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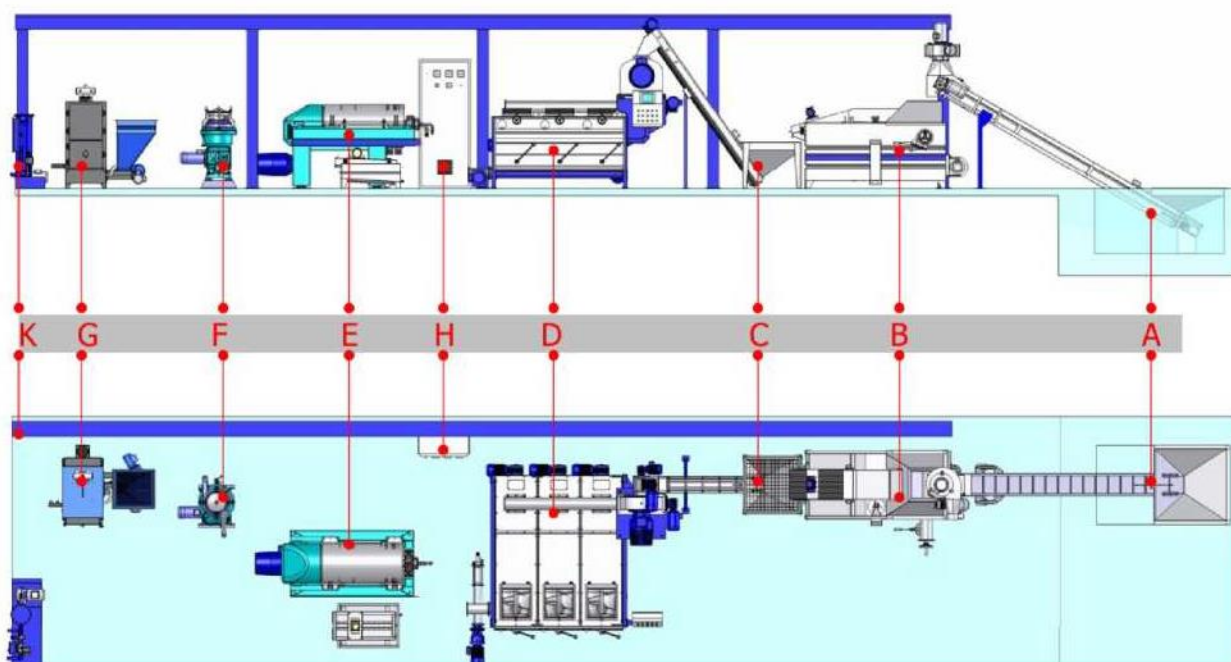
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Установка специализированная по переработке оливкового масла

PMS 350 / PX 20



THE FUNCTIONS OF OLIVE OIL MACHINES WITH
PMS 350 / PX 20 MODÜLER SYSTEM

- A. OLIVE CARRYING MACHINE
 - A1. CONVEYOR
 - Olive carrying line
 - A2. LEAF ASPIRATOR
 - Leaf, grass....etc. separating unit
- B. OLIVE WASHING MACHINE
 - Olive washing and Stone, sill,...etc. separating unit
- C. FEEDING SCREW CONVEYOR
 - Olive feeding unit for the crusher
- D. PASTE PREPARE UNIT
 - D1. CRASHER
 - Olive crashing unit
 - D2. MODÜLER MIXER
- E. DECANter
 - E1. DECANter
 - Olive extraction unit
 - E2. VIBRATION SIEVE
 - E3. PASTE PUMP
 - E4. OIL PUMP
- F. SEPERATOR
 - Oil, water, paste separation unit
- G. WATER HEATHER AND HEATH EXCHANGER
 - G1. AUTOMATIC HEATH EXCHANGER
 - Unit preparing hot water for the system.
 - G2. WATER HEATHER
- H. MAIN CONTROL PANEL
- K. INSTALLATION

**CAPACITY AND POWER CONSUMPTION OF THE OLIVE
OIL MACHINE OF PMS 350 / PX 20 CONTINUE SYSTEM**

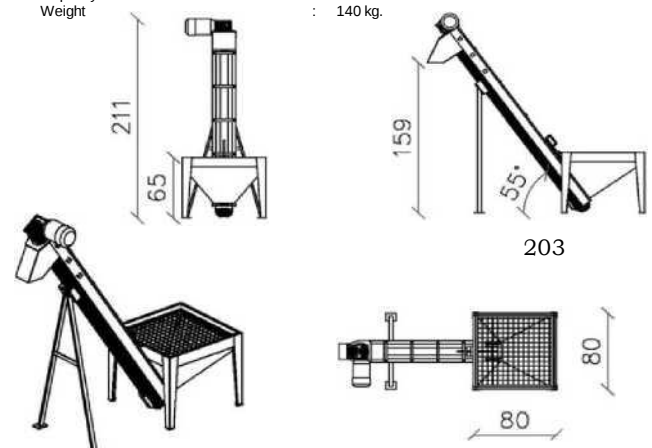
OLIVE CARRYING LINE

CARRYING CAPACITY : 2 TONS/HOUR
TOTAL ENGINE POWER : 2.25 KW

OLIVE WASHING MACHINE	
WASHIN CAPACITY	: 2 TONS/HOUR
TOTAL ENGINE POWER	: 1.585 KW
FEEDING SCREW	
CAPACITY	: 2 TONS/HOUR
TOTAL ENGINE POWER	: 0.75 KW
BREAKER	
CAPACITY	: 1.5 TONS/HOUR
TOTAL ENGINE POWER	: 11.37 KW
MODULAR MIXER	
CAPACITY	: 1.2-1.8 TONS/HOUR
TOTAL ENGINE POWER	: 6.6 KW
PASTE PUMP PMS 65	
CAPACITY	: 1.5 TONS/HOUR
TOTAL ENGINE POWER	: 0.75 KW
DECANTER	
CAPACITY	: 20 TONS/DAY
TOTAL ENGINE POWER	: 11.32 KW
HUSK SCREWS! 2 PIECE)	
CAPACITY	: 3 TONS/HOUR
TOTAL ENGINE POWER	: 3,7 KW
SEP ER A TOR	
CAPACITY	: 500- 1000 LT/HOUR
TOTAL ENGINE POWER	: 3 KW
OIL PUMP (2 PIECE)	
CAPACITY	: 2 TONS/HOUR
TOTAL ENGINE POWER	: 2x0.75=1.5 KW
STEAM ASPRA TOR (1 PIECE)	
TOTAL ENGINE POWER	: 0,75 KW
VESSEL	
CAPACITY	: 40.000 KCAL/HOUR
TOTAL ENGINE POWER	: 0.43 KW
FUEL CONSUMPTION	: 29 KG / HOUR
FUEL TYPE	: DRY HUSK

PACKAGE HEA TH EXCHANGER SYSTEM (HYDROPHORE)

35 ~40°C WATER CAPACITY : 3m³
WATER PUMP POWER : 0.9 KW
CIRCULATION PUMP POWER : 0,195 KW



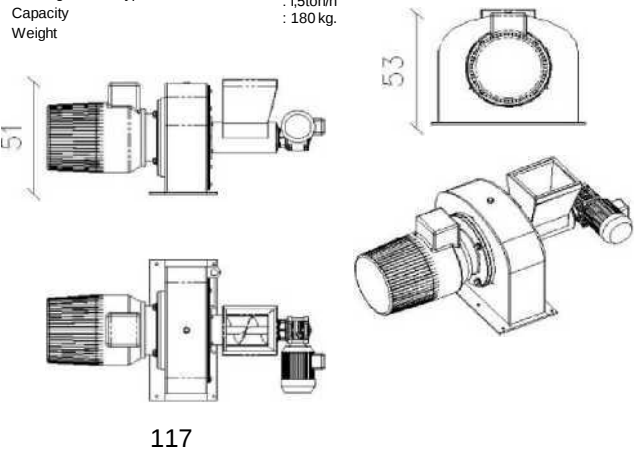
D. PASTE PREPARE UNIT

DI. CRASHING MACHINE

It is the unit where olives are crashed. With turning hammer system and special tearing blades, it enables quality oil production without heat formation. The entrance parts through which the olives to be broken and enter the unit and the front breaking lid are produced out of in ox material AISI 304 in quality. Crashing hammers 2080 special material, for the main body are designed out of AISI 304 material. The sieve plate where the olive paste is collected is produced from the in ox material AISI 304 in ox in quality. The olives carried to the crashing unit by the olive feeding screw conveyer are broken by special designed hammers without being pressed and burned . Crashed olives are transferred to the left or right chambers of the mixer if required by the distributive screw which is produced out of in ox AISI 304 material in quality.

RMS 340

Type	: placked,hammered
Hammer material	: 2080 special
Sieve material	: AISI 304
Crashing front lid material	: AISI 304
Hammer amount	: 10 piece
Sieve diameter	: 340 mm
Sieve length	: 142 mm
Diameter of the sieve holes	: 6.7 mm
Crashing engine power	: 11 Kw
Crashing engine transfer	: 3000 rpm
Feeding engine power	: 0.37 kW
Feeding engine cycle	: 1500 rpm
Feeding reducer type	: MRV 50 15/1
Capacity	: 1.5ton/h
Weight	: 180 kg.



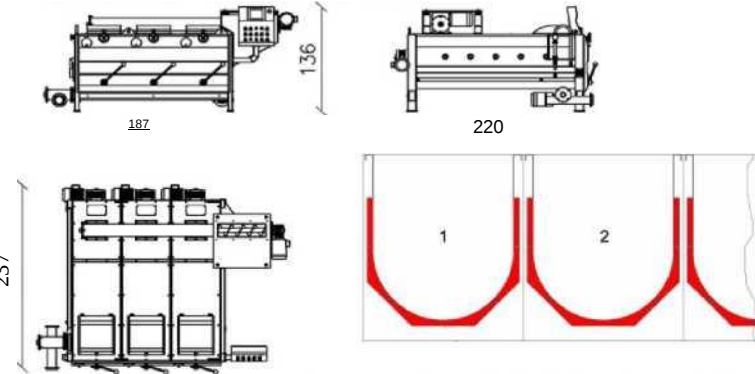
D2. MODÜLER MIXER

The modular malaxer consists of 3 sections independent from each other. Each section has a volume of 0,45m3.All surfaces olive paste contacts and exterior surfaces are made of AISI 304 stainless steel. It has got higher productivity with the aid of PLC control system, observation Lid, Washing installation, adjustable water flowrate equipment and specially designed mixers. With the help of PLC control system, each section is supported with charge, discharge and level switches. With the assistance of this system, operator mistakes and mixing customer products becomes impossible. The heat of water is controlled by PLC control svstem. The olive crushed in the crusher is filled into any of these sections as a paste by means of the distributing helical conveyor, depending of the choice.

The paste of olive is heated by the water at 35-38 °C, circulating in the water jacket which surrounds the sections and homogenized by the mixing helix. It reaches density of separation in 20-30 minutes. For the productivity of oil this process is necessary.

The homogenized paste of olive is conveyed to the paste pump by means of the collecting helical conveyor located under the vessel. The outer jackets having the water at 35-38 °C which is required for the olive paste to reach to the desired density and the olive paste contacts are made of the stainless steel at the quality of AISI 304 as specified by the complete food regulation.

The quality of the material	: AISI 304
The thickness of the Outer Jacket	: 3 mm
The thickness of the Inner Jacket	: 3 mm
The thickness of the Helical profile	: 6 mm
The dimensions of the sections	: 500 mm,2000 mm,550 mm.
Type and brand of the motor	: MRW 90
Power and speed of the motor	: 1,1 kw , 1500 rpm (3 Piece)
Heat surface	: 6,45 m²
Heat water volume	: 210 lt.
Flowmeter measure space	: 250-1500 lt / h
Flowmeter body / Flat material	: PVC / PVDF
Flowmeter pressure class	: PN 10
Weight	: 1200 kg.
Capacity	: 1.35 m³
Screw conveyor motor	: 1,1 kw + 1,1 kw



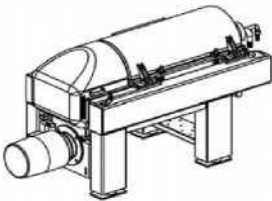
Olive Paste; 2,15 m² water (heat) jacket for each section which supplies olive paste to become mature at Low heat and short time.

FOR EVERY SECTION THERE ARE SEPARATELY WATER JACKETS.

E. DECANTER

EI. DECANTER

The Engine ,driven by Inverter, increases the drummer rotation to the 3800 r/m .This creates the centrifugal forces which keep the oil production at the maximum level . Thus, the system enables to separate the crude paste, water and the olive oil from each other as per their specific gravity. The paste carried by the paste pump enters the decanter drum together with the water coming from the flowmeter at 35-45 C. The water is transferred to the lower chamber of the decanter from the entrance channel behind the drum and then it is sent to the vibrated sieve near the decanter. The oil within the drum is taken out of the drum by means of 2 nozzles located opposite to each other .This Oil coming to the lower unit of the decanter through nozzles is also sent to the vibrated sieve. A Transmission fixed in front of the drum crates a definite difference at rotations between drum and inner spire. It helps to discharge the pomace out of the system . Screw coils are covered with tungsten carbure of 65 Rockwell in 2mm.



The aim here is to minimize the abrasion which may occur in time. All surfaces and the equipment the olive paste touches as it enters in to the decanter are made out of in ox materials according to the good regulations. In order to avoid the paste being stuck at the surface while it goes out the drum, a cleaning system is established at the front part of the drum. Speed control system which will be operated by a paste pump against any jam to occur during the operation of the decanter will be established. The main plate which provides embedding for the decanter drum is produced out of St 37 materials.

Polat Machine Olive Oil Decanter is produced as models of 20 tons,30 tons, 40 tons, 60 tons, 80 tons, 120 tons, The main characteristics of Polat Machine decanter which distinguishes it from the others are as follows: *oil loss in husk and dirty water is below than world standards.

*The decanter which operates in 3 phases can be adopted easily as being operated with 2 phases by adjusting water exit channels when required. It does not require any additional parts and expenditures. However, it is known that 2 phase production will decrease the capacity by % 5-10.

It's conveyor wings plated with tungsten car bur with the 65 HRC Rockwell harness .

it has got Inverter system satisfying linear take off and energy balance

Body and spiral parts are totally made of 316 Ti stainless steel.

*The water shield disk at the final point of the screw within the decanter prevents the oil from being mixed with the black water.

*The paste amount in the oil can be adjusted by the adjustable oil exit channels located on the body.

*it has got an adjusting system for discharging of oil and black water as per the regional olive sort.

*It is resistant to the sudden shocks at a ratio of % 500 with aid of structure of gear box and the gearbox can absorb the sudden starting and stopping strikes.10 years guaranty.

*Ti keeps cabaret at max level administer he the means of PLC control system

Machine has electronic protection system designed as not to be damaged under excessive loading and sudden shock.

Why POLAT MAKİNA A.Ş. Is using one separator ?

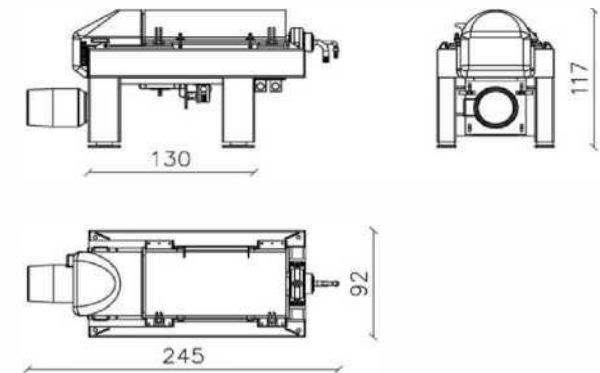
Because oil percent in dirty water discharged from decanter is max. 0.5 gr/lt, so there is no need for a secondseparator.

Tipi	PX 20
Body steel	: AISI 316 Ti - 1.4571 (DIN)
Screw steel	: AISI 316 Ti - 1.4571 (DIN)
Screw coating material	: Tungsten Carbur
Screw coating hardness	: 60-65 HRC
Screw coating hardness thickness	: 2.5 mm
Screw length	: 875 mm
Drum diameter	: 354 mm
Engine power and transfer	: 11 kw , 3000 rpm
Gear box type	: Cycloid
Reduction rate	: 25/1
Maximum transfer	: 4000 rpm
Operation transfer	: 3800 rpm
Engine operating system	: inverter
Maximum operating degree	: 60°C
Drum thickness	: 8,5 mm
Drum lenght	: 902 mm
Feeding material	: olive paste
Feeding material density	: 1 kq / dm³
Weight	: 1562 kg.

DECANter PERFORMANCE GUARANTEE

FOR 3 PHASE; Daily olive processing capacity 20 TON / DAY
MAX OİL İN HUSK. % 3-4 (% 50 HUMIDITY)
MAX OİL İN DİRTY WATER % 0.5 gr / lt

FOR 2 PHASE; Daily olive processing capacity 20 TON / DAY
MAX OİL İN HUSK. % 1-2 (% 60 HUMIDITY)

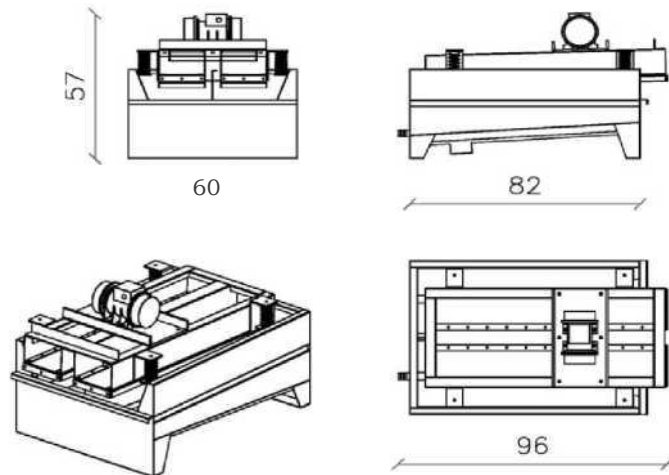


E2. VIBRATION SIEVE

All materials used are manufactured from AISI 304 in ox in quality in accordance with the good regulations since they touch directly to oil and water. It consists of two parts. These are as follows:

The sieve which holds the deposits within the oil and the other part consists of two units in which water and oil are collected and transmitted. The deposits within the water coming in to the sieve are held by specially designed sieve plate. The water here goes to the lower unit and it is discharged out of the system through the entrance channel. Like the water the oil also goes to the lower unit after its deposits are held on the sieve plate. From here it is carried by an oil pump to the separator in order to get the oil separated in micronized deposits. The deposits held on the sieve plate are poured into horizontal screw conveyor as a result of vibration and then they are discharged. The steam of the oil is discharged by means of an aspirator fixed at the entrance part of the vibrated sieve.

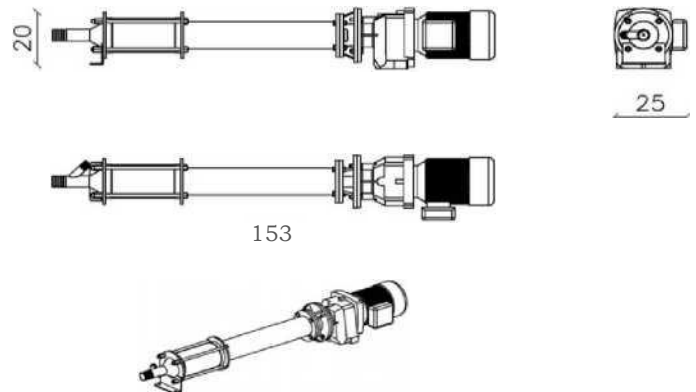
Vibrated engine trademark : MVSİ
Vibrated engine type : 100 / 15
Spring amount : 4
Diameter of the sieve hole : 1,5 mm
Weight : 60 kg.



E3. PASTE PUMP

Paste pump carries the olive paste from the mixer unit to the decanter by means of the paste entrance unit. It is capable to make the vacuum operation. Engine driving system is designed with an inverter. All surfaces that olive paste touches are produced out of substance AISI 304 in quality according to the good regulations. Strator material is chosen as nitric rubber in accordance with good regulations.

PMS 50
Engine power : 1,1 kw
Capacity : 3 ton / h
Reducer type and trademark : PF 22
Rotor diameter : 50 mm
Rotor material : AISI 316
Strator material : Nitric rubber
Engine server : inverter
Max. Transfer : 96 rpm
Conveyor : Joint
Weight : 68,5 kg.



HUSK GROUND AND RAMP SCREW CONVEYERS

Screw conveyers are designed for evacuation the husk paste coming out of system and cumulating as a mass outside the building. At the screw wings used here are produced out from inox material of 304 quality. The drive in the both conveyors are done by the engine-reducer unit.

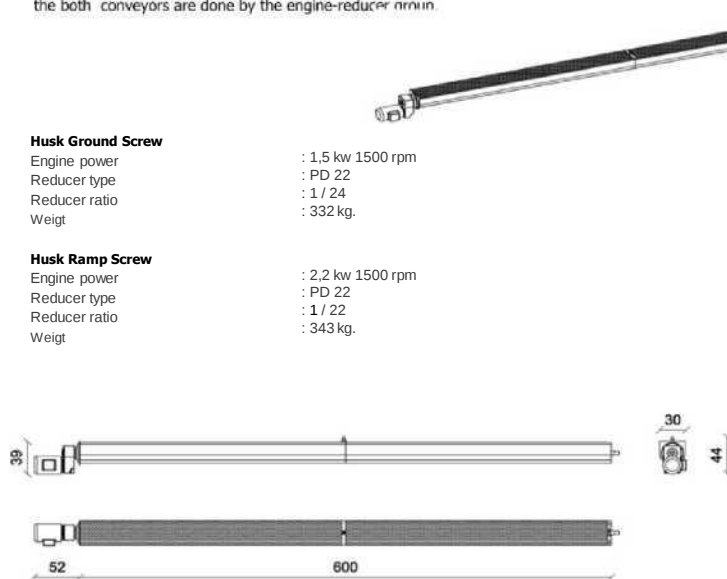
Husk Ground Screw

Engine power : 1,5 kw 1500 rpm
Reducer type : PD 22
Reducer ratio : 1 / 24
Weight : 332 kg.

Husk Ramp Screw

Engine power : 2,2 kw 1500 rpm
Reducer type : PD 22
Reducer ratio : 1 / 22
Weight : 343 kg.

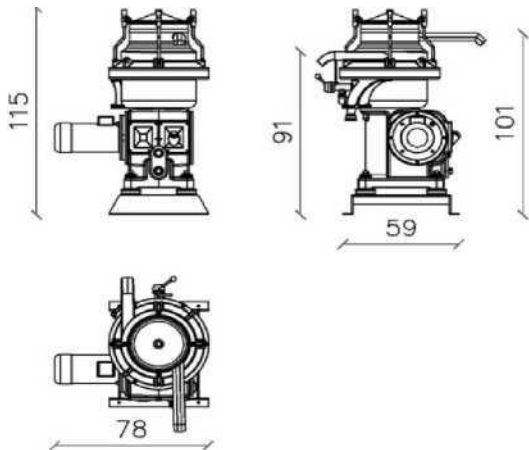
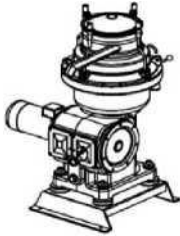
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F.SEPERATOR

The outer body of the separator is made of GG 20 material and all surfaces the oil touches are manufactured from inox material in AISI 304 quality in accordance with the food regulations. The micromised sentiments within the olive oil are separated consequently by centrifugal forces. Especially ,for the bowl, forged dublex material is choosen. PMS 305 centrifuge separators of oil ,with its semi - automatic shock system,enable to process highest volume of oil .This perfect operation of the machine in aspect of the centrifugation makes it a special product of Polat Tecnology. Material selection is done carefully concerning mechanics and tests are carried out very carefully. Thus POLAT MAKİNA seperators will continue to supply olive oil in perfect condition

Type	: PMS 305
Engine power	: 3 kw 1500 rpm
Capacity	: 500 - 1000 lt/h
Drum diameter	: Ø 305 mm
Drum circulation	: 7500 rpm
Drum material	: DIN 1.4462 (Dublex) INOX
Operation degree	: 0 / 100 °C
Cleaning system	: Semi automatic
Water- oil ratio	: max. 0.15 gr / lt
Oil-sediment ratio	: 0.05 gr / lt
Weight	: 358kg.

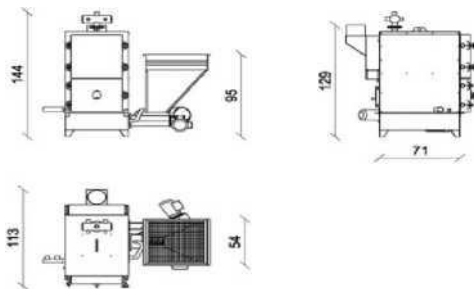
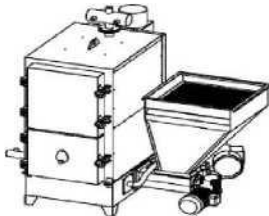


G.AUTOMATIC HEAT EXCHANGER AND WATER HEATHER

GI.AUTOMATIC HEAT EXCHANGER

Hot water vessel is made of St 37 material and husk fuel burner is produced GG 20 material.On vessel a second turbo fan system is developed for better burning of dry husk. The control board and thermostat control are fixed on it. The packed heat exchanger system near the vessel supplies water in to the system at 35-40 C without wasting the water within the vessel. Vessel feeding is carried out by conveying the dry husk automatically to the fuel chamber by means of a screw. Up to your request diesel fuel operated models are also available.

Type	: PMS DB40
Engine power	: 0,55 kw 900rpm 0,18 kw 2800rpm
Aspiration type	: PMS 130
Water volume of the vessel	: 0.15 m³
Heating capacity	: 40.000 kcal/ h
Weight	: 425 kg.



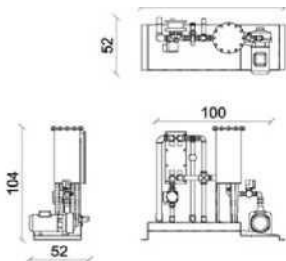
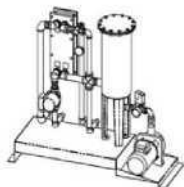
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Note : dimensions are cm.

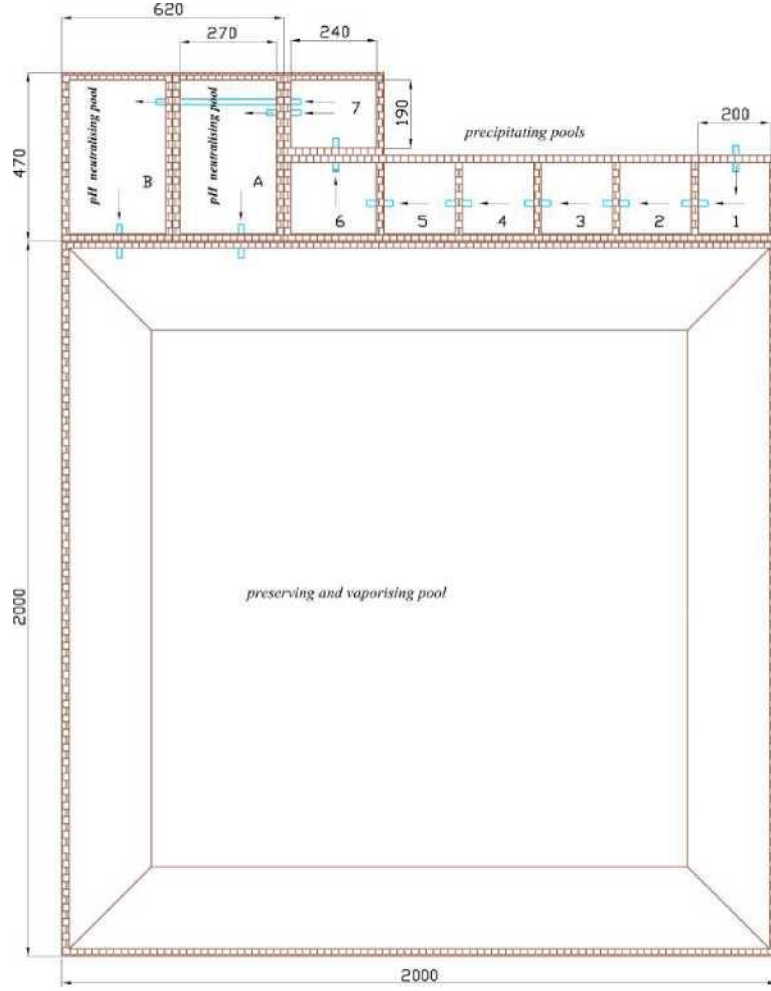
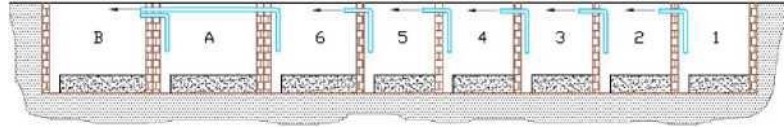
G2.WATER HEATHER (EXCHANGER)

Packed heath exchanger system is designed for supplying water at required heat to the system with thermostatic valve, sensitive heath adjustment,water softening and lime prevention function.

Type of the heat exchanger	: Flake
Capacity of the heat exchange	: 3 ton / h
Engine Power	: 1,8 kw 1500 rpm
Weight	: 190 kg



Note : dimensions are cm.



POL AT MAKI NA SANAYİ A.S. / AYDIN

date

signature of the pools
cross-section and setting
scale REV. NO REV. date

NOTE : measurements are in cm

DRAWEE SANIYE SISMANOGLU
CONTROL ADNAN YILDIZ
approva HAYRI TEZER

0

PLC TYPE CONTROL AND ELECTRICAL PANELBOARD

This is the main control center, which is supported with the PLC and inventor systems and equipped with all of the safety equipment's required for the entire system and designed by using most advanced technologies,

Technology is adapted to the system and it is suitable for serial use and the system is equipped with the touch-screen designed to minimize the operator failures to a level as less as possible.

- The panel board is of IP 65 Class and includes a ventilation system.
- It provides a quick and comfortable use. All functions are traceable over the screen.
- System generates alarms over the alarm follow-up interface and supplies information to the operator regarding to the maintenance times of the machines. It provides the tracing of alarm and maintenance status and records over the screen.
- Reports related to retroactive defects and maintenance records can be taken out.

ISSUED BY	POLAT MAKİNE SANAYİ VE TİCARET A.Ş.
SUBJECT	TECHNICAL REPORT FOR TREATMENT PLANT

Operation System for the Treatment Plant

The waste water produced per hour during the operation of the olive oil machine of continue system is average 450 Lt/h. Daily produced waste water is on an average 10.800 lt/day. Since the totalopcration period is 60 days then the total waste water is 648.000 lt/period. The waste water produced during the operation is carried by pipes to the pools in the precipitation system. The precipitation system consist of 7 pools 200 cm x 200 cm in size. These pools are used to hold the oil and the paste within the waste water. The oil floating on the surface of the waste water is taken out in regular periods. The paste sinks.

The waste water entering the precipitating pool nr.1 passes through the pools nr. 1-2-3-4-5-6-7. The water coming out from the pool nr.7 is carried to the A and B pools 470 cm x 270 cm x 200 cm in size by pipes after the paste is taken. The waste ater is neutralized by caustic automatically added into the water by means of PH meter in the PH adjusting pools nr.A and B. Meanwhile, the blower fixed over the pools nr.A and B helps to homogenize the water. In order to hold the froths in the filter, clean water is given to the surface by means of fountain. The froths collected in the filter are washed away regularly.

The neutralized waste water coming out from PH adjusting pools is carried out to the preserving and vaporizing pools in the capacity of 1000 m³ and 20m x 20 m x 2.5 m in size by pipes. The waste water which is absorbed at 5 different points of the pool by means of a pump fixed outside the pool is sprayed and pulverized through 3 fountains located at the center of the pool. The spray pump has 100 m³/h capacity. This helps the water to expose to the oxygen and to be vaporized. The water which is neuter and now rich in oxygen is used for irrigation. Since the paste is very high in calorie it can be used as fuel. Güllerdağı Ltd.) which is in Datça-Muğla/TÜRKİYE has the same system. The waste water and the materials within the water returns to nature without giving any harm to it.