

# APV LeanCreme<sup>™</sup> Process

- IN CHEESE MANUFACTURING

# **Process Description**

After pre-treatment, the whey is concentrated in a UF system to produce WPC 60. The WPC 60 is then treated by the APV LeanCreme<sup>™</sup> microparticulation process before entering the cheese plant.



# PROCESS BLOCK DIAGRAM AND MASS BALANCE

1,000 KG CHEESE WHEY

- FINES REMOVAL - FAT REMOVAL - PASTEURISATION AT 72°C/15 SEC. - COOLING TO 8 – 10°C

940 KG PERMEATE

#### Compositions

CHEESE WHEY
TOP0.80%
LAC4.49%
ACD0.15%
ASH0.50%
FAT0.06%
TS6.00%

#### RETENTATE

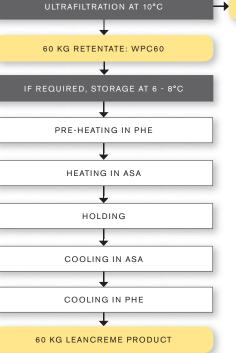
тор	. 10.08%
LAC	4.15%
ACD	0.14%
ASH	0.76%
FAT	1.00%
тѕ	.16.13%

# TOP.....0.229 LAC.....4.579 ACD....0.159 ASH....0.489 FAT...0.009 TS.....5.429

PERMEATE

# 

ACD .....0.14% ASH .....0.76% FAT .....1.00% FS .....16.13%





### **PROCESS FEATURES**

- The APV Shear Agglomerator (ASA) is a groundbreaking scraped surface heat exchanger designed specifically to create the unique functionality of APV LeanCreme<sup>™</sup> microparticulated whey protein
- Single step microparticulation of whey proteins with combined heating and shear in the ASA
- Precise control of degree of denaturation and particle size distribution
- Up to 8 hours of running time before cleaning
- Low fouling
- High consistency and reproducibility

### **PROCESS ADVANTAGES**

- Flexible process enabling the use of a wide variety of types and grades of WPC from WPC 28 to 80, including evaporated WPC
- Enables customisation of APV LeanCreme<sup>™</sup> product for specific customer processes and special cheese characteristics
- Very short pay-back time
- Unmatched numbers of industrial references

## APV LEANCREME™ IN CHEESE

- WPC 60 is recommended for cheese production
- LeanCream products can be used for EPC, pressed, semi-hard and fresh cheeses
- The customised APV LeanCreme<sup>™</sup> product is added to the cheese milk before pasteurisation
- Level of addition: 2 8% v/v APV LeanCreme<sup>™</sup> product, depending on fat content in the cheese
- Impact on cheese making:
- Up to 85% microparticulated whey proteins trapped in the cheese
- Increased yield
- Increased water-binding properties
- Enhanced cheese sensory properties
- Easy to cut and handle in prepress
- Meltability preserved

The APV LeanCreme<sup>™</sup> Team is ready to provide expert technology and application support. You can also take advantage of a shortterm project agreement with our Innovation Centre in Silkeborg, Denmark, in order to ensure successful piloting of your new APV LeanCreme<sup>™</sup> process.







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