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P R O P O S A L

FOR:

COLD PRESSING UNIT

AND

FILTRATION OF COLD RAPESEED OIL UNIT

***PROCESSING CAPACITY
10 000 TONS
OF RAPESEEDS A YEAR***

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1. Quality of input / output

1.1. Quality of input

Rapeseeds

Parameters of oilseeds must be according to foodstuff guidelines.

Design of our press KM 300 enables most types of seeds to be processed such as rapeseeds, sunflowerseeds (shelled and also unshelled), linseeds etc.

Rapeseeds pressed for human nutrition will be „00“ quality (variety).

Humidity of rapeseeds	max. 6-8 %
Impurities	max. 2 %
Damaged seeds	max. 2 %
Content of oil	min. 42 %
Temperature of rapeseeds	min. 10°C

1.2. Quality of output

Main product:

Cold pressed and filtered rapeseed oil - Virgin Oil

The seeds are cold-pressed. Temperature of vegetable oil flowing out from the presses is under 45°C.

Our presses KM 300 does not need to use pre-treatment (conditioning, heating, unshelling/dehulling of sunflower) of oilseeds before entering pressing unit.

Crude Sunflower Virgin Oil keeps all valuable natural materials necessary for human nutrition.

Cold pressed and filtered rapeseed oil is also excellent raw material for production of edible oils in physical refining plants or for methyl esters (Biodiesel) production in transesterification plants.

By-products:

Press cakes

Press cakes are by-products from a pressing unit. Due to cold seeds pressing, press cakes are not biologically depreciated, a part of fat remains in them, so they are an excellent base material for animal feeding mixtures. Nutrition value of press cakes is compared to the value of soyabean animal feeding mixtures. It has about 80% of their nutrition value. Mixing of animal feeding mixtures with press cakes contents for different domestic animals was solved at Agricultural University in Nitra (Proceedings is available in Slovak).

2. Description of the processing technology

Our pressing and filtration technology is wasteless and friendly for environment.

Our technology does not produce waste water or gases.

We do not use any solvents (hexane, technical gasoline) and high temperatures during oilseeds processing, so we do not need to build waste water cleaning plant.

All by-products can be used in an agriculture or in the food industry.

Designed pressing unit will be suitable for pressing of rapeseeds.

Pressing unit will be designed for two stage pressing. It will consist of pre-pressing stage, drying of press cakes stage and then final pressing stage. Cold pressed crude unfiltered oil will be filtered after its homogenization and its tempering in the automatic AMA filter.

Clean and dry rapeseeds (humidity of oilseeds will be max. 8%) will be transported from customer's storage silos by a conveyer (not part of this price offer) into a storage hopper above the presses. Loading of rapeseeds into storage hopper will run automatically. Rapeseeds will fall from storage hopper into the presses of pre-pressing stage by gravitation. There is not be need to use flaking machine as pretreatment of the oilseeds for pressing in our presses KM 300.

Cold pressed crude unfiltered oil (CPCUO) from the presses of first stage of pressing as well as from the presses of final stage of pressing will be collected in the tanks under the presses. CPCUO will be pumped with a special pump from these collection tanks into the homogenization tank for crude oil. CPCUO will be pumped with AMA filter pump from the homogenization tank and filtered in the AMA filter. Then crude filtered oil will be pumped into two tanks for filtered oil (2x15 000 lit). Rapeseed oil from these tanks will be pumped with a pump into a customer's storage tanks, cisterns or a customer's plastic containers (not included in this price offer).

Press cakes from the first stage of pressing (5 presses) will be transported by the conveyer into the dryer. Drying of the press cakes after the first stage of pressing will enables to use all construction advantages of press KM 300. This will bring rapeseed full press cakes after final pressing stage (4 presses) with 10.0% (+ - 1 %) of residual oil in it.

Press cakes will be transported by the bulk conveyer into 4,5 m high elevation and then by a customer transport system transported into a press cakes storage hall.

Pumps and the AMA filter will be working automatically on pressed air from the compressor.

All pressing & filtration unit will be installed into a required room/area.

Technical parameters of pressing unit:

Processing capacity (rapeseeds) 10 000 tons/year (300 working days)

This 300 working days will bring a reserve of 40 days as most of our competitors design pressing units for 340 working days. It means that our pressing unit will be processing 11 300 tons of rapeseeds a 340 working days.

As there will be designed processing capacity 10 000 tons of rapeseeds per year, then with 42 % of oil in rapeseeds, we will theoretically achieve 3 555 tons of press cakes after pressing (prior to filtration) and 4 445 tons of press cakes with residual oil 10 % + - 1 %.

3. Price offer

ITEM
A. PRE-PRESSING UNIT
B. DRYING UNIT
C. FINAL PRESSING UNIT
D. FILTRATION UNIT
E. COMPRESSED AIR UNIT
TRANSPORT in Slovakia
ERECTION OF ALL UNITS in Slovakian conditions
ELECTRO INSTALLATION in Slovakian conditions
PIPINGS, PAINTS,...

In the budget are included all above mentioned and necessary parts for pressing & filtration unit included basic electric&measurement/regulation part as well as installation costs calculated for Slovakian conditions.

The budget will be made precisely after customer concrete wishes and design works.

Prices exclude: import taxes, fees or charges that may be applicable.

Such fees and costs will be paid by the purchaser.

There are excluded also prices for supervising on the installation site, staff training, check test, loading/unloading of cargo, transport fees and insurance.

These prices depends on mutual agreement.

Recommendation

We recommend to supply the services of our supervisory engineers / technicians for supervising of installation at customer's plant, for staff training and check test.

Note: All travel expenses, accommodation and out of pocket expenses from the day of Martin departure of our supervisory engineers / technicians to the day of return to Martin, will be on

customer's account. Accommodation to be 1st class hotel or furnished accommodation with provision of meals, lighting etc. Customer's staff will be trained during installation and final check test at a customer's plant base.

4. Price basis

All prices are calculated EXW Martin/Slovakia and are valid for 30 days.

5. Delivery terms

The Pressing & Filtration Unit will be ready for despatch by 6 months since date when all technical and commercial details will be clear.

There will be set up schedule of payment (confirmed irrevocable letter of credit):

- 1st payment 40 % of total price after confirmation of contract
- 2nd payment 30 % of total price 12 weeks after 1st payment
- 3rd payment 20 % of total price after supply of machinery/devices
- Last payment 10 % after confirmation of stated parameters

6. Automatization of the processing

All units will be under semi-automatic control.

The Pressing & Filtration Unit will be working 24 hours a day.

7. Energy requirements

Designed installed electricity input 216 kW.

Designed koeficient of efficiency 0,85.

8. Warranty for mechanical components

The warranty will be 12 months of technology line production, but not more than 18 months from a date of shipping.

There is not the warranty for packings, seals or parts which have shorter warranty.

Warranty period will be stopped if wrong installation is made or technology line is not used for its designed aims or unauthorized modifications will be made.
