

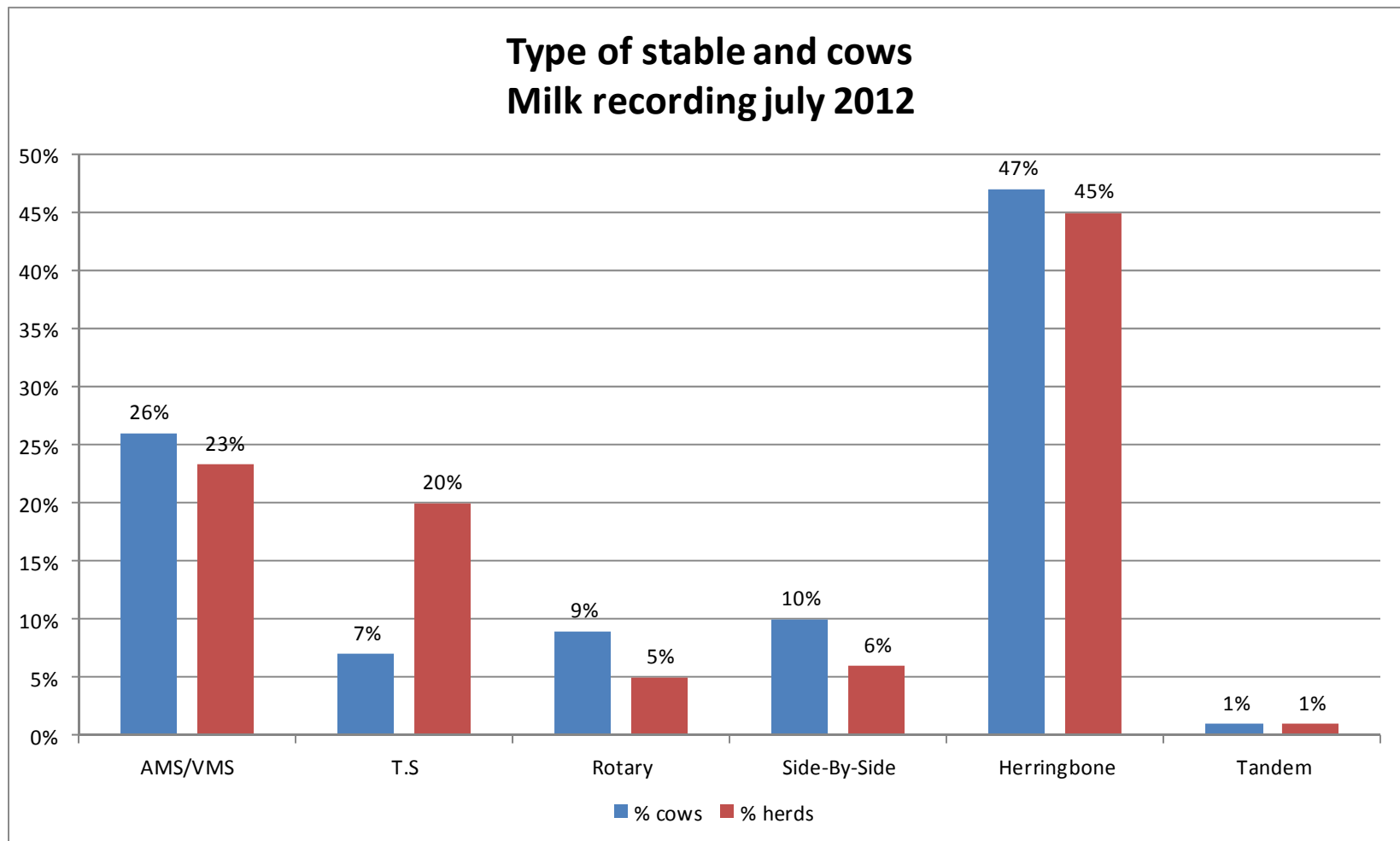


Lely Shuttle B, A Danish attempt for standardized sampler for AMS

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Number of robots in DK





Automation in milk recording.

Barcode Vials	Electronic Milk Meter (EMM)	Lely-Shuttle	Auto sampler	Ezi-Scanner (fixed installed meters)	Antenna
  	  	  	  	  	 



KNOWLEDGE CENTRE FOR AGRICULTURE



The center is the sample - not the equipment!

**We already
paid to get
the sample
from the
cow to the
lab**



**Why not collect
more information,
and add value to
the productline? –
and money to the
farmers purse!**



Requirement for data validity

Error type	Seriousness
Milk, fat or protein	Problematic
Somatic Cell Count	Severe
Johnes Disease, Salmonella, PCR, Pregnancy, Ketosis	Critical



The idea.

Link between sample and cow ID during milking
(more important with several robots)

Scanning or RFID

Communication with a datahandler

Easy to handle.

Easy to disassemble

Standard spare parts.

Easy to clean

Easy transportation

Reduced maintenance costs



From idea to result



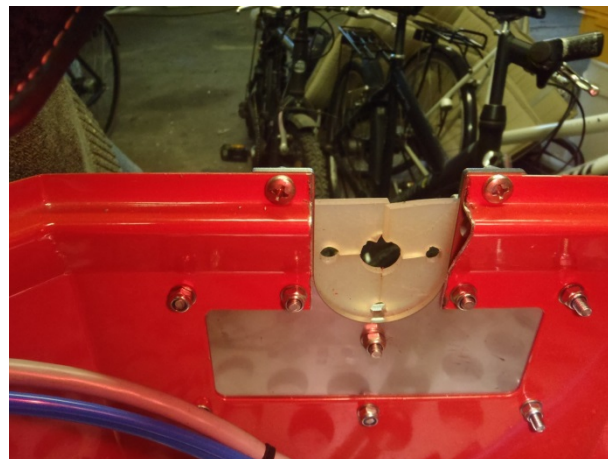
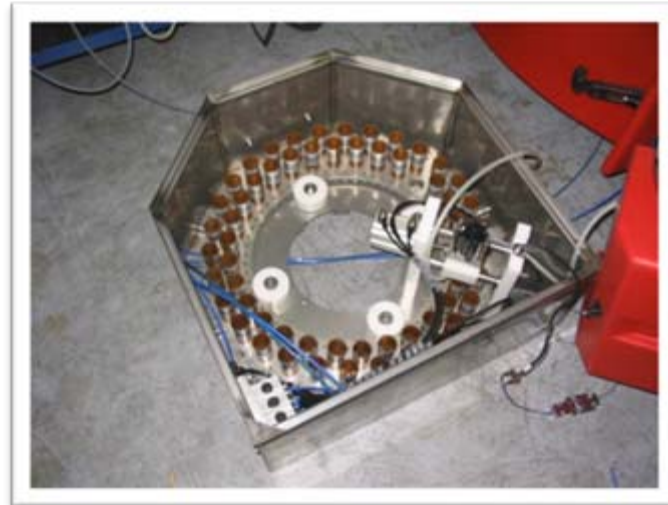
Kommunikation with datahandler



- No paper
- Less handling when sampling is finish.
- Same system as the milkmeter
- The computer-program "Robolink" handle data.

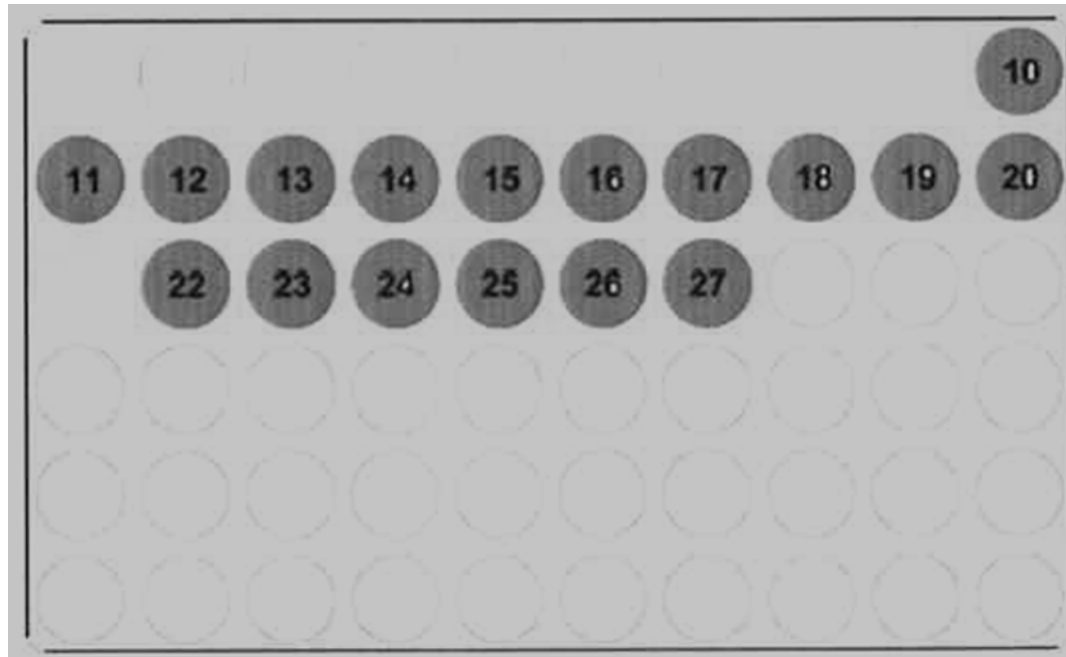


Easy to handle



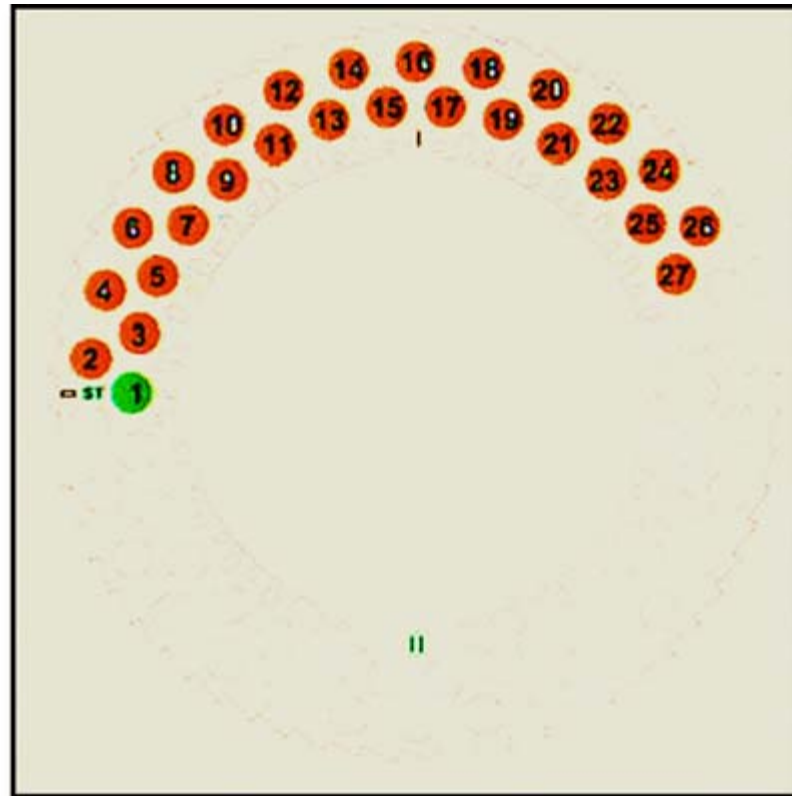


Rack with 60 vials



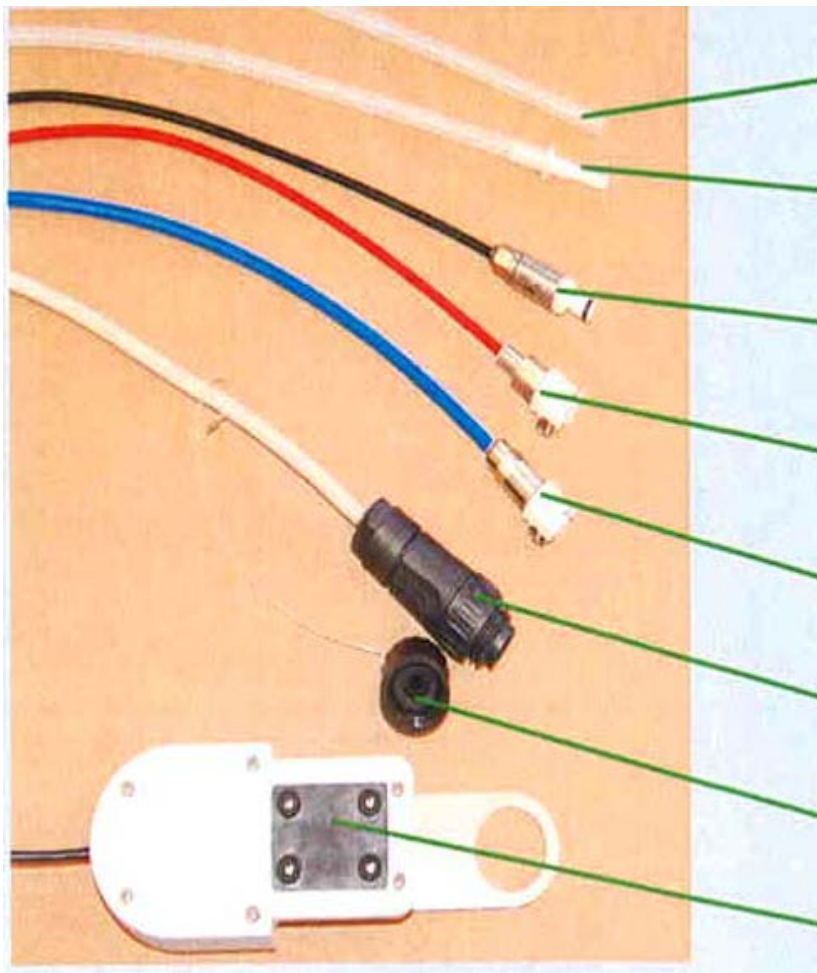


Glass wheel 60 vials





Simple connection



Tube for return air 100 cm

Tube for milksample 150 cm

Tube for moving glass wheel

Tube for moving valve up and down

Tube for main air

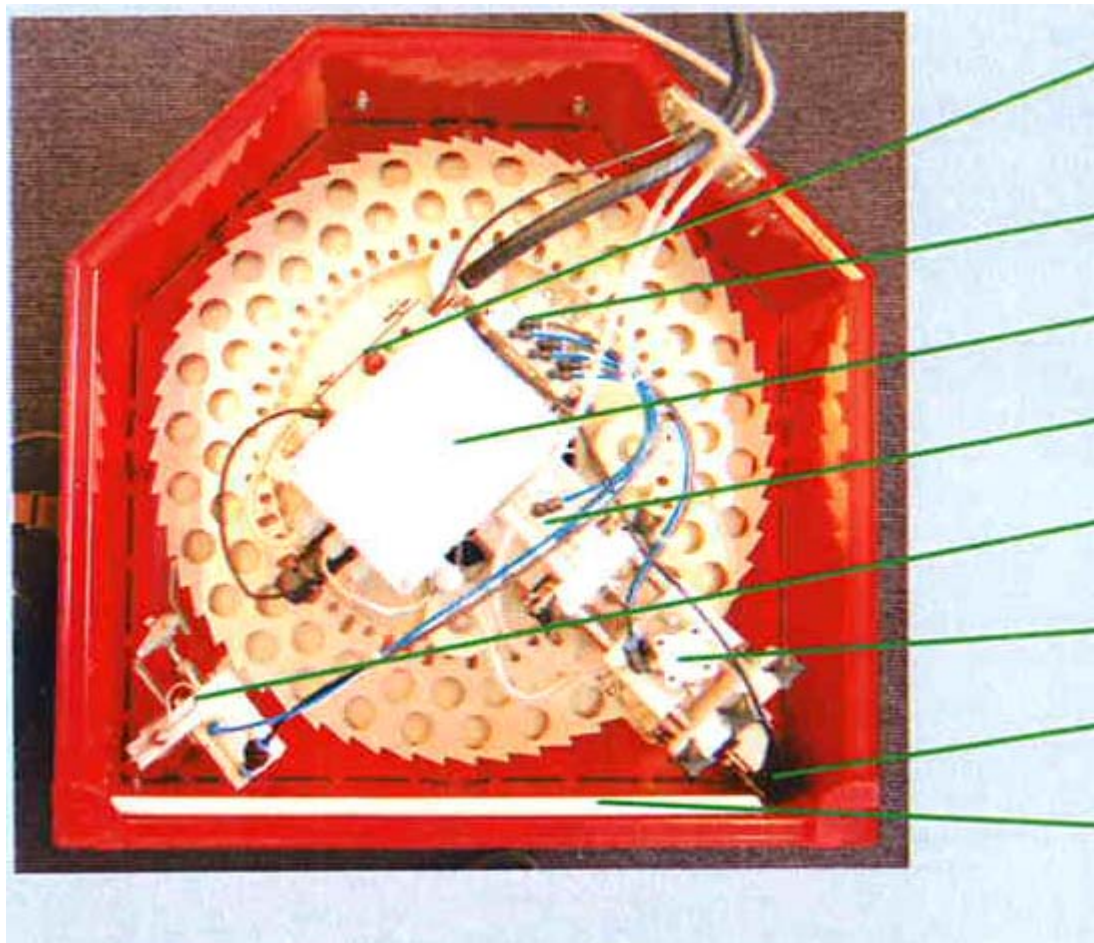
Power and communications cable

Male dust cap

Tru-test Datahandler socket



The sample construction



A2 or A3 interface box.

Valve bloc.

Electronic boks.

Cylinder for mowing valve from inner circle to outer circle.

Pawl cylinder mowing glass whell forward.

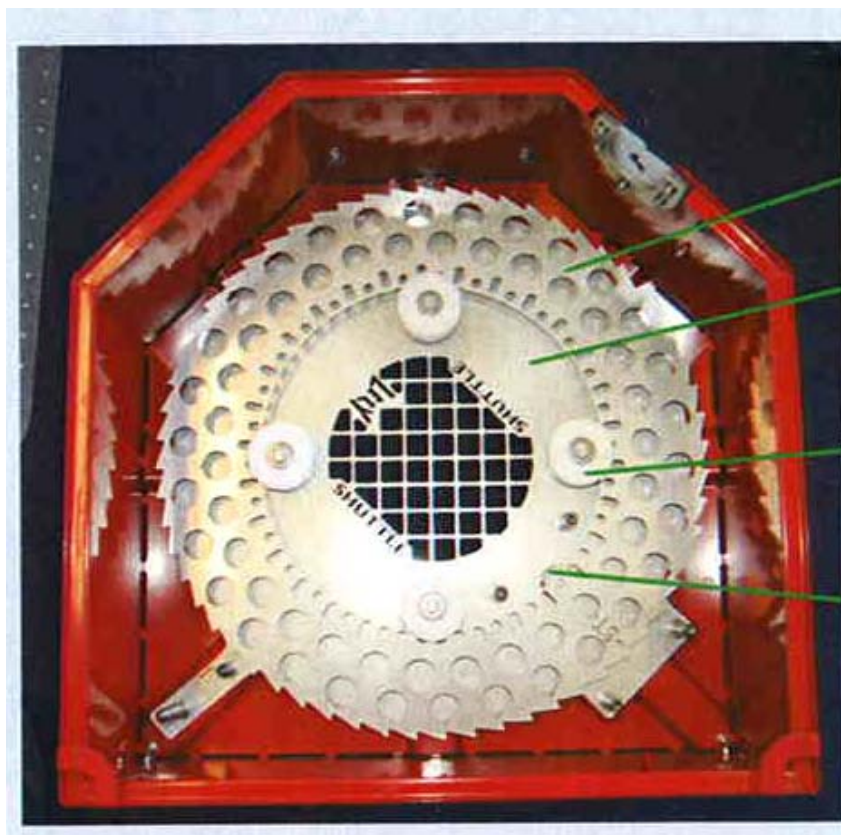
Valve cylinder move the valve up and down.

Bar code reader

Antenna for milk return tube



The wheel construction



Glass wheel

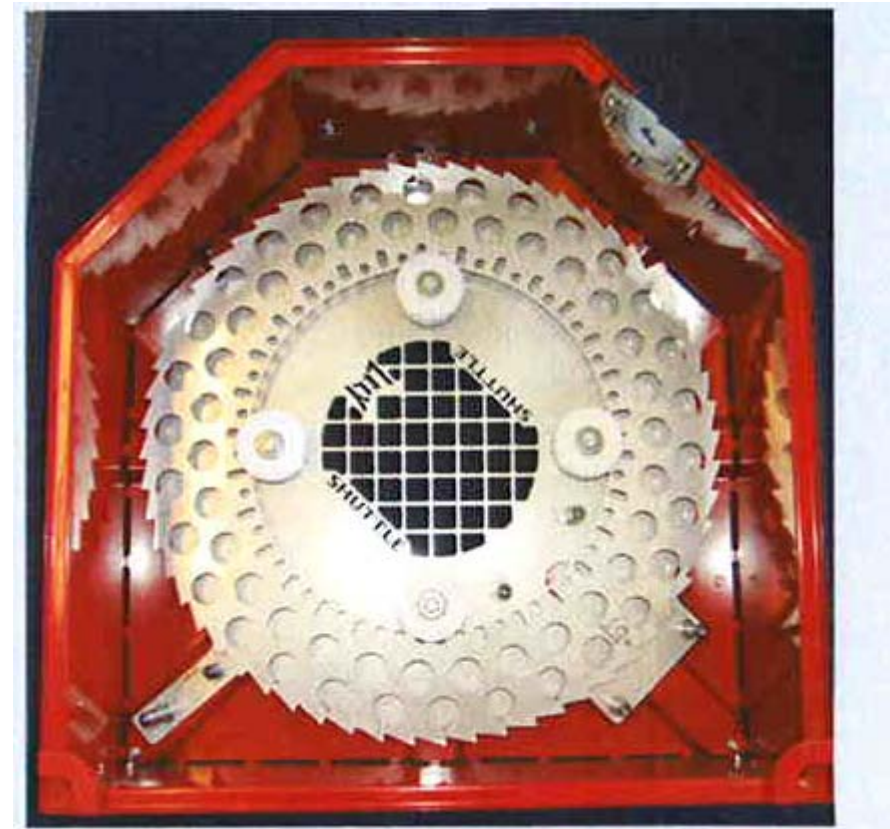
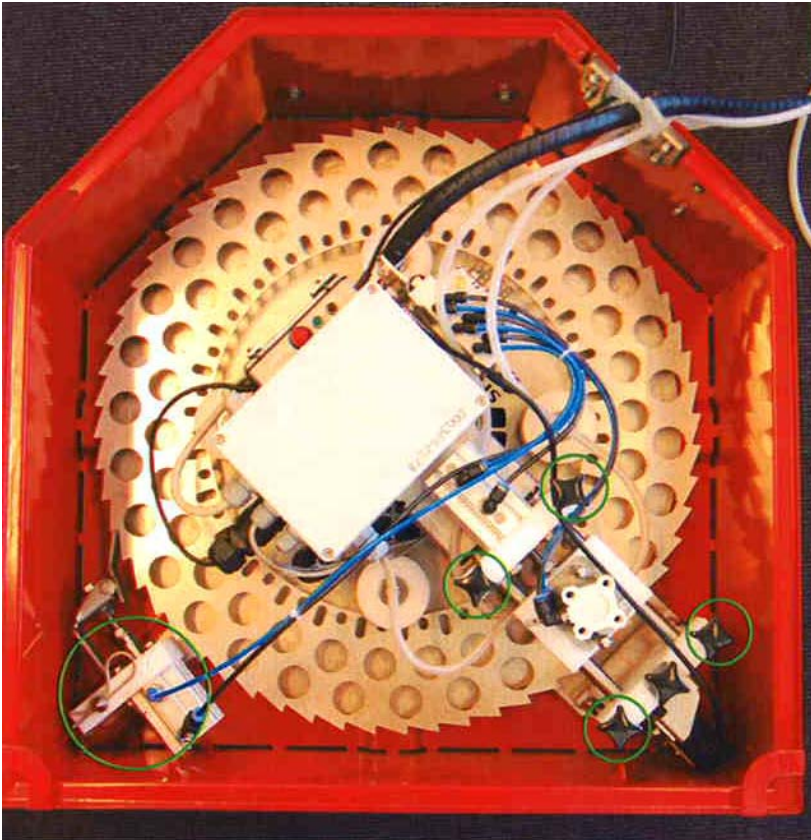
Bottom plate

Glass wheel roll

Brake lower part

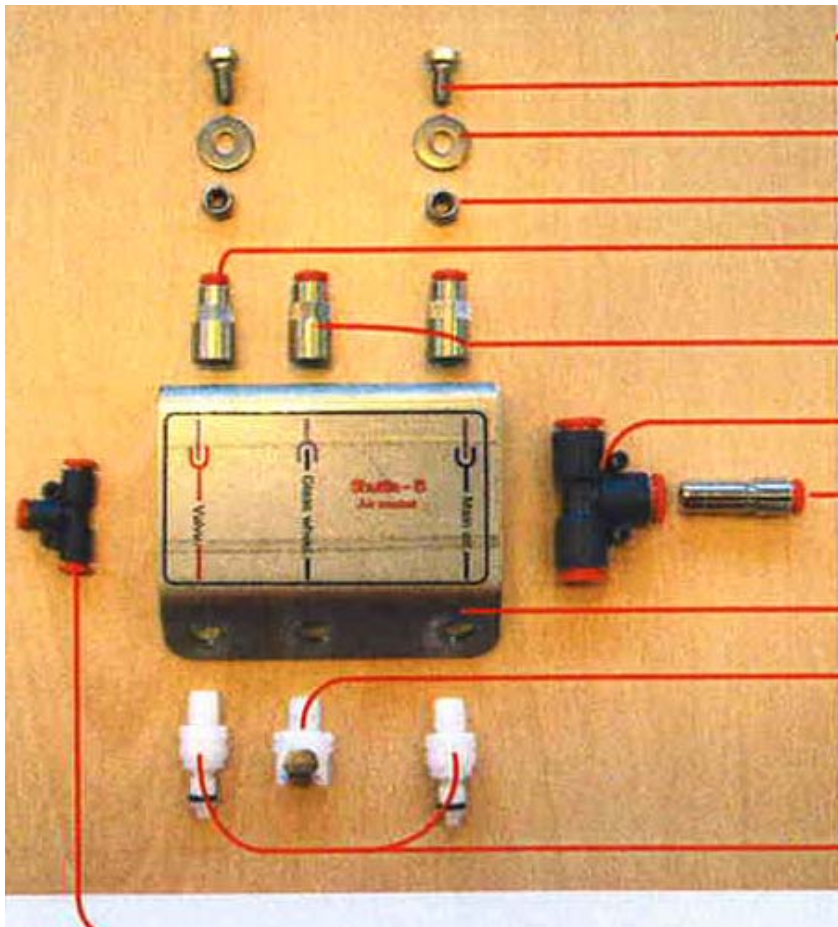


Easy to clean





Standard spareparts





Easy transportation





Maintenance cost in DK

	2012	2011	2010	2009	2008
Total maintenance Euro	38.421	40.921	40.000	15.395	13.684
Number of Shuttle-B in DK	143	141	139	136	136
Maintenace/pr. shuttle, Euro	269	290	288	113	100
Number of bokses	1.150	1.168	1.169	1.071	
Number of herds	420	428	435	415	
Number of cows	76.000	76.400	75.800	67.400	
Maintenance pr. cow, Euro	0,51	0,54	0,53	0,23	



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Thanks for your attention.

