



WASHWATER RECYCLING SYSTEMS:

“EKO-LIT” RECYCLING UNITS

“EKO-LIT X” RECYCLING UNITS

REFERENCES FROM EKO-LIT RECYCLING UNITS

“CHVTP” RECYCLING UNITS

“CHV” RECYCLING UNITS

MANUAL WASH SYSTEMS

CONTAINERIZED RECYCLING SYSTEMS



Since 1983 FREYLIT has been producing, installing and maintaining the following products :

Mineral Oil and Residual Oil Separators
Oil Separators for garages and parking lots
Wash Water Recycling Systems

At the heart of our **Mineral Oil and Residual Oil Separators** are the polypropylene coalescent plates developed by Freylit, which reduce the effluent oil content **down to below 5 ppm**.

The **Mineral Oil and Residual Oil Separators** are used at petrol stations, garages, freight forwarders, oil depots, airports, harbours, electric power plants, refineries, steel factories, etc. to separate waste oil from water.

We produce **Mineral Oil and Residual Oil Separators** with flow rates from 2 litres/second up to 1500 litres/second. The separators are made of durable materials to ensure high quality performance over a very long lifetime. For more than 20 years we export to over 30 countries in Europe, USA, Japan, China, Taiwan, and the Middle East. A large number of well know oil corporations, engineering companies, and industrial clients are using Freylit oil separators. All units are tested to conform to the **European Norm EN858**.

FREYLIT supplies **Mineral Oil and Residual Oil Separators** with tanks made of concrete, steel or polypropylene.

Alternatively we can supply only '**installation kits**', which are all the necessary oil separator components inside the tank, and our clients obtain the corresponding tanks locally, build them on site, or install the 'installation kit' into an existing pit. With the "installation kits" we provide the necessary engineering plans and easy installation and operation instructions.

Moreover, we have a second product line making **Wash Water Recycling Systems** used for cleaning waste water from all types of vehicle washing operations, be it cars or trains or even airplanes. The FREYLIT wash water recycling system is recognised as the most efficient state of the art technology by all re-known oil companies worldwide such as Adnoc, Agip, Aral, BP-Amoco, Emarat, Eppco, Esso, Idemitsu, Mobil, OMV, Q8 , Shell, Texaco, etc. and also automobile traders such as BMW, Daimler-Chrysler, VW, Ford, Ferrari, Daihatsu, etc. in USA, Asia, Europe and the Middle East. With over 4000 units installed worldwide the FREYLIT system is the system of choice, because of several advantages, including the reclaim of up to 93% of the wash water normally used.

EKO-LIT
RECYCLING UNITS:

FREYLIT

www.freylit.com

UMWELTECHNIK GmbH

WASH - WATER - RECYCLING SYSTEMS FOR AUTOMATIC CAR WASH MACHINES OR HIGH PRESSURE WASHERS

CARS

TRUCKS

AIRCRAFTS

TRAINS

....

MINIMUM OPERATION COST:

MAINTENANCE ONLY 10min. TWICE A YEAR

DE-GERMING BY HIGH-VOLTAGE-ELECTRODE

NO CONSUMABLE MATERIALS (CHEMICALS, FILTER,...) NEEDED.

RETROFITTING OF RECYCLING SYSTEMS FOR EXISTING CAR WASHES



EKO-LIT

INSIDE REACTOR TANK

HIGH-VOLTAGE-ELECTRODE

OVERFLOW OF THE REACTOR TANK

AIR PRESSURE HOSE TO FLOTATION UNIT

PIPE FOR BACKFLUSH WATER FROM THE FINE FILTER TO UNDERGROUND TANK



BALL VALVE

TO REGULATE THE FLOW THROUGH THE CYCLONE AND THE HIGH-VOLTAGE-ELECTRODE

B3

FLOATING SWITCH FOR FILLING THE REACTOR TANK (IT SWITCHES SLUDGE PUMP "OFF" AND "ON")

FLOTATION MEMBRANE



B2

FLOATING SWITCH DRY RUN PROTECTION FOR PRESSURE PUMP

M2



ADAVANTAGES of EKOLIT Recycling System

All Recycling Systems have the same purpose: Remove solids from the wash water (to avoid damage to car surface and clogging up of valves and nozzles of the car wash) and kill bacteria (to avoid bad smell and illness of customers and workers from bacteria). The EKOLIT system is in both functions the most efficient and economical worldwide.

PROCESS EFFICIENCY:

FOUR-Stage Solids Removal by

- The stainless steel pump protector screens out large sold wastes (>3mm) such as paper and preventing it from entering the system
- The Hydro Cyclone removed heavy dirt particles (silt & sand)
- DAF Dissolved Air Floatation will floatate light suspended solids to the surface of the reactor tank from where they are drained away
- Micro Filters remove even the finest solids from the wash water

TWO-Stage De-germing process:

- A High Voltage Electrode (HVE) kills bacteria by electricity
- The well proven Freylit Water Stabilizer activates the recycled water for re-use

Fully Automated Operation:

- No intervention of workers needed. Micro Filters are equipped with fully automated back flush system

LOW OPERATING COST:

- No need for constantly refilling chemicals or bacteria cultures, or generating Ozone, or any other inputs for de-germing the water
- No need for Ozone which damages cables, hoses and seals of the car wash
- No need for changing any filter cartages or other consumables

EASY and LOW COST MAINTENANCE:

Maintenance (about only two times per year) is limited to

- cleaning the pump protector by built in compressed air back flush
- cleaning Hydro Cyclone nozzle and filter insert mesh
- cleaning HVE and reactor tank

HIGHEST MANUCATURING QUALITY and LONG LIFE:

- Some 20 year of FREYLIT experience with wash water recycling have gone into the development of the EKOLIT system. Strictest quality controls ensure that every Freylit system will benefit from this experience.
- Austrian design, made in the EU guarantees state of the art technology
- Pneumatic fully automated controls ensure safe operation
- Only high quality components from top international suppliers are used in the manufacturing of EKOLIT

EKO-LIT Recycling Unit

for recycling wash water

from car washes

Type: EKO-LIT

Capacity: 50 to 600 l/min

Description, function and drawings of the complete recycling system :

EKO-LIT Recycling unit
pipe connection plan
piping plan
process diagram

For installing an EKOLIT recycling system it is necessary that the capacity of your underground waste water tank(s) or car wash pit (silt chamber) should have a minimum volume of 1,5 m³. We recommend a volume of 5,0 m³ or larger. The minimum recommended water depth is 120 cm. If these dimensions can not be met at the site then an above ground silt chamber can be used, which draws from a sludge pump placed in a small pump sump.

The used wash water first flows out of the car-wash into a collection pit, from where it flows through a sewer pipe into the underground tank(s) . Any large solid particles present in the water will settle in this tank.

A float switch (**B1**) and a **sludge pump** encased in a pump protector, are installed in the underground tank.

This pump delivers the water through **pipe II "pressure pipe from sludge pump"** to the recycling unit.

There it passes through the **cyclone(s)** and the **high voltage electrode(s)** into the **reactor tank** of the EKO-LIT recycling unit.

Inside the reactor tank two float switches (**B2** and **B3**) and a **flotation membrane** are installed.

When the car wash machine demands water, recycled water is pumped by the **pressure pump(s)** out of the reactor tank through the **FREYLIT water stabilizer**, the **fine filter(s)** (with an automatic back flush device) and the **flow switch** to the car wash machine. This process is automatically controlled.

The filtered and degermed water is delivered under an average pressure (4 bar), through **pipe I "recycled water to consumer"**, to the car wash for re-using. A **water meter** is installed in this pipe to monitor the amount of recycled water delivered for use in the car wash.

Recycled water can be used in the car wash for all pre-wash, main wash and high pressure wash requirements.

The final rinse cycle, into which the drying agent or wax is added, should be carried out with fresh water from the local water supply. The car wash machine switches back and forth between recycled water and fresh water as needed by the different wash cycles independently of the recycling unit.

IMPORTANT:



When installing a car wash, ensure that it is equipped with **two water inlet connections**:
one for recycled water
and another for fresh water

We recommend to install a water meter in the fresh water pipe from the local water supply to the car wash to monitor the amount of fresh water which was used in the car wash.

When a wash cycle begins, the water pressure in **Pipe I “recycled water to consumer”** on the EKO-LIT Recycling unit drops from 4,5 to 3,5 bar.

If the minimum pressure is reached, the **pressure switch** on the EKO-LIT Recycling unit activates the pressure pump(s), which feeds recycled water through the fine filter(s) to the car wash, at a pressure of app. 4 bar.

When the wash cycle ends the pressure switch on the EKO-LIT Recycling unit will stop the pressure pump(s) again once the maximum pressure of 4,5 bar is reached.

This process is repeated for each wash cycle.

To prevent the sludge pump(s) from running dry (at initial start-up or due to leaks), a float switch B1 is installed in the underground tank. This switch automatically stops the sludge pump(s) if the water level in the underground tank drops below the allowed minimum level.

The electric cable for float switch B1 and the electric cable(s) for the sludge pump(s) run through a PVC drain pipe installed from the underground tank to the EKO-LIT Recycling unit.

A compressed-air hose, which is installed between the pump protector(s) and **pipe VI “compressed-air for reversible flow to pump protector”** on the recycling unit, also pass through this PVC drain pipe. The compressed air hose is required for cleaning the pump protector(s) during maintenance.

To prevent the pressure pump(s) from running dry (at initial start-up) a float switch (B2) is installed in the reactor tank. This switch automatically deactivates this pressure pump if the water level inside the reactor tank falls below the allowed minimum water level.

The float switch B3, which is installed in the reactor tank, activates or deactivates the sludge pump(s) in the underground tank.

Automatic Back-Flush of the fine filter

The recycling unit is equipped with a fine filter which is automatically back-flushed. This back-flush mechanism is programmed to proceed after each car wash process automatically. It will be activated by a flow switch. A signal will be sent by the flow switch to a micro controller, which will open the pneumatic back-flush valve for 20 seconds.

Description of the Cyclone

Before the water reaches the reactor tank it passes through a hydro-cyclone. Here larger suspended solids are separated and returned to the sit chamber.

Description of the High Voltage Electrode

After the hydro-cyclone the recycling water passes through a pipe which is equipped with a high voltage electrode. Here a high voltage energy field is created which causes flocculation of the suspended solids and has an anti-algae effect.

Description of the flotation membrane

By means of the flotation membrane which is installed at the bottom of the reactor tank the flakes created by the high voltage electrode are floated. These flakes or dirt layer on the water surface in the reactor tank are drained periodically to the sit chamber.

Description of the FREYLIT Water Stabilizer

The Water Stabilizer works by a physio-kinetic process and does not need electricity, chemicals or maintenance. The water stabilization process is achieved by passing the water through a double walled cylinder, which contains a high - energetic medium. As the water flows through the Water Stabilizer, the water molecules are excited and the oxygen contained in the water is activated. The development of germs and bacteria in the recycled water is thereby prevented.

RECYCLING RATE

The recycling unit *EKO-LIT* can recycle up to 95% of the car wash water. The rest is lost due to evaporation and carry off at the car wash. However, the actual recycling rate is determined by the ratio between recycled and fresh water use, which is determined by the settings of the car wash machine itself. If, for example, 80 litres of water are used for the pre-wash and main wash cycle, and 20 litres are used for the final rinse cycle, then the resulting recycling rate in this particular case is only 80 %.

POWER CONSUMPTION

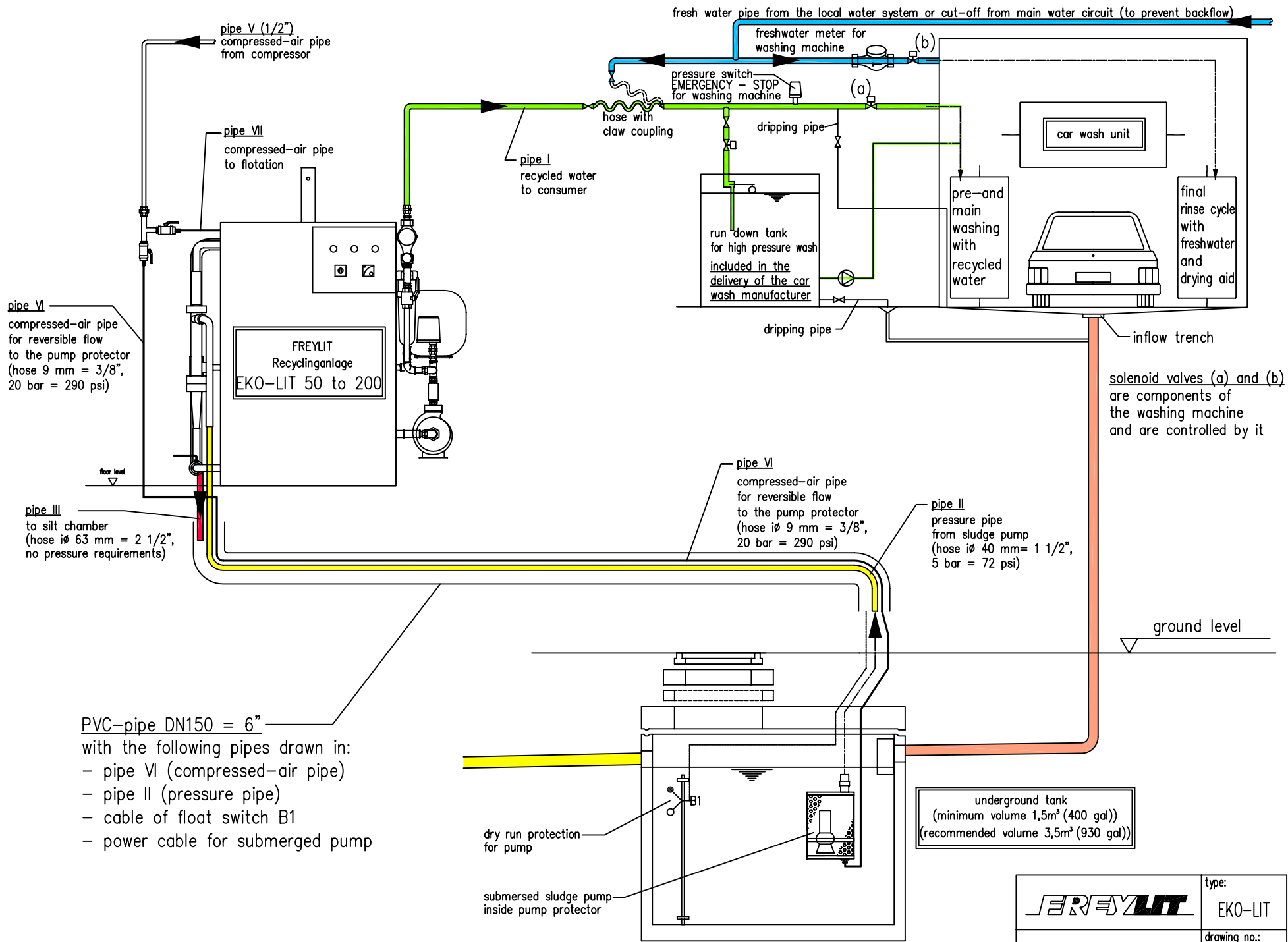
	EKO-LIT 50/100	EKO-LIT 200	EKO-LIT 400
sludge pump	400V/50Hz, 2.8 A, 1.1 KW	400V/50Hz, 2.8 A, 1.1 KW	2x 400V/50Hz, 2.8 A, 1.1 KW
pressure pump	400V/50Hz, 3.8 A, 1.5 KW	400V/50Hz, 6.5 A, 3 KW	2x 400V/50Hz, 6.5 A, 3 KW
high voltage electrode	max. 350 m Ampere	max. 350 m Ampere	max. 2x 350 m Ampere

MEASUREMENTS

	EKO-LIT 50	EKO-LIT 100	EKO-LIT 200	EKO-LIT 400
Length	1460 mm 4' 9"	1460 mm 4' 9"	1460 mm 4' 9"	1930 mm 6' 4"
Width	780 mm 2' 7"	780 mm 2' 7"	780 mm 2' 7"	880 mm 2' 10"
Height	1400 mm 4' 7"	1520 mm 5'	1520 mm 5'	1520 mm 5'

DRY WEIGHT

EKO-LIT 50	app. 70 kg
EKO-LIT 100	app. 100 kg
EKO-LIT 100 X	app. 120 kg
EKO-LIT 200	app. 150 kg
EKO-LIT 200 X	app. 180 kg
EKO-LIT 400	app. 380 kg



pipe VI
compressed-air pipe
for reversible flow
to the pump protector
(hose 9 mm = 3/8",
20 bar = 290 psi)

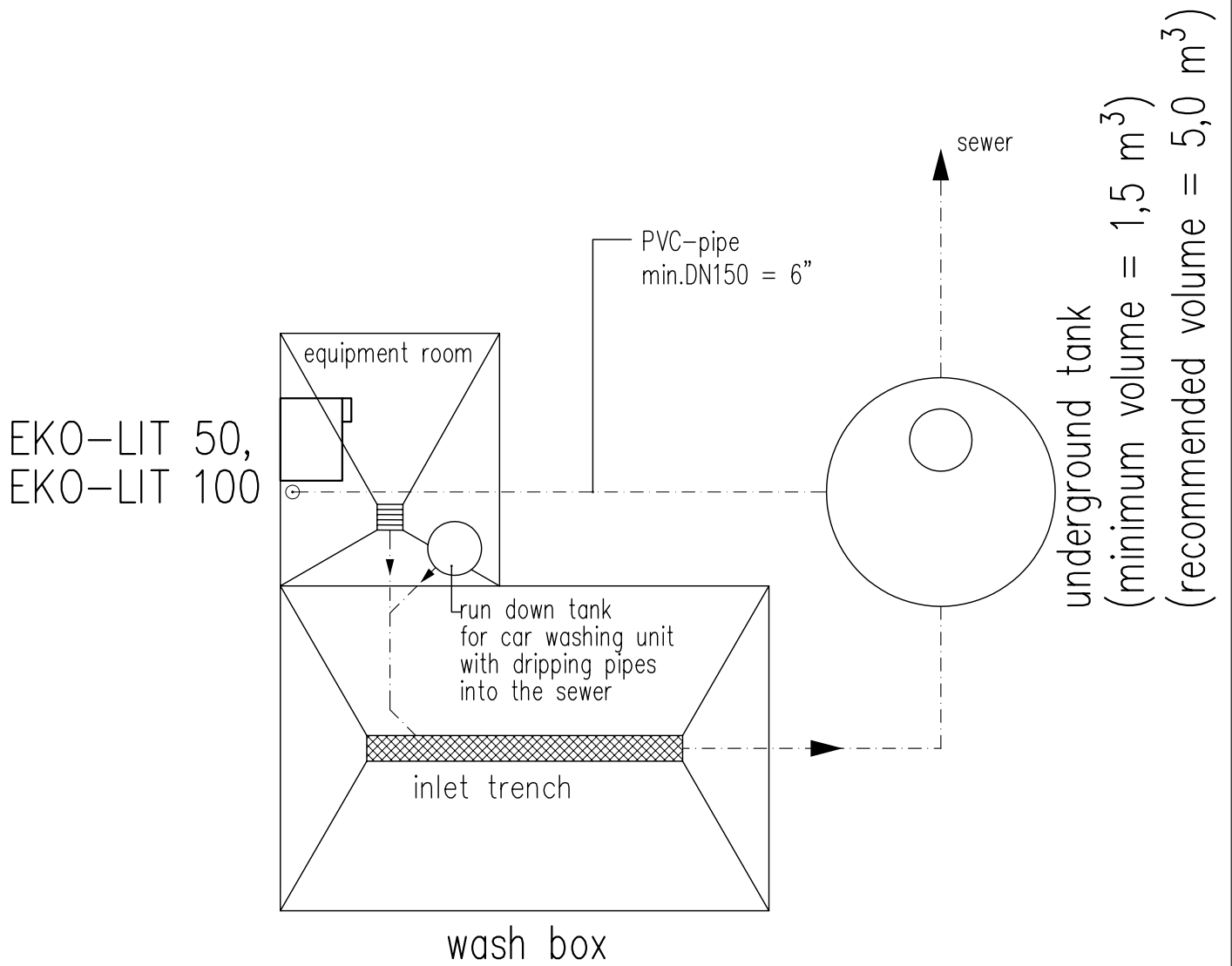
pipe III
to silt chamber
(hose \varnothing 63 mm = 2 1/2",
no pressure requirements)

PVC-pipe DN150 = 6"
with the following pipes drawn in:
- pipe VI (compressed-air pipe)
- pipe II (pressure pipe)
- cable of float switch B1
- power cable for submerged pump

dry run protection
for pump
submersed sludge pump
inside pump protector

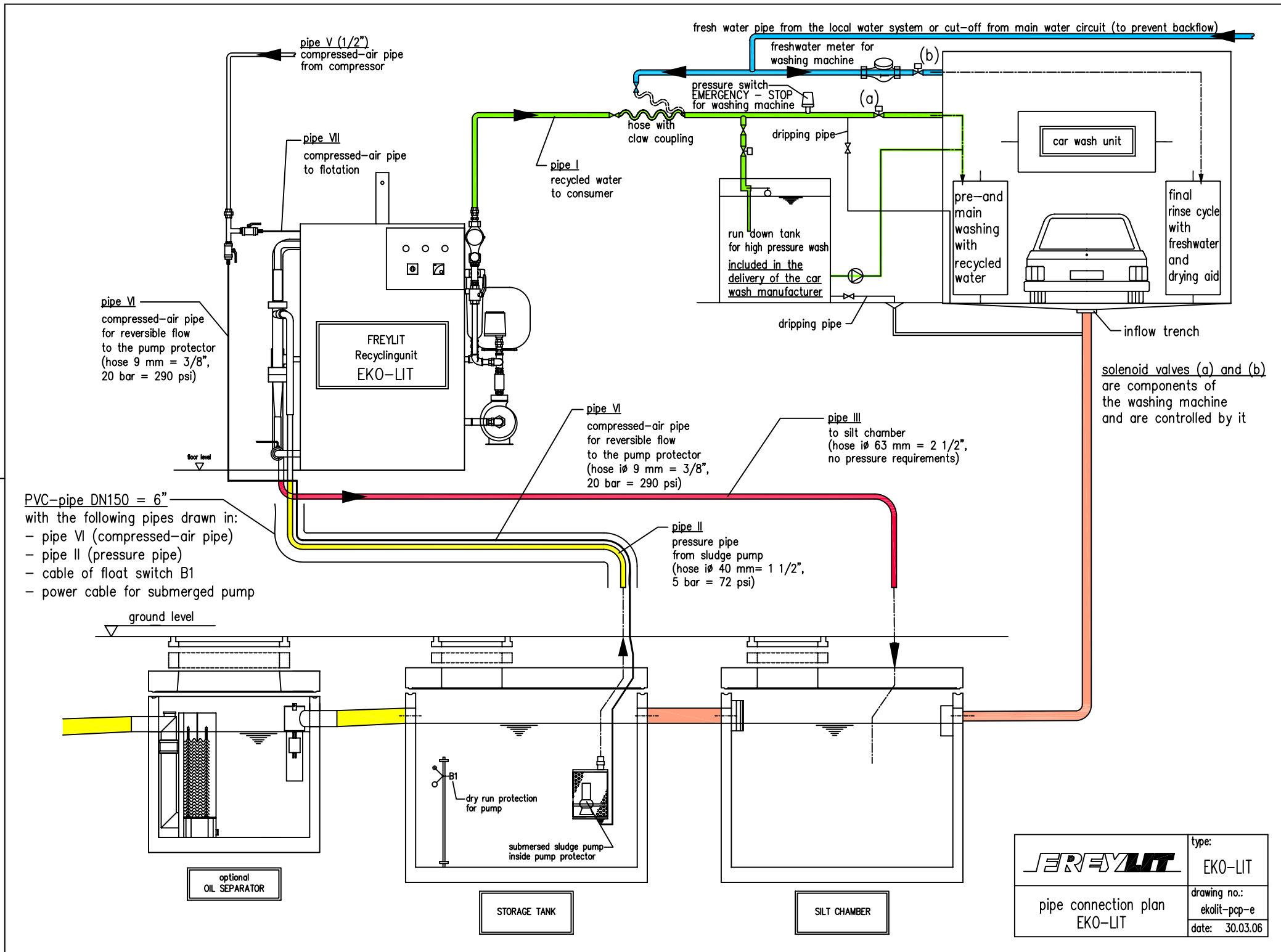
underground tank
(minimum volume 1,5m³ (400 gal))
(recommended volume 3,5m³ (930 gal))

FREYLIT	type:
	EKO-LIT
	pipe connection plan EKO-LIT 50 to 200
drawing no.:	ekolit50-200_501_E
date:	25.06.04

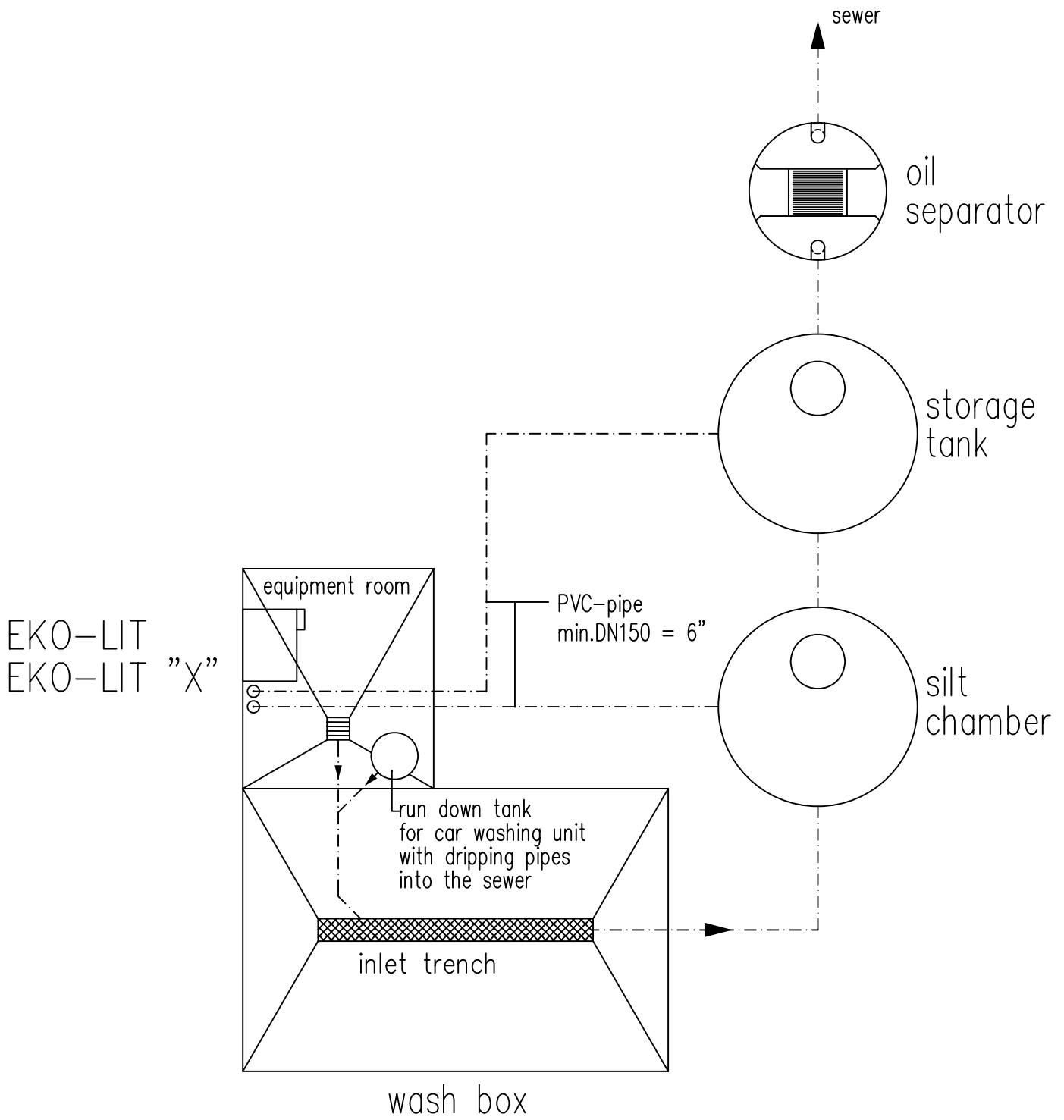


all sewer pipes must be constructed freeze-proof
and are not included in delivery of FREYLIT

date:	name:	FREYLIT	EKO-LIT 50 & 100
constr.: 19.03.04	Mei		
contr.:		PIPING PLAN FOR EKO-LIT 50 and 100	
		drawing no.:	ekolit50_100_521_E
		modif.:	
		date:	



	type:
	EKO-LIT
	pipe connection plan EKO-LIT
drawing no.:	ekolit-pcp-e
date:	30.03.06

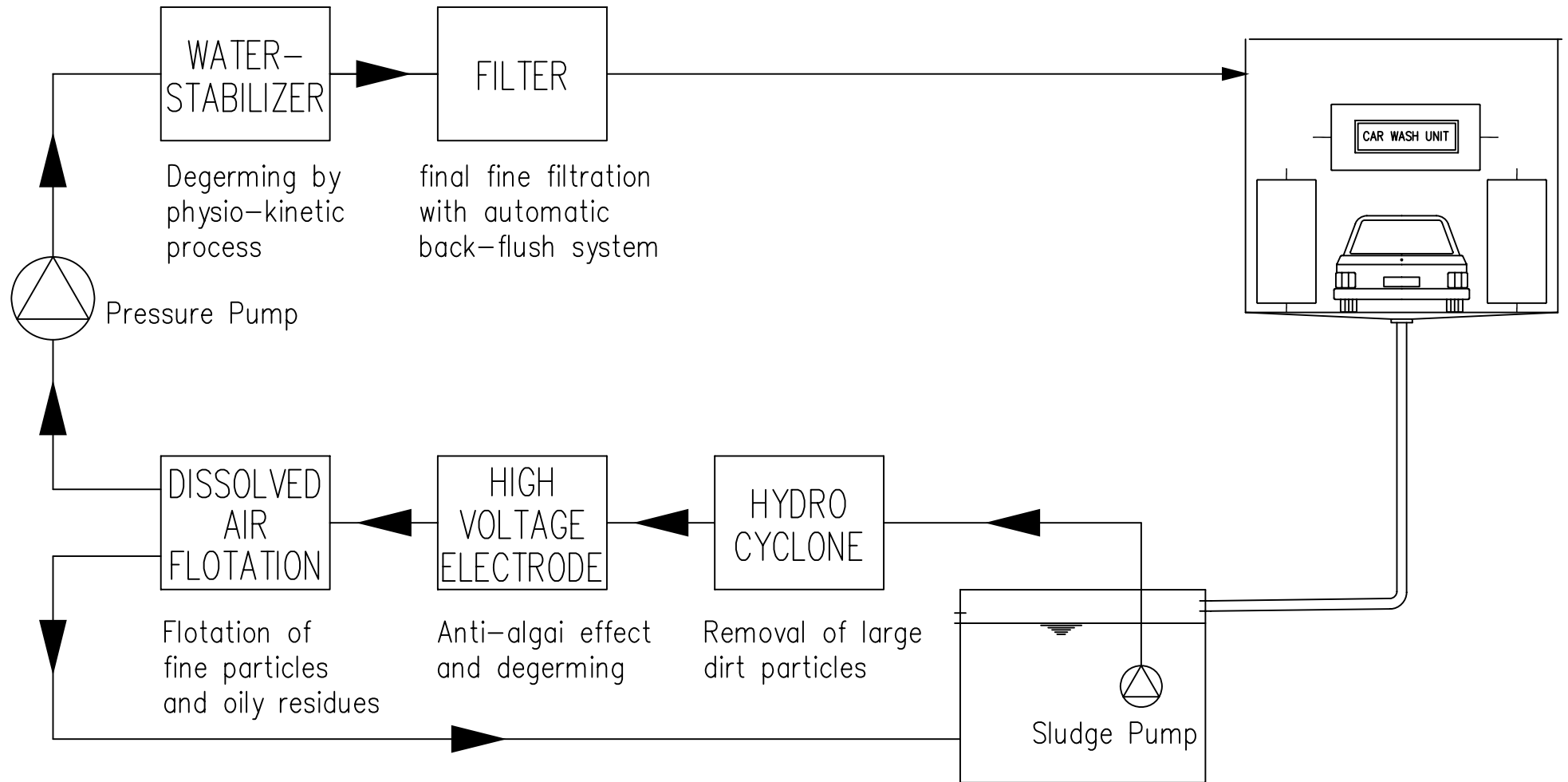


all sewer pipes must be constructed freeze-proof and are not included in delivery of FREYLIT

date:	name:	FREYLIT	EKO-LIT						
constr.:	30.03.06					Mei	drawing no.: ekolit-pp-eE		
contr.:									
			modif.:						
			date:						

PROCESS DIAGRAMM OF EKO-LIT

"HIGH-TECH combined into an economic, compact system"



EREVUT	type: EKO-LIT
pipe connection plan EKO-LIT	drawing no.: process_EKOLIT date: 20.11.2006

END OF SECTION



EKO-LIT "X"
RECYCLING UNITS:

INCLUDING CABINET ENCLOSURE

FREYLIT

www.freylit.com

UMWELTECHNIK GmbH

WASH - WATER - RECYCLING SYSTEMS FOR AUTOMATIC CAR WASH MACHINES OR HIGH PRESSURE WASHERS



EKO-LIT "X"

CARS

TRUCKS

AIRCRAFTS

TRAINS

....

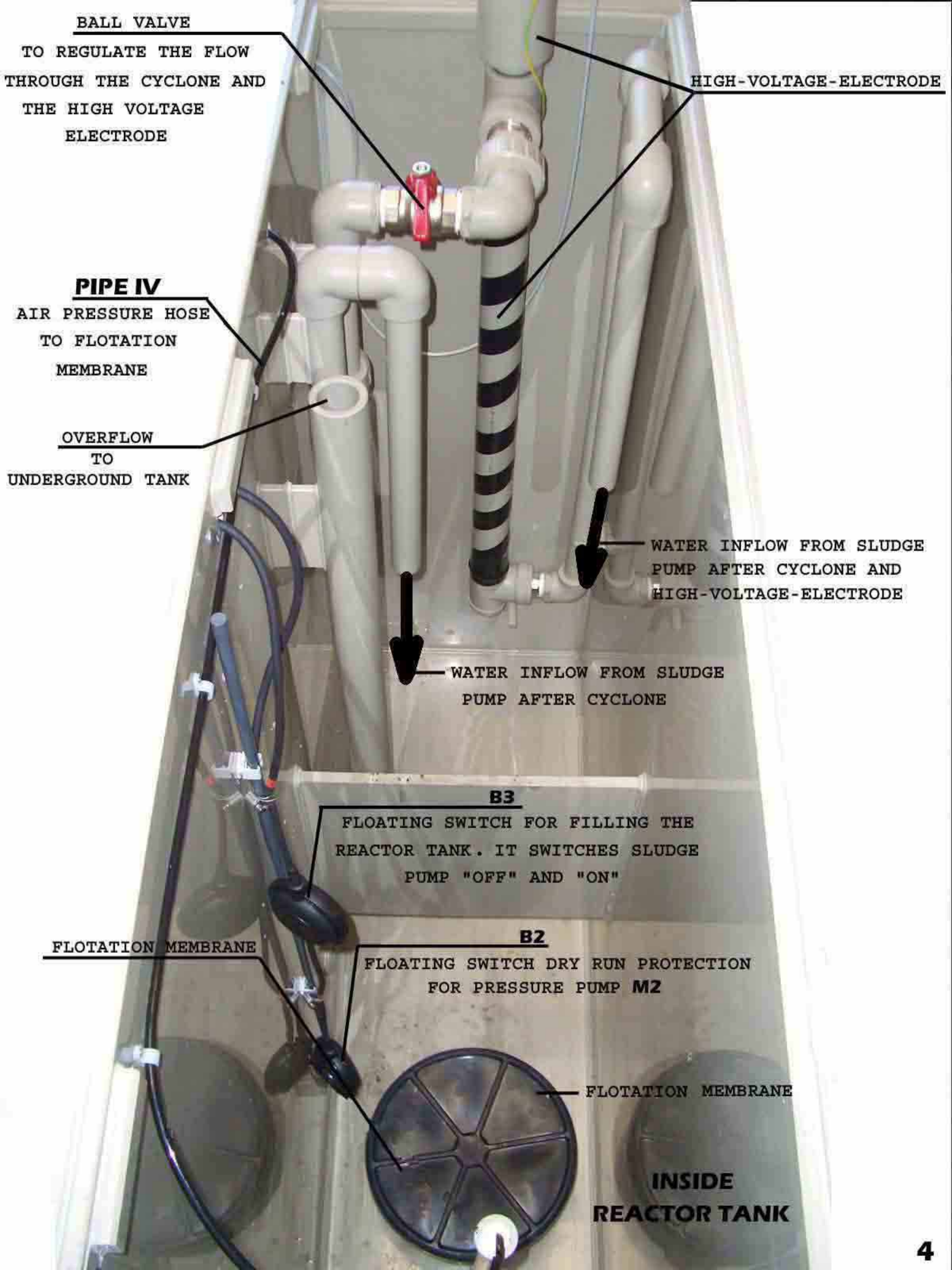
MINIMUM OPERATION COST:

MAINTENANCE ONLY 10min. TWICE A YEAR

DE-GERMING BY HIGH-VOLTAGE-ELECTRODE

NO CONSUMABLE MATERIALS (CHEMICALS, FILTER,...) NEEDED.

RETROFITTING OF RECYCLING SYSTEMS FOR EXISTING CAR WASHES



BALL VALVE

TO REGULATE THE FLOW
THROUGH THE CYCLONE AND
THE HIGH VOLTAGE
ELECTRODE

HIGH-VOLTAGE-ELECTRODE

PIPE IV

AIR PRESSURE HOSE
TO FLOTATION
MEMBRANE

OVERFLOW

TO
UNDERGROUND TANK

WATER INFLOW FROM SLUDGE
PUMP AFTER CYCLONE AND
HIGH-VOLTAGE-ELECTRODE

WATER INFLOW FROM SLUDGE
PUMP AFTER CYCLONE

B3

FLOATING SWITCH FOR FILLING THE
REACTOR TANK. IT SWITCHES SLUDGE
PUMP "OFF" AND "ON"

B2

FLOATING SWITCH DRY RUN PROTECTION
FOR PRESSURE PUMP M2

FLOTATION MEMBRANE

FLOTATION MEMBRANE

**INSIDE
REACTOR TANK**

ADAVANTAGES of EKOLIT Recycling System

All Recycling Systems have the same purpose: Remove solids from the wash water (to avoid damage to car surface and clogging up of valves and nozzles of the car wash) and kill bacteria (to avoid bad smell and illness or customers and workers from bacteria). The EKOLIT system is in both functions the most efficient and economical worldwide.

PROCESS EFFICIENCY:

FOUR-Stage Solids Removal by

- The stainless steel pump protector screens out large sold wastes (>3mm) such as paper and preventing it from entering the system
- The Hydro Cyclone removed heavy dirt particles (silt & sand)
- DAF Dissolved Air Floatation will floatate light suspended solids to the surface of the reactor tank from where they are drained away
- Micro Filters remove even the finest solids from the wash water

TWO-Stage De-germing process:

- A High Voltage Electrode (HVE) kills bacteria by electricity
- The well proven Freylit Water Stabilizer activates the recycled water for re-use

Fully Automated Operation:

- No intervention of workers needed. Micro Filters are equipped with fully automated back flush system

LOW OPERATING COST:

- No need for constantly refilling chemicals or bacteria cultures, or generating Ozone, or any other inputs for de-germing the water
- No need for Ozone which damages cables, hoses and seals of the car wash
- No need for changing any filter cartages or other consumables

EASY and LOW COST MAINTENANCE:

Maintenance (about only two times per year) is limited to

- cleaning the pump protector by built in compressed air back flush
- cleaning Hydro Cyclone nozzle and filter insert mesh
- cleaning HVE and reactor tank

HIGHEST MANUCATURING QUALITY and LONG LIFE:

- Some 20 year of FREYLIT experience with wash water recycling have gone into the development of the EKOLIT system. Strictest quality controls ensure that every Freylit system will benefit from this experience.
- Austrian design, made in the EU guarantees state of the art technology
- Pneumatic fully automated controls ensure safe operation
- Only high quality components from top international suppliers are used in the manufacturing of EKOLIT

EKO-LIT Recycling Unit

for recycling wash water

from car washes

Type: EKO-LIT X

Capacity: 100 to 200 l/min

Description, function and drawings of the complete recycling system :

EKO-LIT Recycling unit
pipe connection plan
piping plan
process diagram

For installing an EKOLIT recycling system it is necessary that the capacity of your underground waste water tank(s) or car wash pit (silt chamber) should have a minimum volume of 1,5 m³. We recommend a volume of 5,0 m³ or larger. The minimum recommended water depth is 120 cm. If these dimensions can not be met at the site then an above ground silt chamber can be used, which draws from a sludge pump placed in a small pump sump.

The used wash water first flows out of the car-wash into a collection pit, from where it flows through a sewer pipe into the underground tank(s) . Any large solid particles present in the water will settle in this tank.

A float switch (**B1**) and a **sludge pump** encased in a pump protector, are installed in the underground tank.

This pump delivers the water through **pipe II "pressure pipe from sludge pump"** to the recycling unit.

There it passes through the **cyclone(s)** and the **high voltage electrode** into the **reactor tank** of the EKO-LIT recycling unit.

Inside the reactor tank two float switches (**B2** and **B3**) and a **flotation membrane** are installed.

When the car wash machine demands water, recycled water is pumped by the **pressure pump** out of the reactor tank through the **FREYLIT water stabilizer**, the **fine filter(s)** (with an automatic back flush device) and the **flow switch** to the car wash machine. This process is automatically controlled.

The filtered and degermed water is delivered under an average pressure (4 bar), through **pipe I "recycled water to consumer"**, to the car wash for re-using. A **water meter** is installed in this pipe to monitor the amount of recycled water delivered for use in the car wash.

Recycled water can be used in the car wash for all pre-wash, main wash and high pressure wash requirements.

The final rinse cycle, into which the drying agent or wax is added, should be carried out with fresh water from the local water supply. The car wash machine switches back and forth between recycled water and fresh water as needed by the different wash cycles independently of the recycling unit.

IMPORTANT:



When installing a car wash, ensure that it is equipped with **two water inlet connections**:
one for recycled water
and another for fresh water

We recommend to install a water meter in the fresh water pipe from the local water supply to the car wash to monitor the amount of fresh water which was used in the car wash.

When a wash cycle begins, the water pressure in **Pipe I “recycled water to consumer”** on the EKO-LIT Recycling unit drops from 4,5 to 3,5 bar.

If the minimum pressure is reached, the **pressure switch** on the EKO-LIT Recycling unit activates the pressure pump, which feeds recycled water through the fine filter(s) to the car wash, at a pressure of app. 4 bar.

When the wash cycle ends the pressure switch on the EKO-LIT Recycling unit will stop the pressure pump again once the maximum pressure of 4,5 bar is reached.

This process is repeated for each wash cycle.

To prevent the sludge pump from running dry (at initial start-up or due to leaks), a float switch B1 is installed in the underground tank. This switch automatically stops the sludge pump if the water level in the underground tank drops below the allowed minimum level.

The electric cable for float switch B1 and the electric cable for the sludge pump run through a PVC drain pipe installed from the underground tank to the EKO-LIT Recycling unit.

A compressed-air hose, which is installed between the pump protector and **pipe VI “compressed-air for reversible flow to pump protector”** on the recycling unit, also pass through this PVC drain pipe. The compressed air hose is required for cleaning the pump protector during maintenance.

To prevent the pressure pump from running dry (at initial start-up) a float switch (B2) is installed in the reactor tank. This switch automatically deactivates this pressure pump if the water level inside the reactor tank falls below the allowed minimum water level.

The float switch B3, which is installed in the reactor tank, activates or deactivates the sludge pump in the underground tank.

Automatic Back-Flush of the fine filter

The recycling unit is equipped with a fine filter which is automatically back-flushed. This back-flush mechanism is programmed to proceed after each car wash process automatically. It will be activated by a flow switch. A signal will be sent by the flow switch to a micro controller, which will open the pneumatic back-flush valve for 20 seconds.

Description of the Cyclone

Before the water reaches the reactor tank it passes through a hydro-cyclone. Here larger suspended solids are separated and returned to the sit chamber.

Description of the High Voltage Electrode

After the hydro-cyclone the recycling water passes through a pipe which is equipped with a high voltage electrode. Here a high voltage energy field is created which causes flocculation of the suspended solids and has an anti-algae effect.

Description of the flotation membrane

By means of the flotation membrane which is installed at the bottom of the reactor tank the flakes created by the high voltage electrode are floated. These flakes or dirt layer on the water surface in the reactor tank are drained periodically to the sit chamber.

Description of the FREYLIT Water Stabilizer

The Water Stabilizer works by a physio-kinetic process and does not need electricity, chemicals or maintenance. The water stabilization process is achieved by passing the water through a double walled cylinder, which contains a high - energetic medium. As the water flows through the Water Stabilizer, the water molecules are excited and the oxygen contained in the water is activated. The development of germs and bacteria in the recycled water is thereby prevented.

RECYCLING RATE

The recycling unit *EKO-LIT* can recycle up to 95% of the car wash water. The rest is lost due to evaporation and carry off at the car wash. However, the actual recycling rate is determined by the ratio between recycled and fresh water use, which is determined by the settings of the car wash machine itself. If, for example, 80 litres of water are used for the pre-wash and main wash cycle, and 20 litres are used for the final rinse cycle, then the resulting recycling rate in this particular case is only 80 %.

POWER CONSUMPTION

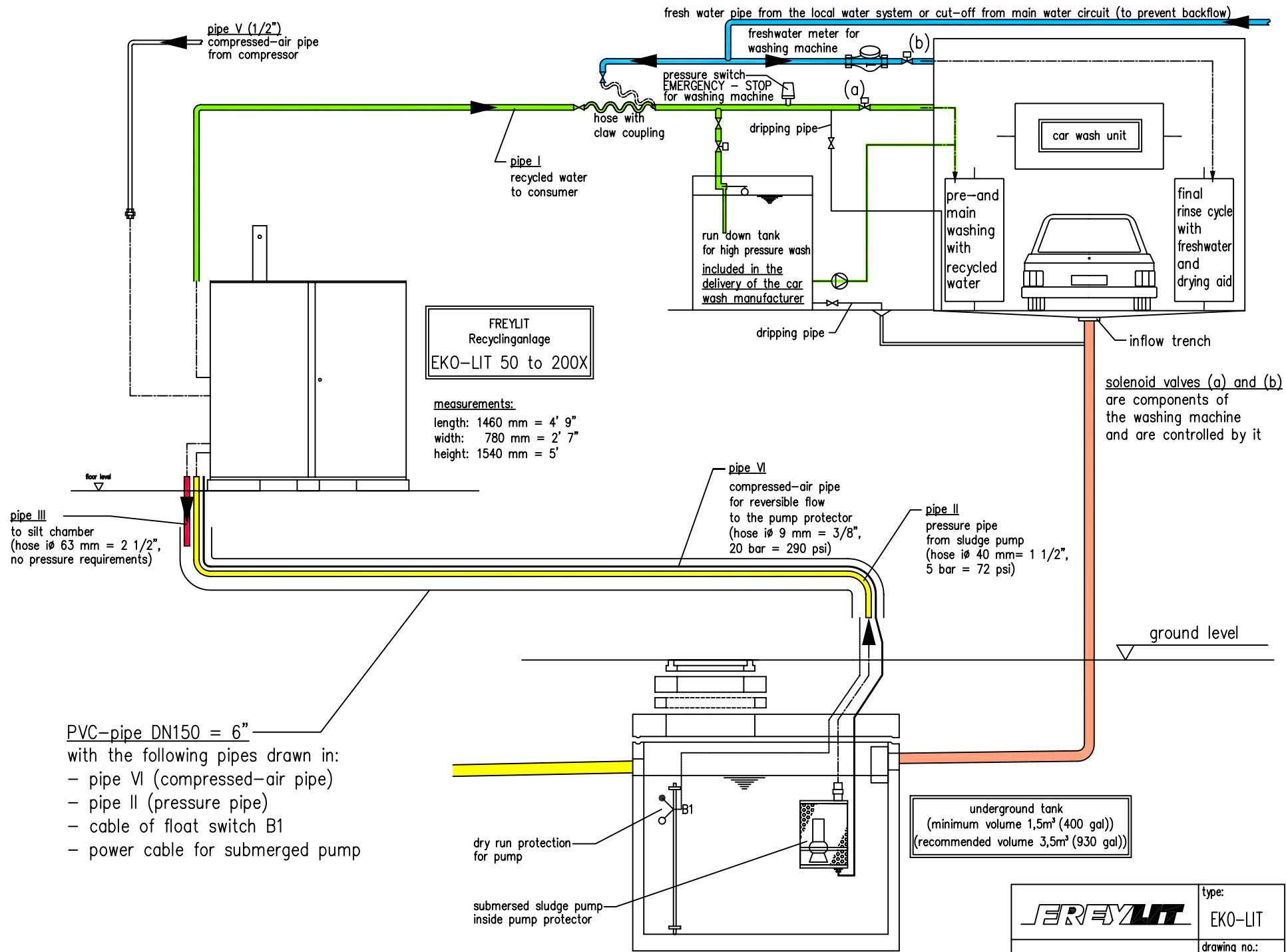
	EKO-LIT 100 X	EKO-LIT 200 X
sludge pump	400V/50Hz, 2.8 A, 1.1 KW	400V/50Hz, 2.8 A, 1.1 KW
pressure pump	400V/50Hz, 3.8 A, 1.5 KW	400V/50Hz, 6.5 A, 3 KW
high voltage electrode	max. 350 m Ampere	max. 350 m Ampere

MEASUREMENTS

	EKO-LIT 100 X	EKO-LIT 200 X
Length	1460 mm / 4' 9"	1460 mm / 4' 9"
Width	780 mm / 2' 7"	780 mm / 2' 7"
Height	1520 mm / 5'	1520 mm / 5'

DRY WEIGHT

EKO-LIT 100 X	app. 120 kg
EKO-LIT 200 X	app. 180 kg



FREYLIT
Recyclinganlage
EKO-LIT 50 to 200X

measurements:
length: 1460 mm = 4' 9"
width: 780 mm = 2' 7"
height: 1540 mm = 5'

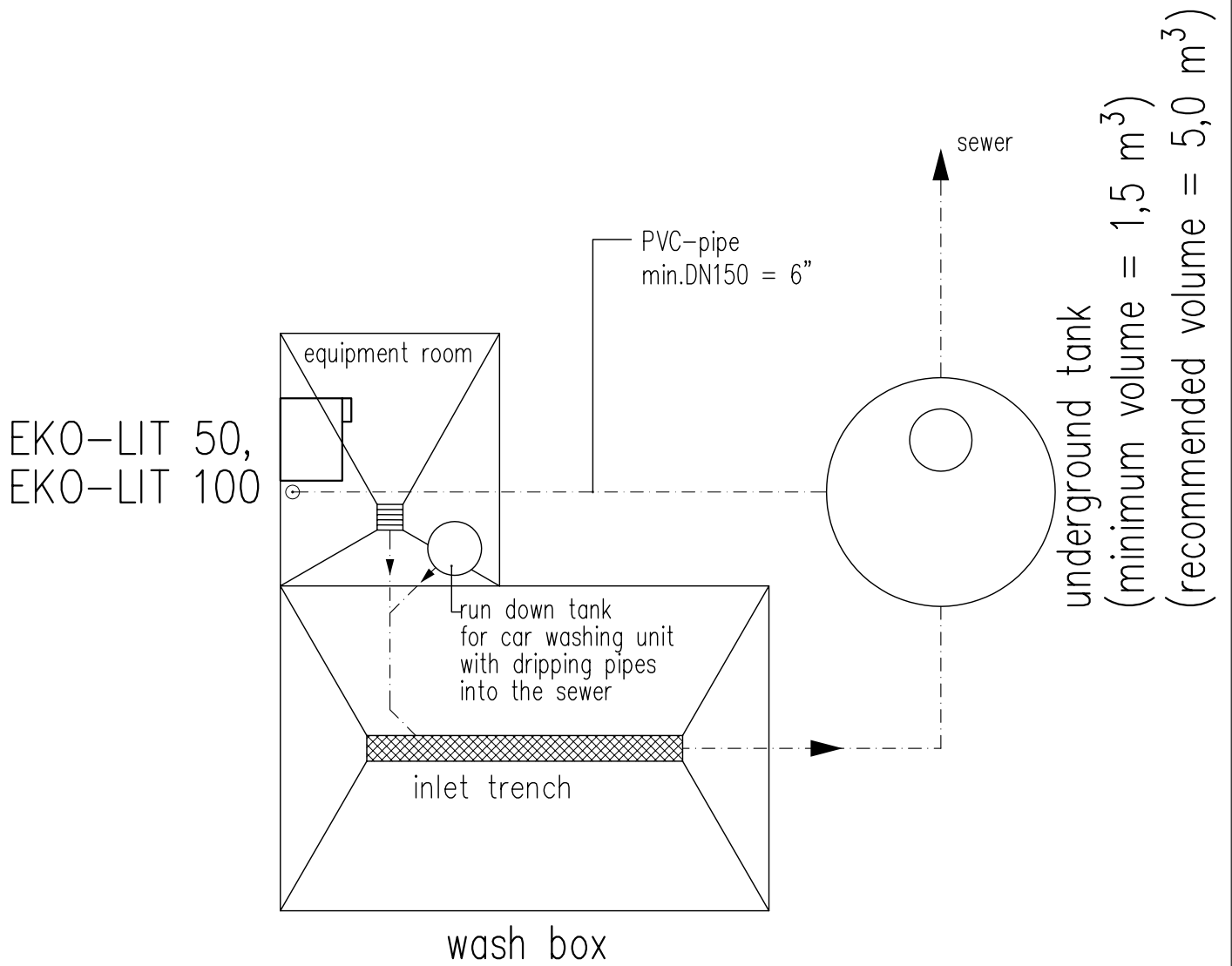
pipe III
to silt chamber
(hose iØ 63 mm = 2 1/2",
no pressure requirements)

PVC-pipe DN150 = 6"
with the following pipes drawn in:
- pipe VI (compressed-air pipe)
- pipe II (pressure pipe)
- cable of float switch B1
- power cable for submerged pump

dry run protection
for pump
submersed sludge pump
inside pump protector

underground tank
(minimum volume 1,5m³ (400 gal))
(recommended volume 3,5m³ (930 gal))

FREYLIT	type:	EKO-LIT	
	pipe connection plan EKO-LIT 50 to 200X	drawing no.:	ekolit50-200X_501_E
		date:	25.06.04

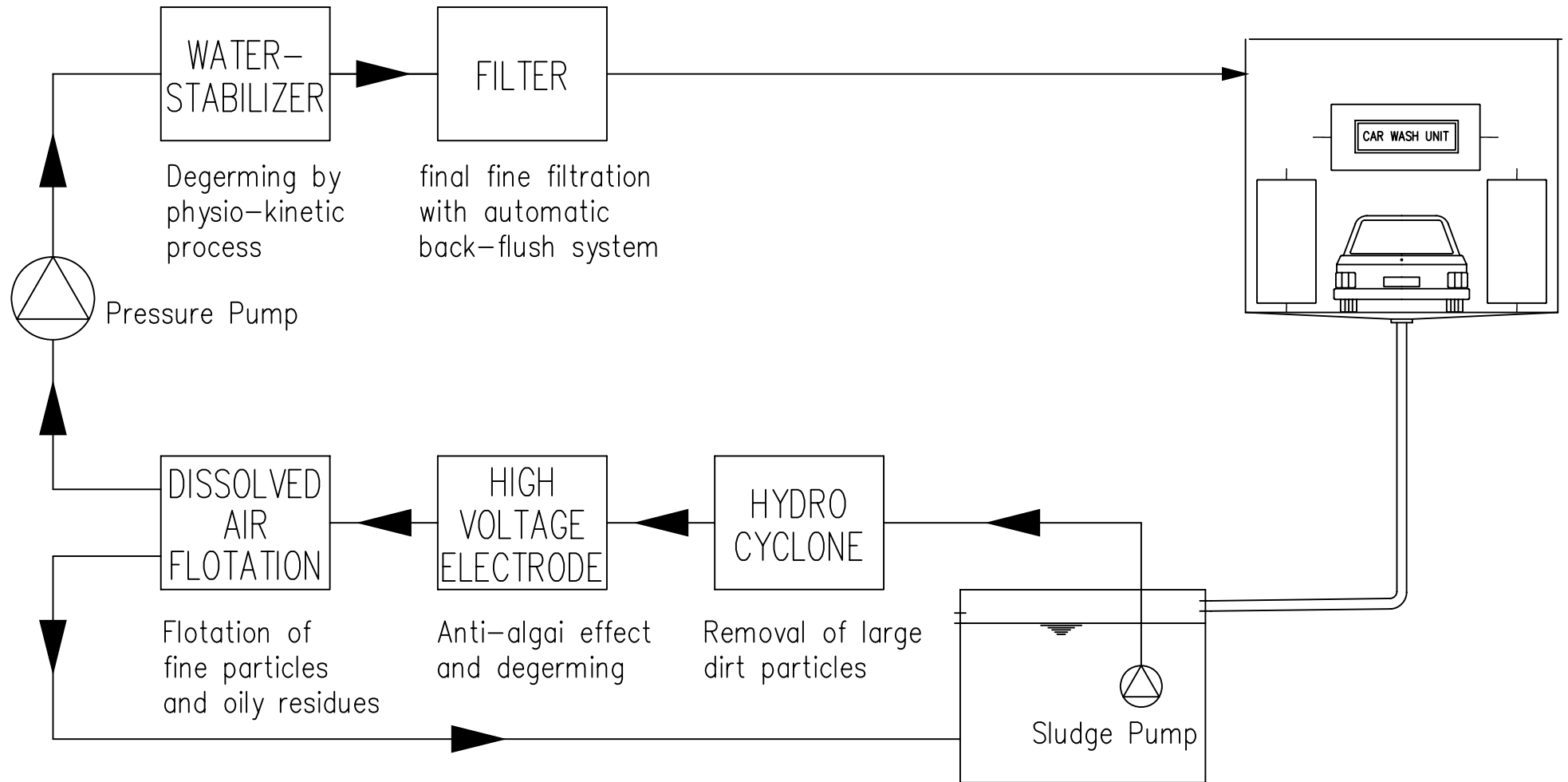


all sewer pipes must be constructed freeze-proof
and are not included in delivery of FREYLIT

date:	name:	FREYLIT	EKO-LIT 50 & 100
constr.: 19.03.04	Mei		
contr.:			
PIPING PLAN FOR EKO-LIT 50 and 100			drawing no.: ekolit50_100_521_E
			modif.:
			date:

PROCESS DIAGRAMM OF EKO-LIT

"HIGH-TECH combined into an economic, compact system"



EREVUT	type: EKO-LIT
pipe connection plan EKO-LIT	drawing no.: process_EKOLIT date: 20.11.2006

END OF SECTION

***REFERENCES FROM
EKO-LIT
RECYCLING UNITS:***



01. August 2003
Dipl.Ing.Hrebejk – DW 1160

EINGEG.

8. Aug. 2003

Firma
FREYLIT Umwelttechnik Ges.m.b.H.

Hubertusgasse 10
2201 Hagenbrunn

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Sehr geehrte Herren!

Die von der Firma FREYLIT hergestellten Waschwasser- recyclinganlagen (Filteranlagen) werden nun schon seit vielen Jahren von Shell Austria Ges.m.b.H. in Österreich eingesetzt. Die Qualität der Anlagen und das gebotene Service entspricht unseren Anforderungen.

Die Fa. FREYLIT hat nun ein neues Waschwasser-recyclingsystem mit der Typenbezeichnung EKO-LIT auf den Markt gebracht, welches von uns bei einer unserer Tankstellen eingebaut wurde. Nach Ablauf der Testphase sind wir zu dem Ergebnis gekommen, dass wir dieses neue EKO-LIT-System aufgrund der Testergebnisse mit gutem Gewissen unseren Partnern empfehlen können.

Mit freundlichen Grüßen


Shell Austria GesmbH

Translation of reference letter from Shell Co.

DATE : August 1st, 2003

The recycling systems manufactured by Freylit Umwelttechnik Ltd. have now been used for many years by Shell Austria Ltd. The quality of the units and the offered support services meet our requirements.

Freylit has recently introduced a new series of wash water recycling systems under the brand name of EKOLIT which has been installed and operated at one of our service stations. After completing the test period, we came to the conclusion that based on the test results we can recommend this system to our Partners with good conscience.

With our best regards,

Shell Austria Limited

END OF SECTION

**CHVTP
RECYCLING UNITS:**

FREYLIT

www.freylit.com

UMWELTECHNIK GmbH

WASH - WATER - RECYCLING SYSTEMS FOR AUTOMATIC CAR WASH MACHINES OR HIGH PRESSURE WASHERS



CHVTP

CARS

TRUCKS

AIRCRAFTS

TRAINS

....

MINIMUM OPERATION COST:

MAINTENANCE ONLY 10min. TWICE A YEAR

DE-GERMING BY HIGH-VOLTAGE-ELECTRODE

NO CONSUMABLE MATERIALS (CHEMICALS, FILTER,...) NEEDED.

RETROFITTING OF RECYCLING SYSTEMS FOR EXISTING CAR WASHES

ADVANTAGES of CHVTP recycling systems

The new CHVTP series is one of the most economical and efficient recycling system we have ever developed. It has several advantages which we would like to briefly point out :

1. advantage : particle removal by hydro-cyclone

With the CHV system we remove suspended solids by using a hydro-cyclone.

2. advantage : two stage de-germing process

- a) By high voltage electrode (30,000 Volts / 300 mAmps.)
- b) By our well established water stabilizer

3. advantage : removal of algae

Freylit has been engaged for many years in researching new wash water recycling technology. Recently we discovered that, when wash chemicals are mixed together with dirt and exposed to sunlight algae will grow. These algae will stick to pipes, tanks, car wash and other surfaces and act as a culture for bacteria. These bacteria will cause bad odour. To combat this problem Freylit developed the high voltage electrode which does not only kill bacteria, but is also very effective in preventing the growth of algae. Moreover, the High Voltage Electrode will cause a flocculation of fine particles.

4. advantage : aeration for the buffer tank

An aeration pipe with nozzles is installed in the buffer tank.. By aeration the flakes are brought up to the surface of the water inside the buffer tank and then skimmed off the surface to the overflow back to the silt chamber.

5. advantage : easy installation, minimum civil works needed

The CHVTP series ideal for retrofitting sites where the car wash already exists, because for example the CHVTP200 only needs two PVC-spring hoses to connect the unit to the underground pit. The CHVTP200 can work with only one silt chamber with an approximate volume of 4m³ (1000 gallons). This makes construction cost significantly cheaper than other systems. Moreover, the units are relatively light in weight, making transport, handling and installation easy.

END OF SECTION

**CHV
RECYCLING UNITS:**

FREYLIT

www.freylit.com

UMWELTECHNIK GmbH



CHV

WASH - WATER - RECYCLING SYSTEMS FOR AUTOMATIC CAR WASH MACHINES OR HIGH PRESSURE WASHERS

CARS

TRUCKS

AIRCRAFTS

TRAINS

....

MINIMUM OPERATION COST:

MAINTENANCE ONLY 10min. TWICE A YEAR

DE-GERMING BY HIGH-VOLTAGE-ELECTRODE

NO CONSUMABLE MATERIALS (CHEMICALS, FILTER,...) NEEDED.

RETROFITTING OF RECYCLING SYSTEMS FOR EXISTING CAR WASHES

ADVANTAGES of CHV recycling systems

The new CHV series is the most economical recycling system we have ever developed. It has several advantages which we would like to briefly point out :

1. advantage : particle removal by hydro-cyclone

With the CHV system we remove suspended solids by using a hydro-cyclone.

2. advantage : two stage de-germing process

- a) By high voltage electrode (30,000 Volts / 300 mAmps.)
- b) By our well established water stabilizer

3. advantage : removal of algae

Freylit has been engaged for many years in researching new wash water recycling technology. Recently we discovered that, when wash chemicals are mixed together with dirt and exposed to sunlight algae will grow. These algae will stick to pipes, tanks, car wash and other surfaces and act as a culture for bacteria. These bacteria will cause bad odour. To combat this problem Freylit developed the high voltage electrode which does not only kill bacteria, but is also very effective in preventing the growth of algae. Moreover, the High Voltage Electrode will cause a flocculation of fine particles.

4. advantage : aeration for the existing buffer tank

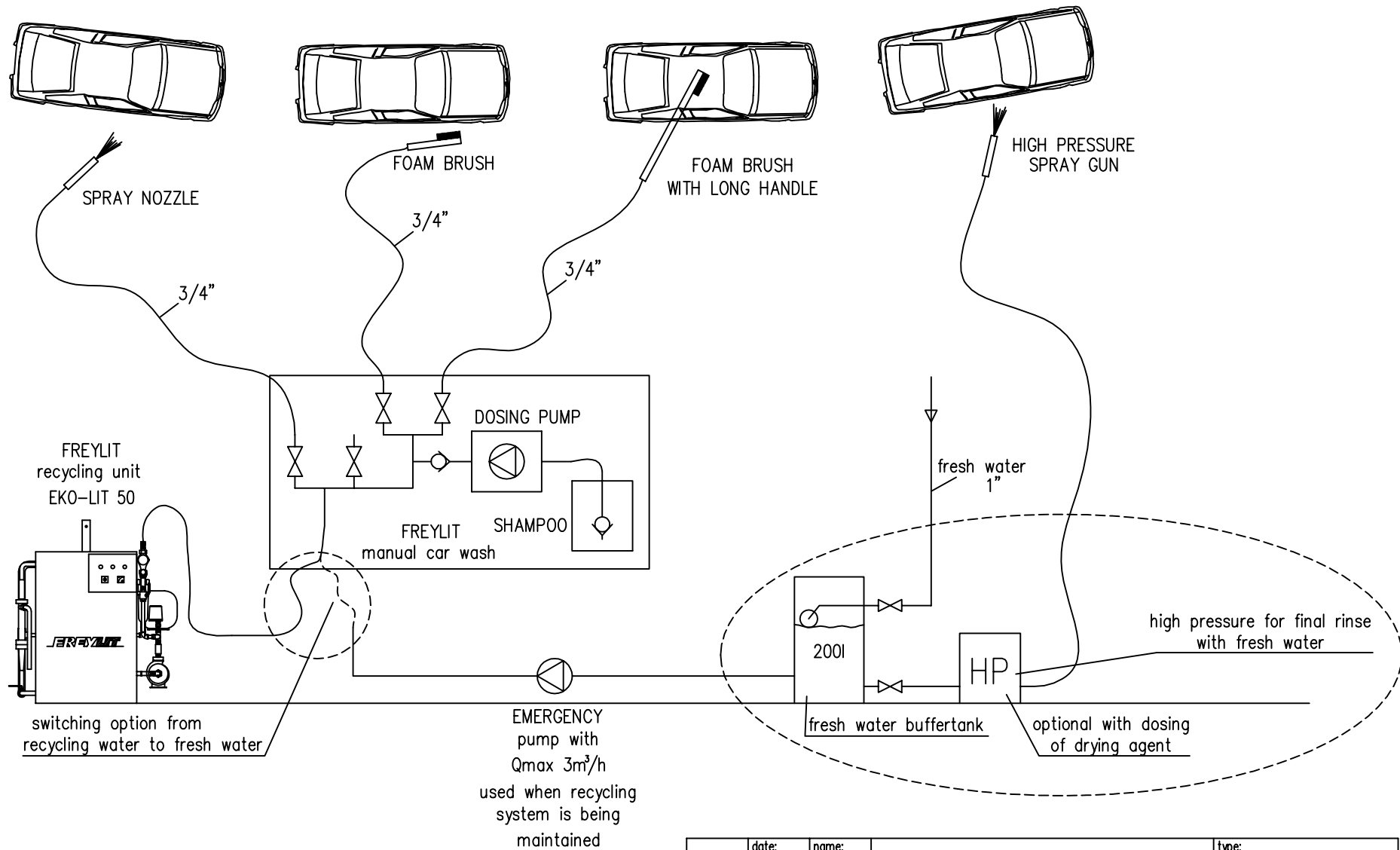
With the CHV series recycling systems we deliver an aeration pipe with nozzles to be installed into the existing buffer tank. By aeration the flakes are brought up to the surface of the water inside the buffer tank. We also deliver a union to be installed into the existing buffer tank near the water surface. A hose connecting the buffer tank to the recycling system will drain the skimmed flakes off the surface to the overflow back to the silt chamber.

5. advantage : easy installation, minimum civil works needed

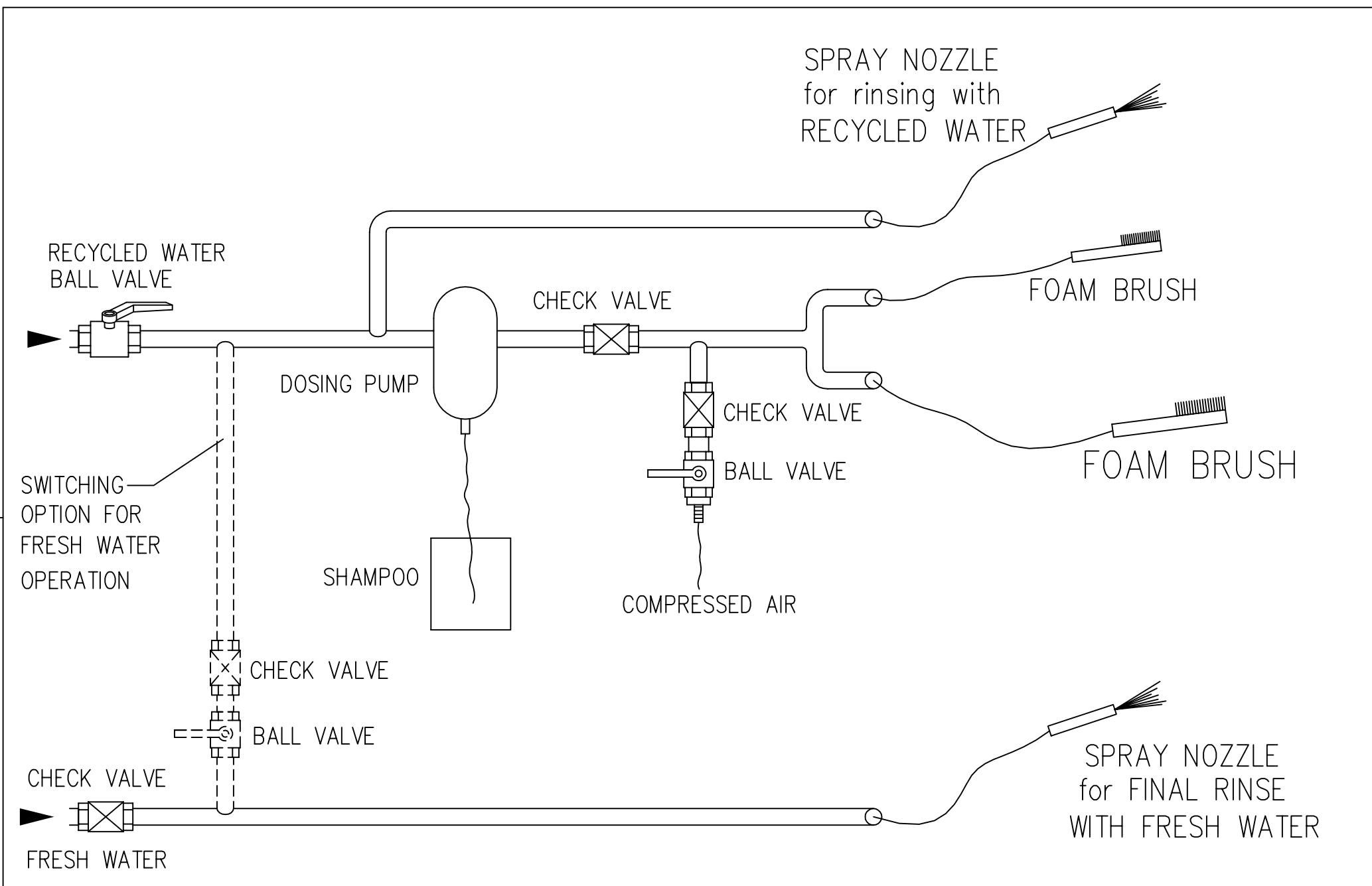
The CHV series ideal for retrofitting sites where the car wash already exists, because for example the CHV200 only needs two PVC-spring hoses to connect the unit to the underground pit. The CHV200 can work with only one silt chamber with an approximate volume of 4 m³ (1000 gallons). This makes construction cost significantly cheaper than other systems. Moreover, the units are relatively light in weight, making transport, handling and installation easy.

END OF SECTION

MANUAL WASH SYSTEMS:



	date:	name:	FREYLIT	type:	EKO-LIT 50		
constr.:	20.3.2001	Mei		drawing no.:	mcw_50		
contr.:				modif.:			
EKO-LIT 50 RECYCLING SYSTEM AND FREYLIT MANUAL CAR WASH SYSTEM				date:			



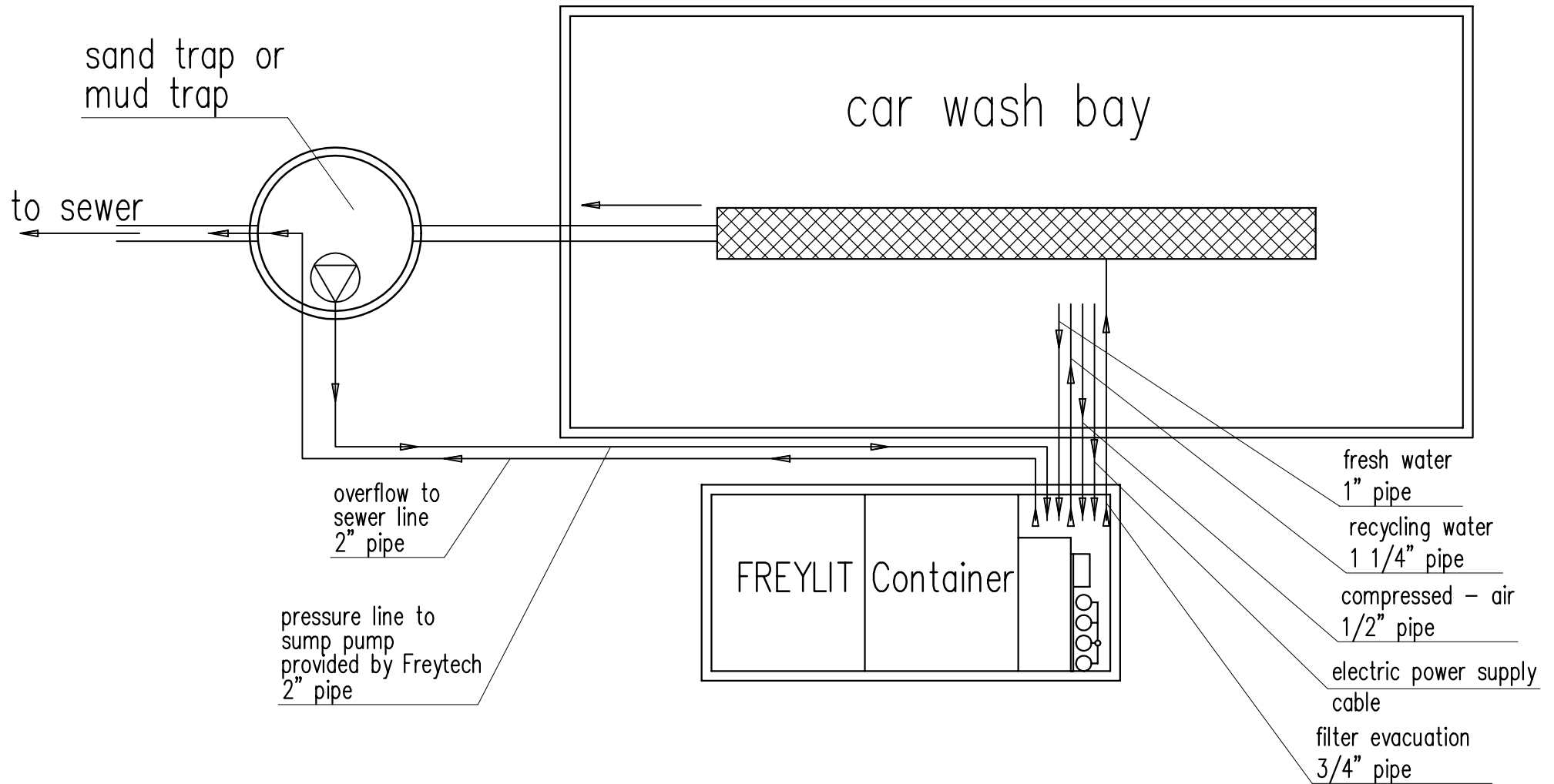
FREYLIT	type:
FREYLIT MANUAL CAR WASH without fresh water buffer tank	drawing no.: mcw_51 date: 21.05.03



EREVOLIT

END OF SECTION

**CONTAINERIZED
RECYCLING SYSTEMS:**



constr.:	date: 4/02	name: Mei	FREYLIT	type:		
contr.:				drawing no.:		
scale:				container		
				modif.:		
				date.:		

EREVOLIT

20 FEET CONTAINER



EREVOLIT

40 FEET CONTAINER



END OF SECTION