

# Robot

## Task Description: **Milking cows**

Milking cows by hand does not occur anymore in Belgium. Most of the work is done by milking machines. After cleaning the udder the farmer puts the claws on the teats. A tie-stall has been taken as reference.

### Comments of the employee:

- 'Continuously repetition of the same gestures: at least one hour'
- 'Work height not in accordance with posture: cow on floor level'
- 'No comfortable standing posture: squatting down'
- 'Loads too heavy: milking machine of 8 kg'
- 'Opportunity to have a break: milking as fast as possible'

### Comments of the employer: motivation regarding solution:

- Physical load too heavy, walking distance too high and time consuming

### MSD risks:

- Posture
- Force
- Frequency/duration

### Exposed areas:

- Neck/shoulder
- Arm/wrist
- Lower back
- Lower limbs

### Solutions:

- Robot – Automatic milking system.  
Advantages: no physical load, 15% higher milk production, more quality time, detailed overview cows  
Disadvantages: Expensive, new habit of milking, lay-out of barn important, contact cows (?), cows summer and winter in barn

