Quotation for
Wheat starch project
Input capacity 1tph commercial wheat flour

Quotation No. : MKQT16043
Quotation Date: Aug.10, 2016

Meckey Engineering Co.

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Item list

1. Quotation instruction

1.1 The quotation is made for wheat starch, gluten project, and is valid for two month. The quotation is FOB any Chinese seaport, including spare parts for one year.

1.2 Quotation range: See quotation structure table. Completion time is 10 months after down payment or getting L/C at sight.

1.3 300 working days per year, 24 hours per day, 1tph commercial wheat flour as raw material.

1.4 Seller provides detailed engineering document and drawings, including main production, water, electricity, steam, architecture etc. of the internal parts of the workshop. All the services supplied by seller are technical guidance (supervising) service. About 2 engineers totally are needed.

Buyer should cover international tickets, salary, food & lodging, income tax and insurance for seller's technicians on work site. Salary for each person each day is USD150.

1.5 The general layout plan and other information needed for establishing such factory will be provided after signing the contract step by step.

1.6 The quotation excludes:

- Any outer part of the A/M production building. (i.e. Battery Limit is the production workshop)
- All civil works including inside concrete room, floor, steel structure, heating, air-conditioners, ventilation.
- Lighting, fire fighting and furniture in lab.
- Inland transportation fee from destination port to the site.
- Working permit, import formalities and duties & taxes, insurance etc.

1.7 Quotation structure

No.	Item	Amount FOB USD	Remarks
1	Equipment and piping & valve for starch & gluten production line		Including gluten dryer. and A starch dryer
2	Boiler system	2 tph	By buyer
3	Water supply station	7 m3/h	By buyer
4	Waste water treatment	200 m3/d	By buyer
5	Compressed air system	3m3/min	By buyer
6	Lab for quality control		By buyer
7	Transformer station	400 KVA	By buyer
8	Engineering		
9	Sea freight		By buyer
Total amount for whole project			
Remarks	Item 1 includes: Electricity and instruments, Steel structure profile for supplied equipment, automatic, Piping, Valves & fittings. Tanks will be covered by Buyer and fabricated locally according to Seller's drawing.		

1.8 Terms of payment: 30% advance payment of the total amount by T/T for designing and coordinating and the other 70% will be paid by irrevocable L/C at sight.

2. Wheat starch plant technical description

2.1 General process description

(1) Dough making: Flour is mixed with appropriate proportion water in mixer to

form dough. After staying for set time in dough tank, dough enters into watering rotary drum.

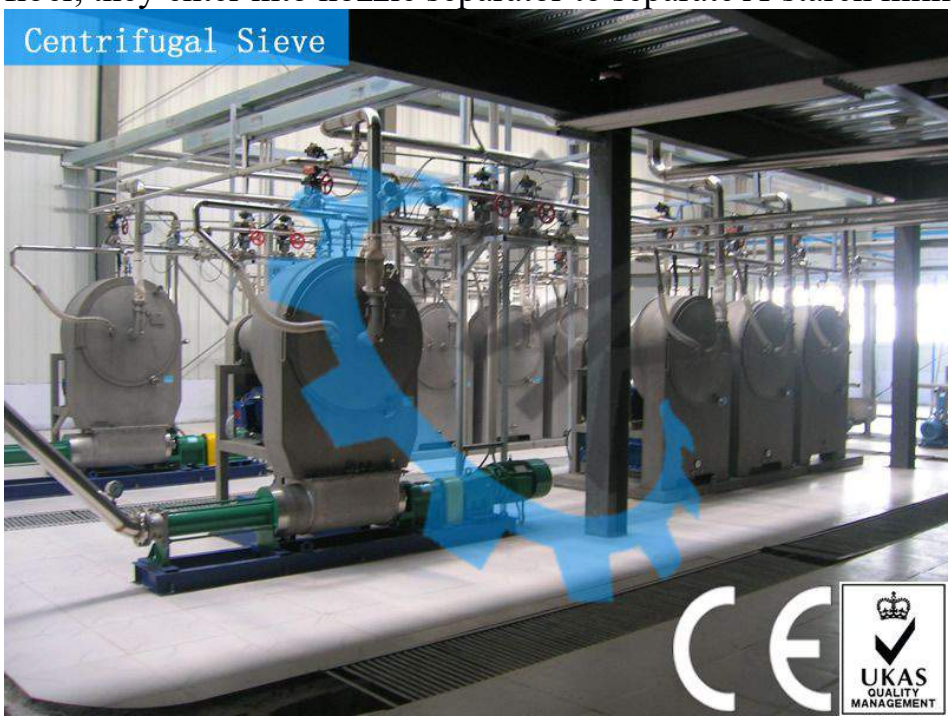
(2) Dough watering: Dough is washed by sufficient water being agitated by the blade in rotary drum; the purpose of this step is to wash out starch inner dough.

(3) Gluten screening: The mixture from last step enters to flat screen. Gluten and starch are separated here.

(4)Gluten drying: Gluten on the screen is washed, dewatered, dried and finally crushed to form one of final product gluten powder.

(5)The separation of A-starch and B-starch
After the mixture below the flat screen enters Centrifuge Conical Sieve to remove

fiber, they enter into nozzle separator to separate A-starch milk and B-starch milk.



(6) A-starch refining: A-starch milk is further concentrated in cyclone, dewatered and dried to form one of final product A-starch.


Hydro-cyclone
励科机械
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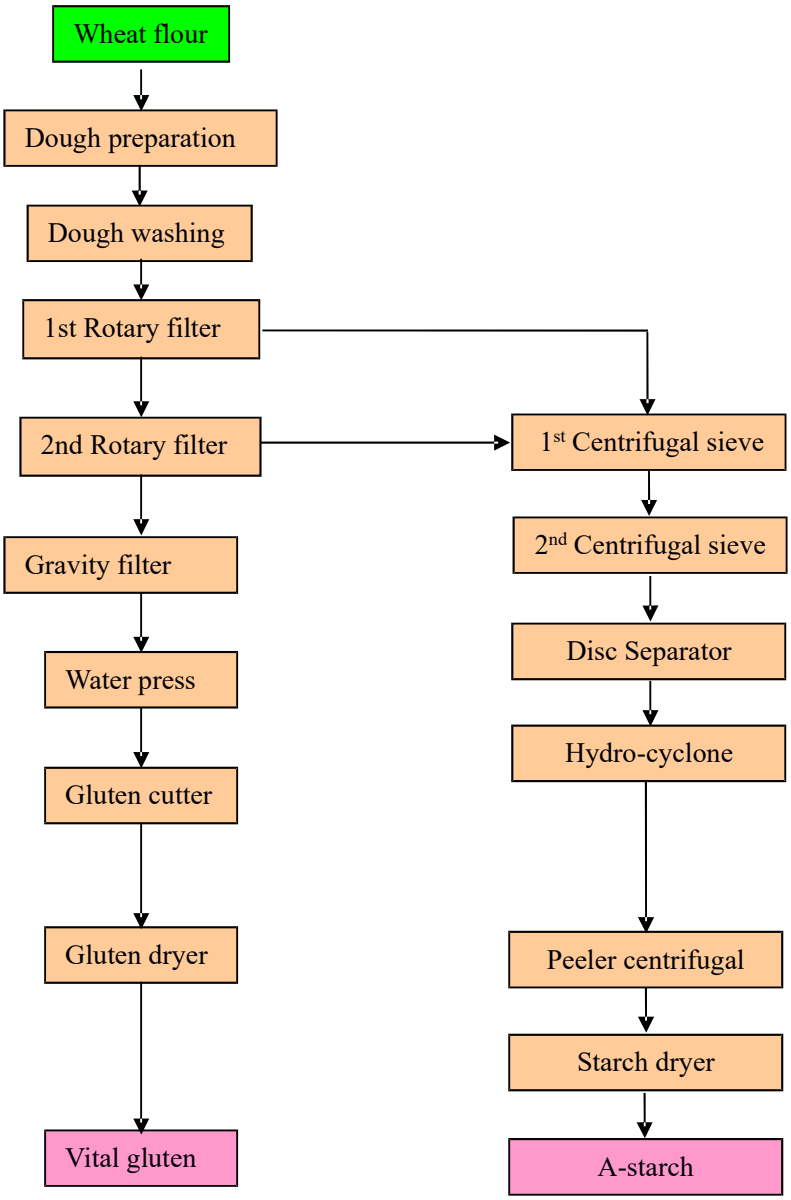
UKAS
QUALITY
MANAGEMENT


Peeler centrifuge
UKAS
QUALITY
MANAGEMENT

(7) B starch, Pentosan, Fiber and waste water: After extraction of Gluten and A starch, the remaining B starch, fiber, pentosan, etc will be discharge to down streams as liquid. for animal food.

2.2 Process flow block diagram



2.3 Equipment list

See attached App.1

3. Construction area proposal

3.1 Construction areas for starch production line: 60x20=1200m2, height average 9m, highest place 20m.

3.2 Construction areas for utilities: 500 m2

3.3 Construction areas for other facilities: 2000 m2

4. Unit consumption for per ton of wheat flour

Wheat starch plant, for per ton of commercial wheat flour

No.	Description	Unit	Index	Remarks
1	Fresh water	t	6-7	
2	Electricity	kwh	160	
3	Steam	t	1.25	1.0Mpa

5. Manpower

Wheat starch plant
3 shifts, 24 workers/shift

6. Raw material data

No.	Description	Specification
1	Moisture	≤14%
2	Protein	10-12%
3	Ash	≤0.85%
4	Fat	≤1.5%
5	Falling number	≥300
6	Fiber	10
7	Damaged starch	≤ 4 % DS
8	Tiny starch	≤ 4 % DS
9	Extractable starch	≥64%

Granule distribution		
	Size	%
1	> 250um	1
2	> 204um	6
3	> 180um	28
4	> 150um	21
5	> 125um	17
6	> 100um	12
7	> 85um	5
8	< 85um	10

7. Product plan and data

7.1 product plan

No.	Material and product	Commercial (tpd)	DS %	Yield,%
1	Input raw wheat flour	24.00	86.0%	DS
2	A-starch (if dried)	13.2	88.0%	50
3	Vital gluten	2.4	93.0%	11

7.2 product data

No		A starch	Gluten
1	Moisture	9-12%	≤9%
2	Protein	≤0.35% DS	≥ 78 % (N×5.7 DS)
3	Fat	≤0.4%	≤1.5%
4	Ash	≤0.3%	≤1.2%
5	Color	Snow white	Light yellow
6	PH	4.5 – 7	
7	Taste	Normal	
8	Size 96%	≤200 μ	≤200 μ
9	Fiber	0.12 % max65μm	
10	Water absortion		≥150%

8. Environmental protection

In the project under consideration problems of sewage treatment, the document considering this matter is not presented in detail. It is supposed, that it will be made previously after providing the technical conditions of building site by the customer, and finally –at the stage of basic engineering.

9. Project schedule list

Overall Project schedule

No.	Item	1	2	3	4	5	6	7	8	9	10
	Overall project										
1	Preliminary engineering										
2	Final engineering										
3	Purchasing & acceptance										
4	Delivery										
5	Site fabrication and Installation										
6	Pre-commissioning & commissioning										