



surepulse™ inserts

for crisp **pulsation™**



2P-40

Designed for use with NZX Ultraliners

Insert and shell combinations

SHELL	INSERT 2P-40	LINER	TAIL END (mm)
Bullseye Stainless	✓	NZX-1N	8.5mm
	✓	NZX-1W	10.5mm
Waikato Stainless	✓	NZX-1N	8.5mm
	✓	NZX-1W	10.5mm



3P-33

Designed for use with TLC Ultraliners

Insert and shell combinations

SHELL	INSERT 3P-33	LINER	TAIL END (mm)
Bullseye Stainless	✓	TLC-A1N	8.5mm
	✓	TLC-A1W	10.5mm
Waikato Stainless	✓	TLC-A1N	8.5mm
	✓	TLC-A1W	10.5mm

What SurePulse inserts do...

SurePulse Inserts increase the transition speed from milking phase to resting phase thereby extending both the milking phase and the rest phase. This eases the pressure caused by a build up of blood and lymph material in teat ends: it's more comfortable for your COWS.

SurePulse inserts slide between the liner and the steel shell.

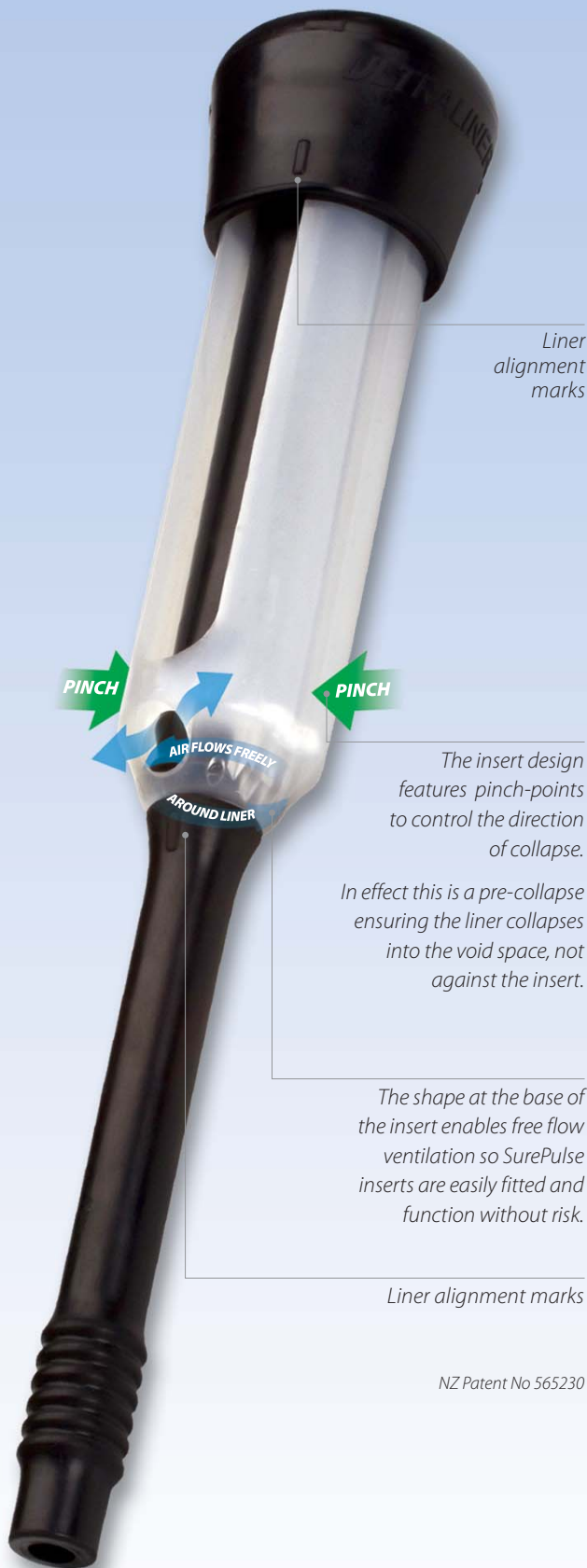


How SurePulse inserts work...

- SurePulse inserts displace and remove air from the pulsation chamber – between the shell and the liner.
- The collapse direction of the liner is controlled by the insert which holds the base of the liner and controls the collapse direction.
- The rest phase in the milking cycle is extended, providing relief to the teat end and allowing for improved lymph and blood circulation.



With Crisp Pulsation cows can experience reduced milking stress, reduced teat end damage and smoother, faster milking.



Liner alignment marks

The insert design features pinch-points to control the direction of collapse.

In effect this is a pre-collapse ensuring the liner collapses into the void space, not against the insert.

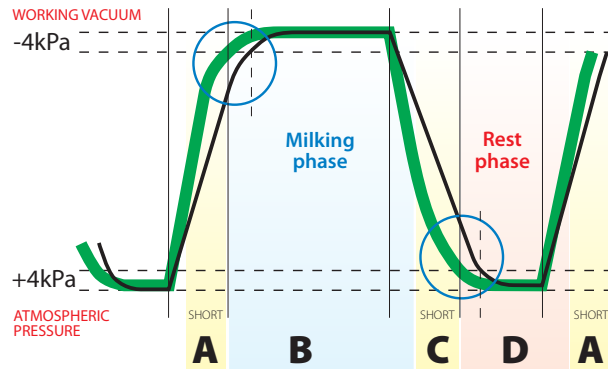
The shape at the base of the insert enables free flow ventilation so SurePulse inserts are easily fitted and function without risk.

Liner alignment marks

NZ Patent No 565230

MILK AND REST PHASES

Based on a typical 60 cycles per minute



Phase A

The opening phase must be smooth and ideally between 9-13 milliseconds.

Phase B

Open liner and full milk flow - ideally extended to about 490 milliseconds. A longer phase allows faster milking.

Phase C

Ideally, the closing phase should be 8-10 milliseconds.

Phase D

The rest phase with closed liner. The lymph and blood material in the teat is circulated back to the udder. It is critical that this phase is not less than 150 milliseconds. Greater than 250 milliseconds is ideal.

Crisp pulsation featuring shorter transition phases and longer milking and rest phases.

Non-ideal pulsation featuring long changing cycles and reduced milking and resting phases.

NOTE: This graph and the information pertaining to the graph is representative for the average of a number of trial conditions. In practice the exact result will vary in various applications.

Phases A and C can be changed with machine adjustment.

Note that in phase A air is removed from the pulsation chamber and in phase C air is circulated in the pulsation chamber. Phase A requires more energy to achieve than phase C.

We can modify both phase A and phase C by displacing air volume. This is the function of SurePulse inserts.

How to install SurePulse inserts

NZX-1 liners

- Pull the liners into the insert at any point and check the alignment marks on the liner are in the same direction.
- Pull the insert liner into shell – no alignment required.

TLC-A1 liners

- Align into slots and pull into shell using locators at the bottom of the insert.

Special notes

- 2P33 insert is designed only for NZX-1N and NZX-1W liners
- 3P40 inserts are designed only for TLCA-1W and TLCA-1N liners
- The function of the inserts may vary due to vacuum level changes and setting and various conditions in dairy installations.
- If your dairy requires optimising for SurePulse inserts consult one of the listed dealers.
- 2P33 and 3P40 Sure Pulse inserts are designed to fit Bullseye and Waikato stainless shells only.

Warning

These inserts are designed specifically for the listed Ultraliner range. The performance of the Sure Pulse insert cannot be guaranteed with liners other than the genuine listed Ultraliner products.