



| Type of window | Fastening screws | drilling ø |
|----------------|--|------------|
| Wood | Flat head screws 4x35 DIN 97 or DIN 7997 | 2.5mm |
| Aluminium | Tapping screw with countersunk head 4xL, DN 7972 or DN 7982, screw must penetrate through a profile wall of at least 1.8mm thickness | 3.5mm |
| Plastic | Tapping screw with countersunk head 4xL, DN 7972 or DN 7982, screw must penetrate through 2 profile walls | 3.5mm |

Fastening screws are not included.

Mounting instructions OL90N Klapp

- Check whether the limits of application are kept to.
- Select mounting dimension f1 in accordance with table. Select mounting dimension D in such a way that the fastening screws do not hit a web.
- Define hole pattern for (10) bracket set.
- Define hole pattern for scissor angle (11) if e=31 to 73mm.
- Define hole pattern for back plate (12) if e=0 to 30mm.
- If required (see table) define hole pattern for holding (14) fixture.
- Define hole pattern for corner (4) guide.
- Define hole pattern for hand lever (5) gear Fz90 (22/27) or electric drive E121 (19/21).
- Drill fastening holes depending on type of screw.
- Mounting of fittings.
- Cut rods and cover profiles to length (see table).
- Screw scissor bearing (2) and cover profiles (15) together with (10) scissor angle (7a/8).
- Screw on fitting parts.
- Grease rods and insert.
- Slip on casement (3) bracket and (1) scissor.
- Bring all fittings in open position. Screw down clamping screws at the fittings.
- Install hinge bolt (39) opposite of the side where the crank rod is run down on hand lever.
- Adjust pressure (latching force) of the casement: Close window, adjust bar of hinge bolt (39) using fork wrench SW12 such that the casement is pressed against the frame. Firmly screw down the screw at the casement (3) bracket.
- Check function of the fittings, screw down clamping screws if necessary.
- Grease hinge joints and sliding parts.
- Clip in cover profiles.
- e=0-30mm: fix protective covers onto the projecting threads of the fastening screws.

Important information:

- Mounting drawing, assembly instructions, requirements for maintenance and operating instructions for power operated windows, doors and gates (ZH 1/494) must be followed.
- The specified range of applications must be maintained.
- The mounting dimensions must be observed.
- The required fixtures must be used.
- To avoid injury, protective covers must be screwed on projecting threads of the fastening screws.
- Fittings have been drawn in the closed position, however, assembly must occur in open position.
- All attachment screws in open position must be tightened with an Allen key 3mm with 5Nm.
- After assembly and before operation check function and make sure all clamping screws are tightened.
- Linkage and sliding points must be lubricated with an acid-free grease according to DIN 51825.
- The free accessibility of the fittings for lubricating and maintenance must be guaranteed according to DIN 18357.
- If rods or cover profiles of other manufacturers are used, GEZE will neither assume any liability for material quality and sufficient corrosion protection in accordance with the RAL quality assurance nor for possibly occurring damages and consequential losses.
- As of a free rod length of 600mm, rod guides must be used.
- For bottom-hung windows, using a suitable catch guard is mandatory (see GEZE catch guard and cleaning safety).
- The equipment-on lamp must go out as soon as the casement has reached its final position (open or close).
- The drive unit is delivered in open position.

Range of application

for vertically installed bottom-hung outward-opening windows only

a_{min} = clear width of frame: 560 to 2400mm
 a_{max} = clear height of frame: min. 370mm
 e = soffit depth: 0 to 73mm
 Y = space requirements at the bottom of the frame:
 if e= 0 to 30mm: 33mm
 if e=31 to 73mm: 28mm
 X = space requirements at the sides of the frame:
 hand lever : D+10mm (min. 22mm)
 gear Fz90 : D+10mm (min. 24mm)
 Fz90 with detachable crank rod: D+14mm
 electric drive: D+23mm (min. 35mm)
 j = inner edge of casement to pivot point of hinge max. 70mm

Opening width: approx. 170mm
 Stroke of fitting: 54mm
 Weight of casement: max. 80kg,
 Panel weight: max. 30kg/m²

| Clear casement width a_{klapp} | Mounting dimensions f | Number of clamping fixtures (4) | Cover profile LA1 | Length of rods (LZ) and cover profiles (LA) |
|----------------------------------|------------------------|---------------------------------|---|--|
| 560- 610 | f1=290 | 0 | mitred: LA1=f1-152 LA1 with cover cap =f1-168 | 1 scissor $a_{klapp}=560-1200$ LZ1=f1+165 |
| 611- 760 | f1=340 | 1 | mitred: LA1=f1-186 LA1 with cover cap =f1-202 | 1 scissor $a_{klapp}=611-1200$ LZ1=f1+165 |
| 761-1200 | f1=a/2 +D-50 | 1 | mitred: LA1=f1-186 LA1 with cover cap =f1-202 | 1 scissor $a_{klapp}=761-1200$ LZ1=f1+165 |
| 1201-1360 | f1=300 f2=a/2 | 0 | mitred: LA1=f1-152 LA1 with cover cap =f1-168 | 2 scissors $a_{klapp}=1201-2400$ LZ2=f2-93 LZ1=f1+260 |
| 1361-1560 | f1=340 f2=a/2 | 1 | mitred: LA1=f1-186 LA1 with cover cap =f1-202 | 2 scissors $a_{klapp}=1361-1560$ LZ2=f2-93 LZ1=f1+260 |
| 1561-1910 | f1=a/4 +D-50 f2=a/2 | 1 | mitred: LA1=f1-186 LA1 with cover cap =f1-202 | 2 scissors $a_{klapp}=1561-1910$ LZ2=f2-93 LZ1=f1+260 |
| 1911-2400 | f1=440mm f2=a/2 | 1 | mitred: LA1=f1-186 LA1 with cover cap =f1-202 | 2 scissors $a_{klapp}=1911-2400$ LZ2=f2-93 LZ1=f1+260 |

For supplementary data and information see installation drawing:
 OL90N with hand lever 40444-EP-001
 OL90N with electric drive E212, vertically mounted 40444-EP-004
 OL90N with gear Fz91, Fz90L/R 40444-EP-008
 OL90N crank rods and accessories 40444-EP-011
 for gear Fz91, Fz90L/R

Order requirements for 1 window*

| OL90N with ... | A | B | C | D | E | F | G | H/J | K | L/M |
|--|---|---|---|---|---|---|---|-----|---|-----|
| Hand lever | | X | X | X | X | | | | | |
| Electric drive E212R1/R horizontally mounted | | X | X | X | X | | | | | |
| Electric drive E212R1/R vertically mounted | | X | X | X | X | X | X | X | X | X |

* for windows with 2 scissors order 1 each in addition: B, C, or D, G.
 Rod and cover profile must be ordered separately

| Designation | anod. alu. | white RAL9016 | dark bronze | black | RAL... | Pcs. |
|--|------------------|------------------|-------------|--------------|----------------|------|
| A Hand lever with corner guide Contents: 1 Corner guide 1 Hand lever OL90N 1 Rod guide 1 Cover cap | 30611 | 30615 | 30612 | 77945 | 30614 | 8 |
| B Scissor OL90N Contents: 1 Scissor OL90N 1 Scissor bearing 1 Casement bracket 1 Rod guide 2 protective covers 1 Joint + back plate (is left over) | 30373 | 30377 | 30374 | 74509 | 30376 | 6 |
| C OL90N for top-hung window, outward opening, accessories Soffit depth 0-30mm Contents: 1 Bracket set 1 Scissor angle 1 Back plate for top-hung windows 1 Aux. bracket 1 Clamping fixture 1 Rod guide Al 2 protective covers 1 Screw set | 30831 | 30835 | 30832 | 74535 | 30834 | 12 |
| D OL90N for top-hung window, outward opening, accessories Soffit depth 31-73mm Contents: 1 Items: Nr. 10, 11, 14, 15 1 Screw set | 30841 | 30845 | 30842 | 74536 | 30844 | 9 |
| E Cranked rod for soffit depth 0-30mm | | | | 01841 | | |
| F Cranked rod for soffit depth 31-73mm | | | | 01842 | | |
| G Rod coupling OL90 | | | | 43546 | | |
| H Electric drive E212R1 for group control Contents: 1 E212R/230V AC 1 Connecting rod | 20835 | 20839 | 20836 | 20838 | 20838 | 3 |
| J Electric drive E212R for group control Contents: 1 E212R/230V AC 1 Connecting rod | 05428 | 15435 | 05429 | 06683 | 06683 | 3 |
| K Corner guide Contents: 1 Corner guide 1 Cover cap | | | | 70546 | | 4 |
| L Angle bracket with gear Fz90, on left side Contents: 1 Angle bracket with gear Fz90L 1 Headless pin M4x10,8 1 Universal joint 1 Dowel pin 4x16 for fixed crank rod 1 Dowel pin 4x20 for detachable crank rod 1 Cover cap | 30809 galvanised | 30809 galvanised | 30810 black | 30810 black | 30809 or 30810 | 4 |
| M Angle bracket with gear Fz90 on right side Contents: 1 Items: 23, 24, 25, 26, 9 | 30811 galvanised | 30811 galvanised | 30812 black | 30812 black | 30811 or 30812 | 4 |
| Rods and cover profiles | | | | | | |
| Cover profile L=2m * | 30401 | 30405 | 30402 | 74537 | 30404 | |
| Cover profile L=3m * | 30396 | 30400 | 30397 | 74539 | 30399 | |
| Cover profile L=6m | 27558 | 27561 | 27559 | 74540 | 28342 | |
| Rod ø8 galvanised L=2m | | | | 16555 | | |
| Rod ø8 galvanised L=3m | | | | 16591 | | |
| Rod ø8 galvanised L=6m | | | | 16592 | | |
| Accessories (must be ordered separately) | | | | | | |
| Drilling template | | | | 54799 yellow | 54800 blue | |
| 6 Rod guide | | | | 10878 | | |

* Both ends of cover profile mitred

Diese Zeichnung entspricht dem Entwicklungsstand des Zeichnungsdatums bzw. der letzten Änderungsangabe. Änderungen der Zeichnung können ohne Anmerkung, gleich welcher Art, einschließlich Schreibergenehmigung, durchgeführt werden. Die Zeichnung bleibt unser Eigentum und ist Dritten nur für die Vertragsabwicklung zur Verfügung zu stellen. Änderungen der Zeichnung ergebenden Ansprüche stehen ausschließlich GEZE zuzurechnen. Zustimmung von GEZE darf diese Zeichnung weder ververvielfältigt noch Dritten zugänglich gemacht werden.