fitted to the top panel
- Allows additional cabinet installation above
- For wooden flaps
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Weight 3.1 to 18.7 lb (1.4 to 8.5 kg)
- Range of flaps:  
Width: up to 47 1/4" (up to 1200mm)  
Height: 11 13/16" - 23 5/8" (300 - 600mm)
- Cover caps in grey

### APPLICATION RANGE

| Cabinet height  | Flap weight incl. handle lb (kg) |                        |
|-----------------|----------------------------------|------------------------|
|                 | Spring, white                    | Spring, orange         |
| 11 13/16" (300) | 4.6 - 16.3 (2.1 - 7.4)           | 5.5 - 18.7 (2.5 - 8.5) |
| 13 25/32" (350) | 4.0 - 13.9 (1.8 - 6.3)           | 5.1 - 16.5 (2.3 - 7.5) |
| 15 3/4" (400)   | 3.7 - 11.9 (1.7 - 5.4)           | 4.6 - 15.0 (2.1 - 6.8) |
| 17 23/32" (450) | 3.5 - 10.4 (1.6 - 4.7)           | 4.4 - 12.8 (2.0 - 5.8) |
| 19 11/16" (500) | 3.3 - 8.8 (1.5 - 4.0)            | 4.0 - 11.0 (1.8 - 5.0) |
| 21 21/32" (550) | 3.1 - 8.2 (1.4 - 3.7)            | 3.5 - 10.1 (1.6 - 4.6) |
| 23 5/8" (600)   | 3.1 - 7.3 (1.4 - 3.3)            | 3.1 - 9.3 (1.4 - 4.2)  |

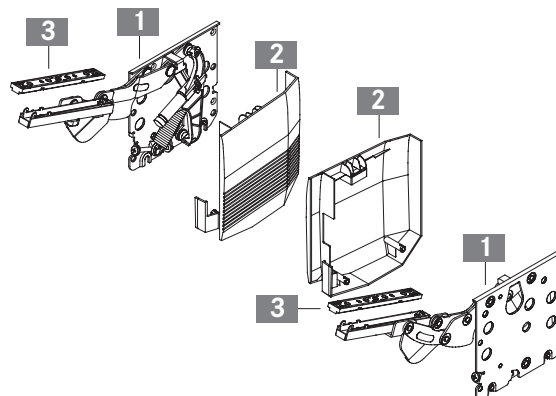
### ORDER INFORMATION

| Kinvaro T-71 set   |                  |             |          |                      |    |
|--|------------------|-------------|----------|----------------------|----|
| Description  | Springs          | Version for | Overlay  | Item No.             | PU |
| Kinvaro T-71<br>on right without damper and on left with damper, pre-assembled springs white, incl. cover caps, 2 loose orange springs | white/<br>orange | wood        | variable | <b>F151147696201</b> | 1  |

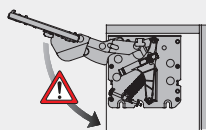
| Face frame adapter, Kinvaro T-71 set                             |         |                      |    |
|--|---------|----------------------|----|
| Description  | Overlay | Item No.             | PU |
| Face frame adapters (2x) for wood frames with fixing screws (8x) | 13 - 17 | <b>F151135905201</b> | 1  |

#### Kinvaro T-71 set includes:

- 1 Fitting on the right without and on the left with damper (1x)
- 2 Cover caps on right and left (1x)
- 3 Mounting plates (2x)  
Springs, orange, loose (2x)  
Paper template (1x), Installation instructions (1x)



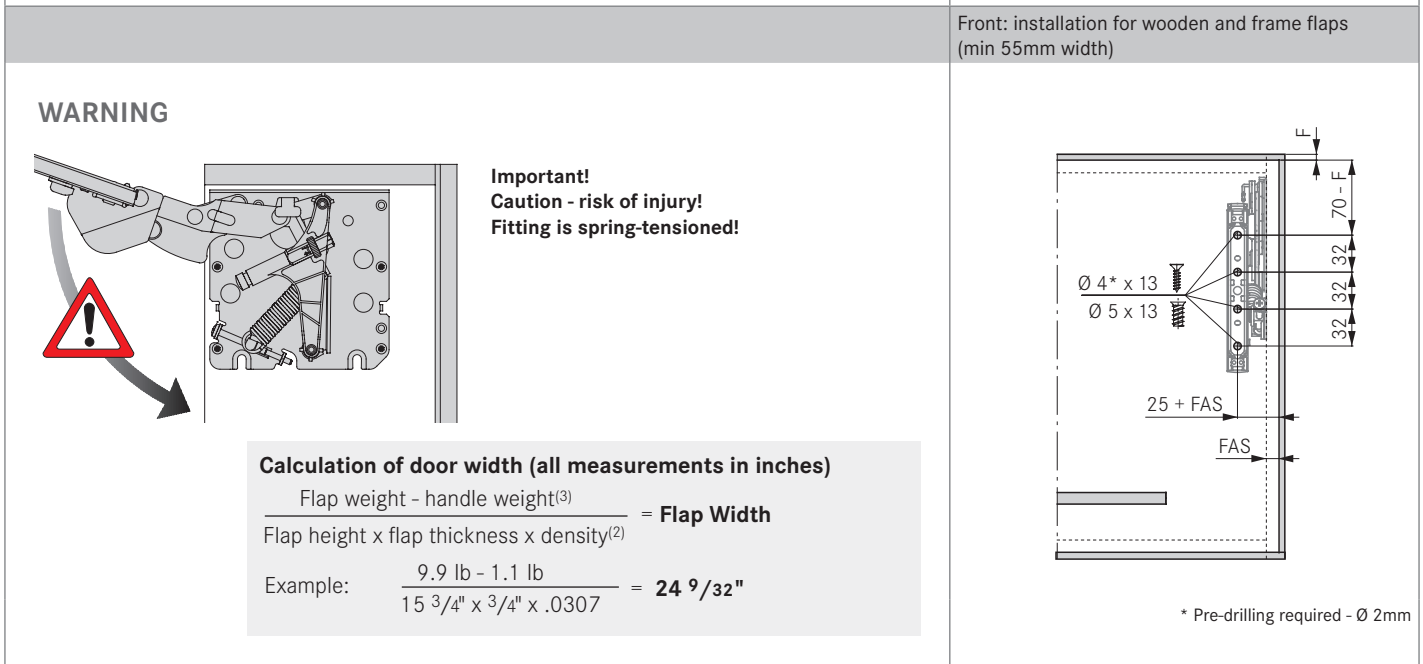
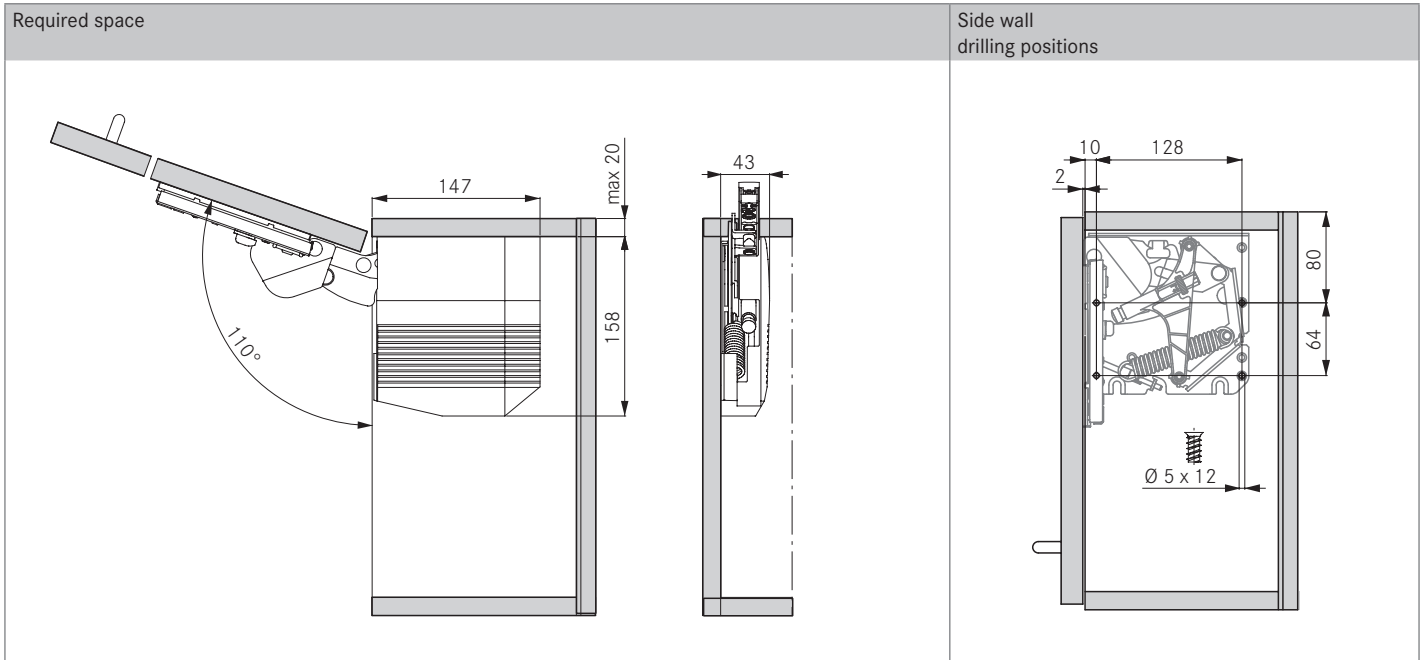
### WARNING



**Important!**  
**Caution - risk of injury! Fitting is spring-tensioned!**

PU - Packaging unit

### ASSEMBLY AND INSTALLATION INSTRUCTIONS



| Calculation of flap weight  |  |
|---|--|
| Flap width x flap height x flap thickness x density <sup>1</sup> + weight of handle <sup>2</sup> = weight of flap             |  |
| <sup>1</sup> Densities: MDF 0.85 kg/dm <sup>3</sup> , chipboard 0.65 kg/dm <sup>3</sup> , spruce/pine 0.45 kg/dm <sup>3</sup> |  |
| <sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting                           |  |

#### Metric Conversions

|      |                              |                              |                              |                              |                              |                               |                               |                               |                              |                              |                               |                              |                               |                               |                               |                             |                             |
|------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
| MM   | 2                            | 3.5                          | 5                            | 7.5                          | 8                            | 8.5                           | 10                            | 12                            | 12.5                         | 13                           | 17                            | 19                           | 20                            | 25                            | 29                            | 32                          | 40                          |
| INCH | <sup>3</sup> / <sub>32</sub> | <sup>1</sup> / <sub>8</sub>  | <sup>3</sup> / <sub>16</sub> | <sup>9</sup> / <sub>32</sub> | <sup>5</sup> / <sub>16</sub> | <sup>11</sup> / <sub>32</sub> | <sup>13</sup> / <sub>32</sub> | <sup>15</sup> / <sub>32</sub> | <sup>1</sup> / <sub>2</sub>  | <sup>1</sup> / <sub>2</sub>  | <sup>21</sup> / <sub>32</sub> | <sup>3</sup> / <sub>4</sub>  | <sup>13</sup> / <sub>16</sub> | <sup>31</sup> / <sub>32</sub> | <sup>15</sup> / <sub>32</sub> | <sup>1</sup> / <sub>4</sub> | <sup>1</sup> / <sub>2</sub> |
| MM   | 42                           | 43                           | 47.5                         | 50                           | 55                           | 64                            | 70                            | 80                            | 100                          | 128                          | 133                           | 135                          | 144                           | 147                           | 156                           | 158                         | 185                         |
| INCH | <sup>1</sup> / <sub>2</sub>  | <sup>1</sup> / <sub>16</sub> | <sup>17</sup> / <sub>8</sub> | <sup>1</sup> / <sub>32</sub> | <sup>2</sup> / <sub>32</sub> | <sup>2</sup> / <sub>2</sub>   | <sup>2</sup> / <sub>4</sub>   | <sup>3</sup> / <sub>8</sub>   | <sup>3</sup> / <sub>16</sub> | <sup>5</sup> / <sub>16</sub> | <sup>5</sup> / <sub>4</sub>   | <sup>5</sup> / <sub>16</sub> | <sup>5</sup> / <sub>16</sub>  | <sup>5</sup> / <sub>16</sub>  | <sup>6</sup> / <sub>32</sub>  | <sup>6</sup> / <sub>4</sub> | <sup>7</sup> / <sub>4</sub> |

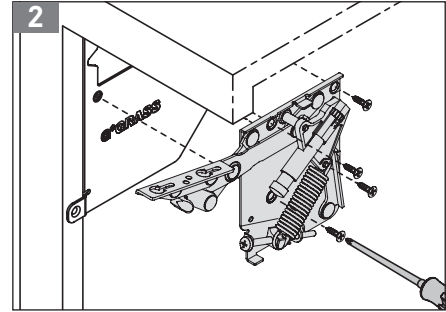
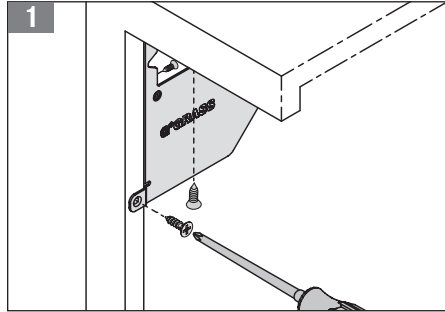
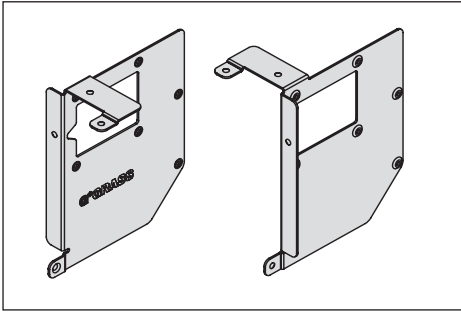
#### LEGEND

- F Reveal
- FAS Front overlay, side
- FAO Front overlay, top

# Kinvaro T-71

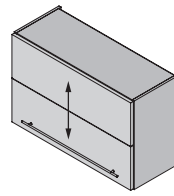
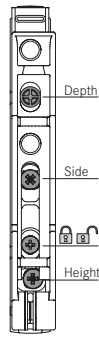
## Lift-up Fitting

### ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINETS

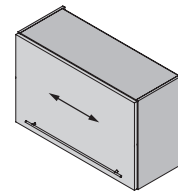


|   |   |
|---|---|
| <p>Required space</p>   | <p>Side wall drilling positions</p>   |
| <p><b>Calculation of door weight (all measurements in inches)</b><br/>         Flap width x flap height x flap thickness x density<sup>(2)</sup> + handle weight<sup>(3)</sup><br/>         = flap weight</p> <p>Example: 23 5/8" x 15 3/4" x 3/4" x .0307 lb/in<sup>3</sup> + 1.1 lb = 9.67 lb</p>   | <p>Front:<br/>         installation for wooden and frame flaps (min 55mm width)</p> <p>* Predrilling required - Ø 2mm</p> |
| <p>Calculation of flap weight</p> <p>Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap</p> <p><sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup></p> <p><sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting</p> |   |

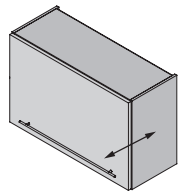
## Lift-up Fitting



Height adjustment  
+/-1.5mm



Side adjustment  
+/- 1.5mm



Depth adjustment  
+/- 1.5mm

All adjustments can be carried out independently of each other.

### ADJUSTMENT OPTIONS

| Unlocking | Height adjustment | Side adjustment |
|-----------|-------------------|-----------------|
|           |                   |                 |

| Depth adjustment | Locking |  |
|------------------|---------|--|
|                  |         |  |

| Adjusting the spring force | Adjusting the damping system | Note                  |
|----------------------------|------------------------------|-----------------------|
|                            |                              | <p><b>WARNING</b></p> |

# Kinvaro T-76

## Lift-up Fitting



- Variable opening angle - holds flap securely at any angle between 45° and 110°
- Extremely comfortable opening due to spring-supported opening mechanism
- Adjustable spring force
- Integrated adjustable closing damper
- Flap 3-dimensionally adjustable - height, side, angle: direct adjustment ±1.5mm
- No hinges fitted to the top panel
- Allows additional cabinet installation above
- For wooden flaps
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Weight 11.5 to 24.25 lb (5.2 to 11.0 kg)
- Range of flaps:  
Width: up to 47 ¼" (up to 1200mm)  
Height: 15 ¾" - 23 ⅝" (400 - 600mm)
- Cover caps in grey

### APPLICATION RANGE

| Cabinet height  | Flap weight incl. handle lb (kg) |  |
|-----------------|----------------------------------|--|
|                 | Spring, standard                 |  |
| 15 ¾" (400)     | 15.4 - 24.3 (7.0 - 11.0)         |  |
| 17 23/32" (450) | 14.8 - 21.2 (6.7 - 9.6)          |  |
| 19 11/16" (500) | 12.8 - 18.7 (5.8 - 8.5)          |  |
| 21 21/32" (550) | 12.3 - 16.8 (5.6 - 7.6)          |  |
| 23 5/8" (600)   | 11.5 - 15.4 (5.2 - 7.0)          |  |

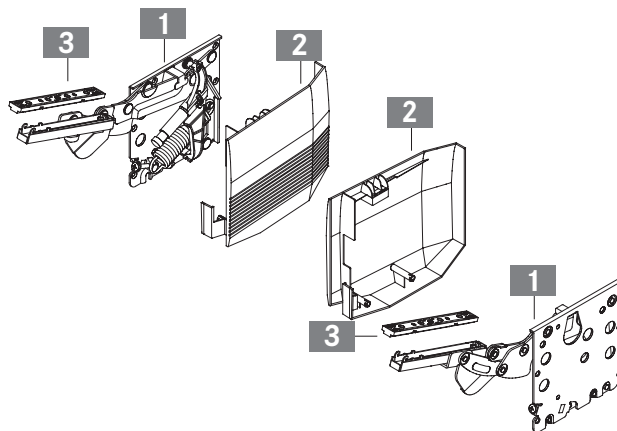
### ORDER INFORMATION

| Kinvaro T-76 set  |          |             |          |                      |    |
|---|----------|-------------|----------|----------------------|----|
| Description   | Springs  | Version for | Overlay  | Item No.             | PU |
| Kinvaro T-76<br>on right without damper and on left with damper, pre-assembled springs standard, incl. cover caps | standard | wood        | variable | <b>F151147706201</b> | 1  |

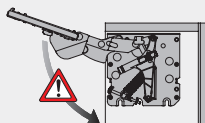
| Face frame adapter, Kinvaro T-76 set                            |         |                      |    |
|---|---------|----------------------|----|
| Description   | Overlay | Item No.             | PU |
| Face frame adapter (2x) for wood frames with fixing screws (8x) | 13 - 17 | <b>F151135905201</b> | 1  |

**Kinvaro T-76 set** includes:

- 1** Fitting on the right without and on the left with damper (1x)
- 2** Cover caps on right and left (1x)
- 3** Mounting plates (2x)  
Paper template (1x)  
Installation instructions (1x)



### WARNING



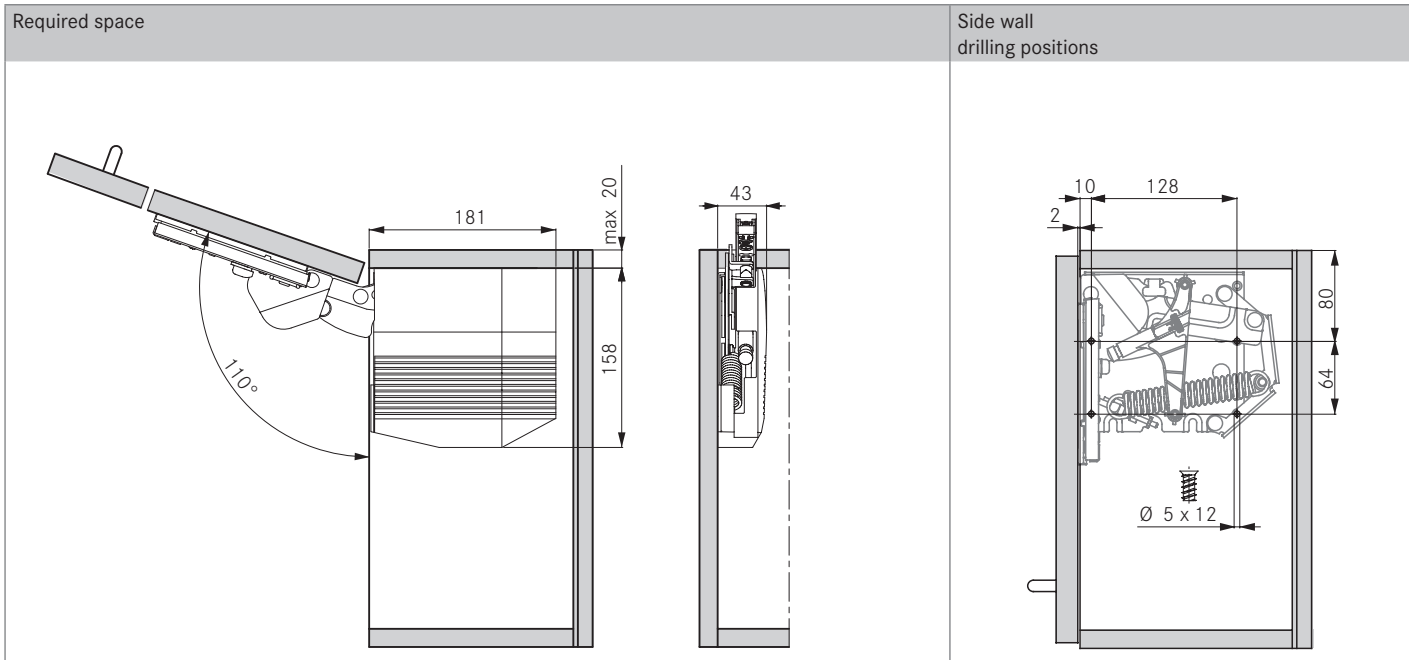
**Important!**  
**Caution - risk of injury! Fitting is spring-tensioned!**

PU - Packaging unit



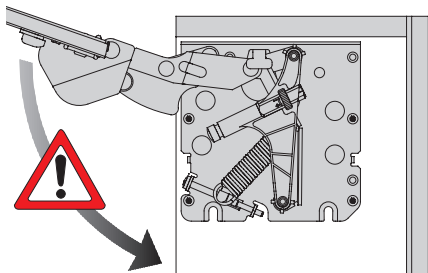
## Lift-up Fitting

### ASSEMBLY AND INSTALLATION INSTRUCTIONS



Front: installation for wooden and frame flaps (min 55mm width)

#### WARNING

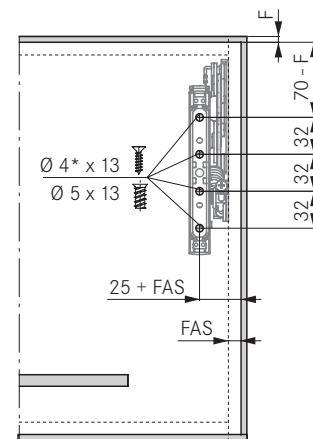


**Important!**  
Caution - risk of injury!  
Fitting is spring-tensioned!

#### Calculation of door width (all measurements in inches)

$$\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$$

Example:  $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times 3 \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$



\*Pre-drilling required - Ø 2mm

#### Calculation of flap weight

Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap

<sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup>

<sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

#### Metric Conversions

|      |  |  |  |   |  |  |  |   |  |   |   |  |   |   |  |   |  |
|------|--|--|--|---|--|--|--|---|--|---|---|--|---|---|--|---|--|
| MM   | 2  | 3.5                                      | 5  | 7.5                                       | 8  | 8.5                                      | 10                                       | 12.5                                      | 13                                       | 17  | 19  | 20   | 25  | 29  | 32                                       | 40  | 42   |
| INCH | <sup>3</sup> / <sub>32</sub>               | <sup>1</sup> / <sub>8</sub>              | <sup>3</sup> / <sub>16</sub>               | <sup>9</sup> / <sub>32</sub>              | <sup>5</sup> / <sub>16</sub>             | <sup>11</sup> / <sub>32</sub>            | <sup>13</sup> / <sub>32</sub>            | <sup>1</sup> / <sub>2</sub>               | <sup>1</sup> / <sub>2</sub>              | <sup>21</sup> / <sub>32</sub>             | <sup>3</sup> / <sub>4</sub>               | <sup>13</sup> / <sub>16</sub>              | <sup>31</sup> / <sub>32</sub>             | <sup>1</sup> <sup>5</sup> / <sub>32</sub> | <sup>1</sup> / <sub>4</sub>              | <sup>1</sup> <sup>9</sup> / <sub>16</sub> | <sup>1</sup> <sup>21</sup> / <sub>32</sub> |
| MM   | 43   | 47.5                                     | 50   | 55  | 64                                       | 70                                       | 80                                       | 128                                       | 133                                      | 135                                       | 138                                       | 144  | 156                                       | 158                                       | 181                                      | 185                                       |  |
| INCH | <sup>1</sup> <sup>11</sup> / <sub>16</sub> | <sup>1</sup> <sup>7</sup> / <sub>8</sub> | <sup>1</sup> <sup>31</sup> / <sub>32</sub> | <sup>2</sup> <sup>5</sup> / <sub>32</sub> | <sup>2</sup> <sup>1</sup> / <sub>2</sub> | <sup>2</sup> <sup>3</sup> / <sub>4</sub> | <sup>3</sup> <sup>1</sup> / <sub>8</sub> | <sup>5</sup> <sup>1</sup> / <sub>16</sub> | <sup>5</sup> <sup>1</sup> / <sub>4</sub> | <sup>5</sup> <sup>5</sup> / <sub>16</sub> | <sup>5</sup> <sup>7</sup> / <sub>16</sub> | <sup>5</sup> <sup>11</sup> / <sub>16</sub> | <sup>6</sup> <sup>5</sup> / <sub>32</sub> | <sup>6</sup> <sup>1</sup> / <sub>4</sub>  | <sup>7</sup> <sup>1</sup> / <sub>8</sub> | <sup>7</sup> <sup>1</sup> / <sub>4</sub>  |  |

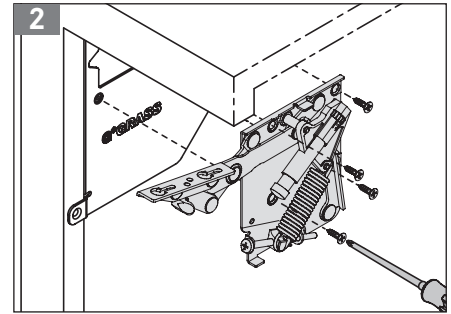
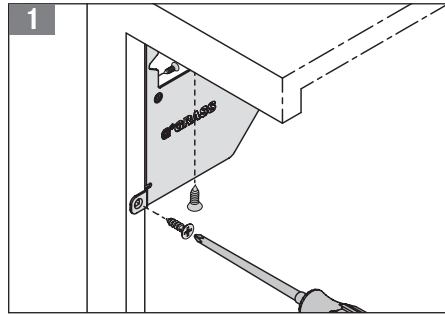
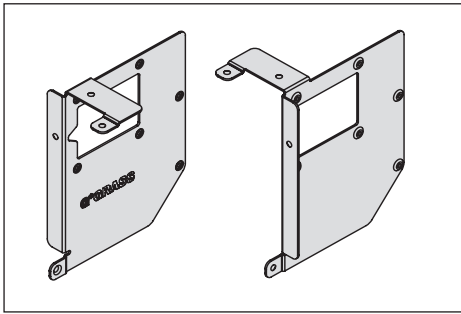
#### LEGEND

F Reveal  
FAS Front overlay, side  
FAO Front overlay, top

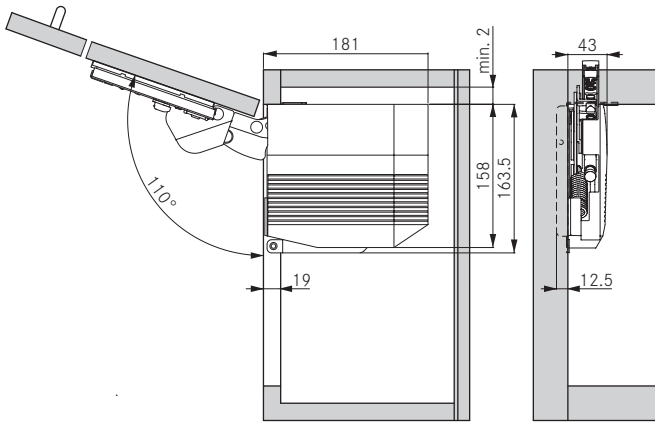
# Kinvaro T-76

## Lift-up Fitting

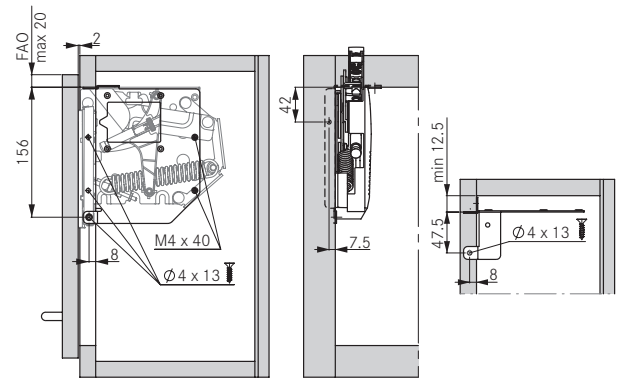
### ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



#### Required space



#### Side wall drilling positions

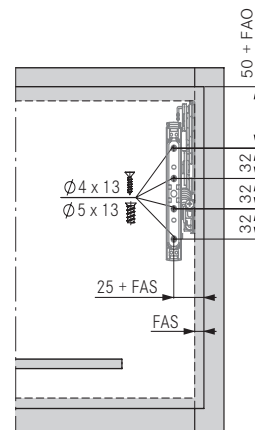


#### Front: installation for wooden and frame flaps (min 55mm width)

#### Calculation of door weight (all measurements in inches)

Flap width x flap height x flap thickness x density<sup>(2)</sup> + handle weight<sup>(3)</sup> = flap weight

Example: 23 5/8" x 15 3/4" x 3/4" x .0307 lb/in<sup>3</sup> + 1.1 lb = 9.67 lb



\* Predrilling required - Ø 2mm

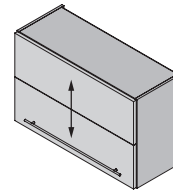
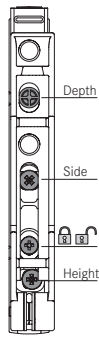
#### Calculation of flap weight

Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap

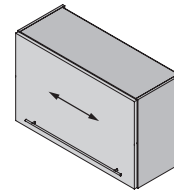
<sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup>

<sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

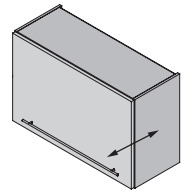
## Lift-up Fitting



Height adjustment  
+/- 1.5mm



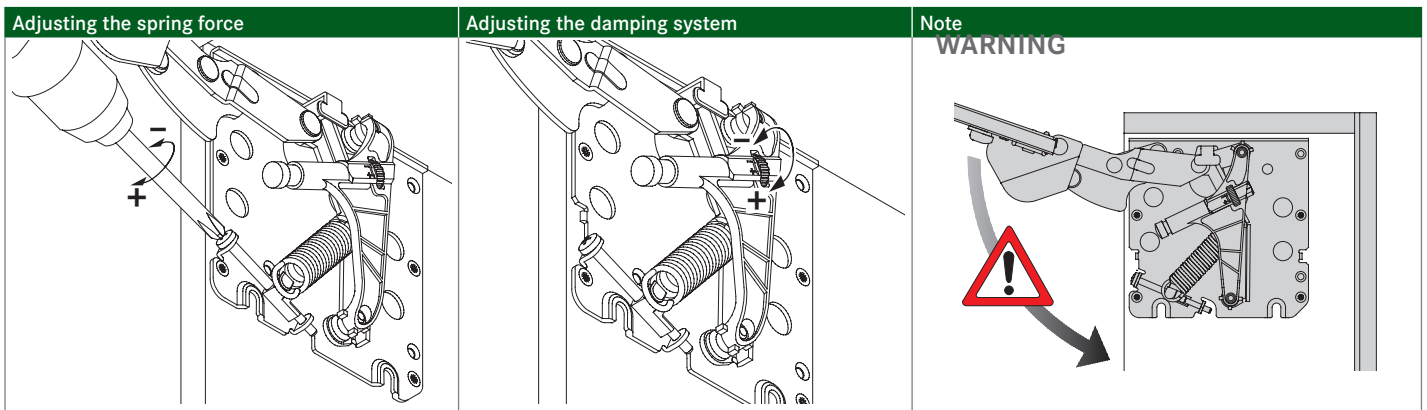
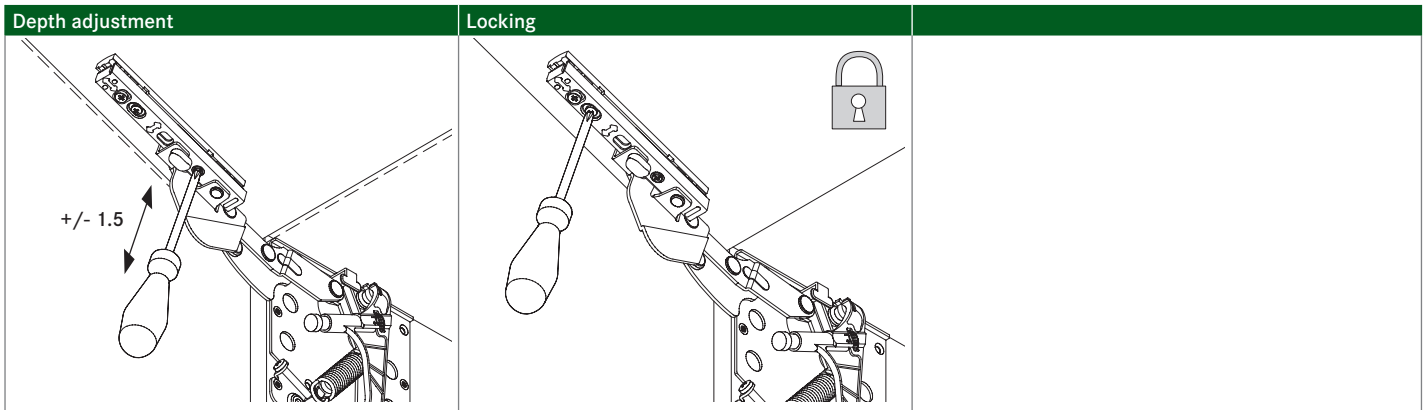
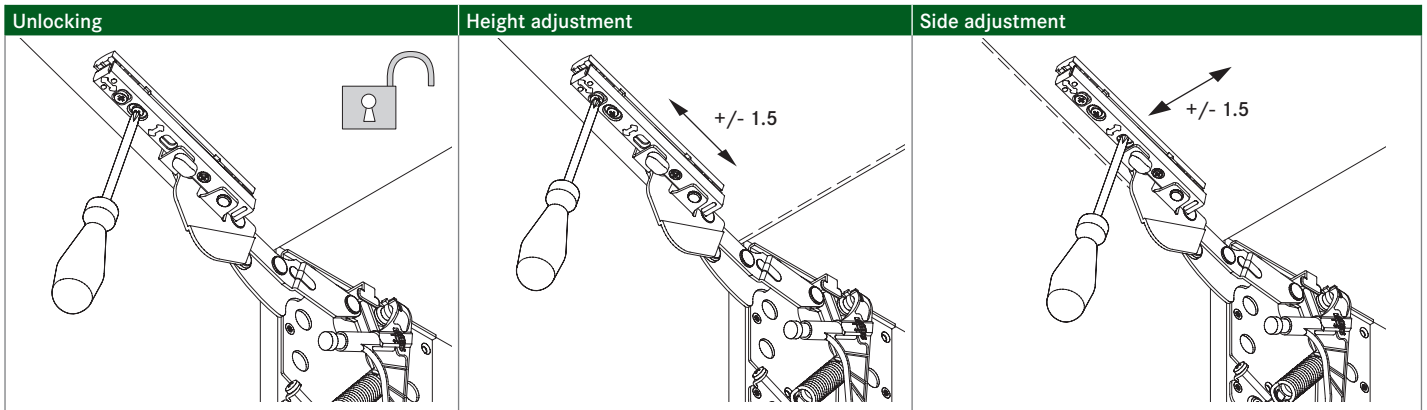
Side adjustment  
+/- 1.5mm



Depth adjustment  
+/- 1.5mm

All adjustments can be carried out independently of each other.

### ADJUSTMENT OPTIONS



# Kinvaro T-57

## Lift-up Fitting



- Opening angle adjustable to 75° or 90°
- Easy to fit
- Adjustable spring force
- Adjustable flap height ± 1.0mm
- No hinges fitted to the top panel
- Allows additional cabinet installation above
- For wooden flaps
- Weight 2.2 to 13.7 lb (1.0 to 6.2 kg)
- Range of flaps:  
Width: up to 47 1/4" (up to 1200mm)  
Height: 11 13/16" - 23 5/8" (300 - 600mm)
- High-quality finish, nickel-plated

### APPLICATION RANGE

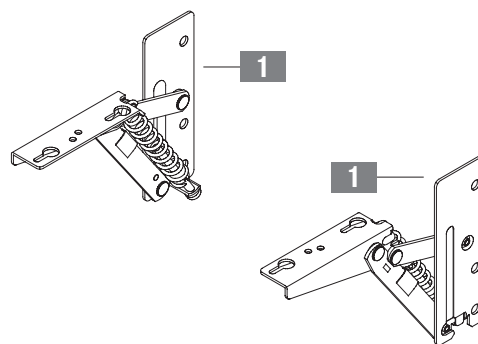
| Cabinet height  | Flap weight incl. handle lb (kg) |            |
|-----------------|----------------------------------|------------|
|                 | min.                             | max.       |
| 11 13/16" (300) | 2.2 (1.0)                        | 13.7 (6.2) |
| 13 25/32" (350) | 2.6 (1.2)                        | 10.8 (4.9) |
| 15 3/4" (400)   | 3.1 (1.4)                        | 8.4 (3.8)  |
| 17 23/32" (450) | 3.3 (1.5)                        | 7.9 (3.6)  |
| 19 11/16" (500) | 3.7 (1.7)                        | 6.4 (2.9)  |
| 21 21/32" (550) | 4.2 (1.9)                        | 6.0 (2.7)  |
| 23 5/8" (600)   | 4.6 (2.1)                        | 5.5 (2.5)  |

### ORDER INFORMATION

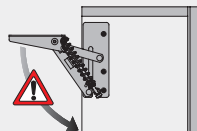
| Kinvaro T-57 set   |             |          |               |    |
|--|-------------|----------|---------------|----|
| Description  | Version for | Overlay  | Item No.      | PU |
| Kinvaro T-57, nickel-plated adjustable springs on right and left | wood        | variable | F151145224517 | 1  |

**Kinvaro T-57 set** includes:

- 1** Fitting, right and left (1x)
- Paper template (1x)
- Installation instructions (1x)



### WARNING



**Important!**  
Caution - risk of injury! Fitting is spring-tensioned!

PU - Packaging unit

## Lift-up Fitting

### ASSEMBLY AND INSTALLATION INSTRUCTIONS

|   |   |
|---|---|
| <p>Required space</p>   | <p>Side wall drilling positions</p>   |
| <p><b>WARNING</b></p> <p><b>Important!</b><br/>Caution - risk of injury!<br/>Fitting is spring-tensioned!</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Calculation of door width (all measurements in inches)</b></p> <math display="block">\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}</math> <p>Example: <math>\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''</math></p> </div> | <p>Front: installation for wooden and frame flaps (min 55mm width)</p> <p style="text-align: right; font-size: small;">*Pre-drilling required - Ø 2mm</p> |
| <p>Calculation of flap weight</p> <p>Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap</p> <p><sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup></p> <p><sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting</p>   |   |

#### Metric Conversions

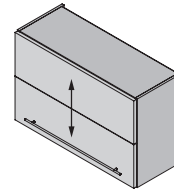
|      |       |         |        |         |       |         |        |       |         |        |        |         |         |         |         |        |        |
|------|-------|---------|--------|---------|-------|---------|--------|-------|---------|--------|--------|---------|---------|---------|---------|--------|--------|
| MM   | .5    | 1       | 1.5    | 2       | 3     | 3.2     | 3.5    | 5     | 7.5     | 8      | 8.5    | 13      | 19      | 25      | 27      | 29     | 30     |
| INCH | 1/32  | 1/16    | 1/16   | 3/32    | 1/8   | 1/8     | 1/8    | 3/16  | 9/32    | 5/16   | 11/32  | 1/2     | 3/4     | 31/32   | 1 1/16  | 1 5/32 | 1 3/16 |
| MM   | 32    | 34      | 37     | 46      | 47.5  | 50      | 55     | 64    | 100     | 135    | 138    | 144     | 164     | 169     | 170     | 180    | 181    |
| INCH | 1 1/4 | 1 11/32 | 1 7/16 | 1 13/16 | 1 7/8 | 1 31/32 | 2 5/32 | 2 1/2 | 3 15/16 | 5 5/16 | 5 7/16 | 5 11/16 | 6 15/32 | 6 21/32 | 6 11/16 | 7 3/32 | 7 1/8  |

#### LEGEND

F Reveal  
FAO Front overlay, top  
FAS Front overlay, side

# Kinvaro T-57

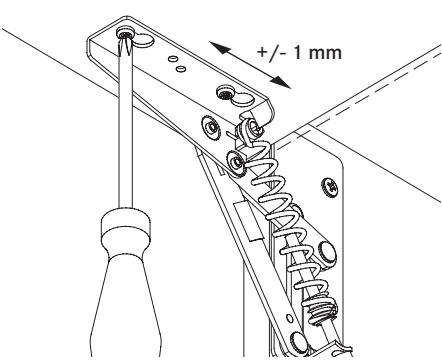
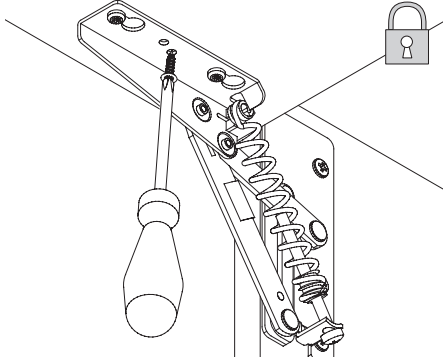
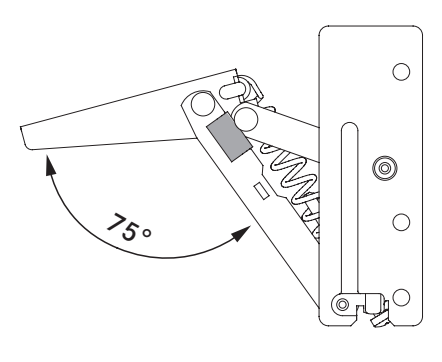
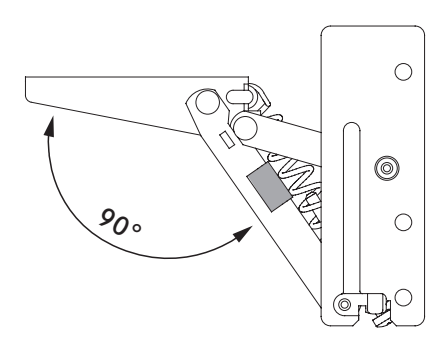
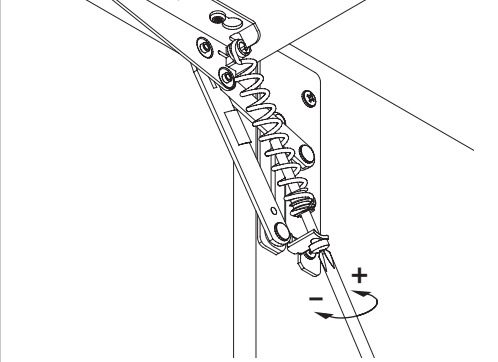
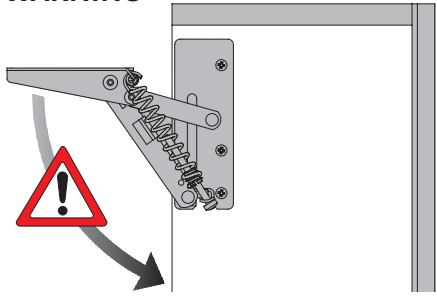
## Lift-up Fitting



Height adjustment  
+/-1mm

All adjustments can be carried out independently of each other.

### ADJUSTMENT OPTIONS

| Height adjustment  | Locking   |  |
|--|---|--|
|    |    |  |
| Adjusting to 75° opening angle   | Adjusting to 90° opening angle  | Adjusting the spring force   |
|  |  |                        |
|  |   | Note   |
|  |   | <p><b>WARNING</b></p>  |



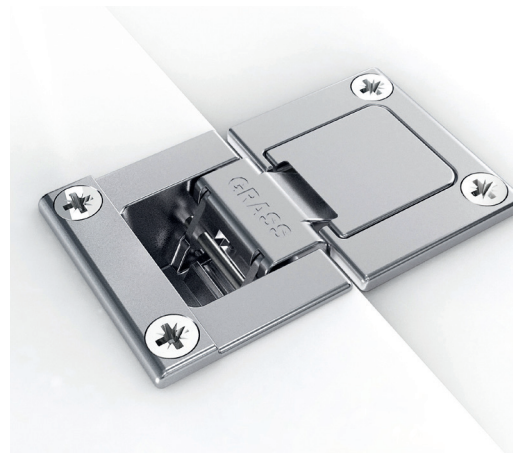
## KINVARO Flap System

Drop-down flap system for an elegant style

Kinvaro D flap system, paired with the Tiomos Flap hinge, revitalizes drop-down cabinet applications by creating aesthetically clean lines, a minimalistic look, and easy access to the cabinet contents.

The modern Kinvaro D provides a drop-down flap solution for the classic wall cabinet. Functional and comfortable the Kinvaro D offers an integrated damping system providing a gentle opening that rests at 90° with the assistance of the Tiomos Flap hinge. Kinvaro D-M flap system is offered in White, Night, and Smoke with a flap door weight capacity up to 22.5 pounds. The Kinvaro D-S is offered in White and Night with a flap door weight capacity up to 13.5 pounds.

Kinvaro D and Tiomos Flap hinge, the perfect combination for a fold down system that ensures the open flap is flush with the base panel every time.



Tiomos Flap hinge offering a 90° opening angle and 3-dimensional adjustment

# Kinvaro D

## D-M flap stay with pull cable




- Gentle opening
- Opening angle adjustable (length of cable)
- Spring force adjustment
- Can be used with shallow cabinets from 110mm (4 5/16") depth
- Flap weight up to 10 kg (22 lb)
- Flap height 200mm - 480mm (7 7/8" - 18 7/8")
- Can be used on left/right side of cabinet
- Easy to install horizontally or vertically
- In White, Night, and Smoke finish
- Works perfectly with Tiomos flap hinge

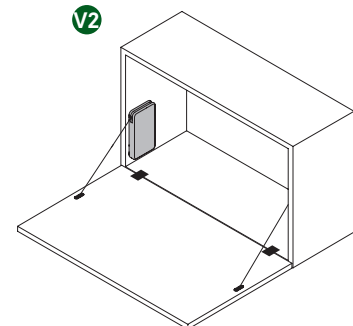
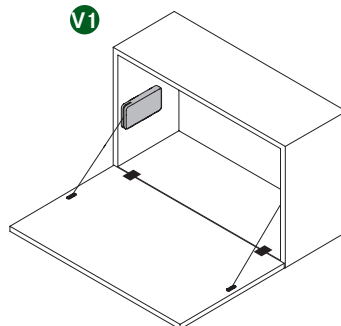
### Application Range

| Flap Height (FH)                  | Horizontal Installation (V1)            |                           |                          |                           | Vertical Installation (V2) |                           |                           |                            |
|-----------------------------------|---|---------------------------|--------------------------|---------------------------|----------------------------|---------------------------|---------------------------|----------------------------|
|                                   | Flap weight including handle in lb (kg) |                           |                          |                           |                            |                           |                           |                            |
|                                   | Spring 60N                              |                           | Spring 100N              |                           | Spring 60N                 |                           | Spring 100N               |                            |
|                                   | 1X                                      | 2X                        | 1X                       | 2X                        | 1X                         | 2X                        | 1X                        | 2X                         |
| 7 7/8" - 9 1/16" (200 - 230)      | 8.82 - 10.58 (4.0 - 4.8)                | -                         | 9.25 - 13.66 (4.2 - 6.2) | -                         | 9.03 - 13.00 (4.1 - 5.9)   | -                         | 11.68 - 16.09 (5.3 - 7.3) | -                          |
| 9 1/16" - 10 5/8" (230 - 270)     | 6.61 - 9.70 (3.0 - 4.4)                 | 13.22 - 18.51 (6.0 - 8.4) | 7.93 - 11.46 (3.6 - 5.2) | 14.99 - 21.16 (6.8 - 9.6) | 7.27 - 10.58 (3.3 - 4.8)   | 14.99 - 21.16 (6.8 - 9.6) | 9.25 - 13.22 (4.2 - 6.0)  | 21.16 - 28.21 (9.6 - 12.8) |
| 10 5/8" - 13" (270 - 330)         | 6.39 - 8.37 (2.9 - 3.8)                 | 12.34 - 17.19 (5.6 - 7.8) | 6.61 - 10.14 (3.0 - 4.6) | 14.10 - 19.40 (6.4 - 8.8) | 7.05 - 9.92 (3.2 - 4.5)    | 13.88 - 17.85 (6.3 - 8.1) | 8.37 - 11.24 (3.8 - 5.1)  | 17.41 - 24.47 (7.9 - 11.1) |
| 13" - 14 15/16" (330 - 380)       | 5.95 - 8.15 (2.7 - 3.7)                 | 11.02 - 17.63 (5.0 - 8.0) | 7.05 - 9.47 (3.2 - 4.3)  | 14.33 - 18.73 (6.5 - 8.5) | 5.73 - 7.49 (2.6 - 3.4)    | 11.02 - 14.33 (5.0 - 6.5) | 7.27 - 9.92 (3.3 - 4.5)   | 16.09 - 18.73 (7.3 - 8.5)  |
| 14 15/16" - 16 15/16" (380 - 430) | 6.39 - 7.93 (2.9 - 3.6)                 | 9.92 - 13.44 (4.5 - 6.1)  | 6.83 - 8.59 (3.1 - 3.9)  | 12.56 - 16.09 (5.7 - 7.3) | 5.15 - 7.49 (2.5 - 3.4)    | 11.02 - 13.66 (5.0 - 6.2) | 7.05 - 9.25 (3.2 - 4.2)   | 13.66 - 18.07 (6.2 - 8.2)  |
| 16 15/16" - 18 1/8" (430 - 460)   | 5.95 - 6.83 (2.7 - 3.1)                 | 9.47 - 13.44 (4.3 - 6.1)  | 5.95 - 8.59 (2.7 - 3.9)  | 13.00 - 18.29 (5.9 - 8.3) | 5.07 - 6.61 (2.3 - 3.0)    | 10.14 - 13.66 (4.6 - 6.2) | 6.61 - 8.37 (3.0 - 3.8)   | 13.66 - 17.19 (6.2 - 7.8)  |
| 18 1/8" - 18 7/8" (460 - 480)     | 5.51 - 6.39 (2.5 - 2.9)                 | 9.03 - 12.56 (4.1 - 5.7)  | 6.17 - 8.37 (2.8 - 3.8)  | 11.68 - 16.97 (5.3 - 7.7) | 5.29 - 7.05 (2.4 - 3.2)    | 10.14 - 13.22 (4.6 - 6.0) | 6.17 - 8.81 (2.8 - 4.0)   | 12.34 - 17.19 (5.6 - 7.8)  |

### Kinvaro D-M

|  | Description  | Springs | Color | Item No.              | PU |
|---|--|---------|-------|-----------------------|----|
|   | Kinvaro D-M flap stay including front holder and fixing screws | 60N     | Grey  | <b>F053139661</b> 607 | 10 |
|   |  | 100N    | Grey  | <b>F053139662</b> 607 | 10 |

|  | Description               | Color | Item No.              | PU |
|---|---------------------------|-------|-----------------------|----|
|   | Cover cap for Kinvaro D-M | White | <b>F053139668</b> 507 | 10 |
|   |                           | Night | <b>F053139669</b> 507 | 10 |
|   |                           | Smoke | <b>F053139670</b> 507 | 10 |



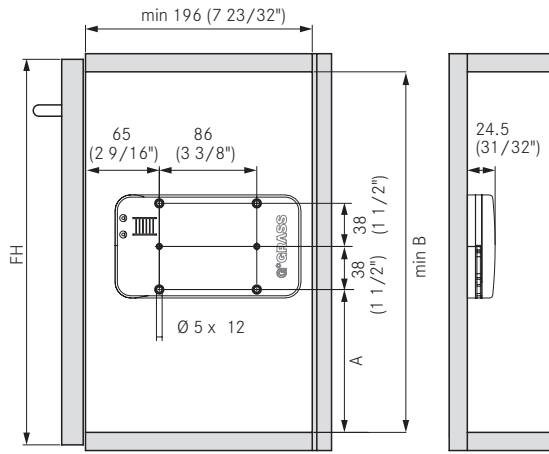
**Note:** Please order Tiomos flap hinges separately

PU - Packaging unit

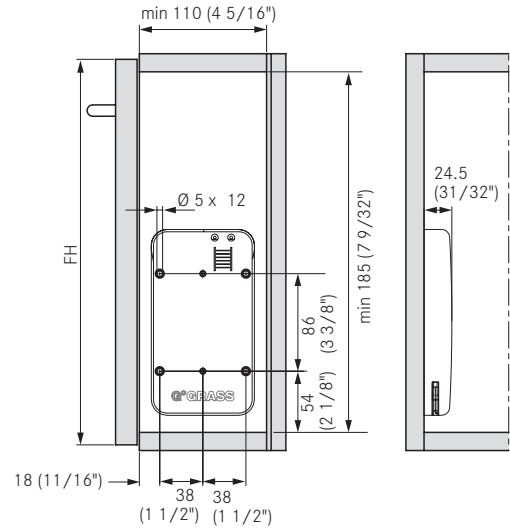


D-M flap stay with pull cable

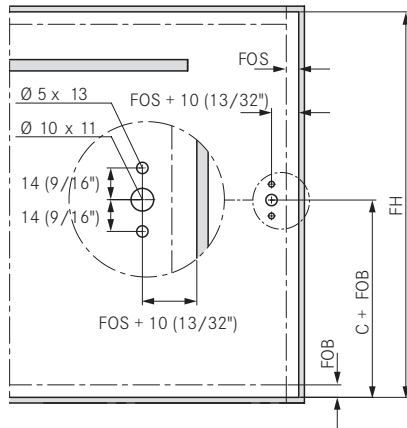
Side Panel Drilling, V1 - Horizontal Installation      Side Panel Drilling, V2 - Vertical Installation



| FH                            | A              | B             |
|-------------------------------|----------------|---------------|
| 200-330 (7 7/8" - 13")        | 102 (4")       | 194 (7 5/8")  |
| 330-430 (13" - 16 15/16")     | 126 (4 15/16") | 218 (8 9/16") |
| 430-480 (16 15/16" - 18 7/8") | 136 (5 3/8")   | 228 (9")      |



Flap Drilling      Calculation of Flap Weight



| FH                            | C (V1)        | C (V2)        |
|-------------------------------|---------------|---------------|
| 200-330 (7 7/8" - 13")        | 137 (5 3/8")  | 161 (6 5/16") |
| 330-430 (13" - 16 15/16")     | 161 (6 5/16") | 161 (6 5/16") |
| 430-480 (16 15/16" - 18 7/8") | 171 (6 3/4")  | 161 (6 5/16") |

Flap width x flap height x flap thickness x density\* + weight of handle\*\* = weight of flap

\*Densities: MDF 0.85 kg (1.9 lb)/dm<sup>3</sup>, chipboard 0.65 kg (1.4 lb) /dm<sup>3</sup>, spruce/ pine 0.45 kg (1lb)/dm<sup>3</sup>

\*\*For bar handles allow 0.1 kg (.2 lb) for each 100mm handle width.

**IMPORTANT**

To determine the correct application Grass strongly recommends a trial mounting.

Minimum gap and flap protrusion depend on the hinge used.

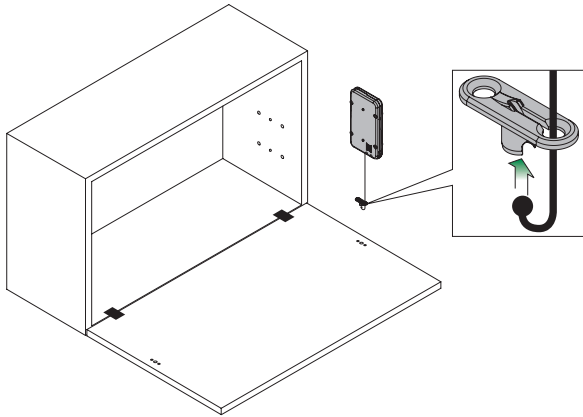
FOB = Front overlay, bottom  
 FOS = Front overlay, side  
 FH = Flap height

# Assembly Instructions

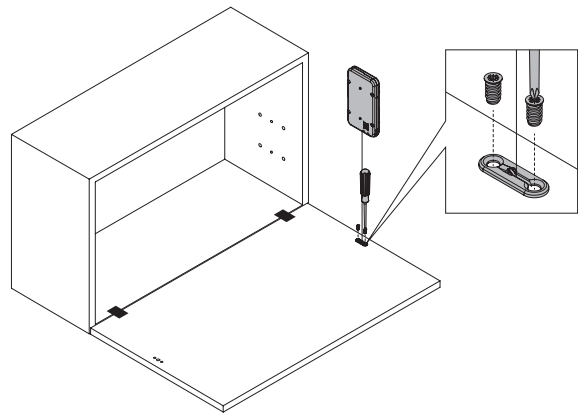
## Kinvaro D-M flap stay with pull cable

### Assembly Instructions

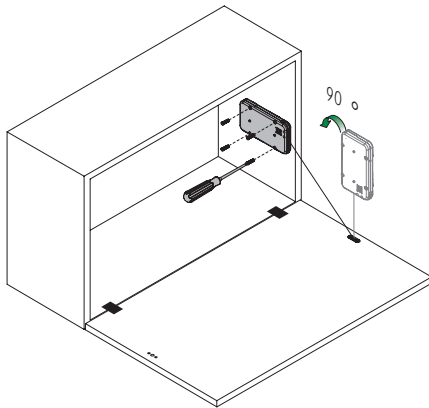
1



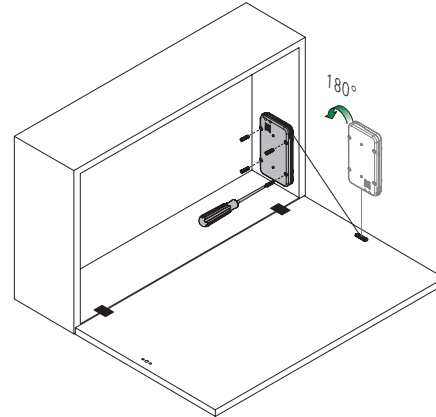
2



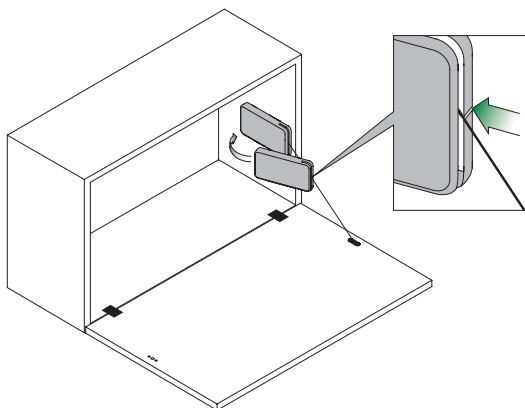
3(V1)



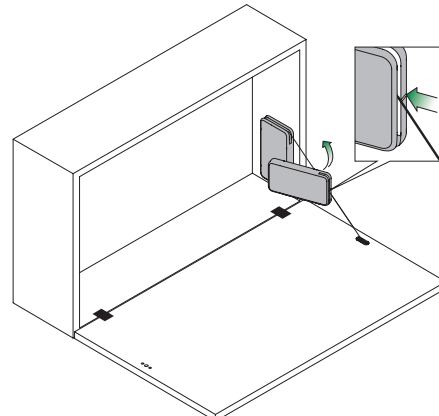
3(V2)



4(V1)

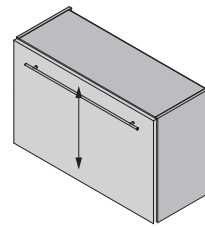


4(V2)

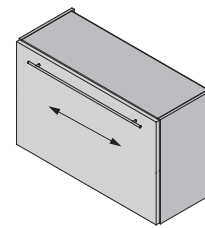


# Assembly Instructions

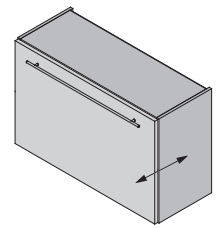
## Kinvaro D-M flap stay with pull cable



Height adjustment  
+2/-3mm



Side Adjustment  
±1mm

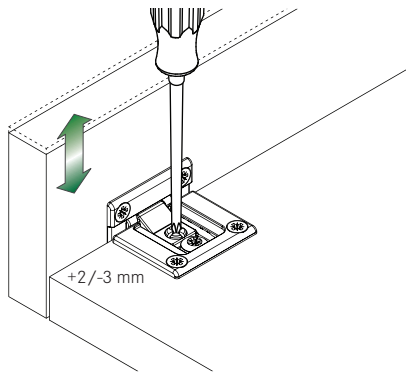


Depth adjustment  
+5/-0mm

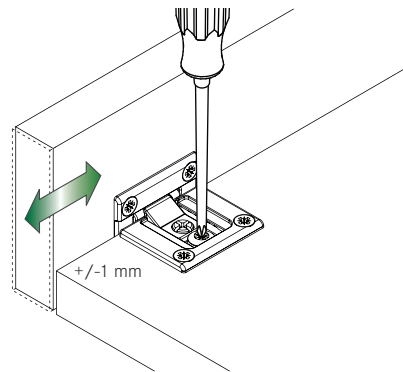
All adjustment options can be made independently of one another

### Adjustment Options, When Used with the Tiomos Flap Hinge

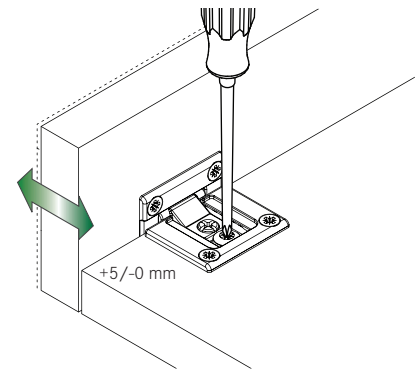
#### Height Adjustment



#### Side Adjustment

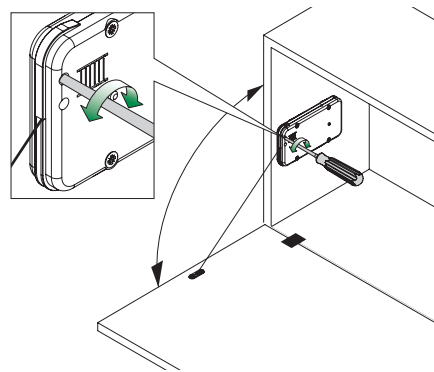
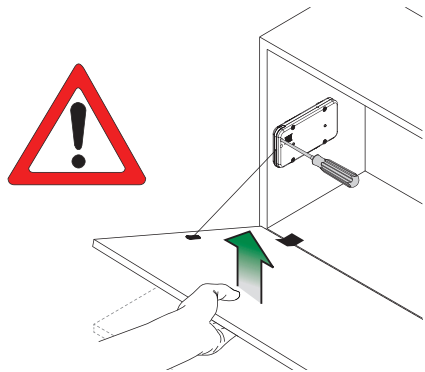


#### Depth Adjustment

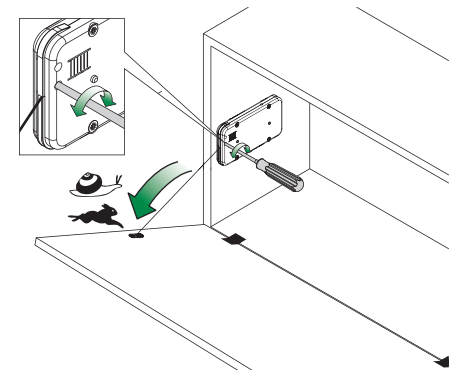


**Note:** The adjustments shown are for the Tiomos flap hinge shown on page 40.

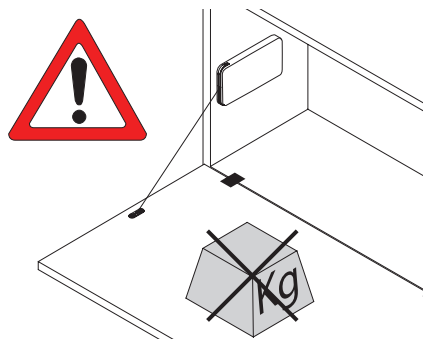
### Adjusting the Opening Angle



### Adjusting the Opening Speed



### Note



# Kinvaro D

## D-S flap stay with pull cable




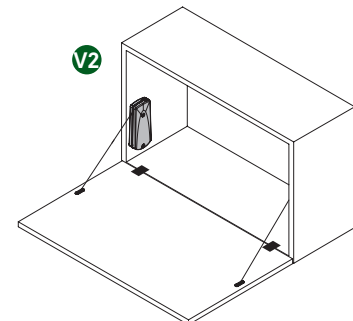
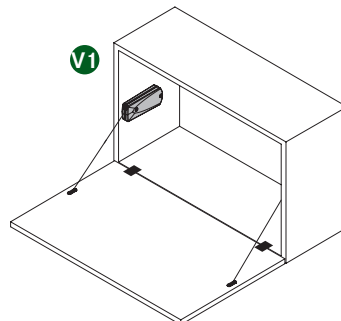
- Gentle opening
- Opening angle adjustable (length of cable)
- Can be used with shallow cabinets from 82mm (3 1/4") depth
- Flap height 200mm - 480mm (7 7/8" - 18 7/8")
- Can be used on left/right side of cabinet
- Easy to install horizontally or vertically
- In White or Night finish
- Works perfectly with Tiomos flap hinge

### Application Range

| Flap Height (FH)                  | Horizontal Installation (V1) or Vertical Installation (V2) |                         |                         |                           |
|-----------------------------------|--|-------------------------|-------------------------|---------------------------|
|                                   | Flap weight including handle in lb (kg)                    |                         |                         |                           |
|                                   | Spring 40N   |                         | Spring 60N              |                           |
|                                   | 1X   | 2X                      | 1X                      | 2X                        |
| 7 7/8" - 10 5/8" (200 - 270)      | 3.74 - 6.61 (1.7 - 3.0)                                    | 8.59 - 9.92 (3.9 - 4.5) | 6.83 - 8.81 (3.1 - 4.0) | 16.53 - 17.63 (7.5 - 8.0) |
| 10 5/8" - 13" (270 - 330)         | 3.74 - 6.61 (1.7 - 3.0)                                    | 7.27 - 9.92 (3.3 - 4.5) | 6.83 - 8.81 (3.1 - 4.0) | 13.44 - 16.31 (6.1 - 7.4) |
| 13" - 14 15/16" (330 - 380)       | 3.74 - 4.18 (1.7 - 1.9)                                    | 7.05 - 7.71 (3.2 - 3.5) | 6.39 - 7.71 (2.9 - 3.5) | 11.24 - 14.99 (5.1 - 6.8) |
| 14 15/16" - 16 15/16" (380 - 430) | 3.30 - 3.96 (1.5 - 1.8)                                    | 5.95 - 7.27 (2.7 - 3.3) | 5.51 - 7.27 (2.5 - 3.3) | 10.58 - 14.55 (4.8 - 6.6) |
| 16 15/16" - 18 1/8" (430 - 460)   | 2.64 - 3.74 (1.2 - 1.7)                                    | 5.51 - 6.83 (2.5 - 3.1) | 5.07 - 7.27 (2.3 - 3.3) | 10.14 - 13.22 (4.6 - 6.0) |
| 18 1/8" - 18 7/8" (460 - 480)     | -  | -                       | 4.85 - 6.17 (2.2 - 2.8) | 9.70 - 11.68 (4.4 - 5.3)  |

### Kinvaro D-S

| Description  | Springs | Color | Item No.              | PU |
|--|---------|-------|-----------------------|----|
|  Kinvaro D-S flap stay including front holder and fixing screws | 40N     | White | <b>F053139664</b> 607 | 10 |
|  |         | Night | <b>F053139665</b> 607 | 10 |
|  | 60N     | White | <b>F053139666</b> 607 | 10 |
|  |         | Night | <b>F053139667</b> 607 | 10 |

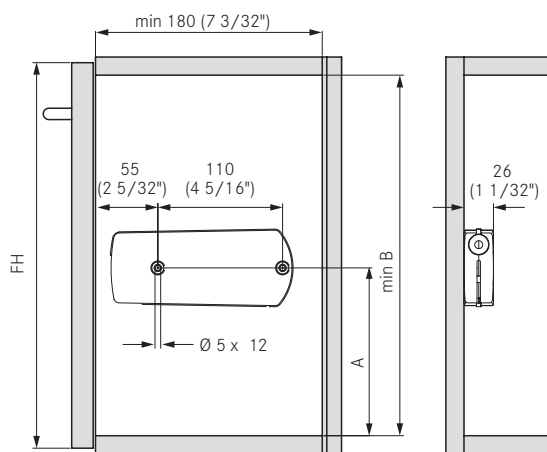


**Note:** Please order Tiomos flap hinges separately

PU - Packaging unit

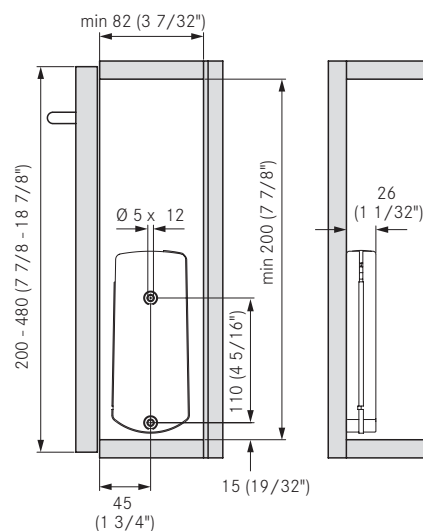
## D-S flap stay with pull cable

Side Panel Drilling, V1 - Horizontal Installation

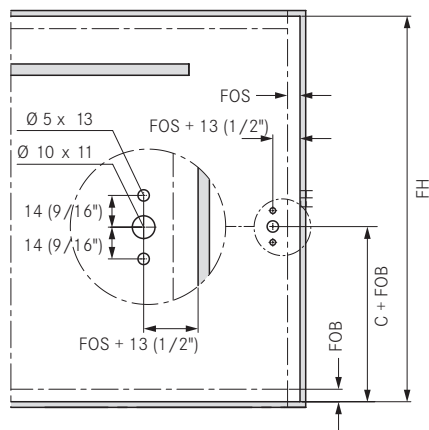


| FH                            | A              | B              |
|-------------------------------|----------------|----------------|
| 200 - 270 (7 7/8" - 10 5/8")  | 135 (5 5/16")  | 173 (6 13/16") |
| 270 - 480 (10 5/8" - 18 7/8") | 148 (5 13/16") | 186 (7 5/16")  |

Side Panel Drilling, V2 - Vertical Installation



Flap Drilling



| FH                              | C (V1)         | C (V2)         |
|---------------------------------|----------------|----------------|
| 200 - 270 (7 7/8" - 10 5/8")    | 123 (4 27/32") | -              |
| 270 - 480 (10 5/8" - 22 13/16") | 144 (5 21/32") | -              |
| 230 - 480 (9 1/16" - 18 7/8")   | -              | 123 (4 13/16") |

Minimum gap and flap protrusion depend on the hinge used.

Calculation of Flap Weight

Flap width x flap height x flap thickness x density\* + weight of handle\*\* = weight of flap

\*Densities: MDF 0.85 kg (1.9 lb)/dm<sup>3</sup>, chipboard 0.65 kg (1.4 lb) /dm<sup>3</sup>, spruce/pine 0.45 kg (1lb)/dm<sup>3</sup>

\*\*For bar handles allow 0.1 kg (.2 lb) for each 100mm handle width.

### IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting.

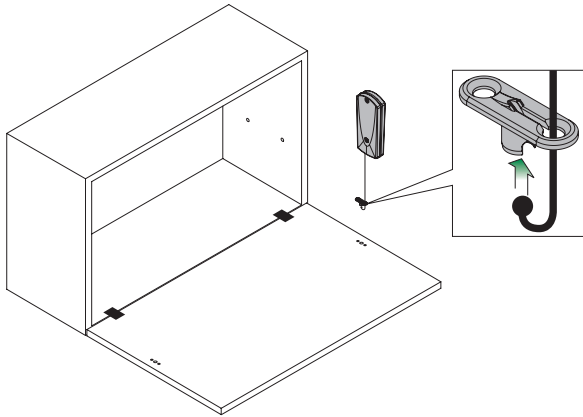
FOB = Front overlay, bottom  
 FOS = Front overlay, side  
 FH = Flap height

# Assembly Instructions

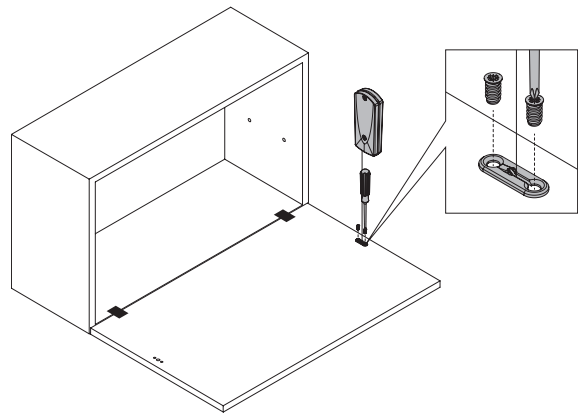
## Kinvaro D-S flap stay with pull cable

### Assembly Instructions

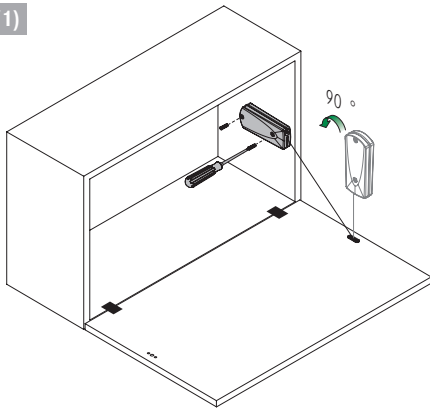
1



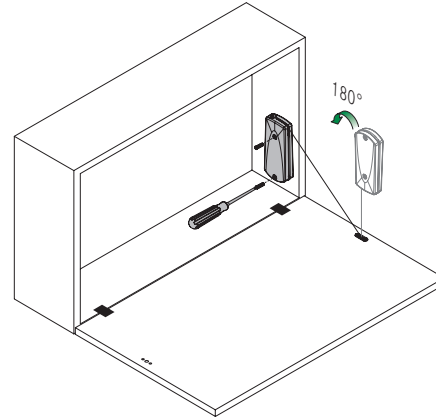
2



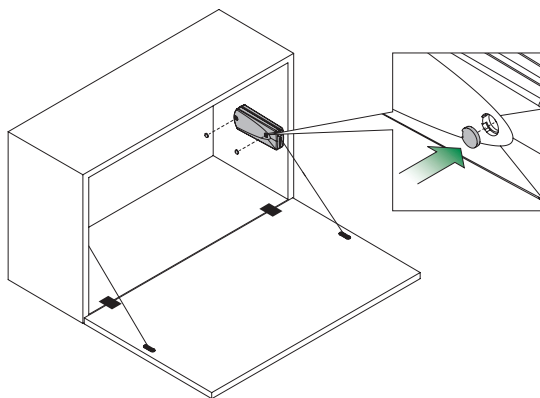
3(V1)



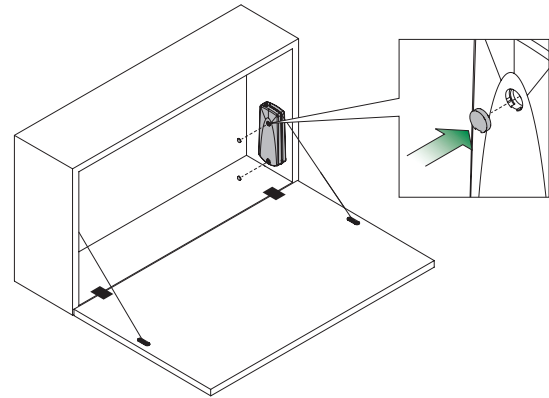
3(V2)



4(V1)

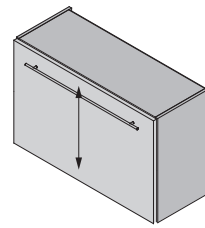


4(V2)

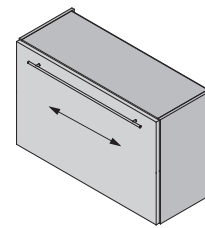


# Assembly Instructions

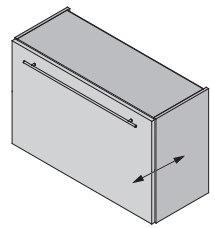
## Kinvaro D-S flap stay with pull cable



Height adjustment  
+2/-3mm



Side Adjustment  
±1mm

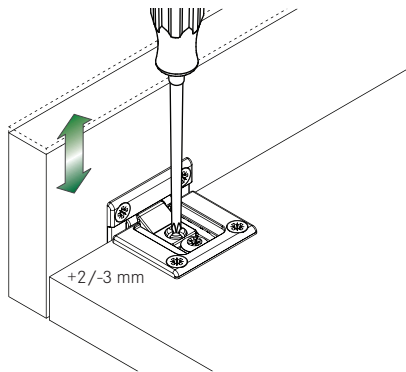


Depth adjustment  
+5/-0mm

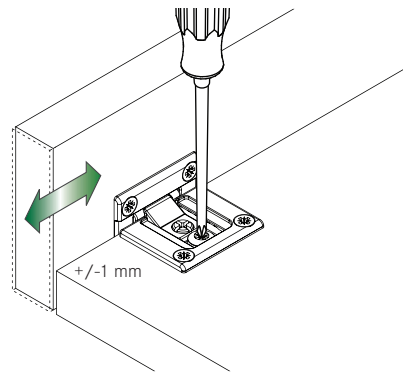
All adjustment options can be made independently of one another

### Adjustment Options, When Used with the Tiomos Flap Hinge

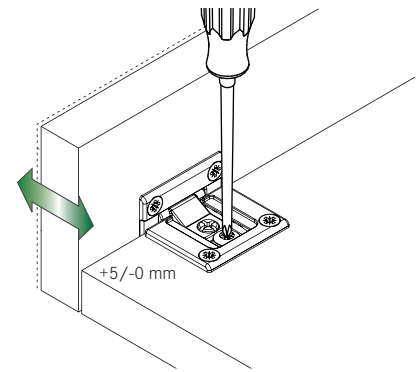
#### Height Adjustment



#### Side Adjustment

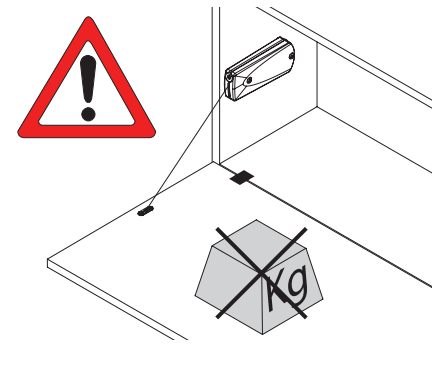
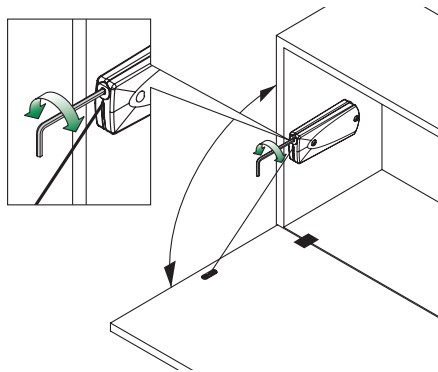
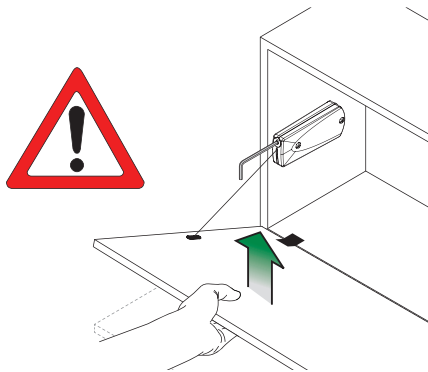


#### Depth Adjustment



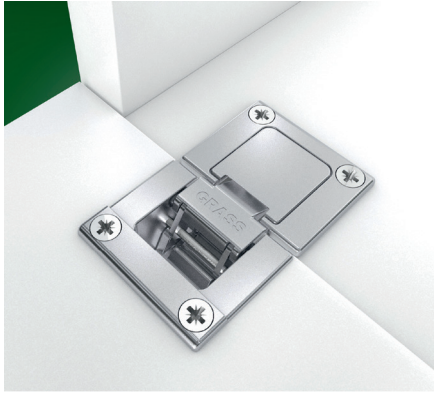
**Note:** The adjustments shown are for the Tiomos flap hinge shown on page 40.

### Adjusting the Opening Angle

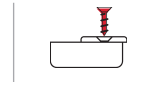


# Tiomos Flap Hinge

90° hinge for flap door



- Sleek modern design
- 90° opening angle
- For flap thicknesses of up to 30mm (1 3/16")
- Narrow joint
- Large overlay of up to 19mm (3/4")
- 3-dimensional adjustment
- Compatible with Tipmatic pin system
- Compatible with Kinvaro D-M/D-S flap system



## Tiomos Flap Hinge Opening Angle 90°

Screw-On

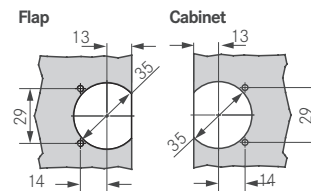
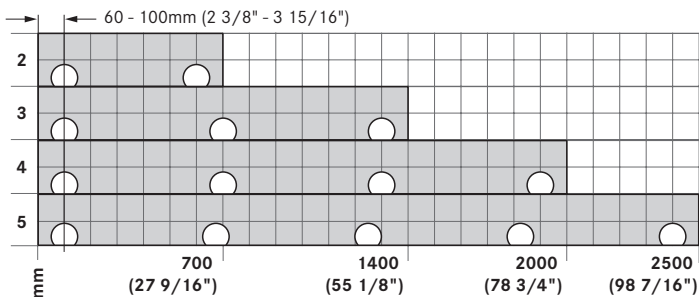
| Overlay | For Flap Thickness 14-21mm          | Color  | Cup Depth | Item No.             | PU  |
|---------|-------------------------------------|--------|-----------|----------------------|-----|
|         | Hinge: zinc die-cast, nickel-plated | Nickel | 12mm      | <b>F053139671223</b> | 100 |
|         | Hinge: zinc die-cast, night         | Night  | 12mm      | <b>F053139677223</b> | 100 |

| Overlay | For Flap Thickness 22-28mm          | Color  | Cup Depth | Item No.             | PU  |
|---------|-------------------------------------|--------|-----------|----------------------|-----|
|         | Hinge: zinc die-cast, nickel-plated | Nickel | 17mm      | <b>F053139672223</b> | 100 |
|         | Hinge: zinc die-cast, night         | Night  | 17mm      | <b>F053139678223</b> | 100 |

| Cover Cap for Flap Hinge | Item No.             | PU                   | 1.5mm Spacer for Tiomos Flap Hinge | Item No. | PU                   |                      |     |
|--------------------------|----------------------|----------------------|------------------------------------|----------|----------------------|----------------------|-----|
|                          | Steel, nickel plated | <b>F053139675223</b> | 100                                |          | Steel, nickel plated | <b>F053139676223</b> | 100 |
|                          | Steel, night         | <b>F053139683223</b> | 100                                |          | Steel, night         | <b>F053139684223</b> | 100 |

## Number of Hinges per Door

## Drilling Pattern



PU - Packaging unit

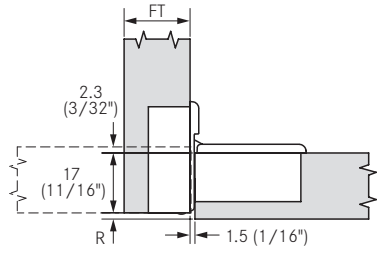


# Tiomos Flap Hinge



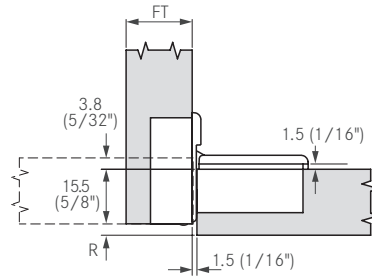
## 90° hinge for flap door

Overlay, Without Spacer, 12mm Cup Depth



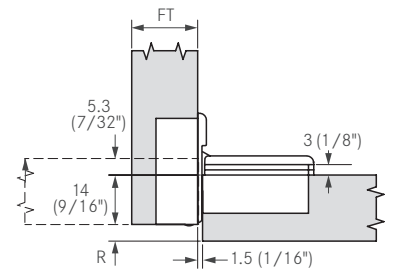
| Min Reveal (R) | Flap Thickness (FT) |     |    |    |    |    |    |    |
|----------------|---------------------|-----|----|----|----|----|----|----|
|                | 21                  | 20  | 19 | 18 | 17 | 16 | 15 | 14 |
|                | 2.5                 | 1.5 | 1  | 1  | 1  | 1  | 1  | 1  |

Overlay, with 1 Spacer, 12mm Cup Depth



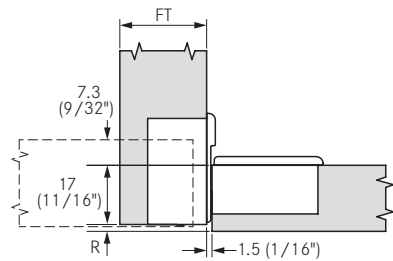
| Min Reveal (R) | Flap Thickness (FT) |     |    |    |    |    |    |    |
|----------------|---------------------|-----|----|----|----|----|----|----|
|                | 21                  | 20  | 19 | 18 | 17 | 16 | 15 | 14 |
|                | 2.5                 | 1.5 | 1  | 1  | 1  | 1  | 1  | 1  |

Overlay, with 2 Spacers, 12mm Cup Depth



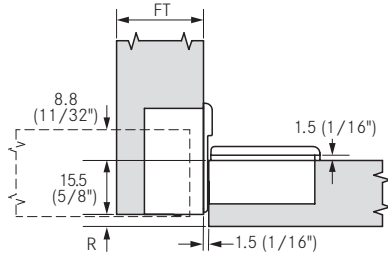
| Min Reveal (R) | Flap Thickness (FT) |     |    |    |    |    |    |    |
|----------------|---------------------|-----|----|----|----|----|----|----|
|                | 21                  | 20  | 19 | 18 | 17 | 16 | 15 | 14 |
|                | 2.5                 | 1.5 | 1  | 1  | 1  | 1  | 1  | 1  |

Overlay, Without Spacer, 17mm Cup Depth



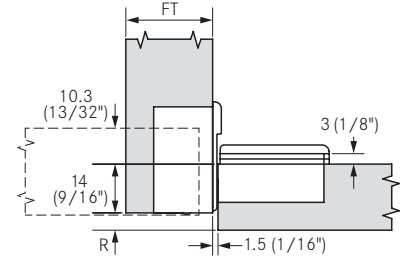
| Min Reveal (R) | Flap Thickness (FT) |     |     |     |     |     |    |    |    |
|----------------|---------------------|-----|-----|-----|-----|-----|----|----|----|
|                | 30                  | 29  | 28  | 27  | 26  | 25  | 24 | 23 | 22 |
|                | 6.5                 | 5.5 | 4.5 | 3.5 | 2.5 | 1.5 | 1  | 1  | 1  |

Overlay, with 1 Spacer, 17mm Cup Depth



| Min Reveal (R) | Flap Thickness (FT) |     |     |     |     |     |    |    |    |
|----------------|---------------------|-----|-----|-----|-----|-----|----|----|----|
|                | 30                  | 29  | 28  | 27  | 26  | 25  | 24 | 23 | 22 |
|                | 6.5                 | 5.5 | 4.5 | 3.5 | 2.5 | 1.5 | 1  | 1  | 1  |

Overlay, with 2 Spacers, 17mm Cup Depth

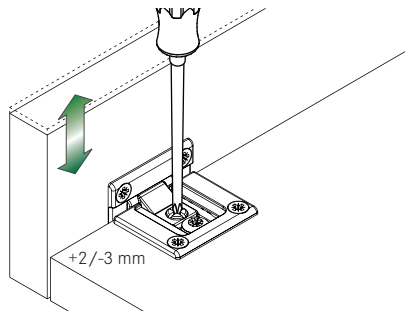


| Min Reveal (R) | Flap Thickness (FT) |     |     |     |     |     |    |    |    |
|----------------|---------------------|-----|-----|-----|-----|-----|----|----|----|
|                | 30                  | 29  | 28  | 27  | 26  | 25  | 24 | 23 | 22 |
|                | 6.5                 | 5.5 | 4.5 | 3.5 | 2.5 | 1.5 | 1  | 1  | 1  |

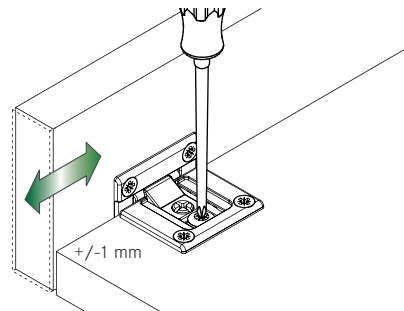
**Note:** Hinge dimensions and reveal calculation based on factory setting.

**IMPORTANT**  
To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

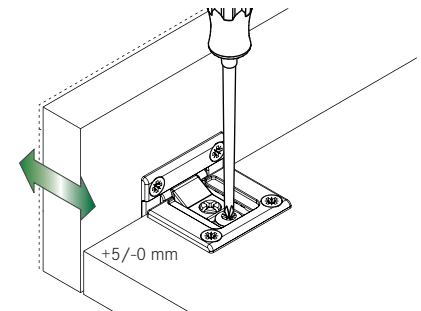
Height Adjustment



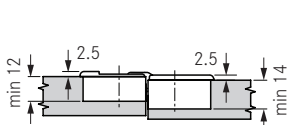
Side Adjustment



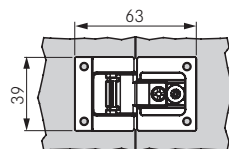
Depth Adjustment



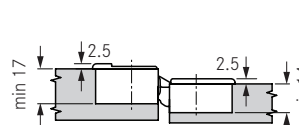
Cup Dimensions, 12mm cup depth



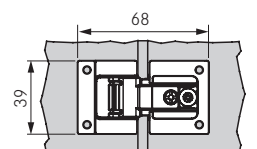
Hinge Dimensions, 12mm cup depth



Cup Dimensions, 17mm cup depth



Hinge Dimensions, 17mm cup depth



# Kinvaro T-105

## Flap Stay



- Variable opening angle, holds flaps securely from 45° to 105°
- Spring-supported opening function
- Convenient access, flap lifts clear of the work area
- For wooden flaps
- Allows additional cabinet installation above
- Maintenance-free, no re-adjustment required
- High-quality zinc diecasting, nickel-plated
- Range of flaps:
  - Width: up to 47 1/4" (up to 1200mm)
  - Height: 9 27/32" - 19 1/16" (250 - 500mm)

### APPLICATION RANGE

| Cabinet height  | Number of flap stays | Flap weight incl. handle lb (kg) |             |
|-----------------|----------------------|----------------------------------|-------------|
|                 |                      | Spring, standard                 |             |
| 9 27/32" (250)  | 1                    | 3.1 - 9.7                        | (1.4 - 4.4) |
|                 | 2                    | 7.5 - 19.6                       | (3.4 - 8.9) |
| 11 13/16" (300) | 1                    | 3.5 - 9.5                        | (1.6 - 4.3) |
|                 | 2                    | 7.1 - 19.0                       | (3.2 - 8.6) |
| 13 25/32" (350) | 1                    | 2.9 - 9.0                        | (1.3 - 4.1) |
|                 | 2                    | 5.7 - 17.9                       | (2.6 - 8.1) |
| 15 3/4" (400)   | 1                    | 2.9 - 7.5                        | (1.3 - 3.4) |
|                 | 2                    | 5.7 - 15.0                       | (2.6 - 6.8) |
| 17 23/32" (450) | 1                    | 2.6 - 6.6                        | (1.2 - 3.0) |
|                 | 2                    | 5.3 - 13.4                       | (2.4 - 6.1) |
| 19 11/16" (500) | 1                    | 2.4 - 6.4                        | (1.1 - 2.9) |
|                 | 2                    | 4.9 - 12.8                       | (2.2 - 5.8) |

### ORDER INFORMATION

| Kinvaro T-105 set   |          |             |          |               |               |    |
|---|----------|-------------|----------|---------------|---------------|----|
| Description   | Springs  | Version for | Overlay  | Left          | Right         | PU |
| Kinvaro T-105 right, adjustable standard springs, incl. black cover cap | standard | wood        | variable | F151145220513 | F151145221513 | 1  |

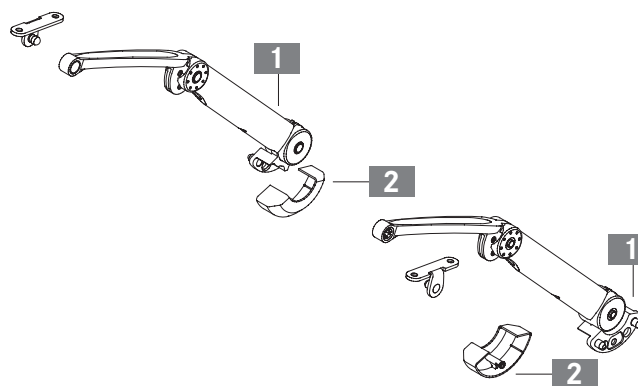
| Kinvaro Installation Template   |          |    |
|---------------------------------|----------|----|
| Description                     | Item No. | PU |
| Kinvaro T-105 Drill Jig         | 00489-01 | 1  |
| Kinvaro Door Template Drill Jig | 00495-01 | 1  |
| Kinvaro 5mm drill bit           | 00496-01 | 1  |
| Kinvaro 9/64" drill bit         | 00497-01 | 1  |

#### Note:

Please order separately: Tiomos 120° hinges with spring, without Soft-close, and respective base plates for top panel.

**Kinvaro T-105 set** includes:

- 1** Fitting, right or left (1x)
- 2** Cover caps, right or left, in black (1x)
- Paper template (1x)
- Installation instructions (1x)



PU - Packaging unit

## Flap Stay

### ASSEMBLY AND INSTALLATION INSTRUCTIONS

| <p><b>Required space</b></p>   | <p><b>Side wall drilling positions</b></p> <p style="text-align: right; font-size: small;">* Pre-drilling required - Ø 2mm</p> |          |          |   |     |          |          |          |        |          |          |          |   |
|--|--|----------|----------|---|-----|----------|----------|----------|--------|----------|----------|----------|---|
| <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 2px;">Opening angle</th> <th style="padding: 2px;">A</th> <th style="padding: 2px;">B</th> <th style="padding: 2px;">C</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">95°</td> <td style="padding: 2px;">169 + MH</td> <td style="padding: 2px;">174 + MH</td> <td style="padding: 2px;">118 + MH</td> </tr> <tr> <td style="padding: 2px;">≥ 105°</td> <td style="padding: 2px;">164 + MH</td> <td style="padding: 2px;">169 + MH</td> <td style="padding: 2px;">113 + MH</td> </tr> </tbody> </table> <p>The installation dimensions apply to hinges with 0 cranking and the respective base plate height.</p> <p>The opening angle can vary depending on the type of hinge and application method between 95° and approx. 105°.</p> <p>Minimum reveal and door protrusion depend on the fitted hinge. For suitable hinges please refer to the Tiomos or Nexis Grass hinge catalog.</p> <p>Where cup hinges with different opening angles are used in a combination of wooden flap, the smaller opening angle of the hinges used determines the installation dimensions for <b>both</b> flaps.</p> <div style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p><b>Calculation of door width (all measurements in inches)</b></p> <math display="block">\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}</math> <p>Example: <math>\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''</math></p> </div> | Opening angle  | A        | B        | C | 95° | 169 + MH | 174 + MH | 118 + MH | ≥ 105° | 164 + MH | 169 + MH | 113 + MH | <p><b>Front: installation for wooden and frame flaps (min 45mm width)</b></p> <p style="text-align: right; font-size: small;">* Pre-drilling required - Ø 2mm</p> |
| Opening angle  | A  | B        | C        |   |     |          |          |          |        |          |          |          |   |
| 95°  | 169 + MH   | 174 + MH | 118 + MH |   |     |          |          |          |        |          |          |          |   |
| ≥ 105°   | 164 + MH   | 169 + MH | 113 + MH |   |     |          |          |          |        |          |          |          |   |
| <p><b>Calculation of flap weight</b></p> <p>Flap width x flap height x flap thickness x density<sup>1</sup> + weight of handle<sup>2</sup> = weight of flap</p> <p><sup>1</sup> Densities: MDF 0.85 kg/dm<sup>3</sup>, chipboard 0.65 kg/dm<sup>3</sup>, spruce/pine 0.45 kg/dm<sup>3</sup></p> <p><sup>2</sup> For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting</p>   |  |          |          |   |     |          |          |          |        |          |          |          |   |

#### Metric Conversions

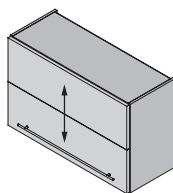
|      |         |         |        |         |         |         |         |         |         |        |     |       |       |     |        |       |       |
|------|---------|---------|--------|---------|---------|---------|---------|---------|---------|--------|-----|-------|-------|-----|--------|-------|-------|
| MM   | 2       | 3       | 3.2    | 3.5     | 4       | 8       | 8.5     | 11      | 13      | 17     | 19  | 20    | 21    | 22  | 27     | 32    | 45    |
| INCH | 3/32    | 1/8     | 1/8    | 1/8     | 5/32    | 5/16    | 11/32   | 7/16    | 1/2     | 21/32  | 3/4 | 13/16 | 13/16 | 7/8 | 1 1/16 | 1 1/4 | 1 3/4 |
| MM   | 90      | 100     | 113    | 118     | 119     | 164     | 169     | 170     | 174     | 180    |     |       |       |     |        |       |       |
| INCH | 3 17/32 | 3 15/16 | 4 7/16 | 4 21/32 | 4 11/16 | 6 15/32 | 6 21/32 | 6 11/16 | 6 27/32 | 7 3/32 |     |       |       |     |        |       |       |

#### LEGEND

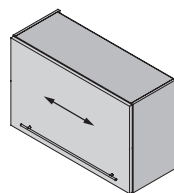
- A Side wall fastening dimension
- B Side wall fastening dimension
- C Front fastening dimension
- FAO Front overlay, top
- FAS Front overlay, side
- MH Base plate height

# Kinvaro T-105

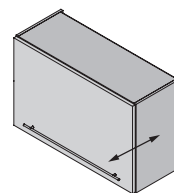
## Flap Stay



Height adjustment



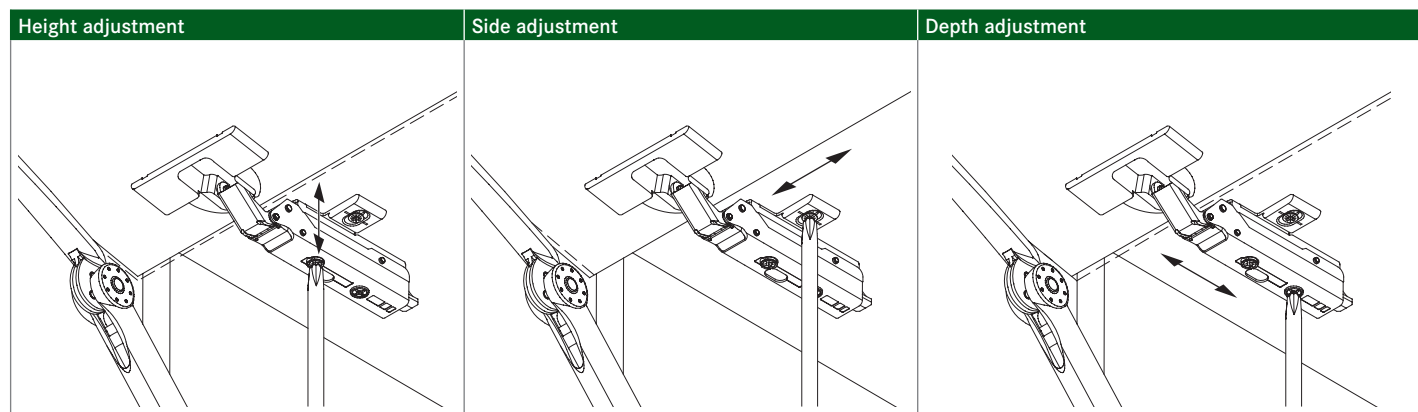
Side adjustment



Depth adjustment

All adjustments are on the hinge and can be carried out independently of each other.

### ADJUSTMENT OPTIONS FOR HINGE IN CABINET TOP PANEL

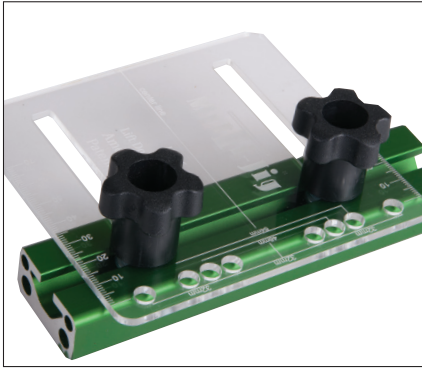


### ADJUSTMENTS



# Assembly Aids

## Kinvaro



Drilling templates for the Kinvaro Lifter System. Each lifter has an individual template for easy installation. Order each drill jig with appropriate bit.

### ORDER INFORMATION

| KINVARO Installation Templates    |          |    |
|-----------------------------------|----------|----|
| Description                       | Item No. | PU |
| 1 Kinvaro L-80 Drill Jig          | 00490-01 | 1  |
| 2 Kinvaro F-20 Drill Jig          | 00491-01 | 1  |
| 3 Kinvaro T-65 Drill Jig          | 00492-01 | 1  |
| 4 Kinvaro T-71/T-76 Drill Jig     | 00493-01 | 1  |
| 5 Kinvaro T-57 Drill Jig          | 00494-01 | 1  |
| 6 Kinvaro Door Template Drill Jig | 00495-01 | 1  |
| 7 Kinvaro 5mm drill bit           | 00496-01 | 1  |
| 8 Kinvaro 9/64" drill bit         | 00497-01 | 1  |



**Example:** Kinvaro F-20 Lifter Order

- (1x) F-20 Drill Jig **2**
- (1x) Door Template Drill Jig **6**
- (1x) 5mm or 9/64" drill bit **7** or **8**







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