

MEGATOR CORPORATION

salarollpump[®]

CLEAN UP SYSTEM FOR OIL AND CHEMICALS



Sala clean up system for oil and chemicals is a unique patented system designed for rescue and clean up of oil spills and other high viscous and polluted liquids. The extremely strong suction (vacuum) and the debris tolerance of 1 1/2", (40 mm) solids make it suitable for pumping debris laden viscous oil. The extremely high discharge pressure makes it possible for liquids to flow through a long distance of hose. The combination of handling weight and portability enables the user to deploy the system in remote areas.



First and foremost, the salarollpump delivers “super suction” performance which it owes to a unique design. Sensible design also means sound performance. The salarollpump was developed for clean up of oil spills, chemicals and polluted liquids. It is also used for clean up of oil spills from accidents that occur in the ocean, lakes, rivers and chemical spills from industrial plants, trucks, trains and airports. The combination of handling, weight and portability enables the user to deploy the system in remote areas.

Salarollpump is unique because the pump is a peristaltic type of suction and pressure pump that delivers extremely high vacuum. This makes it possible to lift high viscous liquids from the ground such as bunker oil at temperatures around the freezing point.

The high discharge pressure makes it possible for liquids to flow through a long distance of hose.

No valves obstruct the free flow of pulp through the pump and 1 ½ (40mm) solids can pass without damaging the pump. Lost protection gloves and other safety items which clog seals or cause damage can pass through the system without any problems.

Should a blockage occur, the hydraulic drive system can be reversed to clear the pump.

The Sala system can also pump corrosive chemicals such as ammonia, nitric, sulfuric acid, chlorine etc.





The salarollpump system can be used for chemical clean up as no mechanical components will come in contact with the discharged media.

The hose inside the pump housing is made of nitril which is resistant to many chemicals. Other hose material can be supplied on request.

Combination of high temperatures and aggressive chemicals may reduce the lifetime of the hose. It is recommended to replace the pump hose after a clean up of aggressive chemicals. The chart below indicates values estimated for normal clean up. The length of the test was decided from an estimated time for a normal rescue situation. In some cases it could be longer.

Importantly, the salarollpump can handle temperatures of 212 degrees F (100 degrees C) and may increase to 266 degrees F (130 degrees C).

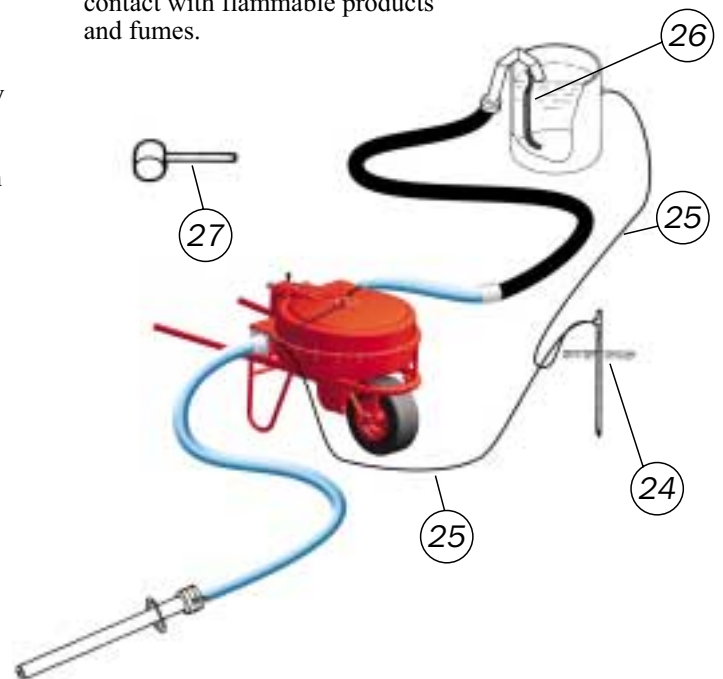
Chemicals which have been tested

Type of chemical	Formula	Concentration	Pumping time hours	Exposure hours
Nitric acid	HNO ₃	56 %	12	18
Caustic soda	NaOH	45 %	12	18
Toluene	C ₆ H ₅ CH ₃	-	10	15
Hydrochloric acid	HCL	30 %	12	18
Phosphoric acid	H ₃ PO ₄	52 %	13	18
Sulphuric acid (warm)	H ₂ SO ₄	95 %	12	18
Hydrogen peroxide	H ₂ O ₂	35 %	12	18
Trichlorethylene	C ₂ HCl ₃	99 %	13.5	18
Hydrofluosilic acid	H ₂ SiF ₆	20 %	12	18
Liquid ammonia	NH ₃	100 %	4.5	5.5

Contact Megator Corporation for detailed information.

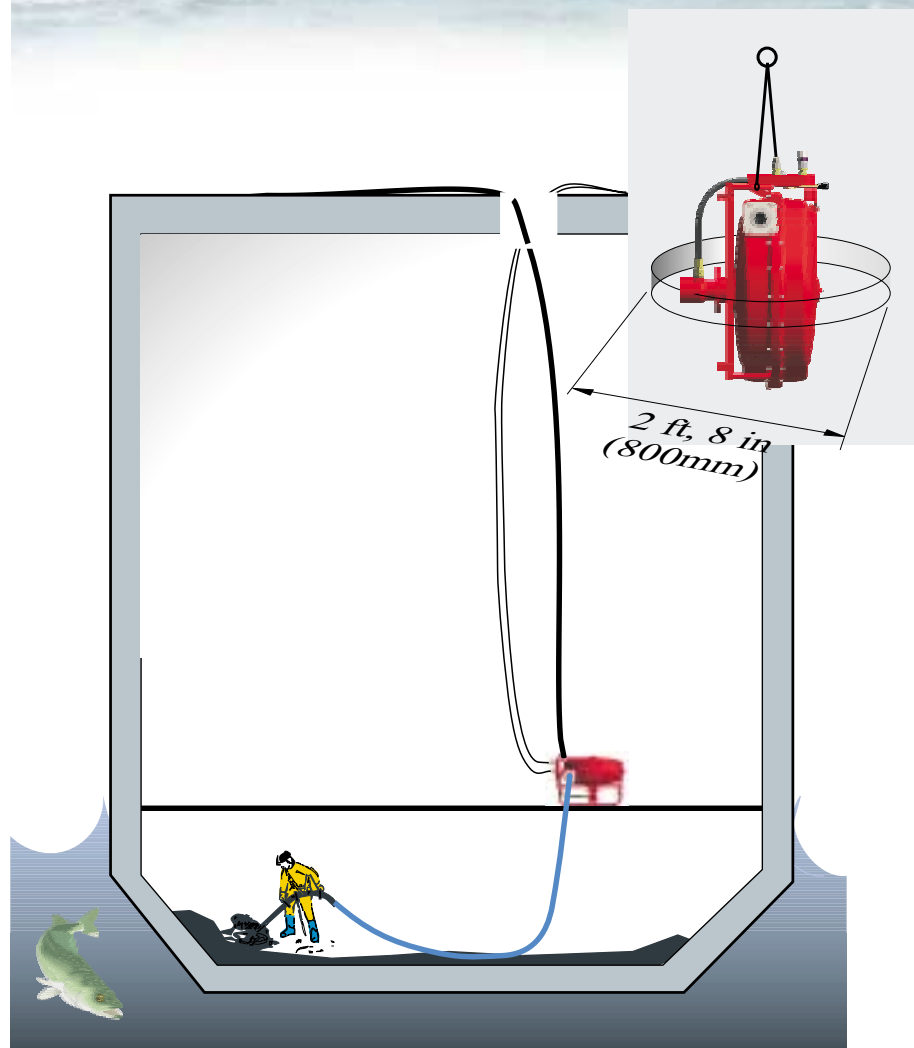
When pumping flammable products the system must be grounded to earth as illustrated below.

The power pack can be placed in a location that prevents contact with flammable products and fumes.



The components below are used when pumping flammable products:

- 24 Equipment for ground connection, length 1 ft, 6 in (0.5 m) . 1
- 25 Copper cable, length 33 ft (10 m) 2
- 26 Copper plate, length 3 ft, 4 in (1 m) 1
- 27 Plastic hammer 1



Slurry removal from tankers has always been difficult and time consuming. The salarollpump with its exceptional suction and discharge pressure makes it possible to lift high viscous slurry to the top of the manhole opening.

Solid particles up to 1 ½" (40 mm) can pass through without damaging the system. The unique design allows for self-priming and enables the pump to safely run with a completely dry suction, without depending on a by-pass or other easily blocked device.

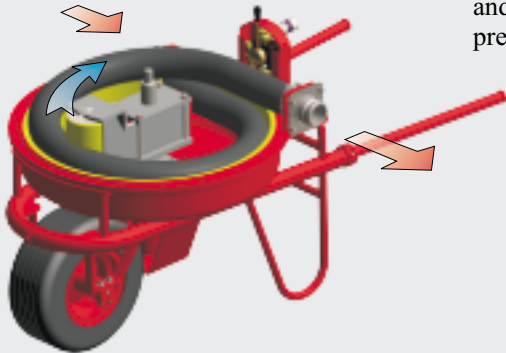
The pump can be fitted to a stationary or portable base for stability and mobility. Independent of position, it works at full capacity and can be lowered through a manhole at 2 ft 8 in, (800 mm) diameter.

The system can be used for pumping flammable products. (See page 3.)

THE PUMP UNIT

The salarollpump delivers “super suction” performance which it owes to a unique patented design feature.

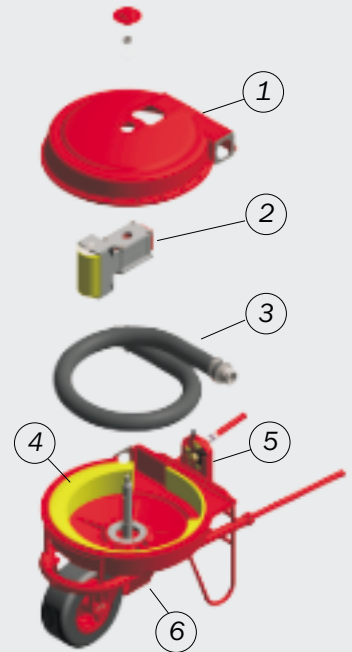
The system is a peristaltic type of suction and pressure pump that delivers a flow rate of 48 gallons per minute, (11 m³/h).



Importantly, the heart of the system is a special manufactured hose compressed by a wheel mounted on a rotating arm. The suction is developed when the hose with its own force returns to its round shape.

Discharge pressure is created by the force of the wheel moving the media. The high vacuum and the low speed of the pump enable it to pump most high viscous, polluted liquids and debris up to 1 1/2" (40 mm) solid. Both the pressure wheel and the inside of the pump housing have a lining of soft material that prevents a solid particle from damaging the pump hose.

- | | |
|---------------------|--------------------------|
| 1 Pump house | 4 Hose support |
| 2 Crank arm | 5 Hydraulic valve |
| 3 Pump hose | 6 Hydraulic motor |



THE POWER PACK



The power pack for the salarollpump is available with a gasoline/diesel engine or electric motor which drives a hydraulic pump. This powers the hydraulic motor mounted on a salarollpump.

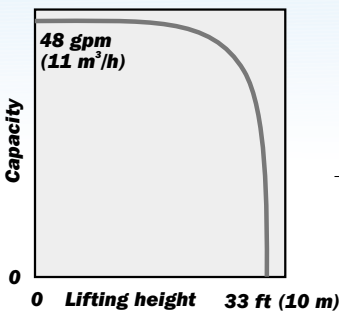
Pumping high viscous media is made easier by reducing the speed of the pump. The pump speed can be reduced by adjusting the hydraulic oil flow to three different output speeds, 15, 30 and 45 rpm. The power pack has two levers and a lever directional label that are used to set the hydraulic oil flow to one of three different values. The discharge pressure is not affected because the motor or engine

is at full power. Additional fine adjustments to the pump speed can be accomplished by setting the throttle on the gas/diesel engine or the overflow valve on the electric motor. An operating handle is also located on the power pack which can control the pump or override the pumps operating handle position. Should a blockage occur, the hydraulic drive system can be reversed to clear the pump.

At delivery, an over flow valve on the hydraulic system is set at 1740 psi/ 120 bar. If the pumping application requires less, the over flow valve can be adjusted down.

PERFORMANCE

SUCTION CAPACITY WATER
Capacity illustrates the ability to lift high viscous media.



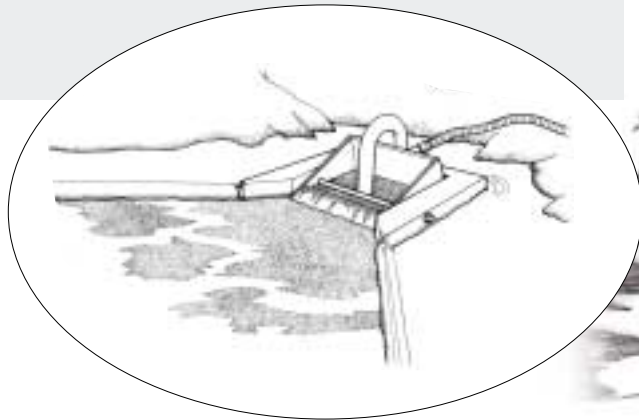
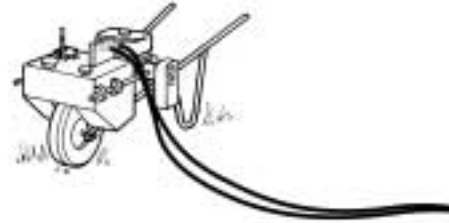
DISCHARGE CAPACITY, WATER
Discharge height 328 ft (100 m)
Capacity 44 gpm (10 m³/h)

DISCHARGE CAPACITY, OIL AT 32° F (0° C), 500 C-POINT,
Length: 1,640 ft (500 m)
Capacity: 22 gpm (5 m³/h)
Data given as an example.

SKIMMER

The skimmer manufactured in aluminum is used in shoreline areas.

When oil layers appear thin, optimum efficiency is determined by running the pump at low speed. If the oil layer is thick, the pump can run at a higher speed.



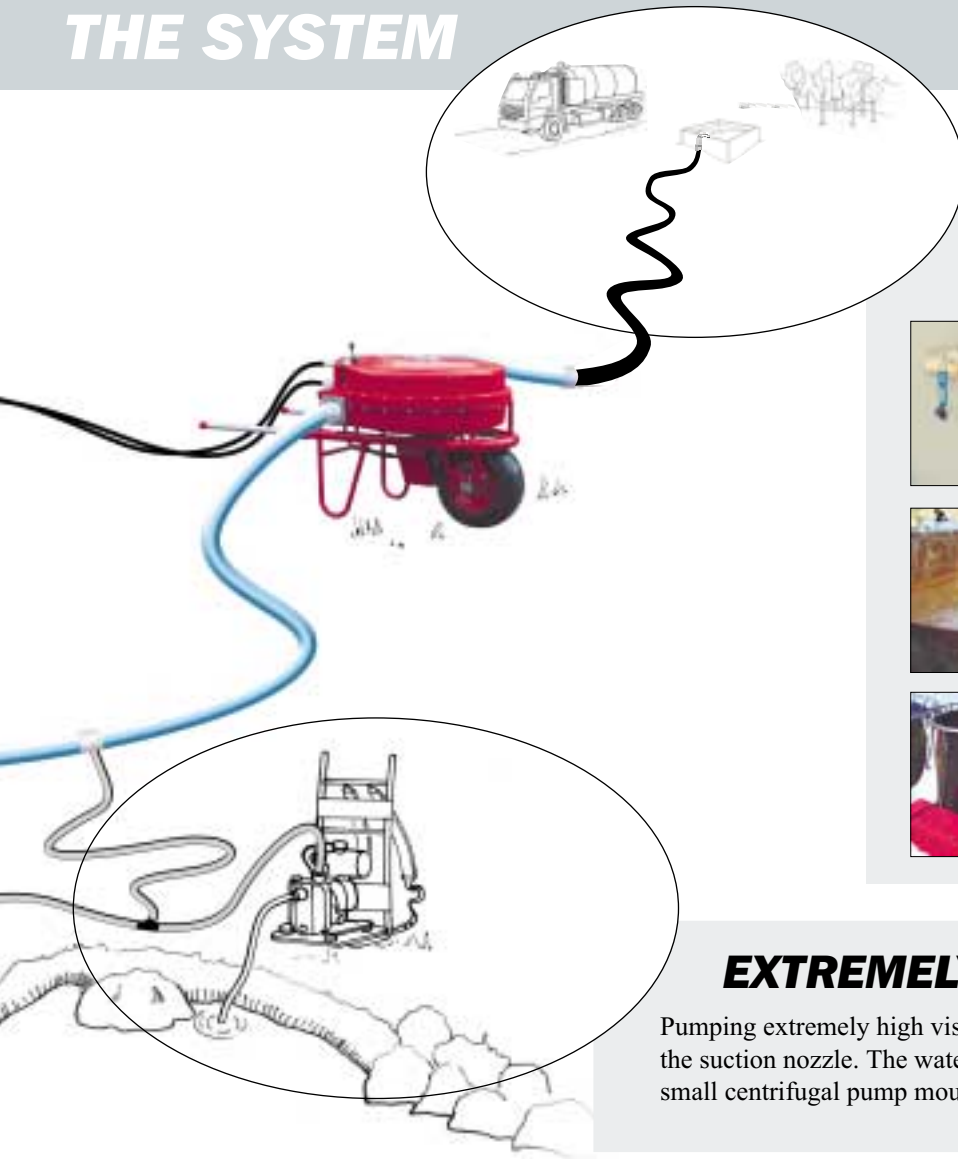
TRANSPORT

The ease of transporting the salarollpump and powerpack is accomplished by handles that attach to both for lifting in difficult terrain or by wheeling it as a wheelbarrow.

A four-wheel drive ATV or a band driven vehicle attached to a trailer is available to transport the pump and powerpack to the impacted area.

The trailer can also be used for transport of smaller amounts of oil in sacks or barrels to the collecting area.





CONTAINERS



Two way valve for alternating oil containers.



Temporary oil containers at recovery site.



Shut off valve located at the bottom of the containers provides first water separation.

EXTREMELY HIGH VISCOUS MEDIA

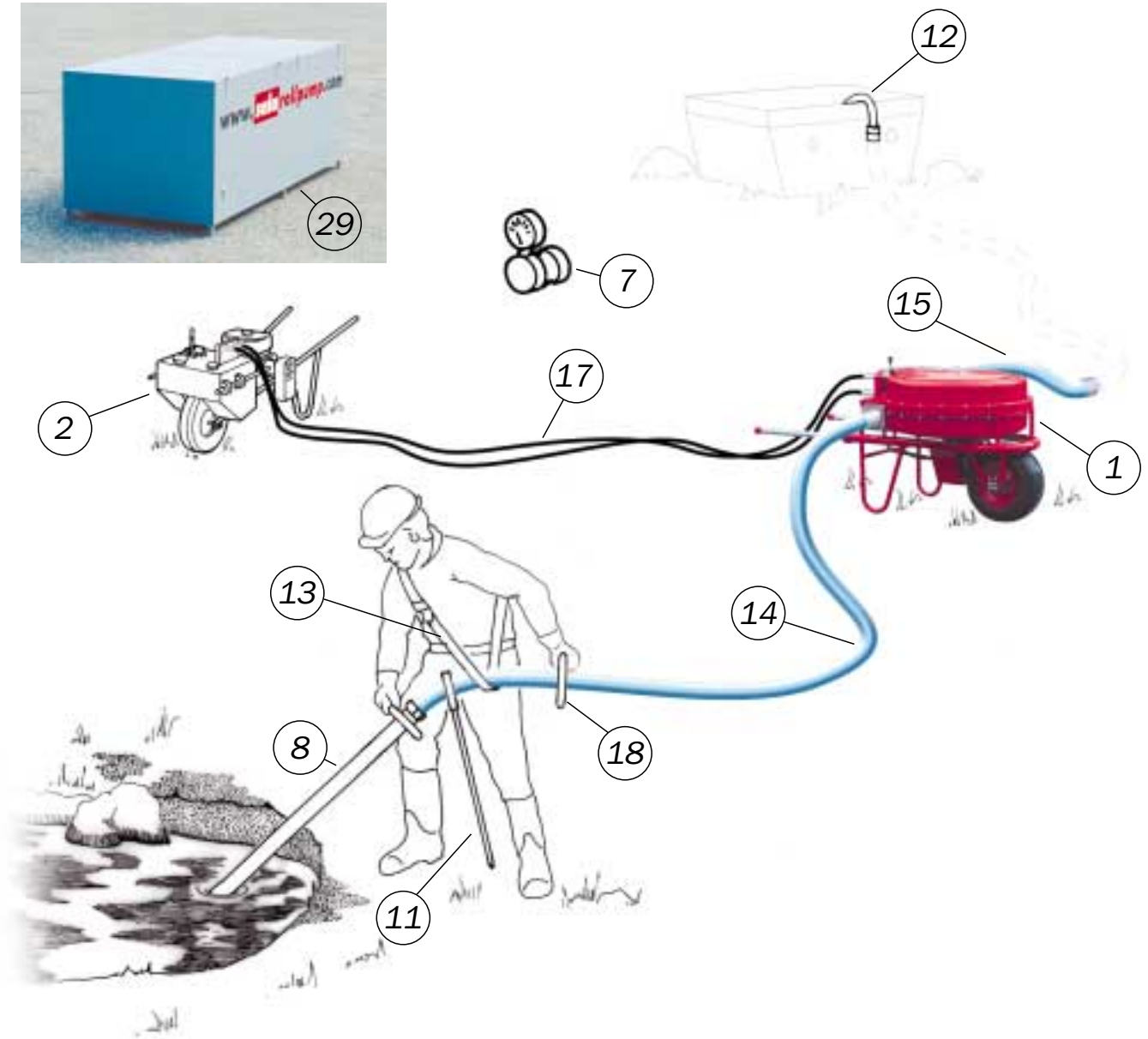
Pumping extremely high viscous media is made easier by injecting water into the suction nozzle. The water reduces the friction between the oil and hose. A small centrifugal pump mounted to a backpack is offered as an accessory.



A trailer is available for transport on roads.



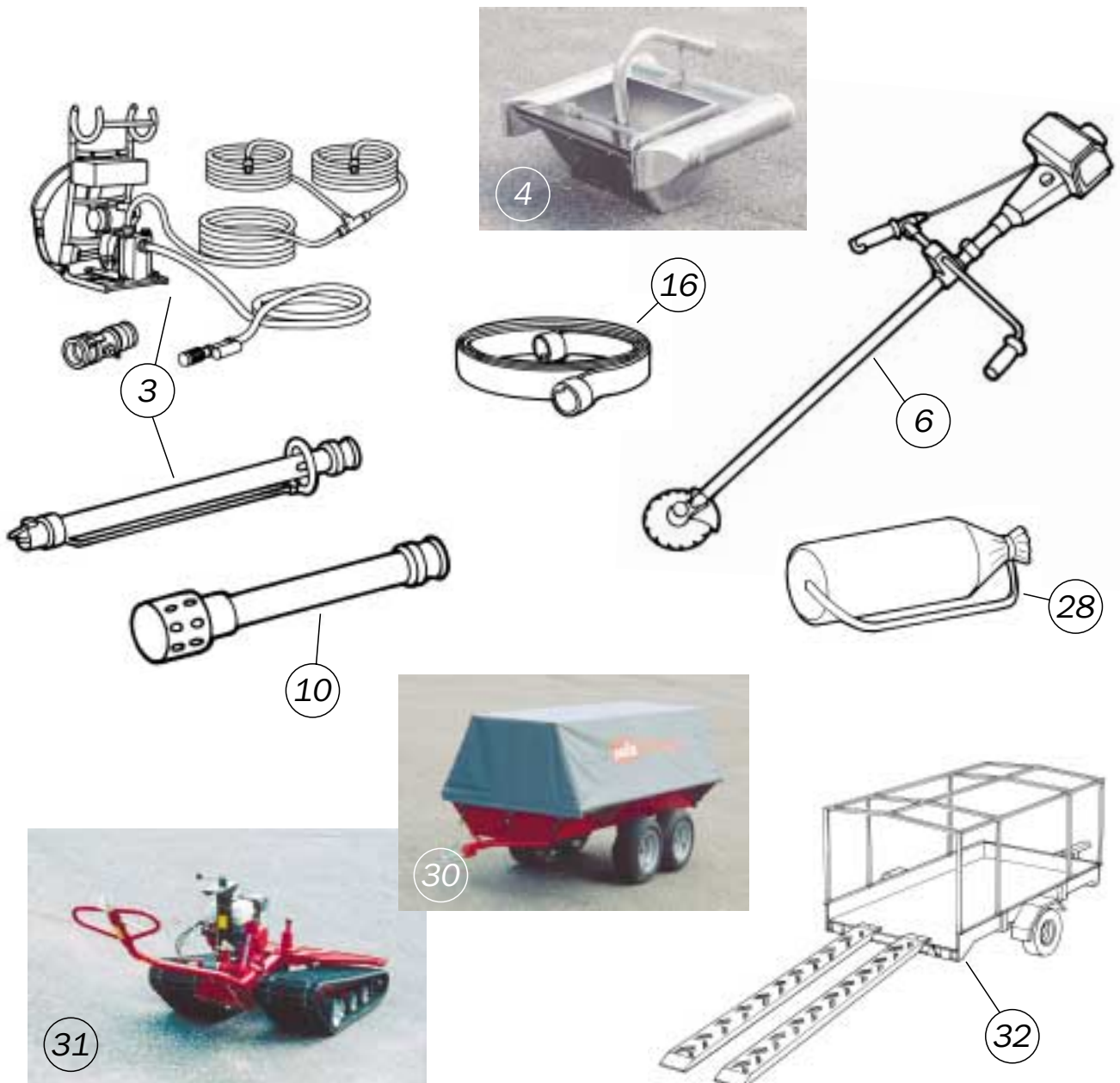
STANDARD SYSTEM



Item	Name	Number
1	Salarollpump	1
2	Power pack	1
5	Tool bag (not in picture)	1
7	Vacuum gauge	1
8	Suction nozzle (aluminium alt.stainless steel)	1
11	Support for suction hose (- " -)	1
12	Filling pipe (aluminium alt.stainless steel)	1
13	Harness	1

Item	Name	Number
14	Suction hose incl. CAM-couplings	2 pcs length = 10 ft/3 m, 1 pcs length = 20 ft/6 m
15	Adaptor for pressure hose incl. 1 CAM-coupling, length = 5 ft/1.5 m	1
17	Hydraulic hose, length = 33 ft/10 m	2
18	Handle	1
29	Transport and storage box	1

ACCESSORIES



Item	Name	Number
3	Water injection	1
4	Skimmer	1
6	Clearing saw	1
10	Suction nozzle with bottom filter	1
	(aluminium alt.stainless steel)	1
16	Fire hose, antistatic, length =41 ft/12.5 m	1
	alternatively 82 ft/25 m	1

Item	Name	Number
28	Components for pumping of flammable products see page 3, item 24–27	1
30	Trailer for four wheel drive ATV	1
31	Band driven vehicle	1
32	Trailer	1

PUMP



Weight:	264 lb	120 kg
Length:	3 ft, 4 in	1,020 mm
<i>incl. handles*</i>	5 ft	1,560 mm
Width:	2 ft, 7 in	792 mm
Height:	2 ft, 6 in	776 mm
Pump hose:		
<i>inside diam.</i>	2 in	51 mm
<i>inside material</i>	nitril	nitril
Capacity:	48 US gpm	11 m ³ /hour
<i>(water)</i>	(at 45 rpm)	(at 45 rpm)
Max suction:	- 14.5 PSI	-1 Bar
Max discharge-pressure:	145 PSI	10 Bar

*Handles can be inserted.

POWER PACK



GASOLINE DRIVE

Standard

<i>Weight, incl. oil:</i>	242 lb	110 kg
<i>Power:</i>	9 hp/6.6 kW	9 hp/6.6 kW

High power

<i>Weight, incl. oil:</i>	255 lb	116 kg
<i>Power:</i>	13 hp/9.5 kW	13 hp/9.5 kW

DIESEL DRIVE

Hand start

<i>Weight, incl. oil:</i>	306 lb	139 kg
<i>Power:</i>	10 hp/7.5 kW	10 hp/7.5 kW

Electric start

<i>Weight, incl. oil:</i>	334 lb	152 kg
<i>Power:</i>	10 hp/7.5 kW	10 hp/7.5 kW



ELECTRIC DRIVE

50 hz

<i>Weight, incl. oil:</i>	306 lb	136 kg
<i>Power:</i>	10.2 hp/7.5 kW	10.2 hp/7.5 kW

60 hz

<i>Weight, incl. oil:</i>	306 lb	136 kg
<i>Power:</i>	11.7 hp/8.6 kW	11.7 hp/8.6 kW

Length:
*incl. handles**

4 ft, 1 in	1,250 mm
6 ft, 1 in	1,850 mm

Width:

2 ft	620 mm
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Height:
*incl. handles**

2 ft, 6 in	750 mm
2 ft, 10 in	860 mm

*Handles can be inserted

TRAILER FOR

BAND DRIVEN

TRAILER

TERRAIN SCOOTER

VEHICLE

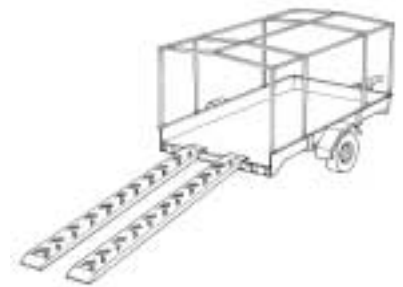


Weight:	484 lb	220 kg
Size of wagon bridge:	4 ft x	1,240 x
	8 ft, 4 in	2,540 mm
Total length:	11 ft	3,390 mm
Height:	4 ft, 9 in	1,460 mm



Weight:	726 lb	330 kg
Length:	5 ft, 9 in	1,750 mm
<i>incl. operating handle*</i>	10 ft, 4 in	3,150 mm
Width:	3 ft, 9 in	1,150 mm
Height:	3 ft, 3 in	980 mm
Motor:	5,5 hp	5.5 hp
<i>(gas)</i>		
Ground pressure:	2.1 lb/in ²	0.15 kg/cm ²
<i>(at 1.100 lb load)</i>		<i>(at 500 kg load)</i>
Speed:	3 ¾ mph	6 km/h

* The operating handle can be raised.



Total weight:	2,866 lb	1,300 kg
Service weight:	772 lb	350 kg
Max. load:	2,094 lb	950 kg
Total length:	15 ft, 9 in	4,800 mm
Total width:	7 ft	2,160 mm
Size of wagon bridge:	5 ft, 7 in x	1,700 x
	10 ft, 8 in	3,250 mm
Total height with cover:	6 ft, 4 in	1,930 mm
Tire dim:	185 SR 14	185 SR 14
Rim base dim:	5.5 J x 14 H2	5.5 J x 14 H2
Tire pressure:	36 PSI	2.5 kg

TRANSPORT BOX



Weight:	363 lb	165 kg
Length:	8 ft	2,470 mm
Width:	3 ft, 7 in	1,090 mm
Height:	3 ft, 4 in	1,010 mm
Weight*:	968 lb	440 kg

*Including complete standard system(see page 8).

SKIMMER



Weight:	75 lb	34 kg
Length:	3 ft, 3 in	980 mm
Width:	3 ft, 7 in	1,090 mm
Height:	2 ft, 5 in	740 mm

WATER INJECTION



Weight:	28 lb	13 kg
Length:		
Suction hose	10 ft	3 m
Pressure hose	33 ft	10 m
Pump:	Centrifugal	
Motor:	Gasoline 2-stroke	

SUCTION NOZZLES



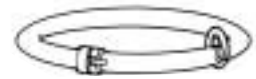
Weight with:

aluminium suction nozzle/couplings
stainless steel suction nozzle/couplings

Dimension inlet/inside diameter:

standard		with bottom filter		length 10 ft/3 m		length 20 ft/6 m	
5.5 lb	2.5 kg	3.3 lb	1.5 kg	13 lb	6 kg	24 lb	11 kg
8.8 lb	4 kg	6.5 lb	3 kg	15.5 lb	7 kg	26.5 lb	12 kg
1 9/16 x 2 1/2 in	40x65 mm	16 holes, 1 in each	16 holes 25 mm each	2 1/2 in	63 mm	2 1/2 in	63 mm

SUCTION HOSES



HYDRAULIC HOSE



Length:	33 ft	10 m
Weight:	20 lb	9 kg
Dimension:	1/2 in	1/2 in

FIRE HOSE



Length:	41/82 ft	12.5/25 m
Weight:	19/38 lb	8.5/17 kg
Inside. diam:	2 1/2 in	63 mm

ANTISTATIC

FILLING-



Weight:		
aluminium	3.3 lb	1.5 kg
stainless steel	5.5 lb	2.5 kg

PIPE

RECOMMENDED SPAREPARTS



Pump hose

Weight:	40 lb	18 kg
External diam.:	3 5/8 in	92 mm
Inside diam.:	2 in	51 mm
Length:	8 ft, 1 in	2 490 mm
Hose support	2.2 lb	1 kg
Lubricant	2.2 lb	1 kg

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SALAROLLPUMP IS A SECONDARY NAMN

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