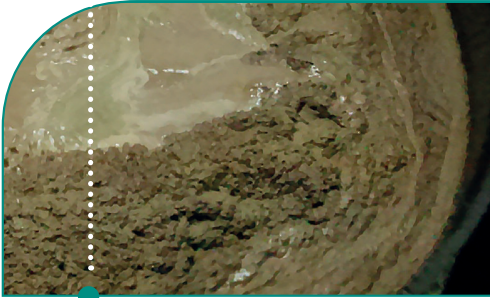


Annual quantities



	Now	With separator	Diff. (t)	Diff. (%)
Pomace (t)	2.000	2.260	260	13%
Dry solids of pomace (t)	900	941	41	5%
Pomace oil (t)	90	111	21	24%
Water for removal (t)	1.100	1.319	219	20%

Our services contain, in addition to product delivery, project and engineering support and advice regarding use, maintenance and installation.

Do you want to know more about what AMKCO Europe can do for you?

Please contact our screening technology specialists and ask for our options.



Above table is for pomace plants that receive pomace from olive mills that have installed an AMKCO separator.

In addition, we have installed separators in the pomace plants in waste water processing and for dry pomace classification.

AMKCO Europe BV

'It always pays to talk to a specialist'

Industrieweg 20 • NL-1566 JP Assendelft • The Netherlands
Phone: +31(0)75 - 614 98 54 • E-mail: info@amkco.nl

www.amkco.nl



Europe BV

Vibratory Separators and olive mill waste water



It always pays to talk to a specialist

Pomace recovery from 3-p

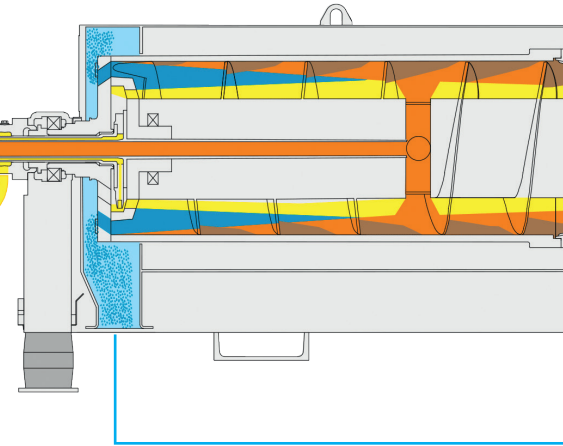
Black water from 3-phase decanter is no longer a problem, but a money maker.

Thanks to the installation of an AMKCO vibratory separator

How to separate olive waste to re-usable water

5.000 kg/h olives
1.000 kg/h water

900 kg/h olive oil



55% moisture
4,5% oil
10,0% oil (dry matter)



The solids that are produced can be added to the main pomace stream so more pomace oil is produced.

Composition of the solids produced from the separator are showing values from 6,2% up to 10% oil, and usually 50% oil in dry matter.

Removing these suspended solids from the waste water, the latter has oil remaining usually less than 0,5%, and the COD & BOD5 values have a reduction of approximately 80%.

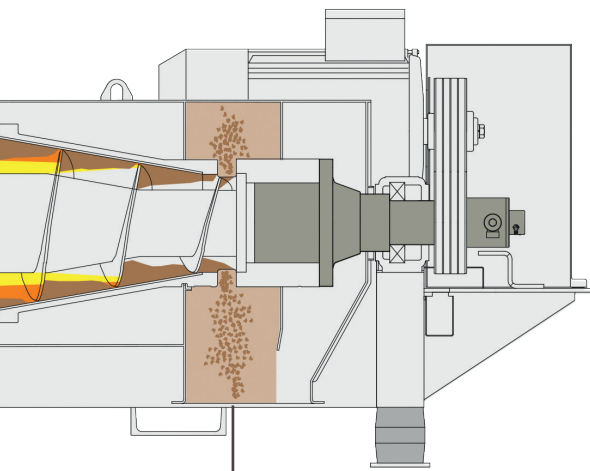
The pomace that is produced when enriched with these solids, has on average 30% greater oil content setting a greater value for all aspects of the business.

All olive oil mills with 3-phase decanters are producing a water phase as an effluent. This waste water comes from the water that is contained in the olives and also from the water that is added in the decanter for better separation.

It contains a relatively high proportion in solids and oil. Using a special AMKCO vibrating separator in continuous flow, it is possible the mechanical separation of most of the suspended solids from the water phase.

Process description

Phase olive mill waste water



2.500 kg/h pomace

12,5% of OMWW
6,5% on olives
325 kg/h

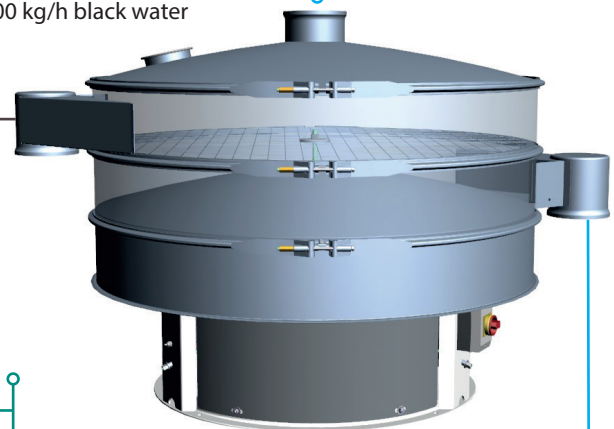
84,4% moisture
8,3% oil
52,7% oil (dry matter)

2.825 kg/h pomace
58% moisture
4,9% oil
11,8% oil (dry matter)

OMWW 52%
2.600 kg/h black water

Analysis of OMWW
before separator

Parameter	mg/l
COD	210.000
BOD ₅ (mg/l)	44.000
Oil	1-2%



2.275 kg/h
reusable water

Parameter	mg/l
COD	49.000
BOD ₅ (mg/l)	9.800
Oil	< 0,5%

Analysis of OMWW
after separator

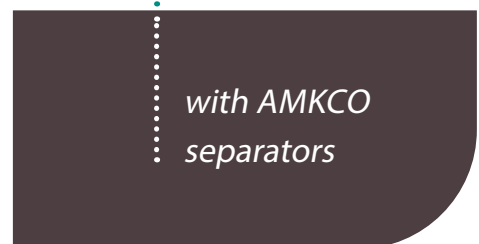
Direct benefits

I Suspended solids separated are on average amounting 7% of the olives processed. This extra amount is added to the main mass of pomace produced. The solids contain on average 8% oil and 80% moisture.

I In evaporation lagoons there is no sludge or oil trapped on the surface or precipitation on the bottom so we have much easier evaporation with less odour produced.

I We have also to remove much less solids out of the evaporation lagoon at the end of the summer.

I The simply but effectively processed waste water, since it has much less oil content that can block natural respiration of the soil, is ideal for fertilizing the olive yards but also others like corn, sunflower, grapes, etc. This is allowed in Greece, Italy and Portugal at a maximum quantity of 20 / 8 / 5m³ per acre per year respectively. This effluent contains high levels of potassium that is



with AMKCO
separators

needed and the only toxic constituent present is phenolic compounds which are biodegraded in the soil within 20 days.

I In many cases the processed olive oil waste water is re-used for decanter feeding in order to reduce both fresh water inlet and waste water outlet.

I The 3-phase pomace has typically 30% increase in oil content.