

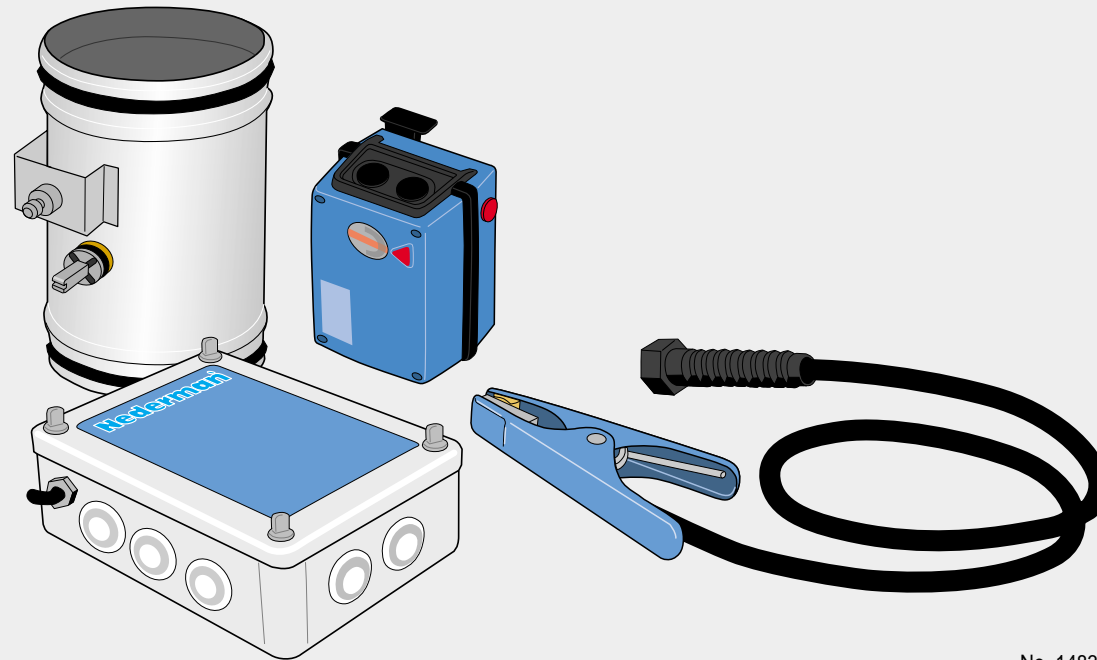
# MOTOR DAMPER

**Nederman**<sup>®</sup>

*Improving your workspace*

SER. 591

INSTRUCTION MANUAL



No. 148341/00



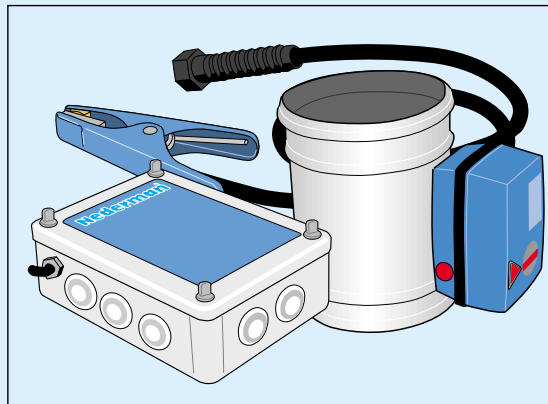
# MOTOR DAMPER

## Technical data

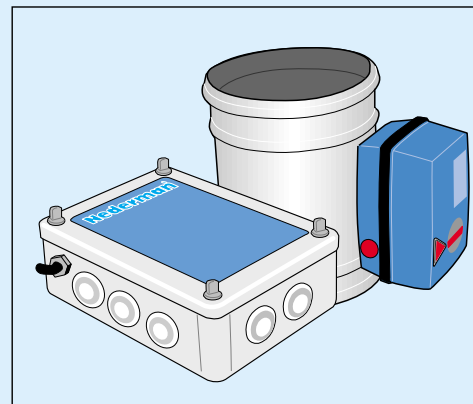
Primary voltage.....	110-120 V / 220-240 V
Secondary voltage.....	24 V
Phase.....	1~
Frequency.....	50/60 Hz
Transformer.....	30 VA
Welding current.....	8 - 400 A
Delay time *.....	0-5 minutes +/- 25 % 1 minute (at delivery)
Connection diameter.....	Ø125 or Ø160 or Ø200 mm

\* from completion of welding to closing the damper

### Motor Damper, Automatic



### Motor Damper, Manual





**AB Ph. Nederman & Co.**  
Sydhamngatan 2  
S-252 28 Helsingborg  
Sweden  
2000-02-01



Magnus Hammarlund, Product Manager

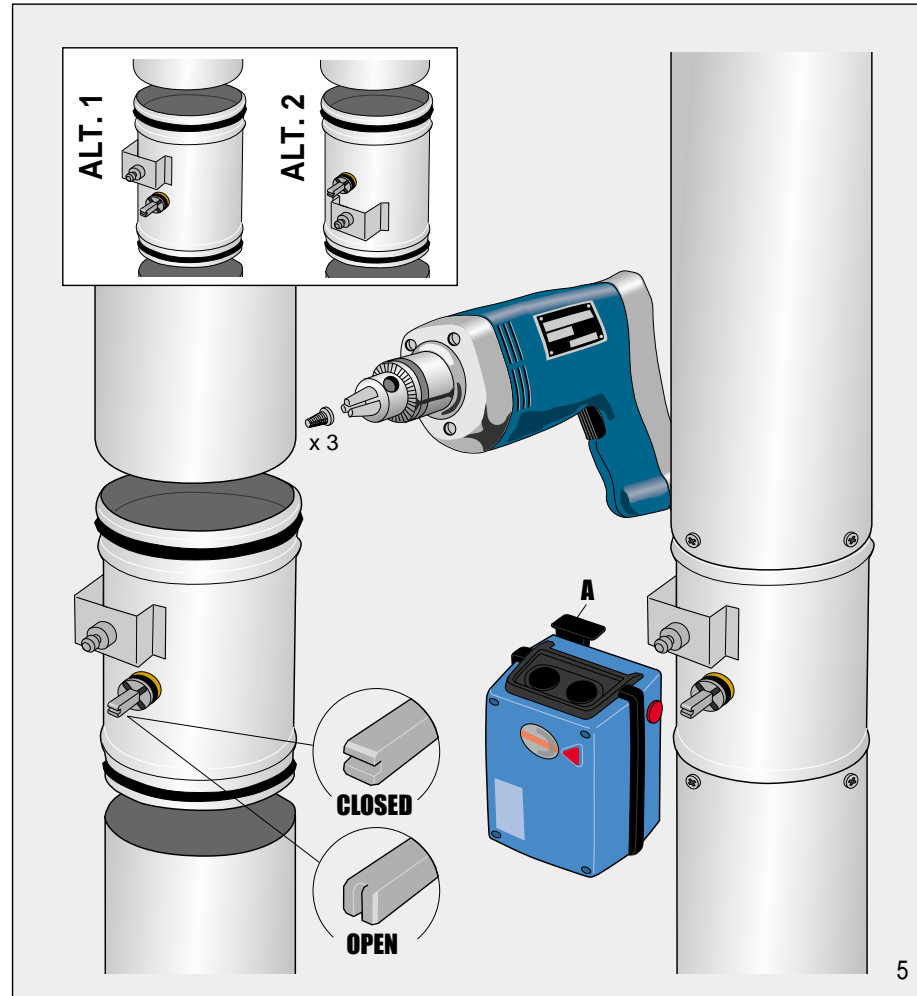
This product is designed to meet the requirements of the relevant EC directives. To maintain this status all installation, repair and maintenance work must be carried out by qualified personnel using only original spare parts. Contact your nearest authorised dealer or AB Ph. Nederman & Co. for advice on technical service or if you require spare parts.

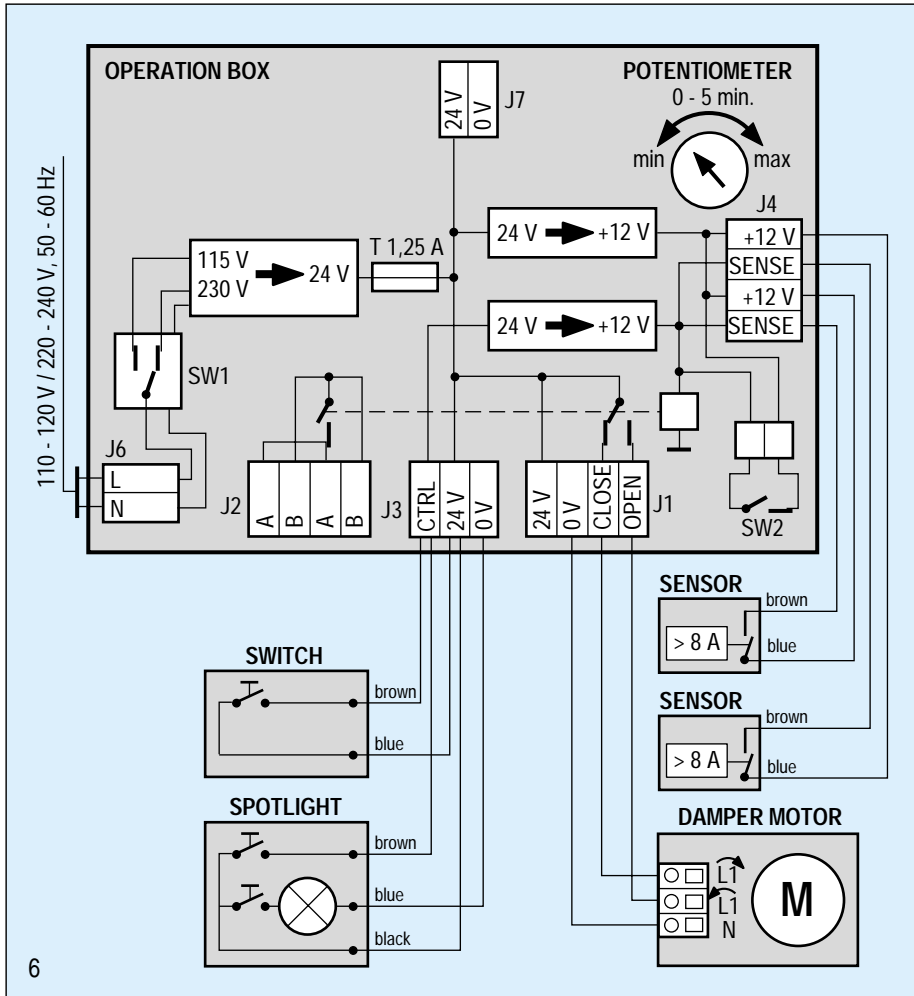
#### **Declaration of conformity**

We, AB Ph. Nederman & Co., declare under our sole responsibility that the product **Damper Control ser. 591** to which this declaration relates is in conformity with the following standards or other normative documents:  
EN 50081-1:1992, EN 50082-2:1995,  
IEC 669-2-1:1984  
following the provisions of Directives  
89/392/EEC, 89/336/EEC, 73/23/EEC.

### Mounting instruction

- 1 Check that the damper blade in the damper housing is in a completely closed position. Then fit the damper in the ducting system on the inlet side of the fan. For safe connection 3 self-tapping screws in each duct connection is recommended. Check the shaft end position for closed damper position according to picture.
- 2 Pull the button (A). Fit damper motor in the correct position according to picture. Push the button (A),
- 3 Fit operation box on the wall near to the operators working area.





## WARNING!

**Risk of personal injuries.**

Break the circuit before any work in the damper motor or operation box is started.

Electrical installation of the damper system should be done by a qualified electrician.

## Electrical Installation of Damper Motor and Accessories

Connection should be done according to the wiring diagram.

1. Connect the cable between the damper motor and the operation box. 3 x 1,0 mm<sup>2</sup> cable is recommended.
2. For damper systems with sensor; connect the sensor cable in the operation box.
3. Connect possible spot light or circuit-breaker for Nederman Extractor arms.

## Delay time

The damper system with sensor shuts the damper automatically after welding with a delay time of 1 minute. This time can be adjusted with a potentiometer positioned in the operation box (see picture). The time can be adjusted between 0 and 5 minutes + / - 25 %.

## Connection of Several Operation Boxes

Several operation boxes can be connected when a central fan is to be operated. See wiring diagram.

## Connection of Fan Contactor

To start the fan, when the damper is opened, the fan contactor should be connected to block J2 in the operation box.

### Alternative A

The power supply to the fan contactor is supplied from an external source, maximum 48 V, 5 A.

### Alternative B

The internal power supply on 24 V AC maximum 80 mA (2 VA) is used to the fan contactor.

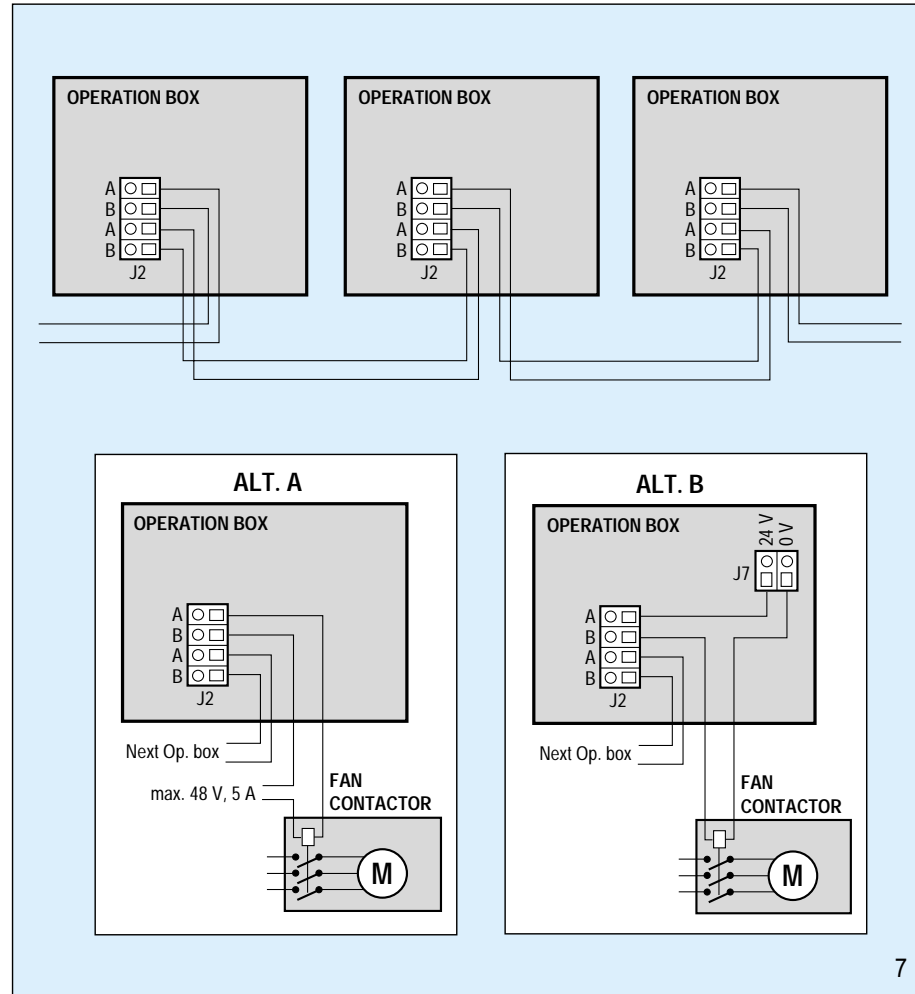
## Connection to Motor Operated Exhaust Hose Reels

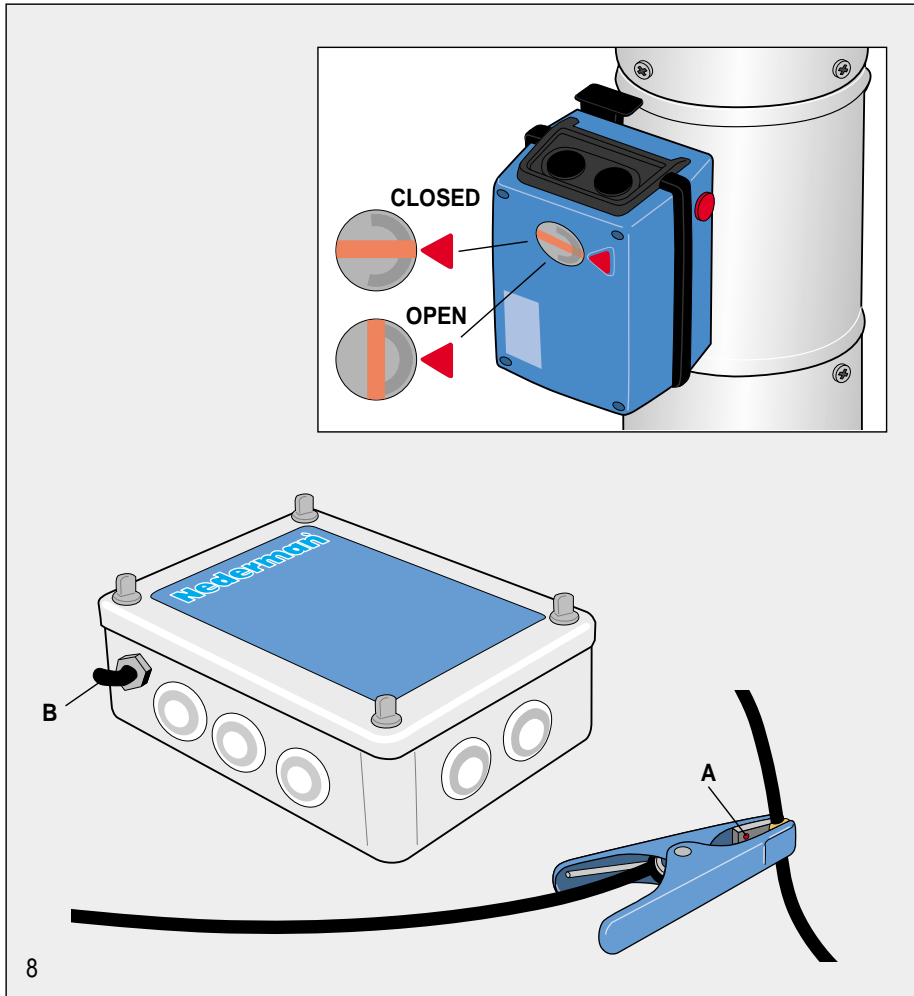
Connections to Nederman motor operated exhaust hose reels should be done according to wiring diagram no. 148346.

**A lockable safety switch is recommended for the whole electric system including the fan.**

### Important!

The switch **B** (see page 8) must point upwards before power connection.





## Directions for use

The damper is designed to be used in a dry environment in combination with other Nederman products for extracting fumes, smoke or dust. Check that the damper motor can indicate closed and opened damper position.

### Automatic regulation of damper

(Only products with sensor.)

Fit the sensor clamp on the welding cable. Check before welding begins that the sensor clamp is in place. The sensor closes the damper automatically after completion of welding with a delay time of approximately 1 min. (could be adjusted, see page 6). The sensor responds to welding currents from 8 to 400 A. The sensor has a LED (A) which indicates when the sensor has received a signal.

### Manual regulation of damper

The damper can be opened or closed with the switch B (see picture) or with the switch on the Fume Extractor hood.

## WARNING!

### **Risk of personal injuries.**

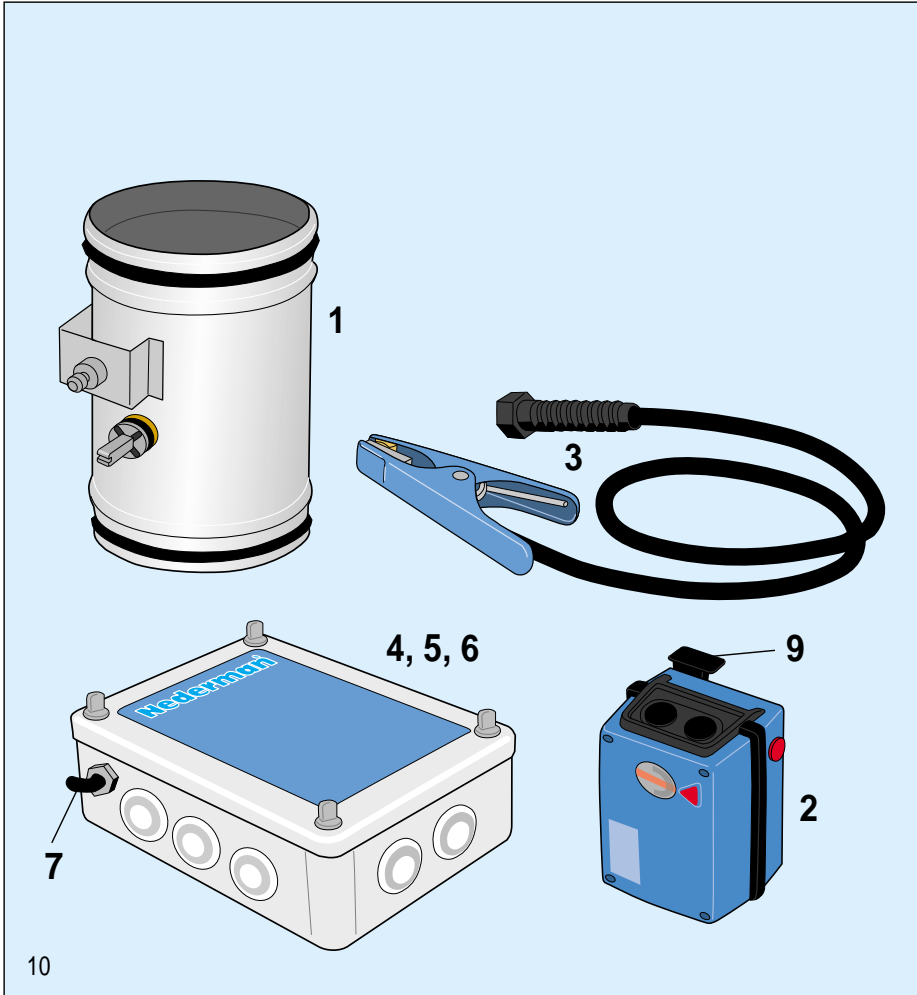
- Check, when the damper has been installed, that there is enough suction capacity in the ducting system before any work has begun. Check the fan impeller rotation direction and the damper function.
- The equipment must not be used in an explosive environment.



## TROUBLE-SHOOTING SCHEDULE

**WARNING! Risk of personal injuries.** Break the circuit before any work in the damper motor or operation box is started.

The damper does not open.	<ol style="list-style-type: none"> <li>1. Cable or connection failure.</li> <li>2. Defective fuse F1.</li> <li>3. Incorrect power supply or voltage failure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check that cables and cable connections are in good condition and screws are fastened.</li> <li>2. Change the fuse F1 in the operation box.</li> <li>3. Check that the switch SW1 is set for correct voltage. Check with a voltmeter if any voltage on block J7.</li> </ol>
The damper does not open.	The sensor does not work (automatic damper).	<ul style="list-style-type: none"> <li>• Check that the sensor cable is in good condition</li> <li>• Check the sensor connection to block J4 and that screws are fastened</li> <li>• Check that the LED on the sensor clamp indicates during the welding work.</li> </ul>
The damper does not open.	The damper motor does not work.	<ul style="list-style-type: none"> <li>• Check that motor cables are in good condition</li> <li>• Check according to wiring diagram that cable conductors are correctly connected to the motor block and to block J1. Check that screws are fastened</li> <li>• Check with a voltmeter for voltage (24 V AC) on block J1.</li> </ul>
The damper does not close completely. Noise from the damper.	Dirt in the damper housing and on the damper blade.	<ul style="list-style-type: none"> <li>Remove the damper motor (pull the button A, see page 4).</li> <li>• Turn the damper blade with a spanner a couple of times backwards and forwards until the dirt is gone</li> <li>• Turn the damper blade to closed position</li> <li>• Refit the damper motor and check that it indicates closed damper position.</li> </ul>
The damper opens without any reason (automatic damper).	The sensor indicates because of disturbing surrounding equipment as for example other welding equipment or high voltage unit.	Eliminate or screen the disturbances off.



### Spare parts

When ordering parts always state:

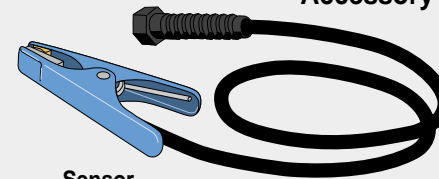
- Part no. and control no. (from the type label).
- Detail no. of the spare part and the name (as per list below).
- Quantity of the parts required.

#### Description

- |                                       |                                  |
|---------------------------------------|----------------------------------|
| 1. Damper housing                     | 7. Switch                        |
| 2. Damper motor                       | 8. Fuse (F1, see wiring diagram) |
| 3. Sensor, incl. cable                | 9. Snap locking                  |
| 4. Operation box (without components) |                                  |
| 5. Operation box (with components)    |                                  |
| 6. Circuit card incl. transformer     |                                  |



**Accessory**



**Sensor**

One or two sensors can be connected to each operation box.  
Part no. 372199

***Nederman***<sup>®</sup>  
*Improving your workspace*

Manufacturer:  
**AB Ph. Nederman & Co**  
Sydhamngatan 2  
SE-252 28 Helsingborg, Sweden  
[www.nederman.se](http://www.nederman.se)  
Tel.: Int. +46 42 18 87 00  
Fax: Int. +46 42 14 79 71  
E-mail: [support@nederman.se](mailto:support@nederman.se)

