

# Tweedy Mixer Upgrade Pressure Vacuum (PV) Process

Pressure-vacuum mixing has made a major impact on bread production in bakeries throughout the UK and worldwide. Its benefits include increased yield, improved bread quality, longer shelf life and reduced ingredient costs. These benefits can now be achieved with an easy conversion of existing Tweedy mixers of any age, enabling bakeries to maintain a competitive edge without the need to replace machinery before the end of its natural life.



## The PV Mixing Process

Pressure and vacuum are applied sequentially to the dough-mixing bowl. By pressurising the bowl more air is added, providing oxygen to enhance the action of ascorbic acid. This improves the development and gas retention of the dough. In the second part of the mixing phase, partial vacuum controls the size of the bubbles in the dough to refine the crumb structure.

## The Upgrade

Baker Perkins engineers individually specify each upgrade after an initial site survey. The upgrade typically takes 24-48 hours to complete and includes:

- New mixing bowl, lid and lip clamp arrangement
- Pressure-vacuum blower and pipework
- Strengthening of mixer frame and lid lift mechanism
- New or modified controls (dependent upon existing arrangement) to incorporate:
- SCADA graphics to show clamp status
- Clamp control and fault tolerant monitoring

Traditional process control characteristics, e.g. flour/water weight proportioning, accurate water blending and energy control, are all retained.

## Applications

Mixers	T35	T70	T140	T280	5500	6600	7700	170	275	340	385
--------	-----	-----	------	------	------	------	------	-----	-----	-----	-----

The upgrade can also be applied to other manufacturers' "Chorleywood" type tilting bowl mixers.

## Benefits

- Fast payback through reduced ingredient costs
- Increased yield
- Improved bread quality
- Longer shelf life
- Complete process control on a wide range of products

