AMBIC Teat Sprayers From Dairy Spares Ltd

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AJ100/150/200

AJ100Y/150Y

AT300/350/400

Vacuum Operated Automated Teat Spray Systems

For over 20 years Ambic has been at the forefront of producing vacuum operated teat spray systems and currently produce two models of teat sprayer and three variations of teat spray gun. Requiring **no electrical connection**, the Classic and Jetstream teat sprays are **vacuum operated, running off the milking machine supply**. The internal self regulating pressure maintains constant application rates and the chemical intake line and filter is back flushed as the system depressurises when the vacuum supply is switched off. Jetstream systems are available in both blue and yellow for pre and post teat spraying operations.

Teat Spray guns

Ambic offer two types of gun control, button or lever operated and two types of nozzle. The original adjustable nozzle (AT415) has a variable pattern and can handle a wide variation of disinfectants. The solid cone nozzle (AJ415) produces a constant solid spray pattern for improved coverage.

Both types of gun can be serviced should either the spray pattern deteriorate or the gun fail to shut off completely. Prior to service turn the teat spray system off and take the correct handling precautions for the disinfectant be used in the teat sprayer.

On the lever operated mechanism, a coin should be used to remove the slotted cap on the underside of the gun body, care should be taken not to lose the internal spring (Fig 1). Using small pliers remove the internal valve (Fig 2) and clean out any dirt or debris from inside the valve housing or on the valve or 'O' ring seals. The nozzle can be cleaned or replaced depending on condition.

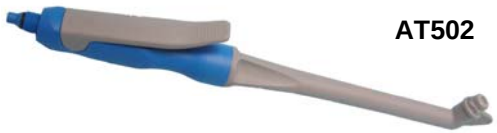
With the button operated mechanism the service access is from the rear of the gun. Remove the gun entry fitting to withdraw the control valve (Fig 3). The rear filter gauze and ball can then be cleaned. Again the nozzle may be cleaned or replaced.

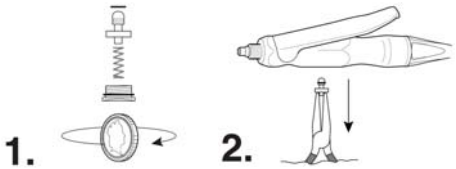
In both cases, should any dirt or debris be found inside the gun mechanism, the chemical pickup filter should be cleaned and inspected to ensure it is intact.

AJ402

AT402

AT502





Teat Spray Gun Application Rate

AJ402	Button operated with solid cone nozzle	10 - 14 ml/sec
AT402	Lever operated with adjustable nozzle	8 - 12 ml/sec
AT502	Lever operated with solid cone nozzle	10 - 14 ml/sec

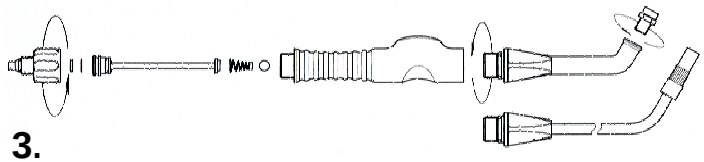
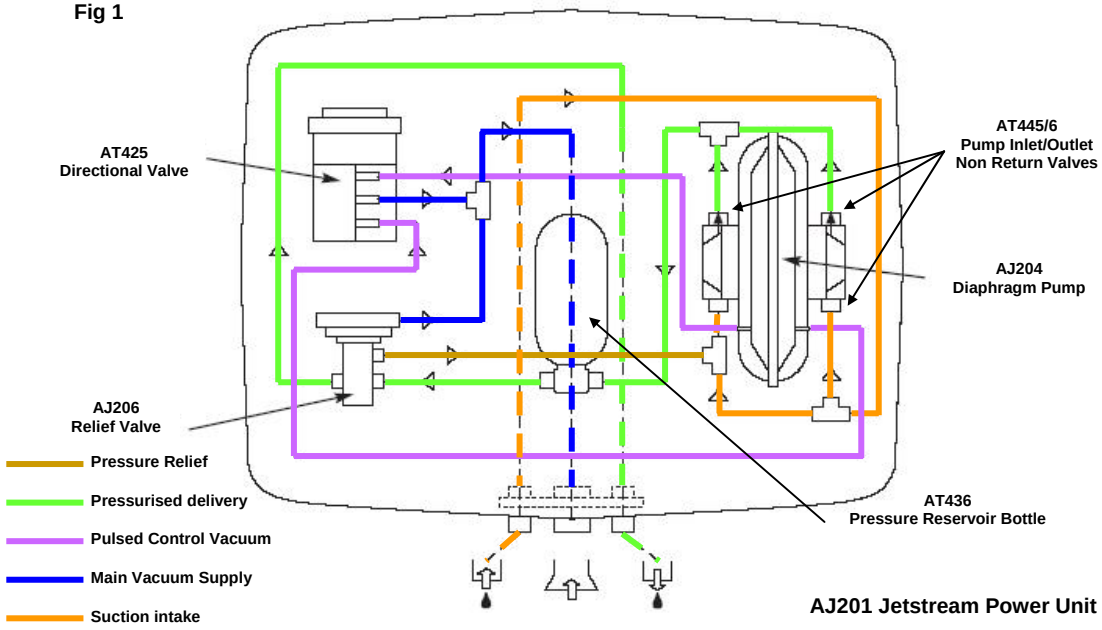


Fig 1



AJ201 Jetstream Power Unit

Principles of operation

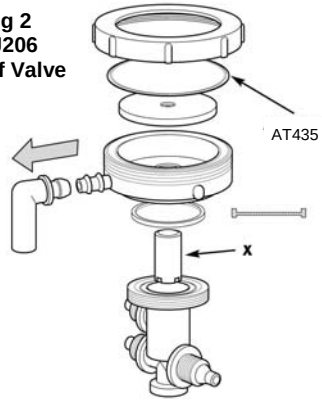
Both models of teat spray work on the same basic principle. The power source is usually the milking machine vacuum supply providing two advantages. It automatically switches the teat spray system on and off as well as providing a constant source of power. (Fig 1)

The vacuum supply enters through the main centre connector to the central port of the directional valve and the top port of the relief valve. The directional valve acts like a pneumatic pulsator, providing an alternate vacuum signal to either side of the main diaphragm pump. This moves the large central diaphragm from side to side, in turn moving the smaller pump head diaphragms (Fig 3) creating a suction to draw up the chemical via the inlet non return valve (NRV) whilst the outlet NRV is closed. Likewise when the diaphragm moves out it compresses the chemical, creating a pressure forcing the chemical to exit the pump head via the outlet NRV while the inlet NRV remains closed, thus pressurising the supply line to the teat spray gun.

The pressurised chemical passes via a pressure reservoir, that maintains a more constant pressure to the system when guns are in use, then through the relief valve before exiting the power unit to the supply line.

The relief valve (Fig 2) regulates the pressure to the system. The supply vacuum acting on the top two diaphragms coupled with the spring loaded relief module (x) prevents excess pressure building up when the guns are not in operation by releasing any excess pressure back into the suction lines. Likewise at the end of milking when the vacuum is switched off, the system pressure is released into the suction line in the same way, back flushing the line and chemical pick up filter from any dirt or debris which may otherwise decrease the operational efficiency.

Fig 2
AJ206
Relief Valve



System Operating Pressure		Max no. Guns
Classic Sprayer	45 - 55 psi	20
Jetstream Sprayer	50 - 65 psi	50

Service requirements

The Liquid Intake Filter (AT412) should be checked regularly, to ensure the filter gauze is clear and intact. Any leaks on the intake tubing will allow air to be drawn into the system instead of drawing up the chemical. This can also cause decreased gun spray efficiency.

The Directional Valve (Fig 4) should have a service kit installed every 1000 hours (once or twice per year) to maintain efficient operation of the unit. The service kit includes the air filter, main diaphragm and spring. At this time inspect and clean the Bleed Insert holes.

The Diaphragm Pump is usually a maintenance free part. Should the system performance decrease and all other parts have been serviced, there is the option of replacing the pump head diaphragms and the inlet and outlet valves.

The Relief Valve is not a serviceable part and is replaced as a complete item. Symptoms of failure can be, no pressure in the system, the system remaining pressurised after the vacuum has been turned off or chemical leaking into the vacuum supply. This latter symptom can also be caused by a pump head diaphragm failure.

Classic and Jetstream power units are available as a replacement part AT401 and AJ201.

Fig 3 Pump Head

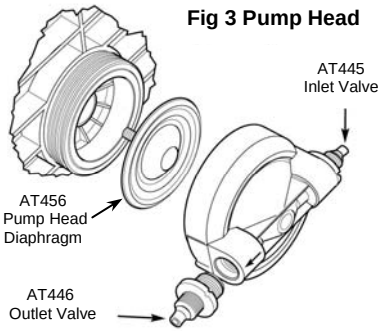


Fig 4 Directional Valve AT425