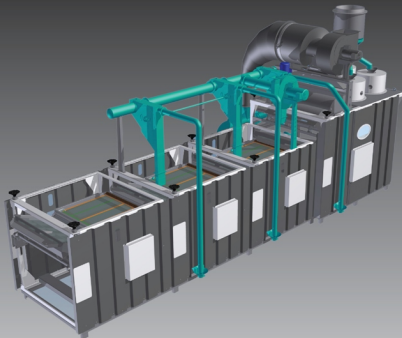




Ayçekirdeği Soyma Makinesi

Sunflower Seed DE-HULLER

Шелушитель семян подсолнечника



MMCTECH: Seed Machines & Equipment with Automation Solutions

www.mmctech.us

info@mmctech.us

FUNCTION

Impact Type Dehulling Machine: The impact Dehuller Feeds Seed onto the centre of a horizontally Rotating impeller fitted with outward directing blade, 4 of them. The seed is accelerated outward along the blades and collides with the static wall where the hull is cracked. The mixture consisting of kernels, husks and unshelled product is discharged through an outlet hopper. The loses hulls, partially dehulled seed and some unshelled seed needs separating from dehulled kernels as next processing. At this stage an aspirator removes hulls from kernels by means of aspiration. Third stage is to separate hulled kernels and unhulled seeds with 4 Units of inclined vibrating screens one after another. The unshelled seeds will be returned to the dehuller for re-hulling system.

DESIGN: Easy to maintain machinery, basic skilled operator can carry out preventative maintenance. If plant maintained according to user manuals machinery will last life time.

- * Durable design and top quality parts.

- High dehulling efficiency with a minimum amount of broken.

- * The rotor speed is infinitely variable by means of a frequency converter.

- * Its adjustment depends on the hulling characteristics of the products.

- * A tachometer provided to know rotor speed of huller.

- * Impact ring and impeller flights are made of wear resistant steel and hence minimum maintenance and replacement of spares required.

- * Easy control of machines either from a control desk or from control cabinet.

- * Impact rotor with high erosion resistance blades, static and dynamically balanced.

- * Adjustable impact front with external access regulation system.

- * Easy access for maintenance and spare part exchange.

- * Laser cut steel components.

- * All through nu bolt and gasket connected.

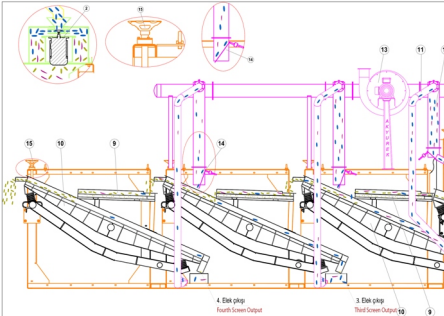
- * All through paint: acrylic antistatic oven powder painted

- * Paint code : Ral 9010



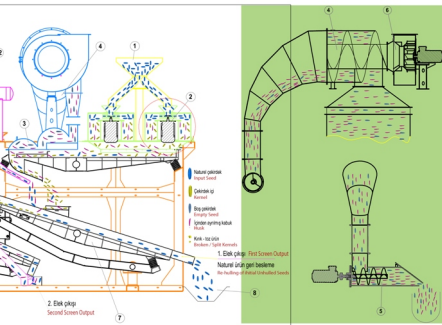
Çalışma Prensibi

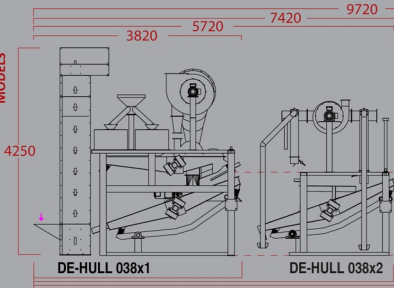
- ①- **Natürel Ürün Giriş Bunkerli**; 4 değirmene eşit ürün dağılımını sağlayarak ürünü değirmene verir.
- ②- **Değirmen**; değirmene gelen ürün iki yüksek hızla dönen kanatlara kılavuzluk yaparak merkez kaç kuvvetiyle dış çepere çarpar, çatlatıp kırar.
Değirmen motorları hız kontrol cihazı ile kanatların dönüş hızı ayarlanabilir.
- ③- **Davlumbaz Elek**; 6 nolu aspiratörün çektiği hava ile kabuk, boş ürün ve saman vb. ürünler emilerek siklona girer.
- ④- **Siklon**; Siklonun girişindeki spiral kanatlar sayesinde kabuk, boş ürün ve saman vb. ürünler siklonun çıkışındaki helezona düşer.
- ⑤- **Helezon**; Siklondan gelen kabuk, boş ürün ve saman vb. ürünler helezon ile sistemden dışarı atılır.
- ⑥- **Siklon Aspiratörü**; Siklondan gelen havayı tekrar atmosfere verir.
- ⑦- **Büyük Elek**; Değirmende üst üste gelip kırılmayan ürünlerin büyük bölümünü elekten aşağıya doğru kayarak, natürel ürün besleme-eleğe gider.
- ⑧- **Natürel ürün besleme elevatörü**.
- ⑨- **Toz Eleği**; Kırık-küçük parçalara ayrılan ürünü ayırma işlemi yapar.
- ⑩- **Küçük Elek**; Büyük elekten sızan kırılmayan ürün ve kabukların ayrışmasını sağlar. Kırılmayan ürün elekten aşağıya doğru kayar ve oluğa düşer, buradanda geri dönüş boruları ile bir önceki eleğe aktarılır. Yukarı doğru tırmaman ürün ise bir sonraki eleğe aktarılmasını sağlar.
- ⑪- **Geri Dönüş Boruları**; Elekten aşağıya kayan ürün (kırılmayan ve kabuk) 13 nolu aspiratörün çektiği hava ile geri dönüş borularından emilerek filtreye gelir ve buradan bir önceki eleğe aktarılmış olur.
- ⑫- **Filtre**; Borulardan gelen ürünün aspiratöre ulaşmasını engeller ve sisteme tekrar kazandırır.
- ⑬- **Geri Dönüş Aspiratörü**; Borulardan gelen havayı tekrar atmosfere verir.
- ⑭- **Filtre Klapesi**; Kapalı konumdayken borulardan geçen hava debisinin düşmesini engeller. t üzerindeki vida-somun tertibatıyla da klapenin açık-kapalı konumu ayarlanır.
- ⑮- **Elek Ayar Aparatı**; Ürünün eleklerden tırmama ve temizlenme işleminin optimum olabilmesi için eleklerin eğim açısının ayarlanmasını sağlar.



Work Principle

- ① - **Inlet Hopper:** Provides uniform feeding to 4 of the De-hullers.
- ② - **De-hullers mills:** Seed is fed onto the centre of a horizontally Rotating impeller fitted with outward directing blade, the seed is accelerated outward along the blades and collides with the static wall where the hull is cracked. Rotating impeller speed is controlled by an frequency controller inverter for speed adjustment.
- ③ - **Hull Hood:** All 4 De-huller mill's out put is conveyed on a vibrating screen deck for hull removal. Almost all hull gets removed
- ④ from kernel lot by Hull hood.
- ⑤ - **An Airpipe channel conveys all hull to discharge chute which has a Screw conveyor.**
- ⑥ - **Screw Conveyor discharges all hull evenly.**
- ⑦ - **Hood Aspirator:** Creates suction power of Hood for Hull hull separation and discharges air.
- **First inclined 'Vibration Conveyor' Deck;** Hull free kernel lot moves on to first inclined 'Vibration Conveyor' Deck. Kernels and unhulled seed separated at this stage, unhulled seed moves towards to the feeder elevator second inlet to be feed in to De-hullers again. Kernel lot conveyed to second inclined 'Vibration Conveyor' Deck for further separation.
- ⑧ - **Elevator**
- ⑨ - **Vibration Conveyor Screen:** Separation of small impurities from kernels, screening.
- ⑩ - **Second inclined 'Vibration Conveyor' Deck**
Kernels and unhulled seed is separated at this stage; unhulled seed slides down, Re-sort Air conveying Sytem to conveys unhulled seed back to the Hulling mill and Kernel lot climes to third inclined 'Vibration Conveyor' Deck for further separation.
- ⑪ - **Pipes of Re-Sort Air Conveying:** All unhulled seed and hull that is separated by inclined 'Vibration Conveyors' is conveyed by (13) Aspirator air suction through the pipes to previous deck.
- ⑫ - **Divirter Filter:** Allows the air to pass through and diverts the product to the system.
- ⑬ - **Aspirator:** Air suction for air conveyor.
- ⑭ - **Valves:** False air false to minimize air presure loss.
- ⑮ - **Adjustment valves-are** for inclination adjustment of inclined 'Vibration Conveyor' Deck for optimum separation result.





KAPASİTE KILAVUZU

Soyma kapasitesi analizi % 98 olan nem oranı %5 ila 6 olan 3,00><3,80mm arası boylanmış Siyah ayçekirdeğinde, çekirdek içi makine çıkışında 300 ila 400kg/saat % 98 tam tane çekirdek içi (% 2 = Soyulmamış taneler, kırık çekirdek içi, yarı kabuklu taneler)
Soyma kapasitesi analizi % 98 olan nem oranı %5 ila 6 olan 3,80> boylanmış Siyah ayçekirdeğinde, çekirdek içi makine çıkışında 300 ila 600kg/saat % 98 tam tane çekirdek içi (% 2 = Soyulmamış taneler, kırık çekirdek içi, yarı kabuklu taneler)

Giren ürün ile çıkan ürün kalitesi birbirleri ile alakalı ve giren ürünün analizi ve nem oranı ile bağlantılıdır. Yukarıda bahsi geçen kapasitelerde makine çıkışında her işletme için değişken olan ürün kalitesi analizde etkindir. Bölgesel ürün farklılıkları kapasiteye etken bir faktördür.

CAPACITY GUIDE LINES

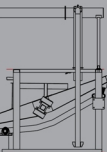
De-hulling output capacity for 3,00><3,8 mm Sunflower Kernel Seeds 300-400 kg/hr output kernel capacity with 98% purity. In put 5-6% Humidity. In put Seeds Screen cleaned and 98% analyzed Graded.
De-hulling output capacity for 3,8> Sunflower Kernel Seeds 400-600 kg/hr out put kernel capacity with 98% purity. In put 5-6% Humidity. In put Seeds Screen cleaned and 98% analyzed Graded.

Please note that the input and output quantities that can be obtained interdependent also depend on the input humidity level. The through put capacities shown are also dependent on the input contamination and the required quality of output as well as the humidity levels of the in put seeds. Regional Seed differentiation would have different out put capacities.

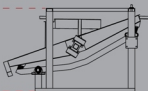
Yardımcı Ekipmanlar Optional Helper Equipments

Ön Eleme Makinesi
Boylama Eleme Makinesi
Taş Ayırma Makinesi
Hafiftane Ayırma Makinesi
Renk Ayırma Makinesi
Triyör
Çuvallama Kantarı

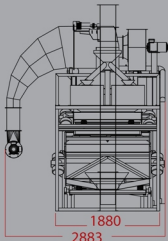
Screen Cleaner
Screen Grader
Stone Separator
Gravity Separator
Indent Cylinder
Color Sorter
Bagging Scale



DE-HULL 038x3



DE-HULL 038x4



Teknik Bilgi	Technical Info	DE-HULL-038X1	DE-HULL-038X2	DE-HULL-038X3	DE-HULL-038X4
Aspiratör No	Aspirator No	1	2	2	2
Hava İhtiyacı	Air Consumption	12600	12600	12600	12600
Soyma Değirmeni	De-Hulling Mills	4	4	4	4
Vibro Motorlu Tekneler	Inclined Vibrating Screens	2	3	4	5
Toplam Elektrik Gücü	Total Power Requirement	10,5 kW	14,75 kW	15,25 kW	15,75 kW
Standart Voltaj	Standard Volt	380	380	380	380
Opsiyonel Voltaj	Optional Volt	220-440	220-440	220-440	220-440
Ağırlık	Weight	2100 kg	3300 kg	4550 kg	5800 kg
Vibrasyon	Vibration	✓	✓	✓	✓

Kapasite Cetveli Capacity Chart

Ürün Analizi	Input Analyze	+98 %	+98 %	+98 %	+98 %
Ürün Nem Oranı	Seed Humidity	9 %	9 %	9 %	9 %
Giriş Kapasitesi	Input Capacity	210	350	420	490 kg
Çıkış Kapasitesi	Output Capacity	150	250	300	350 kg
Soyulmamış Ürün	Unhulled in Output	2%	2%	2%	2 %
Kırık İç	Broken Kernels	5%	5%	5%	5 %

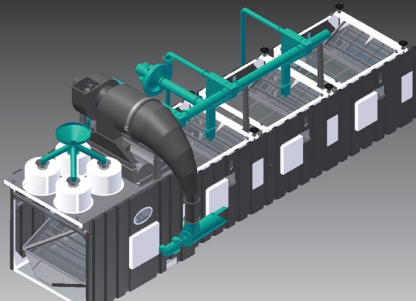
Giren ürün miktarı ve çıkan ürün miktarı birbirine bağlı olan etkenlerdir ve (üründeki) kirlilik oranı ile alakalıdır. Kapasite tablosunda bahşı geçen kapasiteler (üründeki) kirlilik oranı ve elde edilmek istenen temizlik oranı ile bağlantılıdır. Ayrıca makine tek başına veya tesise entegre olması da ürün temizleme bazında makine kapasitesine etkilidir.

Please note that the input and output quantities that can be obtained interdependent and also depend on the input contamination. The throughput capacities shown are also dependent on the input contamination and the required quality of output. Also another capacity element is if cleaner machine working alone or integrated to a cleaning plant.

Neden Elleme Temizliği ve Boylama?

Why Cleaning and Grading?





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