

 **SadrAzma**
Engineering Co.



شرکت مهندسی
صدرآزما
طراحی و ساخت ماشین آلات صنعتی و کشاورزی

*Design & Manufacturing of
Agri Husbandry and Industrial Machines* 



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The first manufactured “Behroob” by SadrAzma Sepahan Company



The knowledge-based company of SadrAzma Sepahan, that is located in the Science and Technology town of Isfahan, initiated its research and then manufacturing activities in year 2004. This company's activity includes concentrating on systems and mechanisms consisted of gap in the matter of collecting and transporting material with different viscosities in the oil and gas industries, refineries, tile and ceramic industries, biogas, municipalities' material collection machineries, food industries, agriculture, animal husbandry and etc.

In the branch of agriculture and animal husbandry machineries, the research and development unit of this company, after reviewing the potential and growing demands of cattle breeding in Iran, took action in localizing livestock waste collection machineries. Therefore, starting from late 2012, the first generation of the above-mentioned machine with the trade name of "Behroob" started working in Malayer Dasht-e Novin Cattle Breeding and thereafter, the quality optimization unit's specialists took action and through field studies and obtaining constructive feedback from users of this machine, they optimized the Behroob machine. After performing the necessary optimizations, the mass manufacturing of the Behroob machine was initiated.

It is noteworthy that all products of this company have a 1-year guarantee and the after-sales unit is ready for offering services to its customers all year round.



Boot-Washing Stand (Asayesh) All-Automatic Cow Brushing Machine (Timar) Manure Collecting Machine (Behroob)

❑MANAGEMENT OF COLLECTING, TRANSPORTING & EVACUATING MANURE THROUGH A SIMPLE METHOD

Manure management is one of the most important and most costly operations of an industrial cow-breeding unit. During the recent years, by turning the cow-maintaining halls into freestyle systems, the necessity to collect and dispose manure in a timely manner has become even more in these halls. By reviewing the manure collection status in these cow-breeding units, it can be easily observed that there is no effective and economic system in place yet for such an important matter and practically, the methods used are the same old methods that obviously have a negative impact on the cattle's efficiency management; it is noteworthy that one of the most important reasons for using the freestyle system is the necessity to clean the cows' passing hallways in a timely manner, which leads to increasing the cattle's health, milk's cleanliness and decreasing the poison problems in cows. The Behroob manure collecting machine, collects the existing manure in the hallways, in the best, fastest and most economical way and disposes them in the appropriate place.

❑HOW THE MACHINE OPERATES

The aforementioned machine is consisted of a tank and two vacuum pumps, through which the manure is sucked into the tank. The manure collection operation is conducted through a v-shaped paddle. As the machine moves forward, the manure is led towards the end of the v-shaped paddle and there, is a pipe for vacuuming the manure from the ground into the tank. Therefore, when the v-shaped paddle is drawn over the ground, the manure is sucked into the tank.





✓DISPOSAL

After the tanks are filled up, the collected manure is disposed into the manure-reserving basin through air pressure. The suction and blow operations of this machine is done by the vacuum pumps and by creating an appropriate mechanism. Also, similar to the manure distributing machine, the collected manure can be distributed in agricultural lands.



COMPARISON TABLE FOR DIFFERENT MANURE-COLLECTION METHODS

	BEHROOB	SCRAPPER/PIT/LOADER/DUMP	SCRAPER
Collection speed in a 300-Cattle capacity freestyle hall with two hallways	Less than 10 minutes	At least an hour	---
Transpiration place for the collected manure	Behroob tank	A cesspit inside or next to the freestyle hall	Requires long and costly channeling
Disposal place for the collected manure	Septic or manure-reserving area	By loader and truck it is picked up from the cesspit and is transported to the septic or manure-reserving area	Requires long and costly channeling
Total time from the time of collection until the time of final disposal (300-heads) (the distance from the hall to the disposal place is considered 1 km)	Less than 45 minutes	At least 3 hours	Requires long and costly channeling
Number of Employees	A tractor driver	A person in-charge of the scrapper. A loader driver A truck driver	Requires no staff.
Price (unit)	One unit	At least two units	Much higher than the Behroob (from the freestyle hallway to the manure-reserving basin)
Number of required machineries	One tractor	One tractor One loader One truck	Every hall requires a separate unit
Alternative method at time of emergency	Scrapping at least half a day until the machine is able to work again	Alternative scrapper Alternative loader Alternative truck	There is no alternative and manure-collecting operation stops. Also, because of the height of the manure hall, collecting the manure is very difficult after the machine is repaired.
Hygiene grade of the hall environment and the overall cow-breeding unit A: Desirable; B: Somewhat Desirable; C: Undesirable	A	C	B
Required maintenance	<ul style="list-style-type: none"> - Annual exchange of scrapper board's scrapper rubbers - On-time exchange of the tractor's hydraulic oil - Exchanging spare parts of the vacuum pumps every three years - Filling the tank's vacuum oil 	Maintenance is more due to the number of machineries	Scrapper with wire rope: high Scrapper with rail: medium
User friendliness	A driver familiar with tractor (scrappings)	A driver familiar with tractor (scrapping) A loader driver A truck driver	Initial installation and adjustment by the manufacturing company

☑MANURE COLLECTION SPEED

If the tractor moves with normal speed, the Behroob machine can collect the existing manure in a hallway measuring at 200m in length and 4m in width, in less than 3 minutes. There is no limit in terms of the height of the manure.

☑FAST & EASY DISPOSAL

In a 12 cubic meters capacity tank is disposed in 3 minutes using air pressure.

☑REQUIRED TRACTOR

6 cubic meters Ferguson 285 (65 hp in P.T.O axis)

12 cubic meters Ferguson 399 (95 hp in P.T.O axis)

It should be mentioned that the collected manure throughout several times of collection, can be collected at once, if the initial humidity of the manure is maintained.



☑ADDITIONAL EQUIPMENT AND FEATURES

The mobile board can be installed in different dimensions for manure's direct disposal on agricultural lands, upon the customer's request.

☑GUARANTEE

SadrAzma engineering company, guarantees the Behroob machine for 12 months and its guarantee card is submitted to the customer at the time product delivery.

DIMENSIONAL COMPARISON OF 6 CUBIC METER BEHROOB MACHINE AND 12 CUBIC METER BEHROOB MACHINE



**DISPLAY OF HALLS' STATUS BEFORE AND AFTER
MANURE COLLECTION**



Before using Behroob



After using Behroob



دستگاه بهروب

✓ مشخصات دستگاه

✓ قطعات اصلی دستگاه

- مخزن

- شاسی و محور چرخ ها

- پارو

- سیستم هیدرولیک و جک ها

- پمپ خلأ

✓ اکسل

تک محور باد و حلقه لاستیک می باشد. لاستیک دستگاه ساخت شرکت های لاستیک سازی داخلی می باشد که ضمن برخورداری از کیفیت و توان مناسب بهر احتی و با قیمت مناسب در بازار داخل قابل تهیه است. توان محاسبه شده ۲ تن بیشتر از وزن دستگاه با کود در نظر گرفته شده است.

✓ پمپ خلأ

دو دستگاه پمپ خلأ سنگین کار با ظرفیت مکش بالا که به طور اختصاصی جهت به کارگیری در دستگاه جمع آوری کود طراحی و ساخته شده است.

✓ پارو

جنس پارو از ورق فولادی با پوشش گالوانیزه گرم بوده و در راهروهای با عرض ۲,۳ متر تا حداکثر ۴,۵ متر قابلیت تنظیم دارد.

✓ مخزن، شاسی و پارو

ساخته شده از فولاد آلیاژی وارداتی با
گرید مقاوم به خوردگی کود می باشد.

✓ ظرفیت

۶ متر مکعب و ۱۲ متر مکعب



☑Hydraulic System

The hydraulic system is prepared from the best parts that available in the domestic market and it tractor receives its workforce from the hydraulic system. It should be mentioned that the Behroob's hydraulic system is designed in such manner that while having optimal efficiency, it also has a very simple structure in terms of maintenance.

☑Behroob Machine's Control Box

It is noteworthy that all Behroob machine's operations is conducted through the control box that is in the tractor driver's hand.

☑After-Sales Services

The after-sales services and supplying of the parts is done in the fastest time and highest quality.



ALL-AUTOMATIC COW BRUSHING MACHINE (TIMAR)

The cow-brushing machine is one of the permanent and essential needs of the cow, through which the cows' bodies are brushed and cleaned. Brushing and cleaning them leads to increasing the cows' cheerfulness and decreasing their stress and of course, cheerful and stress-less cows would have better performance in terms of production, increasing economic lifetime and reducing diseases. Objective observations and scientific articles indicate the fact that cows quickly learn to use and become interested in the cow-brushing machine. Also, it has been proven that continuous use of the cow-brushing machine leads to an increase in milk production and decrease in breast swelling and in some cases decreasing ketosis. Some of the side effects observed in Iran after installing the cow-brushing machine, a significant reduction in detachment of the cows' number from their ears, because the cows wouldn't have to hit their heads and face to the wall for scratching themselves. Given that this machine is all automatic and its operator is the cow itself; thus, it does not need any human force.

The selection of the materials and design for manufacturing the Timar all-automatic cow-brushing machine has been done very carefully in such manner that the machine has proper strength and only requires very little maintenance.



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MACHINE SPECIFICATIONS

- The engine of the cow-brushing machine is the best engine in the Iranian market.
- This machine weighs 70 Kg and because the machine is installed to a column, it does not put pressure on the animal.
- Given that this machine is all-automatic, its electricity consumption is very little.
- For foreseeing the safety system of this machine, a full power box separate from the animal husbandry's power system has been considered for the machine.
- The bristles of the brush are made out of industrial nylons that have a longer lifetime and do not depreciate very easily, compared to regular nylons that are cheaper.
- The density of the brush bristles and also being nylon material that is not as flexible as the regular nylon, prevents the animals' hair accumulating in one spot on the brush.
- The body's color that is furnace type is highly durable.
- It has a very strong and thick chassis.
- All parts used, including ball-bearings, electrical parts and etc., are all the best parts that are in the market.
- The brush's dimensions: 80cm in length and 40cm in diameter.



ASAYESH ALL-STEEL BOOT-WASHING STAND

The Asayesh machine is a machine that allows you to clean the surface of your boots in the best and cleanest way.

This machine's performance is in such manner that by pressing the start button on this machine, it turns on and while turning the brush it sprays water.

You can also easily clean the bottom of your boots using this machine.

This machine is applicable for slaughterhouses, restaurants, protein products preparation and distribution centers, hospitals and hypermarkets.

The Asayesh machine is a machine that allows you to clean the surface of your boots in



Boot Washer



KARA BOOT CLEANING UNIT

Cost- effective and economical

No need for electricity

Very sturdy and durable

Simultaneous cleaning of the sole and upper of the boots



SPARE PARTS

Reasonable price and availability of spare parts

Most spare parts are easily available in the domestic market.



SADRAZMA'S SPECIAL VACUUM PUMP OIL



BEHROOB MACHINE'S SPARE PARTS

LIQUID FERTILIZER SPREADER

To disperses liquid fertilizer and water of separator in agricultural fields

☑ SPECIFICATIONS

- Eight inches input valve liquid
- Very strong pump
- Include one axle and 4 wheels to reduce the pressure on the agricultural land.
- Adjustable spreading width
- Possibility to install fertilizer injection system
- After sales service and one year guaranty

☑ TECHNICAL SPECIFICATIONS:

- Width: 2.55 m
- Length: 7.77 m
- Height: 3m
- Wheels interior distance: 1.17 m
- Wheels size: 315/80-R 22.5





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