# Overview of enzymation: Pome fruits

Enzymation of mash	Product	Description	Application	Dosage mL/1000 kg or mL/1000 L
	Fructozym® APX	Concentrated pectinase-complex, not macerating	Fresh and overripe apples, pears and quince optimized press-capacity	40 – 80
	Fructozym® Ultra HPX	Pectinase and hemicellulase	Extraction of pome fruit and its pomace, maximum yield in the "cascade process"	80 – 150
	Fructozym® PRESS	Concentrated pectinase-complex	Processing of pome fruits, low extraction of colloids	60 – 90
	Fructozym® MA-LG	Pectinase/arabanase mix	Prepressed apple mash, pears, quince Extraction of pomace, low extraction of galacturonic acid	70 – 150
Pectin degradation	Fructozym® P	Universal pectinase for juice clarification	Pectin breakdown in NFC juices	5 – 50
	Fructozym® P6-L	Concentrated pectinase and arabanase for juice clarification	Pectin breakdown in juice-concentrates	5 – 30
	Fructozym® P6-XL	Universal pectinase, highly concentrated	Pectin breakdown in NFC juices and juice-concentrates	5 – 30
	Fructozym® FLOW-UF	Concentrated pectinase and hemicellulase	Pectin breakdown and improved filtration for all fruit juices	5 – 30

#### Alcohol-test

- Pour 5 mL juice sample in a test tube (in juice containing mix-beverages, accordingly more)
- Add 5 mL ethanol (96 %)
- Mix sample carefully; do not shake!
- Look out for quick rising bubbles/wait for a few minutes



### **Pectin-proof**

- A floating gel indicates higher amounts of pectin
- <u>Slowly</u> rising bubbles are an indicator of residual pectin



# Overview of enzymation: Pome fruits

Stabilization & Crossflow Filter	Product	Description	Application	Dosage (g or mL/1000 L)
	Fructozym® FLUX	Broad spectrum pectinase, rich in glucanase	Optimized filtering of fruit juice and cider	10 – 50
	Fructozym® UF	Pectinase and acidic protease	Improved stability in case of high natural protein contents	20 – 50
Starch breakdown	EnerZyme® HT	Concentrated glucoamylase	Starch breakdown and saccharification	10 – 25
	Fructamyl® FHT	Alpha-amylase for hot-clarification	Good effect at low pH-levels (< pH 3.2); prevention of filamentous cloudiness	5 – 50
	Fructamyl® FCT	Alpha-amylase for cold-clarification	Prevention of filamentous cloudiness with high starch concentrations	5 – 50
	EnerZyme® Crystal	Amylase-mix, heat and acid tolerant	Hot-clarification > 65 °C (149°F) in very acidic products, saccharification of limit dextrins	5 – 25

#### **lodine-test**

- Pour approx. 10 mL of sample in a test-tube
- Let a few drops of iodine-solution (0.01–0.05 N) run down at the inside of the test-tube wall
- Observe the interface between iodine-solution and sample



### Starch-proof

- Intensive blue/black colour indicates high amount of starch
- Dark distinct interface indicates residual starch (see picture)
- Even red-brown colour indicates absence of starch



