TRASHLIB 2”-3”-4”L

SELF-PRIMING CENTRIFUGAL PUMP

USE AND MAINTENANCE INSTRUCTIONS

Read this user manual before installing, starting, using or carrying out technical work on this equipment.

Compliance with the use and maintenance instructions in this manual will preserve the efficiency and reliability of the unit over time.

INSTRUCTIONS TRANSLATED FROM ORIGINAL LANGUAGE

WARNING!

DO NOT OPERATE THE PUMP BEFORE HAVING READ AND UNDERSTOOD THIS MANUAL.

CAFFINI CIPRIANO SRL DECLINES ANY AND ALL LIABILITY FOR DAMAGE DUE TO NEGLIGENCE AND FAILURE TO COMPLY WITH THE INSTRUCTIONS IN THIS MANUAL.

CAFFINI CIPRIANO SRL SHALL NOT BE LIABLE FOR DAMAGE CAUSED BY MISINTERPRETATION OF THE INSTRUCTIONS OR FOR DAMAGE CAUSED BY INCORRECT INSTALLATION AND/OR IMPROPER USE OF THE PUMP.

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1. INTRODUCTION

This manual provides the information and anything deemed necessary for understanding, proper use and routine maintenance of the TrashLib series pumps (hereinafter also referred to as the machines), manufactured by CAFFINI CIPRIANO S.r.l., hereinafter also referred to as the Manufacturing Company or Manufacturer. Failure to comply with the instructions in this manual will cause the warranty provided by the Manufacturing Company for the machine to be void. For any repairs or overhauls involving operations of a certain complexity, contact the Manufacturing Company directly. The Manufacturer remains fully available to provide prompt and accurate technical assistance.
These instructions are to be considered translated from the original language.

2. WARRANTY

Upon receipt, immediately check the condition of the material, especially any damage caused during transport. Also check exact correspondence with the transport document. Any claims must, under penalty of forfeiture, be immediately raised with the carrier on the transport document and notified to the Manufacturer within seven days by registered letter with return receipt. For any communication, always indicate the machine type and model printed on the relevant nameplate or stamped near the oil filler cap, and the serial number and/or series number. All our products are guaranteed for a period of 12 months from the delivery date. Repairs carried out under warranty do not interrupt the warranty period. The warranty covers material and workmanship defects that compromise product operation and make it unsuitable for its intended use, provided they are reported promptly and in any case within 2 days of their discovery. Damage resulting from the physical/chemical characteristics of the liquid drawn in is excluded, as is damage to parts which by their nature or purpose are subject to wear or deterioration (impeller, wear plates, volutes and gaskets), or that depends on failure to follow our use or maintenance instructions, improper or inadequate use or storage of the product, or modifications or repairs carried out by personnel not expressly authorised by us. For further details, refer to the Caffini General Warranty Conditions.

3. MANUFACTURER

The pumps in the TrashLib series are manufactured by CAFFINI CIPRIANO S.r.l., headquartered in Lemignano di Collecchio (Parma) - ITALY - Postcode 43044 - Via G. Di Vittorio no. 46 - Tel. +39 0521 804325 Fax +39 0521 804145 - e-mail: info@caffinipumps.it; certified e-mail: caffinipec@legalmail.it - REA no. PR-202507 - Parma Companies Register - tax code and VAT no. IT02002550347.

4. INFORMATION ON THE NAMEPLATES

Each pump is fitted with a nameplate providing information about the pump. The nameplates are located on the gearbox support or on the guard, and show:

- Model
- Serial number
- Weight
- Maximum engine/motor speed
- Engine/motor power
- Maximum flow rate
- Maximum pressure

The serial number uniquely identifies the pump and is essential for the correct supply of any spare parts. The serial number is also stamped on the side of the gearbox.

IMPORTANT! **If worn, the nameplates must be reapplied.**

5. MACHINE DESCRIPTION

The TrashLib is a self-priming centrifugal pump with a single open-vane impeller and large passages for solids, available in versions with 2”, 3” and 4” GAS BSPP ports. The pump casing cover can be opened quickly and without special tools, a useful feature for freeing the impeller from any foreign bodies that may have become jammed.

The TrashLib pump can be driven by different types of engine/motor, connected directly to the impeller, according to the following table:

MAKE/MODEL	TRASHLIB 2"	TRASHLIB 3"	TRASHLIB 4"L
HONDA *Petrol*	GX160QX	GX270QX	GX390QX
LOMBARDINI/KOHLER *Diesel*	KD15 350	-	-
YANMAR *Diesel*	L48	-	-
HATZ *Diesel*	1B20	1B50	1B50
Electric motors (custom version)	2,2kW 2800rpm SPH/TPH	7,5kW 2800rpm TPH	7,5kW 2800rpm TPH
SALAMI/CASAPPA *(Hydraulic motors)*	82E2 4CV	82E2 9CV	82E2 13CV

The pump-engine/motor coupling is a close-coupled unit.

For petrol/diesel engines, the engines have the following flange arrangement:

- TrashLib 2” → SAE 609 A with 3/4” cylindrical shaft and keyway
- TrashLib 3” – 4”L → SAE 609 B with 1” cylindrical shaft and keyway

The motor pump unit can be installed on a fixed frame fitted with handles for manual transport, or on a two-wheel trolley, equipped with a lifting hook for handling the unit.

6. USE AND APPLICATION

6.1 Intended use

The pump is suitable for transferring muddy water, even with solids filtered through the suction strainer. The TrashLib may also be suitable for transferring food liquids; in this case the user must ensure that the materials in contact with the product comply with the applicable directives.

The machine is designed and built so that the parts in contact with the product to be pumped can be cleaned before each use; all connection elements are smooth, without roughness or spaces where organic material can collect; surfaces in contact with food products can be easily cleaned and disinfected.

6.2 Unintended use

IMPORTANT! **The pump cannot run dry, except for a few minutes.**

The pump is not suitable for transferring hazardous or flammable liquids, or liquids that may generate a potentially explosive atmosphere.

If the pump is used to transfer chemical products that are particularly dangerous in the event of contact with persons or objects, the correct choice of the metallic materials and elastomers of the pump parts that will come into contact with the fluid must be checked with the supplier. In any case, the installer must create, in the pump operating area, a suitable basin to contain any fluid that could leak due to accidental failure of components, and must install remote controls for starting and stopping the machine, as well as drainage pipes for the fluid collection basin so that maintenance operations can be carried out.

7. NOISE LEVEL

During operation, the machine in the aluminium version equipped with a 2800 rpm electric motor has a measured sound power level LwA=89 dB(A) and a guaranteed sound power level of 90 dB(A).

For the other versions of the TrashLib pump equipped with a petrol or diesel engine, refer to the sound power level of the installed engines indicated on the EC Declaration of Conformity.

The manufacturer remains available to users to send cumulative distribution curves, measured over time and frequency, for the sound pressure level of the TrashLib pump should any soundproofing intervention be required.

8. SAFETY AND ACCIDENT PREVENTION

IMPORTANT! **The employer is required to provide PPE (Personal Protective Equipment) and inform personnel on its correct use and maintenance.**

IMPORTANT! **The operator must always comply with the instructions shown on the signs affixed to the machine.**

The PPE that the operator must use during Maintenance and Cleaning operations is:

- work clothing
- gloves
- safety shoes with steel toe cap
- hearing protectors
- mask

9. SAFETY RULES

Do not carry out maintenance operations during operation.

Do not run the petrol or diesel engine inside an enclosed area. Exhaust gases contain carbon monoxide, an odourless and deadly poison.

Do not place hands or feet near moving or rotating parts.

Do not keep, pour or use fuels in the presence of an open flame, or near devices such as stoves, boilers or equipment capable of generating sparks.

Do not refuel in enclosed or poorly ventilated areas.

Do not refuel during operation. Allow the engine to cool before refuelling. Store fuels in suitable containers approved according to safety standards.

Do not remove the fuel tank cap while the engine is running.

Do not run the engine if there is a smell of petrol or any other risk of explosion.

Do not start the engine if fuel has leaked.

Do not transport the engine with petrol in the tank.

Do not check ignition with the spark plugs or spark plug cable disconnected: use a suitable tester.

Do not crank the engine with the spark plug removed.

Do not strike the flywheel with blunt or metal objects, as this may cause metal parts to break and detach during movement.

Do not touch mufflers, cylinders or cooling fins when hot, as contact may cause burns.

To prevent parts from striking people if the machine falls, make sure that no persons are within the operating radius of the lifting equipment during lifting operations.

Lifting, transport and positioning operations must be carried out by qualified technical personnel trained in the specific fields of work.
Before each handling operation, always ensure that the lifting equipment and related accessories (ropes, hooks, etc.) are suitable for lifting the load to be handled, and check the required stability of the load.

Do not use the PUMP in ways other than those intended by the manufacturer and indicated in the Use and Maintenance instructions.

Also pay particular attention to:

Danger: suspended loads

Do not stand under loads

Do not remove safety devices

Do not repair and/or lubricate moving parts

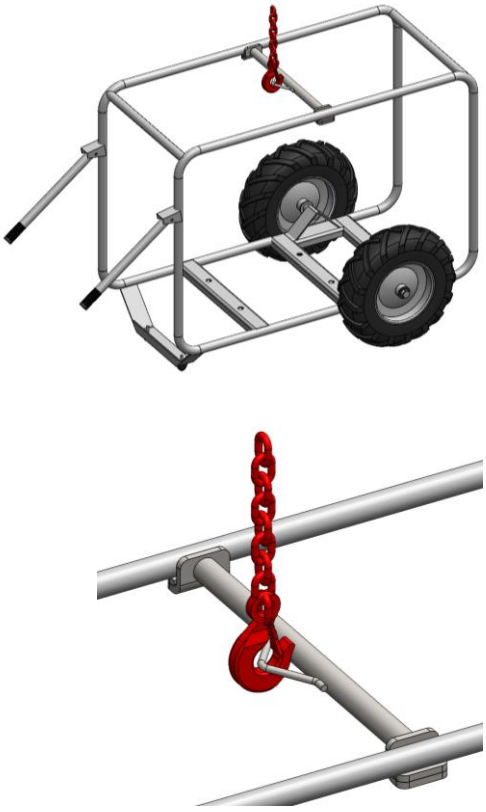
10. HANDLING AND TRANSPORT

The machine may only be handled with the suction and delivery pipes disconnected and with the power unit stopped or disconnected.

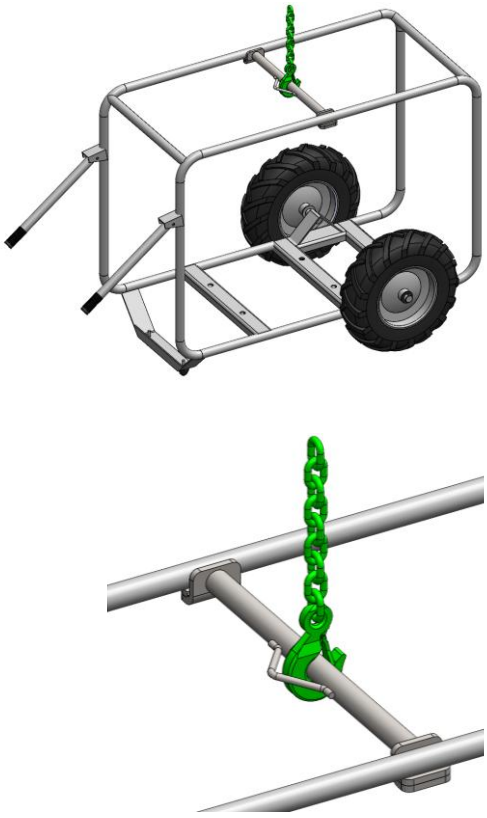
For lifting the machine installed on a protective frame/trolley, use the central part of the upper (removable) cross member as the lifting point, making sure this is done as shown in the image below.

Before any handling operation of pumps on a stretcher frame/protective trolley, check that the four fastening screws of the (removable) crossbar are properly tightened.

INCORRECT!



CORRECT



The machine must be transported in a horizontal position and under optimal safety conditions.
Also pay attention to:

- Before handling the machine, check its dimensions and weights from the nameplate.
- Do not stand within the operating radius while the machine is being handled.
- During installation and maintenance work, safe transport of all components must be ensured using suitable slings. Handling must be carried out by specialised personnel to avoid damaging the machine and causing injury to personnel.
- The lifting points of the various components must be used only to lift the components for which they were provided.
- Do not stand or pass under or near the machine when it is raised from the ground.
- To secure the machine to the transport platform, fasten it with ropes or chains.

No additional accessory may be connected to the motor pump or electric pump unit during lifting or handling.

11. STORAGE

For storage, place the machine in an enclosed area; if left outdoors, cover it with a waterproof sheet. Avoid accumulation of moisture around the machine. Do not leave the pump body full of liquid. Empty it through the drain plug provided. In winter months, the liquid could freeze and damage the system. When the liquid is hazardous, before emptying the tank, take all precautions to prevent damage and injury. Periodically start the pump for a few seconds to prevent deposits inside the pump.

12. INSTALLATION

For use of the motors/engines coupled to the pump, express reference is made to the rules issued by the motor/engine manufacturers, attached to this use and maintenance manual.

Install electric pump or motor pump units fitted with a metal base on stable foundations firmly anchored to the ground. Make sure that the parking foot of the trolley versions is locked in the support position by means of the fixing pin, with the safety split pin inserted to prevent the pin from accidentally coming out of its seat.

It is good practice to prevent the entry of large solids (maximum size 28, 38 and 40 mm respectively for TL2”, TL3” and TL4”L), which could cause breakages/jamming of internal components, by fitting a protective suction strainer, available on request.

The pipes connected to the pump must be flexible, with large-radius bends. Thoroughly clean the pipes before connecting them to the pump. The suction and delivery pipes must have a diameter equal to or greater than that of the pump suction or delivery ports. Avoid bends, elbows or restrictions as much as possible, as they may limit the flow of liquid to or from the pump.

Do not fit foot valves: the pump is equipped with flap valves that act as non-return valves.

Make sure that all joints are perfectly airtight: check the threads, flange and port seals, and quick couplings.

Install the pump as close as possible to the fluid to be pumped, reducing the length of the suction pipe wherever possible (maximum suction lift is 7 metres); this reduces priming time and can provide a higher flow rate.

When installing units with internal combustion engine, make sure that the maximum engine inclination does not exceed 35° transversely or longitudinally, to ensure correct lubrication.

12.1 Electrical connections

Make sure that the electric pump is disconnected from the power supply before any installation or maintenance operation.

For versions with electric motor, the pump must be connected to an electrical system equipped with earthing in accordance with the local technical regulations in force. For the single-phase version, comply with the applicable technical regulations.

Make sure that the nameplate voltage matches the mains supply voltage.

Do not use the pump power cable to lift or transport it.

Installation of a high-sensitivity residual-current device is recommended as additional protection against electric shock in case of insufficient earthing.

In the three-phase version, connect the earth wire (yellow-green) of the power cable to the earth system of the power supply, making sure to install a thermal-magnetic motor protection switch or a contactor with thermal relay to protect both the motor and the pump.

It is the installer's responsibility to ensure that the power supply earthing system is installed according to the regulations.

Whenever a pump with a three-phase motor is connected to a different power line, there is an equal chance that it will rotate in either direction. Rotation in the wrong direction causes a significant reduction in flow rate and incorrect gearbox operation. The correct direction of rotation is indicated by an arrow on the gearbox body. If the motor does not rotate in the correct direction, disconnect the line power supply and swap two phases.

13. BEFORE START-UP

Read the instructions and safety rules for the motors/engines coupled to the supplied pump unit and strictly comply with the provisions issued by the motor/engine manufacturer.

Before start-up, check that all safety systems are active and that the actions below have been carried out.

Seal check:

The seal is greased during assembly and requires no maintenance during the first 300 hours of pump operation. Fill the seal greaser with PERSIANOIL POLIGREASE EP2 type grease.

During this operation, a small amount of grease must come out through the sealing rings: this indicates perfect filling.

Filling the pump casing:

Completely fill the pump casing with the liquid to be pumped through the relevant plug located on the upper part of the pump casing. The priming chamber remains full even after the pump has stopped; therefore it is no longer necessary to refill it with liquid at the next start.

If the pump is expected to remain stopped for long periods, with a possible risk of freezing, remember to empty the pump casing through the drain plug located under the suction port.

Priming:

The pump takes a certain amount of time to self-prime completely (16 s for TL2”, 25 s for TL3” and 40 s for TL4”L) and to start pumping at the operating head and flow rate.

If the pump does not prime, do not run it for more than two minutes to avoid damaging the rotary seal.

Level check

Check the engine fuel level, lubricant level and air filter.

For motor pumps, start them by gradually increasing the rotation speed to the maximum.

Never adjust the end stop of the throttle lever: by further increasing the speed for which the engine has been set, the pump would require more power than the engine can provide. Never exceed the maximum speed indicated on the pump nameplate.

Do not operate the pump without the suction strainer.

14. MAINTENANCE

IMPORTANT!

All maintenance operations must be carried out with the machine stopped, disconnected from any power lines and disconnected from the suction and delivery pipes.

IMPORTANT!

When dismantling pipes or when dismantling the pump casing, be careful and take the necessary precautions to avoid contact with liquids still under pressure, or with poisonous, irritating or corrosive liquids.

Before starting any maintenance operation on the pump, drain any liquid still contained in the pump casing through the drain plug located under the suction port. Liquid residues may still remain inside the pump casing until the impeller closing cover is opened.

Before putting hands or tools inside the pump casing, make sure that any possibility of accidental starting of the engine/motor unit has been prevented (disconnect power lines, wires, spark plug, etc.).

Protect the pump from frost; the liquid present in the pump casing must be removed through the relevant plug located in the lower part of the pump casing.

Every day before use, or after maintenance and cleaning operations on the pump casing, check the integrity of the impeller and the tightening of the cover screws and filling plug.

Strictly follow the engine manufacturer’s maintenance instructions.

IMPORTANT!

Keep away from the motor pump unit any person who has not read, understood or does not know the instructions given in the use and maintenance booklets.

	Before each use	After each use	Every 3 months or 50 hours	Every year or 300 hours	Every 1500 hours or excessive wear*
Seal check	X				
Pump casing filling	X				
Pump casing cleaning		X			
Level check	X				
Seal greasing				X	
Impeller/wear plate check			X		
Impeller/wear plate replacement					X

*: excessive wear means the creation of a gap of more than 2 mm between the impeller and the wear plate. Note that as the gap increases, pump performance decreases.

RECORD SHEET FOR WORK PERFORMED				
Date	**Description fault**	**Description operation**	**Outcome**	**Signature operator**

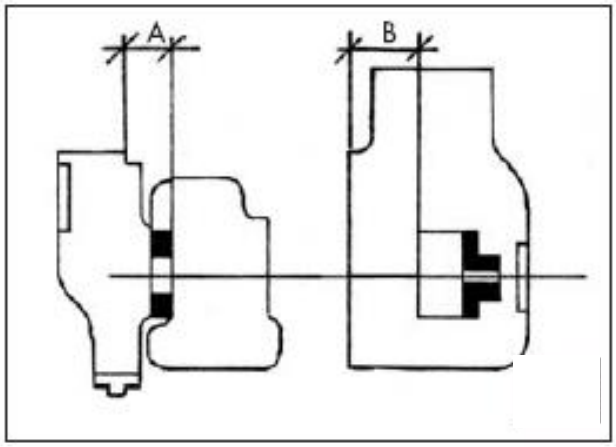
15. SPARE PARTS

When ordering spare parts, indicate:
a) Pump serial number.
b) Part number and name of the required spare part.

15.1 Replacement of spare parts

Impeller/wear plate:

When replacement of the impeller and/or wear plate becomes necessary, make sure that when the new components are installed the distance between them is between 0.3 mm and 0.5 mm. To measure this distance easily, with reference to the image below, calculate the difference between dimension A and dimension B.



Other spare parts:

For replacement of other components, refer to the spare parts catalogue with exploded views: for special repairs it is nevertheless preferable to contact your usual supplier.

All repair operations concerning the motor/engine must be carried out in accordance with the motor/engine instruction and maintenance booklet attached to this manual.

15.2 Tightening torques

Code	Pump	Tightening torque	
		[kgm]	[Nm]
TL001/01 Nut	TrashLib 2”	3	29
TL001/31 Nut	TrashLib 3”	4,5	44
TL001/32 Nut	TrashLib 3” – 4”L	4,5	44
TL002/21 Stud	TrashLib 2”	3	29
TL002/31 Stud	TrashLib 3”	4,5	44
TL002/32 Stud	TrashLib 3” – 4”L	4,5	44
TL011/0 Impeller lock nut	Trashlib 2”	2,5	25
TL011/3 Impeller lock nut	Trashlib 3”	3,2	31
TL011/3 Impeller lock nut	Trashlib 4”L petrol	3,2	31
TL011/4 Impeller lock nut	Trashlib 4”L diesel	5	49

16. MALFUNCTIONS, CAUSES AND REMEDIES

MALFUNCTION	POSSIBLE CAUSE	REMEDY
The pump does not prime	1. The pump casing has not been filled sufficiently	1. Fill the pump casing through the plug at the top
	2. The engine/motor runs too slowly	2. Increase the speed using the throttle (for petrol/diesel engines)
	3. The impeller is blocked by foreign bodies	3. Remove the foreign bodies
	4. The suction hose is broken or not properly tightened	4. Check the tightening and replace the hose if necessary
	5. The pump is positioned too high in relation to the suction basin	5. Position the pump at a lower level
	6. The suction strainer, if fitted, is full of debris	6. Clean the strainer
	7. The impeller is worn or broken	7. Replace the impeller
	8. The pump cover has not been tightened correctly	8. Tighten the screws correctly
	9. The delivery pipe is pressurised	9. Check what is installed downstream of the pump
	10. Excessive heating of the liquid inside the pump casing	10. Check for debris or check the temperature of the liquid before suction
	11. Air enters through the seal	11. Replace the seal
	12. The priming tooth on the volute may be worn	12. Replace the volute
The pump delivers no flow or insufficient flow	1. The pump is not primed	1. Wait at least 1 minute and, if necessary, see *The pump does not prime*
	2. The head required by the system is higher than the pump design head	2. Raise the pump installation level
	3. Excessive pressure losses on suction	3. Reduce bends and remove any valves/flow restrictions
	4. Impeller and/or pipes obstructed or clogged	4. Remove the obstruction
	5. The pipes have an insufficient diameter	5. Use pipes with a diameter equal to that of the suction/delivery ports
	6. There are air leaks on suction	6. Make sure there are no leaks, replacing fittings/pipes if necessary
	7. The impeller or wear plate may be worn	7. Replace the impeller or wear plate

The pump does not develop sufficient pressure	The viscosity of the liquid is higher than expected	Dilute the liquid to be pumped with water
The pump absorbs excessive power	1. The rotation speed is too high	1. Check that the engine/motor speed is lower than the declared maximum
	2. The pump operates differently from the manufacturer’s data	2. Check the integrity and condition of the pump
	3. The specific gravity of the liquid is higher than specified	3. Dilute the liquid to be pumped with water
	4. Possible internal friction between rotating and fixed parts	4. Dismantle the parts and reassemble them correctly
	5. Foreign bodies in the impeller	5. Remove the foreign bodies
The pump vibrates and is noisy	1. The pump operates with too low a flow rate	1. Check the integrity and condition of the pump
	2. The pump and pipes are not rigidly fixed	2. Check the tightening of the fittings
	3. The pump cavitates	3. See *The pump does not prime* and *The pump delivers no flow or insufficient flow*
	4. Foreign bodies in the impeller	4. Remove the foreign bodies
The pump jams	Foreign bodies in the impeller	Remove the foreign bodies
The seal leaks	1. Seal not lubricated	1. Lubricate the seal
	2. Seal worn	2. Replace the seal
The seal overheats	The pump does not prime	See *The pump does not prime*

For faults in the power motors/engines, see the attached instruction booklets.

17. SPECIFICATIONS

Performance and weight

Model	TrashLib 2”	TrashLib 3”	TrashLib 4”L
Max. flow rate*	51 m^3/h	97 m^3/h	138 m^3/h
Maximum suction lift	9 m	9 m	9 m
Maximum total head	30 m	28 m	32 m
Maximum solids passage	28 mm	38 mm	40 mm
Bare pump weight	15 kg	29 kg	47 kg

*: determined at 3600 rpm with 1 m suction lift

A spare parts catalogue is attached to the use and maintenance manual (see also the QR code below).

TrashLib 2”

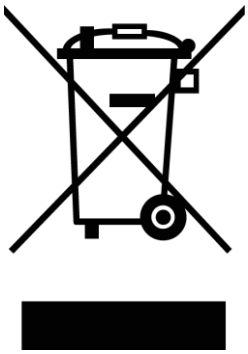
TrashLib 3”

TrashLib 4”L

18. DISPOSAL

In the event of demolition or decommissioning of the machine, separate its parts according to the manufacturing materials and dispose of them in compliance with the regulations in force in the country where demolition or decommissioning takes place.

PROFESSIONAL EEE - INFORMATION FOR USERS



Pursuant to art. 26 of Legislative Decree no. 49 of 14 March 2014, "Implementation of Directive 2012/19/EU on waste electrical and electronic equipment"

The crossed-out wheeled bin symbol shown on the equipment or its packaging indicates that the product must be collected separately from other waste at the end of its useful life.

Separate collection of this equipment at end of life is organised and managed by the producer. Users wishing to dispose of this equipment may therefore contact the producer and follow the system adopted by the producer to allow separate collection of end-of-life equipment, or independently select an authorised management chain.

Proper separate collection for subsequent sending of the decommissioned equipment for recycling, treatment and environmentally compatible disposal helps to avoid possible negative effects on the environment and health and promotes reuse and/or recycling of the materials of which the equipment is composed.

Unauthorised disposal of the product by the user entails application of the penalties provided for in Legislative Decree 152/2006.

NOTES

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