

# RATIONEL

## OPERATION AND MAINTENANCE



WINDOWS WITH VISION

**rationel**<sup>®</sup>

## CONGRATULATIONS WITH YOUR NEW RATIONEL® WINDOWS AND DOORS

You have chosen a thought-through and high quality product that has been produced in accordance with the traditional high quality Danish construction principles and manufactured in Rationel's modern factories.

This is your best guarantee that your windows and doors will perform for you now and long into the future.

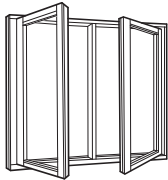
It is important that you maintain your windows and doors correctly to get many years of trouble-free operation. These maintenance guidelines are described in this Operation & Maintenance Manual. You can also read about ventilation and a healthy indoor climate.

Thank you for choosing Rationel as your supplier. We hope that you will enjoy the benefits of your new windows and doors for many years to come.

Yours faithfully,  
Rationel Vinduer Ltd.



## SIDEHUNG WINDOW



### OPERATION

The window is operated with the handle, which activates a mechanism making the following possible:

- 1) Open
- 2) Close
- 3) Ventilation position

The handle in sidehung windows is connected to a friction brake that can keep the window open – but not in strong winds. The friction brake is activated by turning the handle to a vertical position when the window has reached the desired opening position.

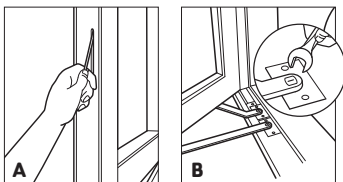
You can also use the ventilation position by turning the handle to the vertical position. The closing mechanism must catch the outer of the two holes in the latch placed in the sill. The window is closed and at the same time fresh air is allowed into the room.

Please note – not all insurance companies cover break-ins committed through windows in ventilating position. Please check with your insurer.

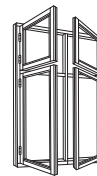
Windows with two sashes can be provided with a false mullion in order to comply with local fire regulations. The mullion is an integral part of one sash and it follows the sash when the window opens. To release the false mullion, operate the handle in the centre of the sash rebate (illustration A).

### ADJUSTMENT

If required, the placement of the sash within the frame can be adjusted. This is done by turning the adjusting screw placed in the jambs (illustration B). For this purpose use a 10mm open-end spanner.



## SIDEHUNG WINDOW



### OPERATION

The window is operated with the handle, which activates a mechanism making the following possible:

- 1) Open
- 2) Close
- 3) Ventilation position

The handle in sidehung windows is connected to a friction brake that can keep the window open – but not in strong winds. The friction brake is activated by turning the handle to a vertical position when the window has reached the desired opening position.

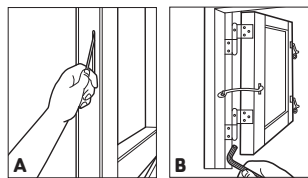
You can also use the ventilation position by turning the handle to the vertical position. The closing mechanism must catch the outer of the two holes in the latch placed in the sill. The window is closed and at the same time fresh air is allowed into the room.

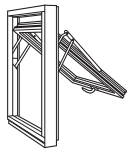
Please note – not all insurance companies cover break-ins committed through windows in ventilation position. Please check with your insurer.

Windows with two sashes can be provided with a false mullion in order to comply with local fire regulations. The mullion is an integral part of one sash and it follows the sash when the window opens. To release the false mullion, operate the handle in the centre of the sash rebate (illustration A).

### ADJUSTMENT

If required, the placement of the sash within the frame can be adjusted. This is done by turning the adjusting screw in the jamb (illustration B). For this purpose use a 5mm Allen (hexagonal) key.





## TOP-SWING WINDOW

### OPERATION

The window is operated with a handle that activates a mechanism making the following possible:

- 1) Open
- 2) Close
- 3) Ventilation position
- 4) Reversing the window for cleaning

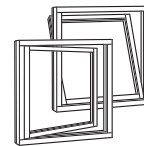
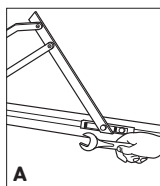
The top-swing window can be turned through 180° making it possible to clean the outside of the window from the inside. The window has a built-in child safety lock preventing the sash being opened more than 100mm. By lifting the catch in the glide channel, on the right hand side (seen from the outside) the window can be opened further. The catch holds the window in position when rotated for cleaning.

Make sure that the window is locked in position before starting the cleaning.

You can also use the ventilation position by turning the handle to the horizontal position. The closing mechanism must catch the outer of the two holes in the latch placed in the sill. The window is closed and at the same time fresh air is allowed into the room.

### ADJUSTMENT

If required, the placement of the sash within the frame can be adjusted. This is done easily by turning the adjusting screw placed in the jambs (illustration A). For this purpose use a 17mm open-end spanner.



## TILT AND TURN WINDOW

### OPERATION

The window is operated with the handle to give three different functions.

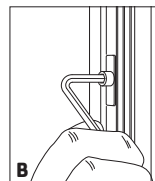
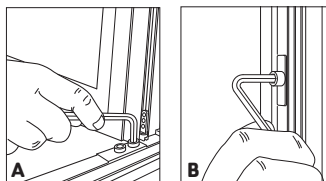
- 1) Sidehung position: When the handle is turned to horizontal position the sash is opened inwards making it possible to clean the outside of the window from the inside. In strong winds close the window, or make sure that the sash cannot open to an extent where it might become dangerous or the sash could be damaged.
- 2) Tilt position: When the handle is turned to vertical upwards position, the sash can be opened about 100mm inwards at the top. This leaves opportunity for easy ventilation.
- 3) Closed: When the handle is in a vertical downwards position the window is closed.

To get a functional tilt and turn window press gently against the sash when changing the position of the handle.

### ADJUSTMENT

The closing pressure is adjusted by turning the back screw in the hinge at the bottom corner (illustration A) by using a 4mm Allen (hexagonal) key, or by adjusting the locking rollers in the jamb (illustration B) by using a Torx screw 15.

If you have questions concerning the adjustments please ask your installer.





## ENTRANCE DOOR

### OPERATION

The handle in Rationel entrance doors can activate one or three locking points – depending on the purpose.

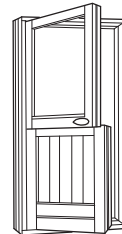
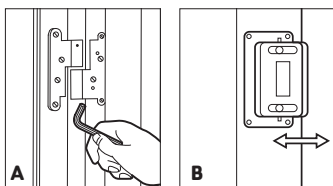
- 1) When the door is used for everyday traffic in and out, it is only the middle locking point that is active.
- 2) At night when you lock the door or leave the house you need to activate the top and bottom locking points as well. Lift the handle upwards and when feeling resistance all three locking points are activated. Let go of the handle, turn the key – and the door is locked correctly.

### ADJUSTMENT

The height between the door and the sill can be regulated up to 5mm by adjusting the thread pivot in the bottom of the centre hinge (illustration A). Use a 6mm Allen (hexagonal) key. If sideways adjustment is necessary, then loosen the screws in the frame (use a Torx screw 20) and adjust the two small hexagonal screws on the jamb. Use a 3mm Allen key.

The pressure against the weatherstrip is regulated by adjusting the lock keep. Remove the two small locators on the top plate with pincers and move the outer strike plate in the keep forwards or backwards (illustration B).

All doors that have a built-in sash lifter at the bottom (supporting the door when it is closed) must be adjusted after fitting of the door. Using a Torx screw 20, the sash lifter is adjusted with the two screws in the hardware that releases a small wheel at the bottom of the sash. The wheel can be adjusted upwards or downwards by loosening or tightening the two screws. When adjustment is completed the wheel must rest on the aluminium threshold. Adjustment of a Rationel door can be carried out without dismantling the door leaf.



## STABLE DOOR

### OPERATION

A Rationel stable door has two handles that are used for operating three different functions:

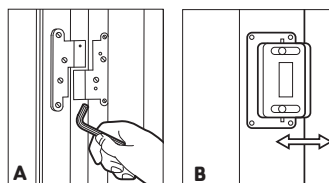
- 1) Works like an ordinary entrance door: Turn the bottom handle to horizontal position and operate the door with the top handle.
- 2) To create ventilation and view by leaving the top half of the door open: Turn the bottom handle downwards to vertical position. Open the top half with the top handle.
- 3) Locking the door: Turn the bottom handle downwards to vertical position. Lift the top handle upwards. When you feel resistance the locking points are activated. Let go of the handle, turn the key and the door is locked correctly with four locking points – two in each half of the door.

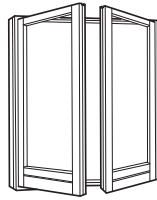
### ADJUSTMENT

The height between the door and the sill can be regulated up to 5mm by adjusting the thread pivot in the bottom of the centre hinge (illustration A). Use a 6mm Allen (hexagonal) key. If sideways adjustment is necessary, then loosen the screws in the frame (use a Torx screw 20) and adjust the two small hexagonal screws on the jamb. Use a 3mm Allen key.

The pressure against the weatherstrip is regulated by adjusting the lock keep. Remove the two small locators on the top plate with pincers and move the outer strike plate in the keep forwards or backwards (illustration B).

All doors that have a built-in sash lifter at the bottom (supporting the door when it is closed) must be adjusted after fitting of the door. Using a Torx screw 20, the sash lifter is adjusted with the two screws in the hardware that releases a small wheel at the bottom of the sash. The wheel can be adjusted upwards or downwards by loosening or tightening the two screws. When adjustment is completed the wheel must rest on the aluminium threshold. Adjustment of a Rationel door can be carried out without dismantling the door leaf.





## TERRACE DOOR

### OPERATION

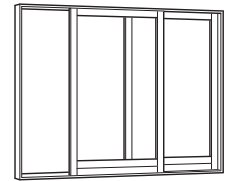
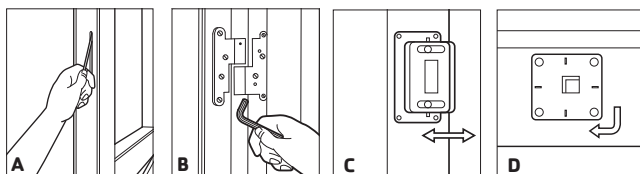
The terrace door is operated with a handle activating three locking points. The handle is connected to a friction brake keeping the door open - but not in strong winds. Turn the handle downwards to the vertical position to activate the friction brake when the door has reached the desired position. On double terrace doors you open the door with no obvious handle by operating the handle in the centre of the sash rebate (illustration A).

### ADJUSTMENT

The height between the door and the sill can be regulated up to 5mm by adjusting the thread pivot in the bottom of the centre hinge (illustration B). Use a 6mm Allen (hexagonal) key. If sideways adjustment is necessary, then loosen the screws in the frame (use a Torx screw 20) and adjust the two small hexagonal screws on the jamb. Use a 3mm Allen key.

The pressure against the weatherstrip is regulated by adjusting the lock keep. Remove the two small locators on the top plate with pincers and move the outer strike plate in the receiver forwards or backwards (illustration C). In the case of double terrace doors, the pressure against the weatherstrip is adjusted by loosening the keeps placed on the head and sill (illustration D). Turn the top plates 90° clockwise or anti-clockwise depending on whether the pressure needs to be increased or decreased.

All doors that have a built-in sash lifter at the bottom (supporting the door when it is closed) must be adjusted after fitting of the door. Using a Torx screw 20, the sash lifter is adjusted with the two screws in the hardware that releases a small wheel at the bottom of the sash. The wheel can be adjusted upwards or downwards by loosening or tightening the two screws. When adjustment is completed the wheel must rest on the aluminium threshold. Adjustment of a Rationel door can be carried out without dismantling the door leaf.



## SLIDING PATIO DOOR

### OPERATION

The sliding patio door is opened by turning the handle 180° downwards. Two sets of wheels are pressed downwards, lifting the moveable part of the door and making it slide sideways. Close the door by reversing the process.

### ADJUSTMENT

If the moveable door is closing too tightly or too loosely, you can adjust the bolts placed in the jamb in the closing side. The distance between the moveable and the fixed sash is adjusted on the door stile connector on the moveable sash. Keep the rail and the wheels clear of grime and dirt to get a functional sliding patio door.

## TILT AND TURN DOOR

### OPERATION

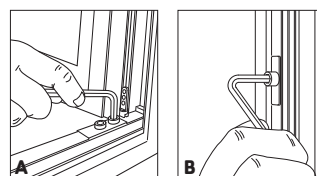
The door is operated with the handle releasing three different functions.

- 1) Sidehung position: When the handle is turned to horizontal position the sash is opened inwards making it possible to clean the outside of the door from the inside. In strong winds close the door or make sure that the sash cannot open to the extent where it might become damaged.
- 2) Tilt position: When the handle is turned to point vertically upwards, the sash can be opened about 100mm inwards at the top. This leaves a good ventilation possibility.
- 3) Closed door: When the handle is turned to point vertically downwards the door is closed.

To get a functional tilt and turn door, press gently against the sash when changing the position of the handle.

### ADJUSTMENT

The closing pressure is adjusted by turning the back screw in the hinge at the bottom corner (illustration A) by using a 4mm Allen (hexagonal) key, or by adjusting the locking rollers in the jamb (illustration B) by using a Torx screw 15.



If you have questions concerning the adjustments ask your Rationel installer.

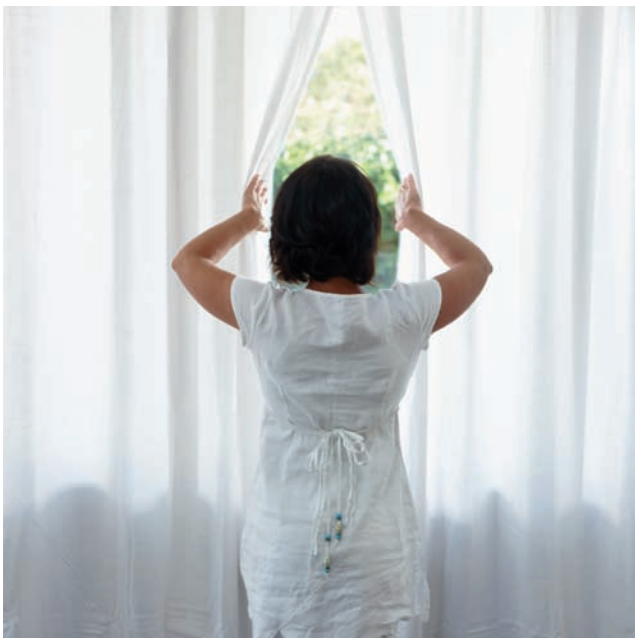
## VENTILATION AND INDOOR CLIMATE

All new windows are airtight. This often means that you need to change your habits from the days when your windows were old and draughty. The old, draughty windows gave your house natural ventilation – even if you didn't want it.

Now you have to make sure that the house is ventilated properly. It is a myth that this wastes energy and money, you just have to do it correctly.

Leave a window or door wide open – preferably with a breeze. This way you replace the warm and moist air from inside the house with cold and dry air from the outside in less than 10 minutes. During these 10 minutes things like furniture, floors and ceilings will not be cooled down and the loss of energy will be at a minimum. Proper ventilation is especially important in new buildings. The damp from new walls and floors will stay in the house for up to 2 years.

If you make sure that your house is thoroughly ventilated a couple of times every day – eg. bedrooms and bathrooms in the morning and the kitchen, dining room and living room in the evening – you can ensure you and your family a pleasant and healthy indoor climate.



## CONDENSATION ON WINDOWS

Condensation on panes is often a sign of too little ventilation – but not always. It depends on whether the condensation is on the inside, the outside or between the two pieces of glass in the pane.

### CONDENSATION ON THE OUTSIDE OF THE WINDOW – A GOOD THING

When condensation is on the outside of the pane, it proves that the pane is an energy pane and that it is working well.

In some types of weather – for example, on a clear and frosty night where there is a large heat dissipation from the earth into the air – there can be times in the morning where the surface of the outside of the pane is colder than the air outside. This can result in external condensation in the middle of the pane. The condensation will disappear when the outside air temperature rises during the day.

This condensation is caused by the energy pane. The inner glass has a non-visible coating that reflects the heating back into the room. At the same time the space between the two pieces of glass is filled with an inert gas, argon. This means that the heat from the house does not get to the outer glass and heat it up. That is why it is possible for the outside of the energy pane to get colder than the outside air. Condensation on the outside of the pane cannot arise on old traditional panes. On the old types of panes there will always be some heat transferring through the panes to heat the outer piece of glass.

### CONDENSATION ON THE INSIDE OF THE WINDOW – VENTILATE!

If the condensation is on the inside of the pane it is a sign that the relative humidity in the house is too high. The humidity should be brought down if you want to avoid rot, damage caused by damp and a bad indoor climate.

### CONDENSATION BETWEEN THE TWO PIECES OF GLASS – THE SEALED UNIT IS PUNCTURED

There can also be condensation inside the pane between the two pieces of glass. This is a sign that the sealed glass unit is punctured and should be replaced.

## RESIN EXTRACT AND YELLOWING (Not covered under warranty)

Timber is a natural product with many advantages – and very few disadvantages.

Rationel windows and doors have a high content of rich timber which has knots and a relatively high, natural content of resin. This gives the timber a number of advantages:

- Resin consists of oils, fat and different fungicide substances giving the timber a natural protection and a water-repellent surface. With the addition of factory-applied treatments, the timber is able to enjoy a long, trouble-free life.
- Knots are the timber's personality. Because of the knots and varying year rings, no two pieces of timber look the same. This gives the product a special charm and creates a warm and tranquil atmosphere.

There are also a couple of disadvantages. The rich timber is a living material that 'works' and can create resin extract or yellow extract from the knots. These visible disadvantages can be remedied by doing the following:

- Use a soft cloth wetted with white spirit to remove the extract – wipe it off gently.
- Resin that has crystallized can be removed with a brush or scraped away, taking care not to scratch the timber.

If the painted surface has been damaged during this process then sand the area and apply new paint with a soft brush.

## WARRANTY

Rationel manufactures windows under the Danish Windows Certifying scheme (DVC) and all Rationel's products are DVC approved. DVC continuously inspects the products and the production making sure that both as a minimum meet the 'VinduesIndustris Tekniske Bestemmelser'.

VinduesIndustris warranty regulations apply to all of Rationel's products.

The warranty covers manufacturing and material defects on windows and doors delivered and used in Ireland. The warranty is valid for 6 years from the time of production. The panes are covered by Glasindustri's warranty for glass panes (6 years) and visible defects (1 year). Please supply the order number for the defective window or door. This is a six-digit code and is shown on the aluminium profile between the two pieces of glass in the pane.

The warranty is not valid if the defect is caused by careless operating, lack of care or lack of maintenance, the warranty will not cover the repair.

If the warranty claim results from incorrect installation of the window or door, then the claim should be directed towards the installer of the product.

# SHOWROOMS

**Dublin:** Unit 2 · Bridgecourt Office Park · Walkinstown Avenue · Dublin 12  
**Northern Ireland:** Unit 17A · WIN Business Park · Canal Quay · Newry · Co Down BT35 6PH

## SALES AREAS

Sligo: FREEPHONE 1800 292929  
Limerick: FREEPHONE 1800 292929  
Cork: FREEPHONE 1800 292929

## HEAD OFFICE

Rational Vinduer Ltd · 2 Bridgecourt Office Park · Walkinstown Avenue · Dublin 12  
Phone: 01 4092900 · Fax: 01 4501002

## RATIONEL – WINDOWS WITH VISION

Throughout the process of design, development and production of our windows and doors we take our responsibility seriously. Rationel has one word in mind “Vision” as we look towards the future.

Customers across Northern Europe are benefiting from our high quality windows and doors. Rationel only use the best coniferous timber available from sustainable forests.

Our products are developed to give you light, comfortable indoor climate and superb functionality. Continuous improvements give you the peace of mind that Rationel windows and doors provide design and performance to meet demands from the market now and long into the future.

It is important that you feel confident when you choose Rationel, which is why we always aim to live up to our values. Our products are customer focused and well thought through. We are committed to your project, trustworthy and will aim to keep our promises. All together we call it – windows with vision.

If you have a project, no matter how big or small, contact us. We can help you with our expertise and the many opportunities that our product range offers. For further information you can also visit our web-site [www.rationel.ie](http://www.rationel.ie).

We look forward to welcome you to Rationel.

Rationel Vinduer Ltd.  
Unit 2  
Bridgecourt Office Park  
Walkinstown Avenue  
Dublin 12  
[www.rationel.ie](http://www.rationel.ie)

WINDOWS WITH VISION

**rationel**<sup>®</sup>