



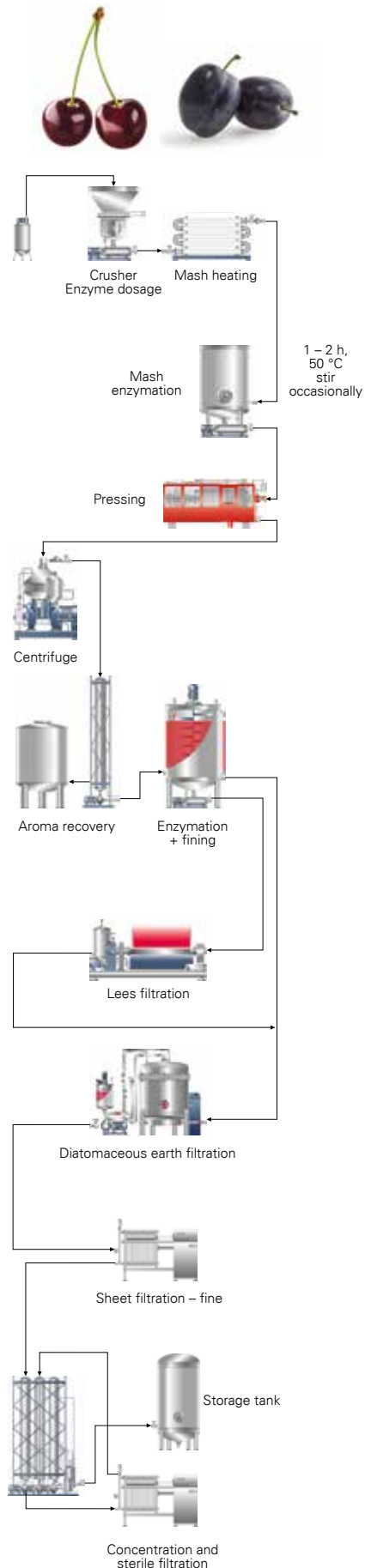
Fruit Juice and Fruit Wine Guide

EATON

Powering Business Worldwide

Fruit Juice Processing from Stone Fruit

Process steps



Production of concentrate from sour cherries (clear juice)

Raw ingredients:

Ripe and sound, fresh or frozen fruit
 Thawing of frozen fruit
 Mash heating to 60 – 70 °C
 Mechanical stone removal (if required)

Mash enzyme dosage:

Low pectin content eliminates mash enzymation and prevents instability of juices.

No mash maceration time.

Continuously fill the press in order to prevent stones from settling in the mash tank.

Juice extraction

using a press or decanter (only mash from fruit without stones). For belt presses increase thickness of non-destoned mash.

Pectin degradation: approx. 1 – 2 h at 50 – 55 °C

Panzym® Pro Color enzyme: 20 – 50 ml/t

Panzym BE XXL enzyme: 15 – 30 ml/t

For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t

Check via alcohol test

Fining: 2 – 4 h at 50 – 55 °C

SIHA® PURANIT™/ SIHA PURANIT UF fining agent: 500 – 1,000 g/t

Levasil® BF30 silica sol fining agent: 500 – 1,000 ml/t

Gelatine Fine Granules fining agent: 50 – 100 g/t

Plant proteins – as an alternative to gelatine:

SIHA® Pea Protein fining agent: 50 – 100 g/t

SIHA® Potato Protein fining agent: 25 – 50 g/t

Lees filtration with

BECOLITE™ 5000 perlite

Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR™ 200 diatomaceous earth (approx. 10%)

BECOGUR 3500 diatomaceous earth (approx. 90%)

Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO® KD 10 or BECOPAD® 350 depth filter sheets

Flow: 1,000 l/m²/h

Concentration with

simultaneous sterile and polishing filtration of

semi-concentrate (35 – 40 Brix) at 70 – 80 °C with

BECO SD 30 or BECOPAD 270 depth filter sheets

Flow: 500 l/m²/h

Production of concentrate from plums (clear juice)

Raw ingredients:

Ripe and sound, fresh or frozen fruit
Thawing of frozen fruit
Mash heating to 50 – 55 °C
Mechanical stone removal (if required)

Mash enzyme dosage:

Panzym Pro Color enzyme: 100 – 150 ml/t or
Panzym BE XXL enzyme: 80 – 120 ml/t

Mash enzymation:

1 – 2 h at 50 – 55 °C
stir occasionally

Juice extraction

using a press or decanter (only mash from fruit without stones). For belt presses increase thickness of non-destoned mash.

Pectin degradation:

approx. 1 – 2 h at 50 – 55 °C
Panzym Pro Color enzyme: 50 – 80 ml/t or
Panzym BE XXL enzyme: 30 – 60 ml/t
For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t
Check via alcohol test

Fining:

2 – 4 h at 50 – 55 °C
SIHA PURANIT / SIHA PURANIT UF fining agent: 500 – 1,000 g/t
Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t
Gelatine Fine Granules fining agent: 50 – 100 g/t
Plant proteins – as an alternative to gelatine:
SIHA Pea Protein fining agent: 50 – 100 g/t
SIHA Potato Protein fining agent: 25 – 50 g/t

Lees filtration with

BECOLITE 5000 perlite
Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)
BECOGUR 3500 diatomaceous earth (approx. 90%)
Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KD 10 or BECOPAD 350 depth filter sheets
Flow: 1,000 l/m²/h

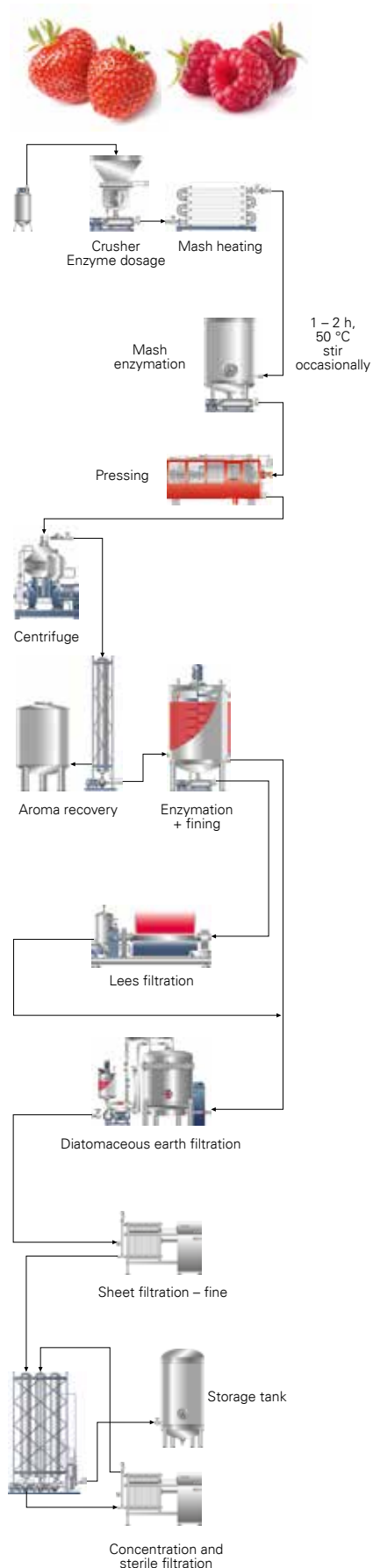
Concentration with

simultaneous sterile and polishing filtration of semi-concentrate (35 – 40 Brix) at 70 – 80 °C with BECO SD 30 or BECOPAD 270 depth filter sheets
Flow: 500 l/m²/h



Fruit Juice Processing from Soft Fruit

Process steps



Production of concentrate from strawberries (clear juice)

Raw ingredients:

Ripe and sound, fresh or frozen fruit
 Thawing of frozen fruit
 Mash heating to 50 – 55 °C or
 cold enzyming at approx. 20 °C to protect the color

Mash enzyme dosage:

Panzym Pro Color enzyme: 50 – 80 ml/t or
 Panzym BE XXL enzyme: 30 – 50 ml/t
 For frozen fruit, the dosages may have to be increased significantly.
 For cold enzyming, the dosages should be doubled.

Mash enzymation:

1 – 2 h at 50 – 55 °C or
 2 – 4 h at 20 °C
 stir occasionally

Juice extraction

using a press or decanter

Pectin degradation:

approx. 1 – 2 h at 50 – 55 °C
 Panzym Pro Color enzyme: 20 – 50 ml/t or
 Panzym BE XXL enzyme: 15 – 30 ml/t
 For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t
 Check via alcohol test

Fining:

2 – 4 h at 50 – 55 °C
 SIHA PURANIT/SIHA PURANIT UF fining agent: 500 g/t
 Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t
 Gelatine Fine Granules fining agent: 50 – 100 g/t
 Plant proteins – as an alternative to gelatine:
 SIHA Pea Protein fining agent: 50 – 100 g/t
 SIHA Potato Protein fining agent: 25 – 50 g/t

Lees filtration with

BECOLITE 5000 perlite
 Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)
 BECOGUR 3500 diatomaceous earth (approx. 90%)
 Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KD 10 or BECOPAD 350 depth filter sheets
 Flow: 1,000 l/m²/h

Concentration with

simultaneous sterile and polishing filtration of
 semi-concentrate (35 – 40 Brix) at 70 – 80 °C with
 BECO SD 30 or BECOPAD 270 depth filter sheets
 Flow: 500 l/m²/h

Production of concentrate from raspberries (clear juice)

Raw ingredients:

Ripe and sound, fresh or frozen fruit
Thawing of frozen fruit
Mash heating to 50 – 55 °C

Mash enzyme dosage:

Panzym Pro Color enzyme: 60 – 120 ml/t or
Panzym BE XXL enzyme: 50 – 100 ml/t
For frozen fruit, the dosages may have to be increased significantly.

Mash enzymation:

1 – 2 h at 50 – 55 °C
stir occasionally

Juice extraction

using a press or decanter

Pectin degradation:

approx. 1 – 2 h at 50 – 55 °C
Panzym Pro Color enzyme: 20 – 50 ml/t or
Panzym BE XXL enzyme: 15 – 30 ml/t
For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t
Check via alcohol test

Fining:

2 – 4 h at 50 – 55 °C
SIHA PURANIT/SIHA PURANIT UF fining agent: 500 g/t
Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t
Gelatine Fine Granules fining agent: 50 – 100 g/t
Plant proteins – as an alternative to gelatine:
SIHA Pea Protein fining agent: 50 – 100 g/t
SIHA Potato Protein fining agent: 25 – 50 g/t

Lees filtration with

BECOLITE 5000 perlite
Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)
BECOGUR 3500 diatomaceous earth (approx. 90%)
Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KD 10 or BECOPAD 350 depth filter sheets
Flow: 1,000 l/m²/h

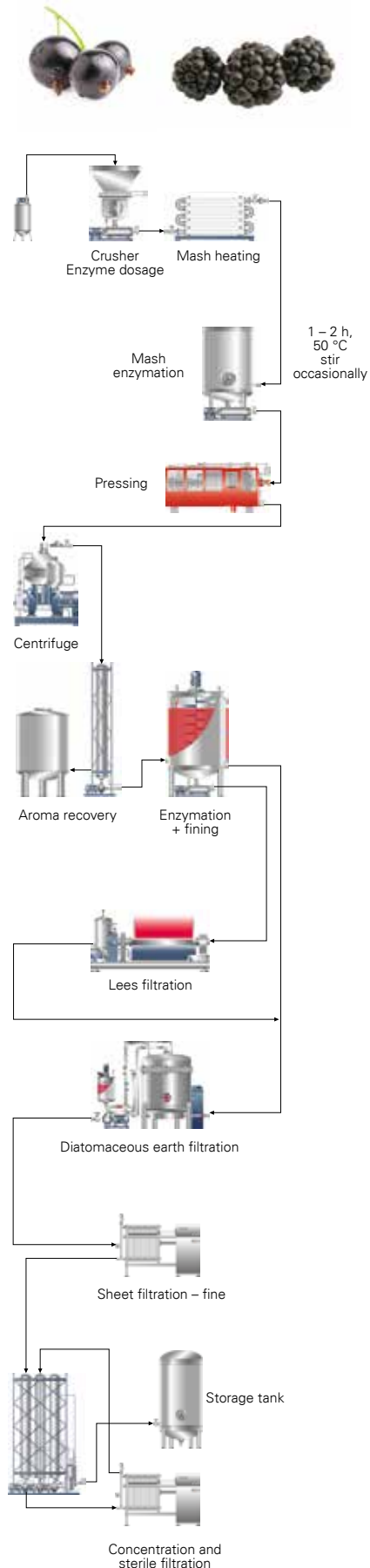
Concentration with

simultaneous sterile and polishing filtration of
semi-concentrate (35 – 40 Brix) at 70 – 80 °C with
BECO SD 30 or BECOPAD 270 depth filter sheets
Flow: 500 l/m²/h



Fruit Juice Processing from Soft Fruit

Process steps



Production of concentrate from blackcurrants

Raw ingredients:

Ripe and sound, fresh or frozen fruit
Thawing of frozen fruit
Mash heating to 45 – 50 °C

Mash enzyme dosage:

Panzym Pro Color enzyme: 100 – 200 ml/t or
Panzym BE XXL enzyme: 80 – 160 ml/t
For frozen fruit, the dosages may have to be increased significantly.

Mash enzymation:

1 – 2 h at 45 – 50 °C
stir occasionally

Juice extraction

using a press or decanter

Pectin degradation:

approx. 1 – 2 h at 50 – 55 °C
Panzym Pro Color enzyme: 30 – 60 ml/t or
Panzym BE XXL enzyme: 20 – 40 ml/t
For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t
Check via alcohol test

Fining:

2 – 4 h at 50 – 55 °C
SIHA PURANIT/SIHA PURANIT UF fining agent: 500 – 1,000 g/t
Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t
Gelatine Fine Granules fining agent: 100 – 200 g/t
Plant proteins – as an alternative to gelatine:
SIHA Pea Protein fining agent: 100 – 200 g/t
SIHA Potato Protein fining agent: 50 – 100 g/t

Lees filtration with

BECOLITE 5000 perlite
Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)
BECOGUR 3500 diatomaceous earth (approx. 90%)
Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KD 10 or BECOPAD 350 depth filter sheets
Flow: 1,000 l/m²/h

Concentration with

simultaneous sterile and polishing filtration of semi-concentrate (35 – 40 Brix) at 70 – 80 °C with BECO SD 30 or BECOPAD 270 depth filter sheets
Flow: 500 l/m²/h

Production of concentrate from blackberries (clear juice)

Raw ingredients:

Ripe and sound, fresh or frozen fruit
Thawing of frozen fruit
Mash heating to 50 – 55 °C

Mash enzyme dosage:

Panzym Pro Color enzyme: 80 – 160 ml/t or
Panzym BE XXL enzyme: 60 – 120 ml/t
For frozen fruit, the dosages may have to be increased significantly.

Mash enzymation:

1 – 2 h at 50 – 55 °C
stir occasionally

Juice extraction

using a press or decanter

Pectin degradation:

approx. 1 – 2 h at 50 – 55 °C
Panzym Pro Color enzyme: 20 – 50 ml/t or
Panzym BE XXL enzyme: 15 – 30 ml/t
For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t
Check via alcohol test

Fining:

2 – 4 h at 50 – 55 °C
SIHA PURANIT/SIHA PURANIT UF fining agent: 500 – 1,000 g/t
Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t
Gelatine Fine Granules fining agent: 100 – 200 g/t
Plant proteins – as an alternative to gelatine:
SIHA Pea Protein fining agent: 100 – 200 g/t
SIHA Potato Protein fining agent: 50 – 100 g/t

Lees filtration with

BECOLITE 5000 perlite
Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)
BECOGUR 3500 diatomaceous earth (approx. 90%)
Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KD 10 or BECOPAD 350 depth filter sheets
Flow: 1,000 l/m²/h

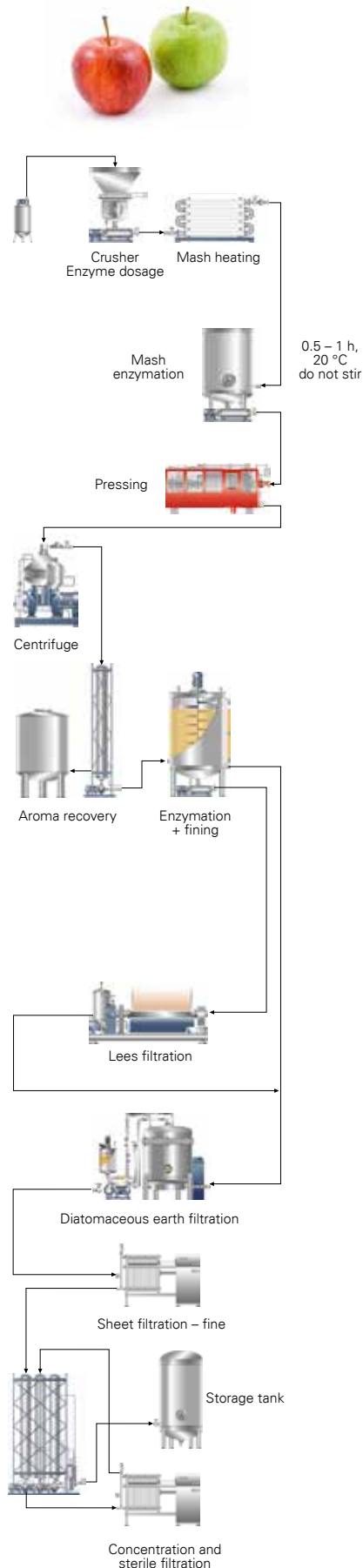
Concentration with

simultaneous sterile and polishing filtration of semi-concentrate (35 – 40 Brix) at 70 – 80 °C with BECO SD 30 or BECOPAD 270 depth filter sheets
Flow: 500 l/m²/h



AJC and Fruit Juice Processing from Pomaceous Fruit

Process steps



Production of AJC with hot clarification + sterile filtration

Raw ingredients:

Ripe, sound, washed

Mash enzyme dosage:

Panzym First Yield enzyme: 70 – 100 ml/t or
Panzym YieldMASH XXL enzyme: 50 – 70 ml/t

Mash enzymation:

at approx. 20 °C without stirring
Bucher press: 0.5 – 1 h
Belt press: 1 h
Decanter: 1 h

Juice extraction

with possible secondary extraction
pomace/water ratio = 1:0.5 – 1

Starch degradation:

approx. 1 h at 50 – 55 °C
Panzym HT 300 enzyme: 20 – 60 ml/t or
Panzym AG XXL enzyme: 10 – 30 ml/t
Check via iodine test

Pectin degradation:

approx. 1 h at 50 – 55 °C
Panzym Pro Clear enzyme: 10 – 30 ml/t or
Panzym XXL enzyme: 10 – 30 ml/t
For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t
Check via alcohol test

Fining:

2 – 4 h at 50 – 55 °C
SIHA PURANIT/SIHA PURANIT UF fining agent: 1,000 g/t
Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t
Gelatine Fine Granules fining agent: 100 – 200 g/t
Plant proteins – as an alternative to gelatine:
SIHA Pea Protein fining agent: 100 – 200 g/t
SIHA Potato Protein fining agent: 50 – 100 g/t

Lees filtration with

BECOLITE 5000 perlite
Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)
BECOGUR 3500 diatomaceous earth (approx. 90%)
Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KDS 12 or BECOPAD 350 depth filter sheets
Flow: 1,000 l/m²/h or

Alternative: Ultra filtration (UF) with following sterile filtration (ACB/TAB) with BECO PROTECT® CS 115 0.2 µm as pre-filter and BECO® MEMBRAN PS Pure 0.2 µm as final filter

Concentration with

simultaneous sterile and polishing filtration of semi-concentrate (35 – 40 Brix) at 70 – 80 °C with BECO SD 30 or BECOPAD 270 depth filter sheets
Flow: 500 l/m²/h

Production of clear apple juice with cold clarification

Raw ingredients:

Ripe, sound, washed

Mash enzyme dosage:

Panzym First Yield enzyme: 70 – 100 ml/t or
Panzym YieldMASH XXL enzyme: 50 – 70 ml/t

Mash enzymation:

at approx. 20 °C without stirring
Bucher press: 0.5 – 1 h
Belt press: 1 h
Decanter: 1 h

Juice extraction

with possible secondary extraction
pomace/water ratio = 1:0.5 – 1

Without previous aroma recovery

Starch degradation: approx. 4 h at approx. 20 °C

Panzym F2 enzyme: 50 – 150 ml/t

Check via iodine test

Pectin degradation: approx. 4 h at approx. 20 °C

Panzym Pro Clear enzyme: 10 – 30 ml/t or

Panzym XXL enzyme: 10 – 30 ml/t

For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t

Check via alcohol test

Fining: 2 – 4 h at 50 – 55° C

SIHA PURANIT/SIHA PURANIT UF fining agent: 500 – 1,000 g/t

Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t

Gelatine Fine Granules fining agent: 100 – 200 g/t

Plant proteins – as an alternative to gelatine:

SIHA Pea Protein fining agent: 100 – 200 g/t

SIHA Potato Protein fining agent: 50 – 100 g/t

Lees filtration with

BECOLITE 5000 perlite

Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)

BECOGUR 3500 diatomaceous earth (approx. 90%)

Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KDS 12 or BECOPAD 350 depth filter sheets

Flow: 1,000 l/m²/h or

Alternative: Ultra filtration (UF) with following sterile filtration

(ACB/TAB) with BECO PROTECT CS 115 0.2 µm as pre-filter and

BECO MEMBRAN PS Pure 0.2 µm as final filter

Particle filtration before bottling with BECO PROTECT PG (5 µm)

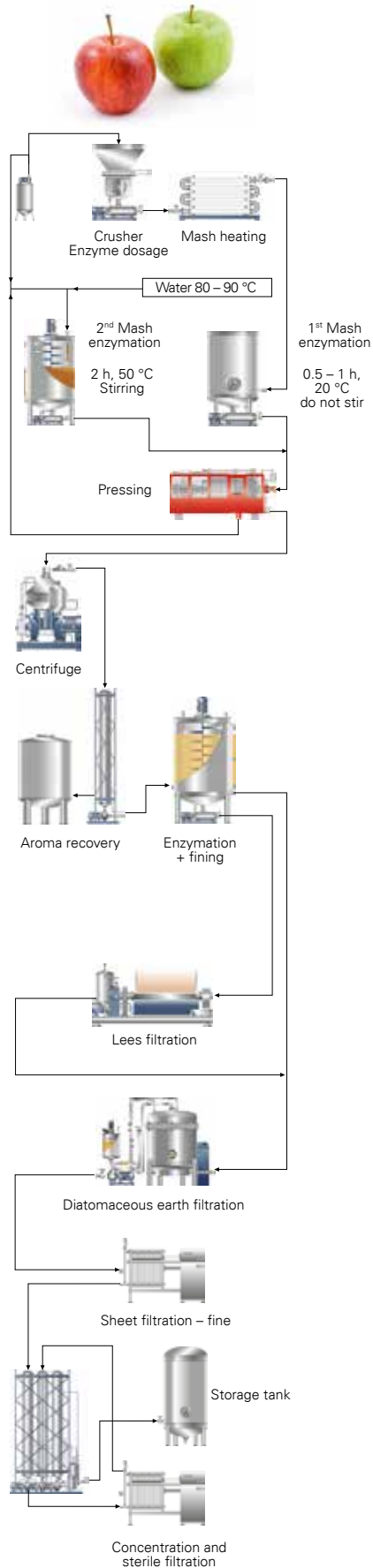
Flow: 800 l/h/30" filter cartridge

Storage or bottling



2nd Mash Enzymation and Fruit Juice Processing from Pomaceous Fruit

Process steps



Yield increase through 2nd mash enzymation

Raw ingredients:

1 part pomace from 1st pressing
+ 0.6 – 1 part (depending on first yield from 60 – 80%)
demineralized water at 80 – 90 °C

Mash enzyme dosage, depending on first yield:

Panzym Second Yield enzyme
a) 80% yield: 250 – 500 ml/t pomace
b) 70% yield: 160 – 380 ml/t pomace
c) 60% yield: 120 – 240 ml/t pomace

2. mash enzymation tenure:

1.5 – 2 h at 50 – 55 °C
with vigorous stirring

Juice extraction

using a press or decanter
possibly followed by blending of 1st juice and 2nd juice

Starch degradation:

approx. 1 h at 50 – 55 °C
Panzym HT 300 enzyme: 20 – 60 ml/t or
Panzym AG XXL enzyme: 10 – 30 ml/t

Check via iodine test

Pectin degradation:

approx. 1 h at 50 – 55 °C
Panzym Pro Clear enzyme: 10 – 30 ml/t or
Panzym XXL enzyme: 10 – 30 ml/t
For increased filterability: Panzym Flux enzyme: 10 – 30 ml/t
Check via alcohol test

Fining:

2 – 4 h at 50 – 55 °C
SIHA PURANIT/SIHA PURANIT UF fining agent: 1,000 g/t
Levasil BF30 silica sol fining agent: 500 – 1,000 ml/t
Gelatine Fine Granules fining agent: 100 – 200 g/t
Plant proteins – as an alternative to gelatine:
SIHA Pea Protein fining agent: 100 – 200 g/t
SIHA Potato Protein fining agent: 50 – 100 g/t

Lees filtration with

BECOLITE 5000 perlite
Dosage: 5 – 7 kg/m²

Diatomaceous earth filtration with

BECOGUR 200 diatomaceous earth (approx. 10%)
BECOGUR 3500 diatomaceous earth (approx. 90%)
Dosage: approx. 1 – 1.2 kg/t

Sheet filtration – fine with

BECO KDS 12 or BECOPAD 350 depth filter sheets
Flow: 1,000 l/m² h

Alternative: Ultra filtration (UF) with following **sterile filtration (ACB/TAB)** with BECO PROTECT CS 115 0.2 µm as pre-filter and BECO MEMBRAN PS Pure 0.2 µm as final filter

Concentration with

simultaneous sterile and polishing filtration of
semi-concentrate (35 – 40 Brix) at 70 – 80 °C with
BECO SD 30 or BECOPAD 270 depth filter sheets
Flow: 500 l/m²/h

Production of naturally cloudy apple juice

Raw ingredients:

Fully ripe (low starch content), sound and washed

Mash enzyme dosage:

Panzym YieldMASH XXL enzyme: 30 – 50 ml/t

Panzym First Yield enzyme: 40 – 60 ml/t

Mash enzymation:

0.5 – 1 h at approx. 20 °C
without stirring

Juice extraction

using a press or decanter

Vitamin C dosage: 200 – 400 g/t *
directly into the buffer tank

Removal of instable solids via centrifuge

Early pasteurization without long intermediate storage to prevent solid loss of stability through enzymatic activity and fermentation.

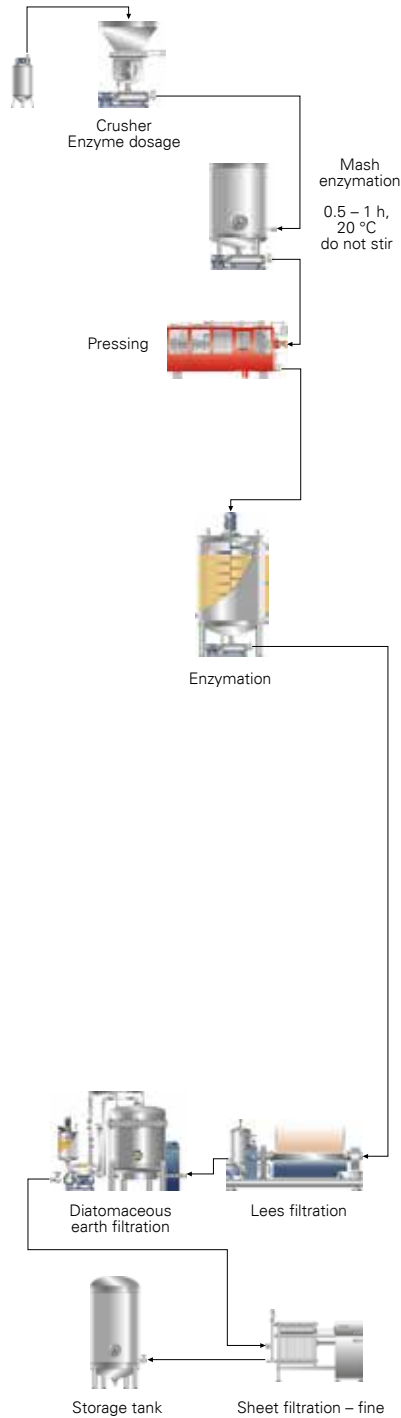
Storage or filling:

If no centrifuge was used for the removal of instable solids, the juice should be drawn off the coarse unfiltered sediment in the storage tank prior to bottling.



Small-scale fruit processors and fruit distilleries: Recommendations for processing of clear juices

Process steps



Pomaceous fruit (clear juice)

Raw ingredients:

Pomaceous fruit: apple, pear, quince
Ripe, sound, washed and grinded fruits

Mash enzymation:

Approx. 1 h at 20 °C, without stirring
Panzym Univers enzyme: 10 ml/hl
Pay attention to an even distribution of enzyme in the mash

Juice extraction:

Pressing

Oxidation protection (as required):

Ascorbic acid stabilizer: 20 – 40 g/hl

Juice enzymation:

2 – 4 h at 20 °C:

Starch degradation: Panzym F2 enzyme: 0.5 – 2 ml/hl

Pectin degradation: Panzym Univers enzyme: 1 – 2 ml/hl

Fining:

6 – 8 h at 20 °C:

SIHA PURANIT fining agent: approx. 100 g/hl

(at pH < 3.5 and 20 °C SIHA Ca-Bentonite G fining agent:
approx. 100 g/hl)

Levasil BF30 silica sol fining agent: 50 – 100 ml/hl
(higher dosing required for fruit rich in tannin)

Gelatine Fine Granules fining agent: 10 – 30 g/hl

Plant proteins – as an alternative to gelatine:

SIHA Pea Protein fining agent: 10 – 30 g/hl

SIHA Potato Protein fining agent: 5 – 15 g/hl

Coarse filtration:

BECOGUR 200 diatomaceous earth: approx. 10% at 100 – 200 g/hl

BECOGUR 3500 diatomaceous earth: approx. 90% at 100 – 200 g/hl
or BECOPAD 580 depth filter sheet

Fine filtration:

BECOPAD 350 depth filter sheet

Lees filtration with

BECOLITE 5000 perlite: 5 – 7 kg/m²

Particle filtration before bottling with BECO PROTECT PG (5 µm)

Flow: 800 l/h/30" filter cartridge

Bottling at approx. 80 °C, depending on germ load and
heat holding time

Pitted fruit/soft fruit (clear juice)

Raw ingredients:

Pitted fruit: cherry, plum, mirabelle plum
Soft fruit: blackcurrant, strawberry, blackberry
Ripe, sound, washed and grinded fruits

Mash enzymation:

1 – 2 h at 45 – 55 °C, occasional stirring
Colored fruits: Panzym Univers enzyme: 10 – 30 ml/hl

For cherry processing:

Alternatively hot pressing at 60 – 70 °C without using enzymes

Juice extraction:

Pressing

Juice enzymation:

2 – 4 h at 50 – 55 °C or
8 – 12 h at 20 °C:
Panzym Univers enzyme: 2 – 8 ml/hl

Fining:

1 – 2 h at 50 – 55 °C or
4 – 8 h at 20 – 30 °C
SIHA PURANIT fining agent: 25 – 50 g/hl
(at pH < 3.5 and 20 °C SIHA Ca-Bentonite G fining agent:
approx. 25 – 50 g/hl)
Levasil BF30 silica sol fining agent: 50 – 200 ml/hl
Gelatine Fine Granules fining agent: 5 – 20 g/hl
Plant proteins – as an alternative to gelatine:
SIHA Pea Protein fining agent: 5 – 20 g/hl
SIHA Potato Protein fining agent: 2.5 – 10 g/hl

Coarse filtration:

BECOGUR 200 diatomaceous earth: approx. 10% at 100 – 200 g/hl
BECOGUR 3500 diatomaceous earth: approx. 90% at 100 – 200 g/hl
or BECOPAD 580 depth filter sheet

Fine filtration:

BECOPAD 350 depth filter sheet
Colored juices: BECOPAD 450 depth filter sheet

Lees filtration with

BECOLITE 5000 perlite: 5 – 7 kg/m²

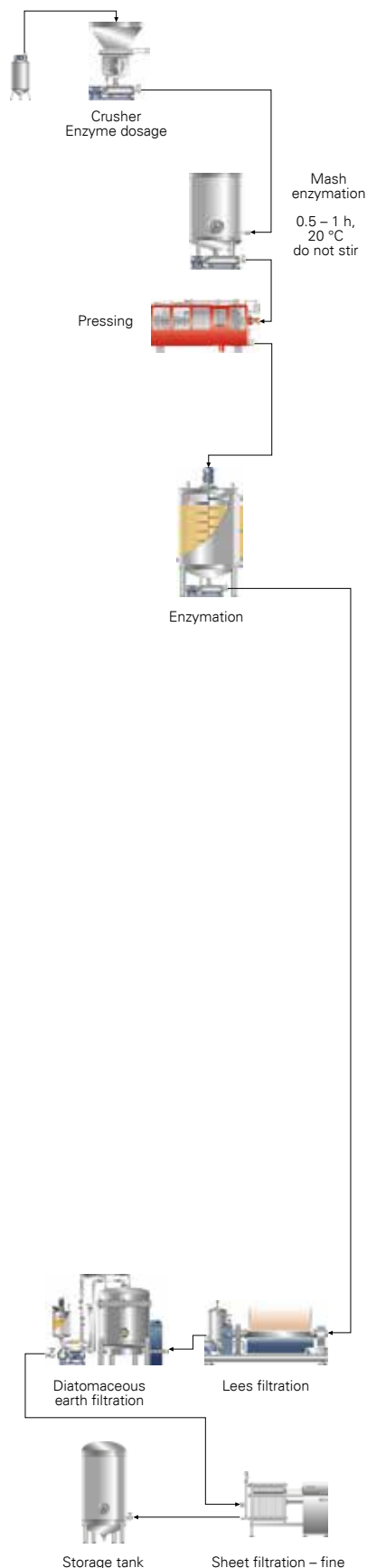
Particle filtration before bottling with BECO PROTECT PG (5 µm)

Flow: 800 l/h/30" filter cartridge

Bottling at approx. 80 °C, depending on germ load and heat holding time



Process steps



Fruit wine

Raw ingredients:

Pomaceous fruit: apple, pear quince

Pitted fruit: cherry, plum, mirabelle plum

Soft fruit: blackcurrant, strawberry, blackberry

Ripe, sound, washed and grinded fruit

Mash enzymation:

Pomaceous fruit: approx. 1 h at 20 °C without stirring,

Panzym Univers enzyme: 10 ml/hl

Pitted/soft fruit: 1 – 2 h at 45 – 55 °C, occasional stirring

Rich-colored fruit: Panzym Univers enzyme: 10 – 30 ml/hl

Juice extraction: Pressing

Juice stabilization:

Addition of sulfur: SIHA Potassium Pyrosulphite stabilizer: 3 – 10 g/hl

Addition should follow the microbiological burden of incoming fruit

Juice enzymation:

Starch degradation (pomaceous fruit): Panzym F2 enzyme: 0.5 – 2 ml/hl

Pectin degradation: Panzym Univers enzyme: 0.5 – 2 ml/hl

No holding time: starch and pectin degradation occur during fermentation

Chaptalization (as required)

Acidification:

Lactic Acid 80% stabilizer: max. 3.75 g/l* (optional for fruits low in acid)

Fermentation (make sure to only use cleaned fermentation vessels with fermentation air locks):

SIHA Active Yeast 3: 20 g/hl

SIHA Active Yeast 8 (Burgundy Yeast): 20 g/hl

Rehydration of active dry yeast in juice water mixture (50:50) with

SIHA® SpeedFerm™ yeast nutrient

Yeast nutrient:

Fermentation Salt yeast nutrient: max. 100 g/hl, step-wise addition until mid of fermentation

SIHA Vitamin B₁ yeast nutrient : max. 0.6 g/1000l

SIHA PROFERM H⁺ combined yeast nutrient: max. 40g/hl

After fermentation:

Racking followed by sulfurization with 10 – 16 g/hl SIHA Potassium Pyrosulphite stabilizer

Fining:

SIHA Active Bentonite G fining agent: approx. 25 – 100 g/hl

(at pH < 3.5 SIHA Ca-Bentonite G fining agent: ca. 100 g/hl)

Levasil BF30 silica sol fining agent: 50 – 200 g/hl (higher dosing required for fruit rich in tannin)

Gelatine Fine Granules fining agent: 5 – 20 g/hl

Plant proteins – as an alternative to gelatine:

SIHA Pea Protein fining agent: 5 – 20 g/hl

SIHA Potato Protein fining agent: 2.5 – 10 g/hl

Stabilization:

SIHA Potassium Pyrosulphite stabilizer: target value, free SO₂: 35 – 50 mg/l

Potassium Sorbate stabilizer: max. 26.8 g/hl (for wines with residual sugar)

Coarse filtration:

BECOGUR 200 diatomaceous earth: approx. 10% at 100 – 200 g/hl

BECOGUR 3500 diatomaceous earth: approx. 90% at 100 – 200 g/hl

or BECOPAD 580 depth filter sheet

Fine filtration: BECOPAD 350 depth filter sheet

Sterile filtration: BECOPAD 220 depth filter sheet, or BECO PROTECT CS 115

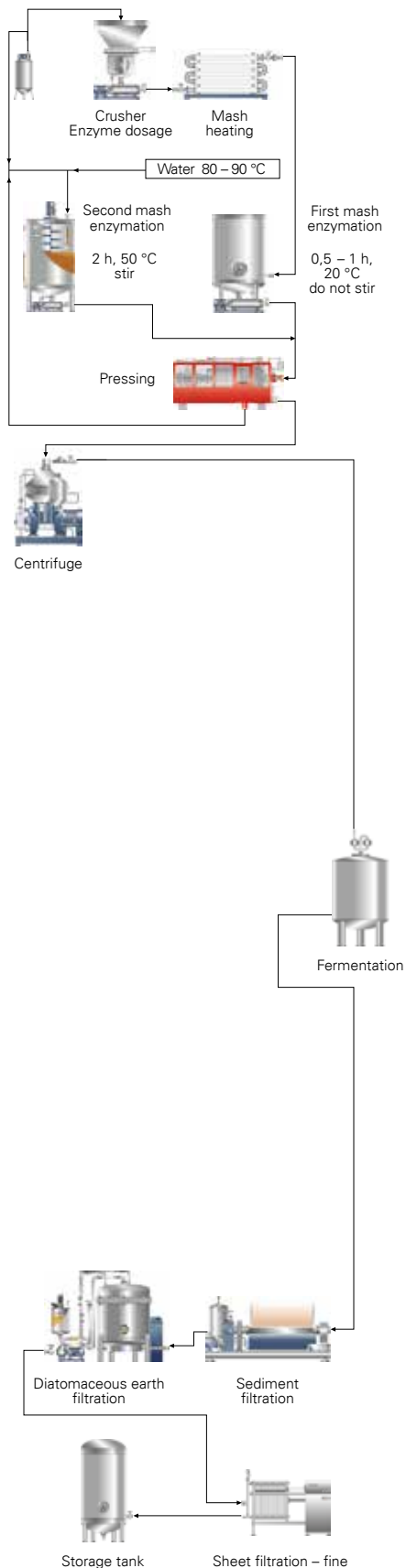
and BECO MEMBRAN PS Pure 0.45 µm or 0.65 µm

* Guidelines from March 1, 2003

Levasil® is a registered trademark of Akzo Nobel GmbH

Fruit Wine Processing from Apples and Pears (Cider)

Process steps



Cider

Raw ingredients:

Ripe, sound and washed fruit

First mash dosage:

Panzym First Yield enzyme: 7 – 10 ml/hl

First mash enzymation:

At approx. 20 °C, without stirring

Possible process step: juice extraction with secondary extraction

(second mash enzymation):

Maximum yield, Panzym Second Yield enzyme: 10 – 20 ml/hl pomaceous fruit
1.5 – 2 h at 50 – 55 °C, with vigorous stirring

Juice extraction:

Possibly blending of first and second juice

Alcoholic fermentation:

SIHA Active Yeast 3 or SIHA Active Yeast 8 (Burgundy Yeast): 20 g/hl
Rehydration of active dry yeast in juice water mixture (50:50) at 35 °C

Fermentation temperature: 17 – 22 °C

Enzymation/alcoholic fermentation:

Panzym Flux enzyme: 10 – 30 ml/t for pectin degradation and improved sedimentation
Higher alcohol yield with Panzym HT 300 enzyme: 2 – 3 ml/hl

Rehydration of active dry yeast:

SIHA SpeedFerm yeast nutrient: 20 g/hl

Yeast nutrients:

Fermentation Salt yeast nutrient: max. 100 g/hl, step-wise addition until mid of alcoholic fermentation
SIHA Vitamin B₁ yeast nutrient: max. 0.6 g/1000l
SIHA PROFERM H⁺ combined yeast nutrient: max. 40 g/hl

Optional: malolactic fermentation (MLF):

SIHA Lact Oeno lactic acid bacteria (citrate-positive) after alcoholic fermentation

Diatomaceous earth filtration:

BECOGUR 200 diatomaceous earth: approx. 10% at 100 – 200 g/hl
BECOGUR 3500 diatomaceous earth: approx. 90% at 100 – 200 g/hl

Stabilization:

Cold stabilization: BECO Steril 40 or BECO KDS 15 depth filter sheets
Room temperature: BECOPAD 220, BECO KD 10 or BECO Steril 40 depth filter sheets



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