



Turn opening or parallel opening

High-performance concepts for ventilation flaps

■ **Aluision ventilation flaps are mainly in demand for sash widths of between 170 mm and 300 mm – an extremely limited installation space for the hardware with its often complex functions. Concealed hardware is often also requested.**

Nevertheless: Facade and window manufacturers can be confident that Roto will work closely with their profile suppliers to find a hardware solution that is as durable as it is high-performance.

Turn-Only ventilation flaps

One example is the special hinge side designed specifically for a project for the system supplier Raico, for the most popular ventilation flap opening type – turning. Using a solution based on the Roto AL Designo, the travel and opening angle of the hinge side was limited in such a way that the ventilation flap virtually includes an integrated opening restrictor.

Another component developed for Raico uses a different approach. The opening of the ventilation flap is limited by a very short turn restrictor rod. These are just two examples of the many development projects throughout the world that Roto Aluision supports each year.



Effective against sash warpage: Active locking points on the locking side of Turn-Only ventilation flaps

| For ensuring that Turn-Only ventilation flaps are tightly sealed and suitable for RC 2, even in confined spaces in the rebate of narrow sashes: the special corner drive for circumferential locking.



Suitable for RC 2

The use of a special corner drive developed specifically for a profile makes it possible to set active locking points on the hinge side by means of a connecting rod. This enables ventilation flaps that are tightly sealed and suitable for RC 2, even in confined spaces in the rebate of narrow sashes. At the same time, active locking points counteract sash warpage – a problem that is often feared in practice.

Actively counteracting sash warpage

Ceiling-height, one-piece or dark-coated ventilation flaps are susceptible to sash warpage due to the bimetallic effect. Active locking on the hinge side effectively prevents this issue. It pulls the ventilation flap back into the correct locking position during the closing process despite the tolerances caused by temperature fluctuations.

For optimum opening characteristics

The narrow width of most ventilation flaps has an adverse effect on their kinematics and opening characteristics. Roto Aluision has also found a solution for this problem: If, for example, flat strikers or strikers milled into the frame are installed, a very narrow sash can also be opened fully. Strikers and cams offset in the axial position are another possibility.

Parallel inward-opening ventilation flaps

Parallel projecting scissor stays from the Roto PS Aintree product range and a Roto special corner drive were incorporated into a ventilation flap concept by FKN Fassaden. The project required an extremely easy-to-use, yet tightly sealed sash with a width of just 120 mm and a height of 1,500 mm.

The idea was to use a ventilation flap that is not turned but rather opened inwards using parallel projecting scissor stays. FKN was awarded the contract for production of the entire facade, including all Turn-Only windows and ventilation flaps, after providing samples for the project solution developed together with Roto. FKN Sales Manager Franz Ebert recalls:

“The parallel inward opening ventilation flap impressed planners and investors.”

The ventilation flaps then successfully underwent a continuous operation test in the accredited Roto test centre – the International Technology Centre (ITC) – in Leinfelden. FKN ultimately produced 1,675 ventilation flaps and 4,200 Turn-Only windows and installed them in the Marienurm in Frankfurt.

(Almost) anything is possible!

Even for projects with high design requirements for ventilation flaps, aluminium facade and window manufacturers can work with the confidence that almost any functionality desired by planners can be realised through successful cooperation between their profile supplier and Roto. Advisers from Roto Object Business draw upon a wealth of experience in selecting proper hardware configurations to provide support for planning, prototype manufacturing, provision of samples and the start of production.

| Safe living and ventilation in the Marienurm in Frankfurt: The ventilation flaps can be opened by any room user. However, the Turn-Only windows are equipped with plugged escutcheon covers and can only be opened by authorised persons.

Photo: © Pecan Development GmbH



| In addition to 4,200 Turn-Only windows with Roto AL Designo concealed hardware, 1,675 parallel inward opening ventilation flaps were installed in the Marienurm in Frankfurt. These tightly sealed, easy-to-use ventilation flaps are equipped with parallel projecting scissor stays from the Roto PS Aintree range and special corner drives.