

# DeLaval International AB

## DeLaval Swinging Cow Brush SCB

### DLG Test Report 5939



#### Anmelder

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DLG e.V.  
Test Center  
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### Short description

The cow brush consists of

- an electric motor with control electronics,
- a brush roller with yellow plastic brushes  
and
- and a carrier arm out of sectional steel.

The rotating brush head consists of a brush cylinder and is suspended vertically in the carrier arm.

*(Technical data see page 5.)*

## Evaluation – short version

Tested feature	Test result	Evaluation
<b>Suitability</b>	Suitable for cattle cleaning and skin care. Safe function requires that the switch hair of the animals is no longer than 3 cm.	

### Technical criteria

<b>Installation and Electricity supply</b>		
<b>Installation</b>	can be carried out by the owner	○
<b>Electricity supply</b>	outside the motion range of the cows	+
<b>Durability and wear</b>		
<b>Wear</b>	little	+
<b>Durability</b>	good, no damage	+
<b>Operational reliability</b>		
	good, no malfunctions occurred	+
<b>Maintenance</b>		
<b>Maintenance requirements</b>	low	+
<b>Changing of brush elements</b>	simple	+
<b>Cleaning</b>	simple, only rarely necessary	+
<b>Energy consumption</b>		
	very low	++
<b>Instructions of installation and use</b>		
	detailed and understandable	+
<b>Warranty</b>		
	1 year	

### Animal-related criteria

<b>Animal observations</b>		
	The animals learned quickly and without difficulties to start the cow brush.	+
<b>Acceptance</b>	very good	++
<b>Injuries</b>	none	○
	Automatically stops at very small resistance due to a sliding clutch	++
<b>Cleanliness of the animals</b>	good at exposed spots	+
<b>Work safety</b>		
	confirmed by DPLF	

Evaluation range:: ++ / + / ○ / - / -- (○ = standard)

## Test results

### I. SUITABILITY

The DeLaval Swinging Cow Brush SCB is suitable for cattle cleaning and skin care. Since the cow brush is equipped with automatic control, the animals can start the brush themselves by pushing against it. The cow brush is installed like in a cardan joint, which allows the brush to move in three directions.

Due to this design and its functional principle, the cow brush can reach the tail, the head/neck area, and in particular the flank and back area well.

Safe function requires that especially the tail hair of the cattle is no longer than 3 cm. If necessary, the hair must be shortened.

### II. TECHNICAL CRITERIA

#### Installation

The cow brush can be installed by the owner using suitable tools. It is delivered pre-assembled and can be mounted directly to a wall or a post using an installation hook attached to the brush. After installation, the hook can be removed. For further simplification, the manufacturer includes a detailed installation plan in the delivery.

The electricity cable must be installed outside the cows' range of motion.

The installation height depends on the average withers height of the animals. The manufacturer recommends an installation height of the pivot point facing the wall of approx. 75 cm above the average withers height of the animals.

#### Durability and wear

The brush showed only little wear after six months of practical use in a group of ca. 60 cows.

Durability is good. Damage to the cow brush did not occur.

#### Operational reliability

Operational reliability is good. No malfunctions occurred during six months of practical use.

#### Maintenance

Maintenance requirements are low. They are limited to regular checks of the brush, the bolt connections, and the transmission casing. The brush cylinder is easy to change.

#### Dirt accumulation and cleaning

Hair deposits were observed under the cow brush.

Cleaning is easy. Due to the design, regular cleaning of the cow brush is generally unnecessary.



Figure 2:  
DeLaval Swinging Cow Brush SCB with carrier

## Energy consumption

Energy consumption is relatively low. Given the average number of 165 activations by approximately 60 cows, ca. 0.45 kW per day are consumed.

Electric power consumption is ca. 80 to ca. 180 W while the brush is running and ca. 0 W when the brush is not activated. If resistance is higher (brush is blocked), power consumption can reach up to 310 W for a short period of time.

## Instructions of installation and operation

The instructions of installation and operation are detailed and understandable.

Installation, commissioning, maintenance, and care are illustrated with the aid of photos.

The instructions of installation and operation also include important advice regarding the operation of the cow brush, such as the correct installation height, the installation of the electricity cable, and the safety of cows with long hair. In a sketch (see figure 3), the manufacturer clearly points out to the user that the brush may not be used for cattle whose hair (including the switch) is longer than 3 cm.

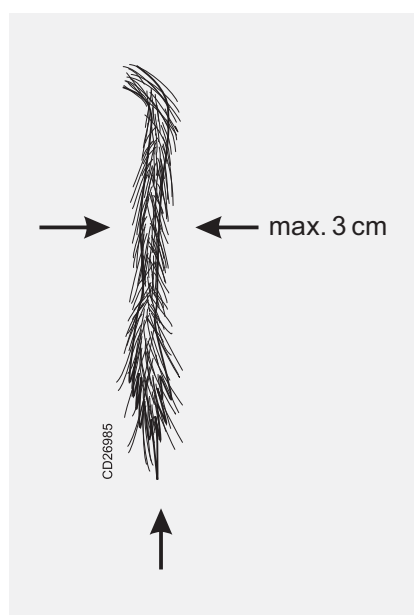


Figure 3:  
Maximum hair length

## Warranty

The manufacturer grants a warranty period of one year for the cow brush.

## III. ANIMAL-RELATED CRITERIA

### Animal observations

The animals learned quickly and without difficulties to operate the cow brush.

When an animal pushes the brush out of its vertical resting position, it begins to rotate. The brush stops approximately 10 seconds after it has returned to its vertical position. Afterwards, the cow brush can be restarted immediately by pushing.

The animals accept the cow brush very well for fur care, especially at the head, the neck, the back, and the tail head. The registration of the activation processes over a period of one week showed that the cow brush was activated on average 165 times per day in a herd of approximately 60 cows.

### Injuries

On the two test farms where the cow brush was used for six months, no tail injuries, skin abrasions, ripped-out ear marks, or other injuries caused by the brush were found. If resistance at the brush head increases because the tail is being rolled up, for example, a sliding clutch automatically separates the brush from the motor.

Measurements have shown that the cow brush stops at a relatively small force of about 110 N because the sliding clutch is activated.

This means that the risk of cattle injury is small. In order to prevent potential injuries, the manufacturer recommends cutting the switch hair according to the instructions of operation.

### Cleanliness of the animals

If the installation height is correct, the animals are cleaned well at those parts of the body which can

be reached by the brush. The animals independently accept the brush well for skin care.

## IV. SURVEY RESULT

A survey among 2 reference farms of the manufacturer, which used the cow brush for up to one year, confirmed the observations and measurements evaluated in the test.

Installation on these farms was carried out by the company DeLaval. The cow brush is accepted well by the animals on the farms. The farmers surveyed stated that no injuries caused by the cow brush were observed after the brush had been installed. The farmers questioned gave the cow brush a satisfactory/very good overall evaluation and would buy it again if needed.

## V. WORK SAFETY

The DeLaval Swinging Cow Brush SCB has been tested for work safety by the German Test Station for Agricultural and Forestry Equipment (DPLF).

## Design

- Electric motor (0.15 kW) for a mains voltage of 230 V.
- The brush features vertical pendulum suspension and consists of a brush cylinder.
- It rotates at ca. 28 revolutions per minute.

## Warranty period

1 year

## CE mark

The conformity declaration of the manufacturer has been presented.

## Main measurements and weight

### total

Height	1200 mm
Width	500 mm
Depth	1000 mm

### Brush

Weight	ca. 70 kg
Diameter	500 mm
Length	600 mm

## Test

For the test, one cow brush each was used on two farms.

The DLG SignumTest is based on technical measurements on farms, behavioral observations, and a survey among two reference farms of the manufacturer. Power and energy consumption, the number of activations per day, as well as the force at which the cow brush stops were measured on the farms.

### Realization of the test

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