Cluster Purge systems

Protects every cow every milking

KINGSTON

Milking parlour systems
Cluster Purge

Automatic Cluster Cleaning System

Milking systems can be a breeding ground for bacteria that cause udder health problems.

During milking the cluster is moved from cow to cow and can spread contagious bacteria which if unchecked can affect the whole herd. Cluster Purge breaks this chain and disinfects every cluster safely after every cow.

Controls mastitis

Mastitis is an infection of a cows udder and is one of the most common and costly diseases for dairy cattle. It can be controlled by ensuring a clean environment exists for cows and good milking practices are followed.

Typical contagious germs are Staphylococcus Areus and Streptococcus Agalactiae which mainly live in infected udders. They are usually transferred from an infected cow to a healthy cow during milking by residues of milk in the cluster or by the herdsmans hands. Mycoplasma Bovis is one of the most prevalent form of mastitis and spreads rapidly within a herd. Cows affected with acute Mycoplasma Mastitis have a dramatic drop in milk production.

The cost of mastitis can therefore be significant and includes the loss of disposed milk, reduced production, vet and drugs bills and time invested in treatment which can add up to £250 per case.

Measures to prevent mastitis include cluster disinfection, teat dipping and proper maintenance of milking equipment. If each cluster is disinfected after each cow no bacteria is carried from one cow to the next.

KINGSTON Cluster Purge is a proven automatic cluster cleaning system that can clean clusters in as little as 10 seconds, quicker than manual spray or dip systems.
Cluster Purge - key features

**Universal**
- Fits all types of milking equipment.
- No direct interference with existing milking equipment.
- No welding of brackets to clusters.
- No cutting or inserts into liners that may change milking characteristics.
- No wiring into the milking system.

**Flexible**
- Fully adjustable disinfectant quantity to suit each parlour setup.
- Adds no extra height or weight to the cluster.
- Disinfecting procedure is fully adjustable by the user.
- Boost switch for an extra purge for tough cases.
- Automatic adjustable mix of disinfectant and water to maintain the stability of solution.

**Safe**
- Compressed air safety valves that isolate the milk completely during the purge process, independent from vacuum fluctuation.
- Safeguard system (optional) additionally protects disinfectant solution from leaking into the milk during milking.
- Intelligent final purge to remove all residues.
- Frost purge to protect the system from freezing.

**Options**
- Cluster drop to lower cluster prior to flushing.
- Milk sweep to purge system of milk residue into milk line prior to flushing.

Cluster Purge - key components

**Cluster Purge unit**
- Simple standalone unit.
- Seamlessly works with your ACR without wiring.
- Easy to use - no extra controls required.
- Highest performance – forceful clean.
- Low water consumption 400ml – 1 litre per cluster. Easily adjustable.
- Very flexible system - easily fitted to all parlours.
- Can be linked to existing milk sweep systems.

**Cluster bracket**
- Designed for cow comfort - easy to handle.
- Fits existing cluster.
- Lightweight & robust. Adds no extra height or weight to the cluster.
- Cluster detaches smoothly & washes fully to reduce mastitis spread.

**Unique safety shut-off valve**
- Allows the highest performance of flush with no leakage into the milk.
- Powered by compressed air - not vulnerable to vacuum fluctuations.
Cluster Purge

Saves time and money

Air Purge
To Remove All Water From Cluster

Powerful, Fast Flush Cycles

Safety Valve Isolates Milk Line or Jar

Cluster Purge fits into the milking parlour

How it works

Step 1 – When the cluster is removed completely from the cow the long milk tube is shut with the high pressure compressed air shut off valve.

Step 2 – Fresh disinfectant and water is automatically mixed together and flushed through the long milk tube and cluster followed by a shot of compressed air to provide an aggressive purge. The process is repeated 2 or 3 times depending on the selection of the global master switch.

Step 3 – A final blast of compressed air removes any residual water from the cluster, ready for next milking.

Product information is subject to modification, please verify exact specification with Fabdec.
Cluster Purge - system options

Duo System

Key Features
- Flushes all clusters on one side simultaneously
- Manual control unit
- Slave unit (per point)
- Pneumatic shut off valve (per point)
- On/Off boost switch
- Manual start buttons
- Cluster bracket & D-Ring (per point)
- Water pump, filter & manifold
- Chemical dispenser

Swing-Over / Rotary System

Key Features
- Individual control unit (per point)
- Pneumatic shut off valve (per point)
- On/Off boost switch
- Cluster bracket & D-Ring (per point)
- Water pump, filter & manifold
- Chemical dispenser

Installation Notes

1. Components included are for a standard installation. Any differentiation from this standard system may require extra components.
2. The system does not include installation, a compressor, rubber/silicone tube or a water header tank.
3. Please state when ordering a system whether ACR's are used or not. If ACR's are not installed, then different software is required with a manual start button at each point. Two manual start buttons are already included in the Duo system.
4. The Cluster Purge system may need water and air supply through the centre gland.
5. Please consult your parlour manufacturer regarding a multi-port swivel.
6. To specify a compressor first calculate how much air can it compress = Free Air Delivery l/min.
   Free air delivery = l/m x number of milking points in parlour = Size of compressor required
7. To calculate Receiver capacity (how much air storage is needed) = Receiver Capacity/point x number of milking points = Size of Receiver required for compressor.
8. Free Air Delivery (FAD) = The quantity of air consumed by the cluster purge per cycle, measured in litres. (This is the calculated by the FAD divided by the average row time. Estimated at 7 minutes.

Technical Information

<table>
<thead>
<tr>
<th>Water Volume per flush</th>
<th>Clean mains potable. Minimum - 250ml Recommended - 450ml Total maximum - 3000ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>5% Peracetic Acid. Dilution ratio: 200:1 - 0.5% / 5ml per litre - maximum (strictly) 500:1 - 0.2% / 2ml per litre - minimum</td>
</tr>
<tr>
<td>Power requirement</td>
<td>24v DC (smoothed) +/-10%</td>
</tr>
</tbody>
</table>
| Peak power consumption when flushing | Swing-over / Rotary - 0.3875amps / 9.3watts  
                                      Herringbone - 0.2625amps / 6.3watts |
| Air delivery           | 8 bar supply pressure                                                                           |
| ACR                    | ACR detached mode / Pneumatic shut-off valve closed - 0.125amps / 3watts                      |
Cluster Purge Testimonial

Lackham College

A proactive approach to mastitis control

Adopting an holistic approach to mastitis control is helping the commercial dairy herd at Lackham College in Wiltshire to reduce disease levels and improve profitability.

Swapping fire fighting for proactive measures to bring mastitis under control is paying dividends for the 165 cow herd at Lackham College, Wiltshire. Four years on after implementing a Control Plan to tackle predominantly Streptococcus uberis infection combined with an investment in an automatic cluster cleaning system, mastitis incidence has reduced five-fold to 49 cases per year, SCC has fallen to a consistent 150,000 cells/ml and savings well over £10,000 annually in lost milk sales and antibiotic treatments are being made. Furthermore, the improvements have incentivised staff and introduced a new discipline for students.

The Dairy enterprise is the backbone to the Chippenham-based college farming business, and it is run on pure commercial lines. “We’re in the top 25% of Kingshay costed herds, however we reset the targets each year,” explains farm manager, Philip Steans. The autumn block calving herd currently averages 8,300 litres with a £1,860 MOC from moderate inputs, and the latest target is for a 9,000 litre average and £2,000 MOC. “Mastitis was a major issue and it was costing us in more ways than one and we were fed up fire fighting,” he says.

“We looked at a handful of different automatic cluster cleaning systems and eventually agreed on Fabdec’s Cluster Purge because of its unique combination of flushing and the disinfectant is isolated from the pump mechanism.” The system was simple to install and calibrate with no electrical connection to the ACRs required for initiation. It also offers a compressed air shut-off mechanism and is protected from frost.

“The Cluster Purge was another control measure. However, it proved to be the final piece in the jigsaw and is demonstrating clear cost benefits. We expect to recover the investment within two years.” Final year agriculture diploma student, Joe Kidner, studied the installation’s impact on the herd and found savings of more than £5,300 in antibiotic treatments together with lost milk sales.

Ronan Mulcahy comments “One of our main aims is to promote awareness among students – our future dairy farmers on how to influence KPIs and optimise health and welfare in order to optimise production and profitability. Introducing the mastitis control plan combined with Fabdec’s Cluster Purge system has, as a teaching resource, helped to endorse that objective. We are also continuing to reduce mastitis incidence further.”

Lackham College herd - the response to mastitis control plan

<table>
<thead>
<tr>
<th>Year</th>
<th>Cows in herd</th>
<th>Treated mastitis incidences</th>
<th>SCC</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Antibiotic treatment (£)</td>
</tr>
<tr>
<td>2008</td>
<td>165</td>
<td>247</td>
<td>174</td>
<td>5144</td>
</tr>
<tr>
<td>2009</td>
<td>156</td>
<td>214</td>
<td>257</td>
<td>4457</td>
</tr>
<tr>
<td>2010</td>
<td>148</td>
<td>127</td>
<td>208</td>
<td>2666</td>
</tr>
<tr>
<td>2011</td>
<td>157</td>
<td>49</td>
<td>203</td>
<td>1028</td>
</tr>
</tbody>
</table>
**Cluster Purge Testimonials**

“As far as I’m concerned, Clusterpurge has paid for itself with the amount of mastitis tubes I’ve saved.”

“Mastitis was a problem we used to have - it nearly cost me my milk contract.” Within 3 to 5 months, cell counts reduced to 66,000.

**Paul Dodd, Malpas, Cheshire**

“Winter mastitis rates down 50%...” “Immediately appreciated saving 30mins a milking by not dipping clusters...”
- Avg. cell counts pre install - 230,000 - 240,000
- Avg. cell counts post install - 140,000 (with one cow contributing 47% of herd average.)

**Mr C Williams, Westone, Lullingfields, Shropshire**

“Organic herd, very pleased with Clusterpurge system bringing down cell counts swiftly since install from 400,000 in August 2010 to 260,000 in January 2011.”

**Alan Chatham, Sutton Maddock, Shropshire**

Introduced Cluster Purge in August 2011. With a 25% culling rate, 15% was due to SCC and mastitis indecencies. Being a closed herd, it was vitally important to reduce this level of in-voluntary culling. This has now been reduced down to 7% and estimate that this effect alone has ensured that 3 to 4 cows have been maintained within the herd. We certainly have the confidence that Cluster Purge cleans the unit sufficiently to eliminate cross infection due to the milking process and would recommend to anyone.

**Jeremy Pearce, Herd Manager, Stalbridge Park, Dorset**

“I run a focus farm just outside Omagh in Co. Tyrone, NI. I am currently milking a herd of 150 cows and purchased Fabdec’s Cluster Purge system system in July 2011 as recommended by my local service engineer, Albert Jones. From the period of 2010 to November 2011 I have had a 70% reduction in mastitis cases. I had struggled with my herds cell count since my parlour was installed in 2002 but since I have installed Cluster Purge my cell counts have never been lower, and I can see this looks set to continue in the future.”

**Mr D McConnell, Carrigan Park, Omagh, Co. Tyrone, NI**

“Milking 130 cows through an 8-point milking parlour, I brought Cluster Purge in September 2011 and I think that this has been a very good investment for the health of my herd. To produce high quality milk and easily controlling mastitis have found Cluster Purge also helps to in reducing my cell counts. I like the design of the system and how it can easily be fitted to suit any milking parlour. Since I have invested in the Cluster Purge System I am extremely happy with the results it has achieved.”

**Mr Ian Hamilton, Kesh, Co. Fermanagh, NI**
www.clusterpurge.com