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MANUAL

User's Manual (Bedienaar/Operateur/Operator) Machinery Directive 2006/42 / EC EN13157:2004+A1

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RT0025 - RT0050 - RT0070 - RT0150 ALU

Lever hoist ALU Rateltakel ALU Palan Manuel à levier ALU





△WARNING

This equipment should not be installed, operated or maintained by any person who has not read and understood all the contents of this manual. Failure to read and comply with the contents of this manual can result in serious bodily injury or death, and/or property damage.

Nederlandstalige handleiding beschikbaar op eenvoudig verzoek

Manuel en Français disponible sur simple demande.

29/04/2023 VABOTEC BV STARRENHOFLAAN 33 2950 KAPELLEN

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CONTENTS



1. DEFINITIONS
2. SAFETY RULES1
2.1 General1
2.2 Rules before use1
2.3 Rules for operation2
2.4 Rules after use
2.5 Inspection and maintenance3
2.6 Others 3
3. MAIN SPECIFICATIONS3
3.1 Operation conditions3
3.2 Technical specification3
4. OPERATION 3
4.1 Introduction 3
4.2 Features 4
4.3 The method of operation4
4.4 Load operation 4
4.5 Overload device4
5. INSPECTION 4
5.1 General4
5.2 Daily inspection 4
5.3 Periodic inspection 5
6. MAINTENANCE9
6.1 General 9
6.2 Lubrication9
7. TROUBLE SHOOTING10
8. PART LIST10
8.1 Exploded View Drawing10
8.2 Parts list

1. DEFINITIONS



This RT ALU Series lever block hoist has been designed for vertically lifting and lowering loads, by hand, under normal atmospheric conditions of the work place.

↑ DANGER

Indicates a imminently hazardous situation which, if not avoided, will result in death or serious injury.

/ WARNING

Indicates a imminently hazardous situation which, if not avoided, could result in death or serious injury.

↑ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used alert against unsafe practices.

2. SAFETY RULES

2.1 General

Failure to read and comply with the contents of this manual can result in serious bodily injury or death, and property damage. Although you may be familiar with this or similar equipment, it is strongly recommended that you read this manual before installing, operating or maintaining the product.

Equipment described herein should not be used in conjunction with other equipment unless necessary and required safety devices applicable to the system. The company shall have no liability to the client for any loss, damage or other claims for compensation arising from this type of misuse. Modifications to upgrade, rerate, or otherwise alter this equipment shall be authorized only by the original equipment manufacturer.

↑ DANGER



(1) NEVER use a hoist for lifting, supporting or transporting people.



(2) NEVER use your foot to apply pressure to the lever handle.



NEVER use two or more hoists together to lift load beyond the rated capacity of hoist.



rated capacity of the hoist



4 NEVER lift up load beyond the 5 NEVER lift or transport loads over or near people.

2.2 Rules before use

A CAUTION Hoist operators shall be required to read this manual, the warning contained in this manual, instruction and warning labels on the hoist or lifting system. The operator shall also be required to be familiar with the hoist controls before being authorized to operate the hoist or lifting system.



Dot not use the hoist if there are deep nick, gouges or stretch on hook, contact our company or the distributor of the hoist and replace the hook with new parts.

A CAUTION

- 1. Ensure every description of name plate is clear and visible.
- 2. Check the hoist before daily use according to the Daily Inspection.
- 3. Estimate the weight of load and choose the hoist of suitable rated capacity.
- 4. Ensure hooks not be deformed and rotates freely with no roughness.
- 5. Ensure the running of the brake system is normal.
- 6. Lubricate load chain according to recommendations of manufacturer

2.3 Rules for operation

MARNING



(1) NEVER use a twisted, kinked, damaged or stretched load chain.



(4) NEVER support a load on the tip of the hook...



(2) NEVER use the hoist chain as a sling.



(5) NEVER run the load chain over an sharp edge.



(3) NEVER use the hoist as a support.



(6) NEVER weld or cut a load suspended by a hoist.

↑ WARNING

- 1. NEVER use damaged hoist or hoist that is not working properly.
- 2. NEVER swing a suspended load.
- 3. NEVER use the hoist chain as a welding electrode.
- 4. NEVER operate a hoist so far that the bottom hook touches the hoist body.
- 5. NEVER operate a hoist so far that the load chain pulls the anchorage.
- 6. NEVER operate a hoist if excessive noise occurs.
- 7. NEVER allow your attention to be diverted from operating the hoist.

2.4 Rules after use

Put down the load slowly and safely after lifting.

↑ WARNING

NEVER suspend a load for an extended period of time.

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2.5 Inspection and maintenance



⚠ CAUTION

Ensure the qualified service personnel inspect the hoist periodically.

⚠ WARNING

Do not attempt repair of a hook by heat treating, bending or attaching anything by welding. Such procedures will weaken and may cause failure of the hook.

2.6 Others

⚠ CAUTION

Always consult the manufacturer or your dealer if you plan to use a hoist in an excessively corrosive environment (salt water, sea air and/ or acid, explosive environment or other corrosive compounds, etc.).

M WARNING

NEVER use a hoist which has been taken out of service until the hoist has been properly repaired or replaced.

3. MAIN SPECIFICATION

3.1 Operation conditions

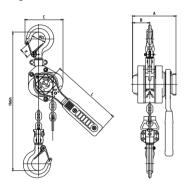
Allowable ambient conditions

Operation temperature: -10° C to $+60^{\circ}$ C

Operation humidity: 100%RH or less, this product should not be used under water.

Non-asbestos material: Friction plates are made of asbestos free material.

3.2 Technical specification



Model		RT0025ALU	RT0050ALU	RT0070ALU	RT0150ALU
Capacity	Т	0.25	0.50	0.75	1.5
Lifting height	M	1	1	1.5	1.5
Running test load	KN	3.1	6.1	9.2	18.4
Effort required to lift rate	d load N(Kg)	206(21)	255(26)	303(31)	362(37)
Chain size x Strands of lo	oad chain mm	4.0 × 1	5.0 × 1	5.6 × 1	7.1×1
Load chain distance by rotating the h	nand wheel circle mm	43.6	27.7	29	21.9
Net weight Kg		1.9	1.9 2.8 4.8		7
Extra weight per meter of extra lift Kg		0.36	0.55	0.68	1.2
Α		94.5	100	126	142
	В	35	39	50	63.5
	C	84	99	110	133
Dimension Hmin		230	265	315	340
	L	163	163	208	238
	D	34	34	40	45
	K	24	24	26	31
Package size cm		$21 \times 10 \times 10$	22×11×11	$27 \times 13 \times 12$	$30 \times 15 \times 14$

4. OPERATION

4.1 Introduction

This hoist has been designed for vertically lifting and lowering loads, by hand, under normal atmospheric conditions of the work place. However, since dealing with heavy loads may involve unexpected danger, all the Safety Rule must be followed.

Safety Working Environment: the operator must be aware of the following points while using the hoist

- (1)The operator must have a clear and unobstructed view of the entire travel area before operating the hoist. When not possible, a second or more persons must serve as scouts in the nearby area.
- (2) The operator must check the entire travel area is safe and secure before operating the hoist.

4.2 Features

Place the selector switch on the handle in the middle position when without load, then the load chain could move freely. Pull the load chain by hand to position the bottom hook.

4.3 The method of operation

- 1. Place the selector switch on the handle in the middle position.
- 2. And then adjust the load chain to suitable position.



NEVER pull the load chain sharply when the selector switch in the middle position. If the chain is pulled too suddenly, the brake may set preventing further pulling.. Re-set the hoist is needed when this happens.

4.4 Load operation

Hoist	Selector switch	Hand lever operation	
Lift	UP	Clockwise	
Lower	DOWN	Counterclockwise	

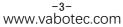
5. INSPECTION

5.1 General

There are two types of inspection, the Daily Inspection performed by the operator before using the hoist, and the more thorough Periodic Inspection performed by qualified service personnel who have the authority to remove the hoist from service.

5.2 Daily inspection

Before each work shift, check the following points:



Item	Inspection method	Discard limit/criteria	Remedy
Name plate Check visually		Every description should be clear and visible.	Replace the name plate.
Function	Turn selector switch to the UP/down position, pull the load chain at the hook side, and ratchet the handle.	The ticking sound when ratchet the handle indicates normal condition.	Repair or replace as necessary.
Hook	Check visually	No wear, deformation or damage, and the swivels should rotate freely.	Replace the hook.
Hook latches	Check visually	No deformation and harmful flaws.	Replace the part.
Load chain	Check visually	No obvious rust or corrosion. Lubrication must be on surface.	Oil the load chain. Replace the load chain.
Other	Check visually	No missing nuts and/or split pins. No flaws or damages on the hoist surface. No missing and/or twist chain stopper.	Replace the parts.

5.3 Periodic inspection

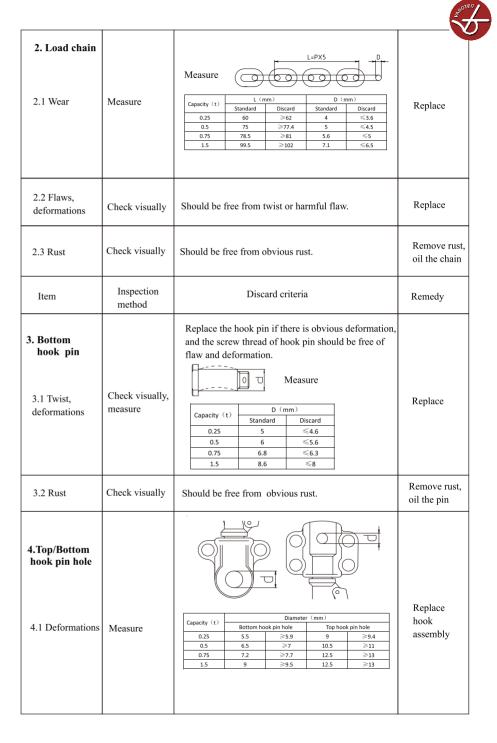
Periodic inspection shall be made at the interval shown below and should the given procedures.

NORMAL (Normal use): Six monthly inspection

HEAVY (Frequent use): Quarterly inspection

SEVERE (Excessively frequent use): Monthly inspection

Item	Inspection method	Discard criteria	Remedy
1. Hook assembly 1.1 Stretch and wear	Measure	Measure the dimension A when new.	Replace
1.2 Flaw	Check visually	Should be free from significant rust, weld splatter, deep nick, or gouges.	Replace
1.3 Rotate	Check visually and function	Should rotate freely with no roughness.	Replace
1.4 Hook yoke	Check visually and function	Should not slack or miss rivets, nuts or bolts.	Replace
1.5 Hook latch	Check visually	Proper positioning and smooth working.	Replace



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5. Broke system 5.1 Rust	Check visually	All parts should be free from rust.	Remove rust, oil the parts, or replace.
5.2 Flaw on friction disc	Check visually	Should be free from harmful flaw.	Replace
5.3 Wear on friction disc	Measure	Retain uniform thickness and friction disc shall not be worn more than 0.5mm. Capacity (t) Thickness of friction disk (H) Standard Discard Discard O.25-1.5 3mm \$<2.5mm	Replace
5.4 Flatness of friction disc	Check clearance with gauge.	Clearance should be uniform. Internal part should not be thicker than external part.	Replace
Item	Inspection method	Discard criteria	Remedy
5.5 Ratchet disc	Measure	Measure the external diameter A of ratchet disc Capacity (t) A dimension (mm) Standard Discard 0.25, 0.5 45 ≤43.5mm 0.75, 1.5 64 ≤62mm	Replace
5.6 Pawl	Check visually	Should be free from wear on the surface.	Replace
5.7 Pawl spring	Check visually	Should be free from deformation	Replace
5.8 Free spring	Measure	Capacity (t) Measure the length 0.25, 0.5 ≤13.7mm 0.75, 1.5 ≤16.5mm	Replace
6. Lifting system			
6.1 Load sheave	Check visually	Should be free from large wear or deformation.	Replace
6.2 Gear	Check visually	Tooth should be free from large wear or flaw.	Replace
6.2 Gear box	Check visually	Should be free from wear or deformation.	Replace

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7. Lever handle system 7.1 Hand lever, feed ratchet, spring pin	Check visually	Should be free from wear or deformation.	Replace
7.2 Ratchet spring	Measure	Capacity (t) Measure the length 0.25、0.5、0.75、1.5 ≤13mm	Replace
8. Body 8.1 Top hook pin hole on the side plate	Basic dimension	Leverigear side plate Capacity (1)	Replace
8.2 Top hook pin	Measure	Capacity (t) Measure the external diameter of the top hook pin 0.25 ≤8.5mm 0.5 ≤10.4mm 0.75 1.5	Replace
Item	Inspection method	Discard criteria	Remedy
8.3 Guide plate	Check visually	Should be free from wear or deformation.	Replace
8.4 Chain stopper ring	Check visually	Should be free from wear or deformation.	Replace
9. Function			
9.1 Lifting and lowering	Lift and lower a light load.	No abnormal difficulty in lifting and lowering.	Overhaul and service.
9.2 Brake	Lift and lower a light load.	Confirm that none of the problems listed below occur during lifting and lower: (1) Lifting impossible. (2) Load slips down slowly. (3) Load falls when the operator releases the hand lever.	Overhaul and service.



6. MAINTENANCE

6.1 General

Incorrect maintenance may result in serious bodily injury or death. Only trained and competent personnel could maintain this equipment.



After performing any maintenance on the hoist, always test the hoist according to this manul before returning to service.

⚠ CAUTION

- (1) Always take care hand or clothes will not be caught in a chain, idle sheave or other moving parts.
- (2) Never operate the hoist when maintenance.
- (3) Always inspect all the items if abnormal difficulty in lifting and lowering.
- (4) Never perform maintenance on the hoist while it is supporting a load.
- (5) Always wipe off all dirt and water.
- (6) Always store the hoist in dry and clean place.

6.2 Lubrication

Make sure to lubricate load chain, hook latches, top/bottom hook pin and hook yoke, etc.. Load chain is one of the important parts of a hoist, it is should be lubricated well with machine oil.

⚠ CAUTION

- (1) Lubricate load chain weekly, or more frequently, depending on severity of service.
- (2) Lubricate load chain more frequently than normal in a corrosive environment.

Notes: Recommended lubricant of this product is lithic grease #3.

7. TROUBLESHOOTING



↑ WARNING

Any disassembly or repair of the lever hoist should be performed by properly trained personnel.

The numbers in parentheses refer to the parts breakdown assemblies.

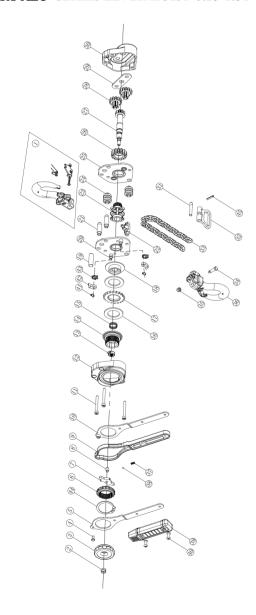
Trouble	Probable	Remedy	
Hoist will not lift (no	Pawl not engaging ratchet disc; possible dirt or foreign material.	Clean and lubricate pawl and ratchet disc assemblies.	
clicking sound).	Pawl spring is damaged.	Replace pawl spring.	
	Ratchet spring is loose or damaged.	Tighten or replace ratchet spring.	
	Dirt or corrosion foreign material in hoist components.	Inspect and correct problem. Keep hoist clean and lubricated.	
Load slips or drifts while being lowered.	Brake is slipping. Friction disc are worn from long-term use, or are damaged from overloading or misuse.	Replace friction disc. See chapter 5. INSPECTION for minimum allowable thickness. Do not overload hoist.	
Load drops the instant	The braking surface is dirty. During assembly, the braking surface must be wiped cleaned of dirt.	Clean or replace the brake assembly.	
lowering is started.	The braking surface is oily. The braking surface must not be allowed to become soiled with grease or machine oil because it is a dry-type brake.	Clean or replace the brake assembly.	
Hoist will not lower load.	The brake has caught. (Hoist was left under load condition for extended period, or was shock-loaded while operating.)	Place selector lever in DOWN position and pull hard on the lever handle to re-set the brake. Resume operation.	
	Brake components are corroded or damaged.	Replace components are needed; keep hoist clean and lubricated.	
The chain is tight when lifting, even without a load. (A squeaking noise can be heard at times.) Gear tooths are worn. From long-term use, or for not being greased regularly.		Disassemble and replace the load gear, gear case and side plate.	



8. PARTS LIST

8.1 Exploded View Drawing

RT ALU SERIES LEVER HOIST 0.25-1.5T



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8.2 Parts list

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1	Top hook assy	16	Friction disc	31	Chain ring pin
2	Lock nut	17	Ratchet disc	32	Chain ring
3	Hand wheel	18	Brake seat	33	Load chain
4	Hexagen head bolt	19	Top hook pin	34	Bottom hook pin
5	Outside lever hanlde	20	Brake side plate	35	Lock nut
6	Reversing ratchet	21	Supporting bolt	36	Bottom hook assy
7	Reversing pawl	22	Stripper	37	Steel ball spring
8	Pawl pin	23	Load sheave	38	Steel ball
9	Lever handle spacer	24	Guide roller	39	Lever handle cover
10	Inner lever handle	25	Gear side plate	40	Screw
11	Hexagon head screw	26	Splined gear	41	Retaining ring
12	Brake cover	27	Drive shaft	42	Pawl
13	Adjusting cam	28	Disc gear assy	43	Pawl spring
14	Brake nut	29	Fixed plate	44	Retaining ring
15	Clutch spring	30	Gear case assy	45	Elastic cylindrical pin

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Naam van fabrikant

Nom du fabricant

Business name of the manufacturer Firmenbezeichnung des Herstellers

Adres van de Fabrikant l'adresse du fabricant

Address of the manufacturer

Adresse des Herstellers

Technisch dossier houder

Titulaire de la Fiche technique

Compiled the technical file:

Complet technische Datenblatt ersteller

Productnaam

Nom du produit

Product name

Produktbezeichnung

Commerciële naam

Nom commercial

Commercial name

Handelsbezeichnung

Model-Modèle-Model-Modell

SWL

Type-Type-Type-Typ

VABOTEC Byba

Starrenhoflaan 33 2950 Kapellen Antwerpen Belgium

VABOTEC Byba

RATELTAKEL
PALAN à LEVIER
LEVER HOIST
HEBELZUG



RT0025 ALU RT0050 ALU RT0070 ALU RT0150 ALU 250 – 500 – 750 - 1500KG

PRO-LIFT RT ALU

Serie nummer-Nummero de serie Serialnumber-Serienummer

- HIERBIJ VERKLAREN WIJ DAT HET PRODUCT AAN ALLE GESTELDE EISEN, CONFORM DE MACHINERICHTLIJNEN 2006/42/EG VOLDOET.
- Par la présente nous declarons que le produit mentionné ci-dessous est conforme à tous les exigences de la Directive Machine 2006/42/CE.
- Hereby we declare that the product listed below complies with all requirements of the Machinery Directive 2006/42 / EC.
- Hiermit erklären wir, dass die unten aufgeführten Produkt alle Anforderungen der Maschinenrichtlinie 2006/42 / EG entspricht.

Getest in overeenstemming met de volgende norm: Testé conformément aux normes ci-dessous: Tested in accordance with below standards Ent sprechen folgenden Normen geprüft

EN13157:2004+A1

Datum

Date 4/05/2023 Kapellen

Datum



Nota-Note-Note-Hinweis.

Deze verklaring verliest haar geldigheid, wanneer technische en operationele veranderingen op het apparaat worden gemaakt zonder de toestemming van de fabrikant.

Cette déclaration devient invalide, si des modifications techniques ou opérationnelles sont introduits sans le consentement des fabricants.

This declaration becomes invalid, if technical or operational modifications are introduced without the manufacturers consent.

Diese Erklärung verliert ihre Gültigkeit, sollten ohne die Zustimmung des Herstellers technische oder betriebsbezogene Veränderungen am Gerät vorgenommen werden.