

## Spectrum Colour/Flavour Change System

The Spectrum colour/flavour change system extends the capability of twin-screw extruders by enabling rapid colour/flavour changes to be made 'on the run' with minimal waste. A typical application is running mixed fruit colours for a single pack in a continuous run. The Spectrum system allows up to five variants to be produced - one natural plus four colours/flavours.



### Easily diversify and expand a product range

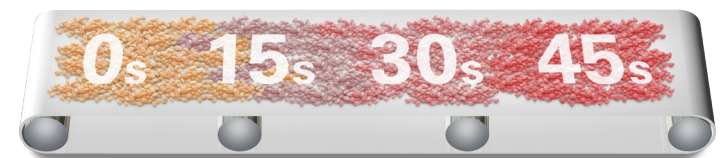
Value is added through an increased visual appeal. Colour/flavour is quickly changed without affecting core product characteristics. Degradation of colour, common to other addition methods, is reduced.

### Eliminates changeover waste and stoppage costs

Colours/flavours are injected into the barrel, where an innovative reduced volume die minimises the differential flow rates that lead to long, wasteful transitions. Changeover takes place without stopping the extruder and is typically complete within 45 seconds.

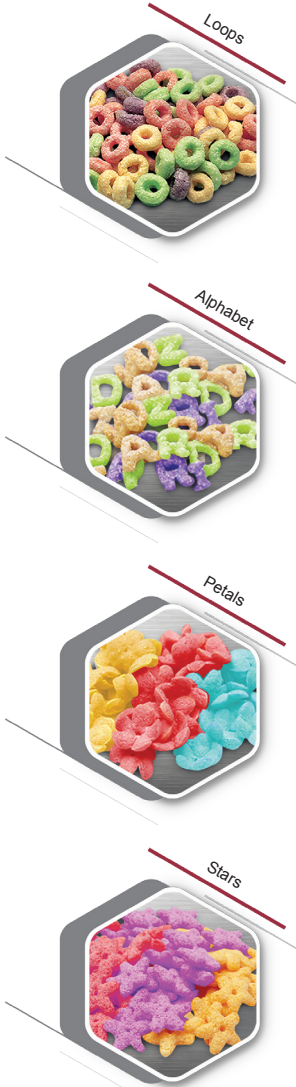
### Increased productivity and reduced storage costs

The Spectrum ends the cost and inconvenience of setting up separate production runs for each colour/flavour of product. This reduces product handling and storage costs associated with producing several individual runs. Hygiene and shelf life are also improved.

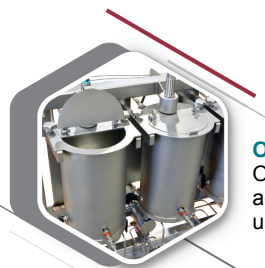


### innovation centre

The development work required to launch a successful new product or improve an existing process can be carried out in the Baker Perkins Innovation Centre. With a full range of pilot-scale equipment and assistance from our expert food technologists, all the necessary tests can be conducted without using valuable plant time.



# Spectrum Colour/Flavour Change System



## Open frame for easy cleaning and maintenance

One-piece stainless steel frame provides excellent access. Hygienic components and materials are used throughout.



## Thorough blending before extrusion

Colour/flavour is mixed in the barrel of the extruder for a rapid change, avoiding lengthy or uneven transitions.

## Reduced waste and less dust/fines

Changeovers are reduced, leading to less waste between transitions. Fewer handling stages between extruder and packaging creates less hazardous fines.

## Easy-to-use touch screen controls

The whole system can be controlled locally or from the extruder HMI to help operators optimise efficiency.



## Continuous production of multi-coloured product

Switching between colours occurs at easily adjusted intervals, with no time-wasting extruder stoppages required. Colours can be rotated on a continuous loop.

## Shorter runs increase cost efficiency

Less labour, equipment and floor space is required. There is no need to store product off-line so double handling is eliminated and breakages reduced.

## Range & Specifications

The Spectrum colour/flavour changer is a remote mounted liquid feed system that pumps water, oil and process colours from holding tanks into the extruder barrel.

### The system comprises:

- Four stainless steel holding tanks for colours. Each tank has a low level probe
- Four transfer pumps
- Optional flow monitoring and/or control
- One set of automatic routing valves
- Stainless steel base frame

## Other Applications

The technology used by the Spectrum colour/flavour changer can be adapted for transitions of other liquid ingredients, such as co-extruded fillings.

## Modular design for easy integration to existing lines

The system can be retrofitted to any existing Baker Perkins twin-screw extruder. Capacity can be easily increased to accommodate additional colours/flavours.