

# comparison stairlift noise.

ACCORDING TO THE NEN-EN-ISE 9614-2  
NORM

Royal Otolift is a leading manufacturer of stairlifts. These stairlifts assist people with reduced mobility to avoid walking up- and down the stairs. In that way, stairlifts offer freedom and access to those with reduced mobility. Independent measurement was conducted by Demcon. Using an advanced sound intensity probe, the required narrow band source power spectra was obtained.

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### Approach:

The measurements have been performed in the “anechoic room” of the University of Twente, one of the main testing facilities of the Engineering Fluid Dynamics group. This room is especially designed for acoustical measurements where background noise is unwanted: its walls absorb practically all noise. Consequently, it is possible to perform undisturbed acoustical measurements. The anechoic room, is extremely silent: the background noise is less than 20dB(A), a lower sound level than e.g. silent whispering.

We compared 5 stairlifts in this study. All stairlifts were placed in the anechoic room, and tested for noise production. The stairlifts were performing a duty cycle, starting in the lowest position, moving upward. Once stopped at the top position, the stairlifts returned to the downward rest position. We used a manual scanning technique to measure the intensity of each surface. The overall sound power level is computed according to the NEN-EN-ISO 9614-2 norm. Additional videos made with a Sorama sound camera helped in identifying the origin and source of sound.

### Results:

The main conclusion is clear from the graph: the stairlift from Royal Otolift is significantly less noisy than those of its major competitors.

We thank Otolift and the University of Twente for this fruitful collaboration.

## Measuring



## Comparing

