

Hand wormgear winch

Hand winch

MANIBOX VS

Instruction manual _____

UK



CE

51-314.09/5

PRODUCT DEVELOPED AND MANUFACTURED ACCORDING TO STANDARD NF EN 13157
INSTRUCTION MANUAL FOR COMMISSIONING AND MAINTENANCE

In an endeavour to improve its products, HUCHEZ reserves the right to alter the equipment featured herein and supply it, in this case, different to the illustrations or specifications of these instructions

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Contents

1 – General warning.....	2
2 – Introduction to the devices.....	2
3 – Handling - Storage	5
4 – Use, assembly and commissioning.....	5
5 – Maintenance	8
6 – Prohibitions for use.....	8
7 – Important recommendations.....	9
8 – Statutory, compulsory checks by the user	9
9 – Putting out of operation	9
10 – Frequently asked questions	9
10 – Declaration of conformity	10
11 – Spare parts	11

1 – General warning

This device is governed by European regulations, in particular the machinery directive 2006/42/CE and standard NF EN 13157.

- Before using this winch, with safety of use of the equipment and efficiency in mind, it is vital that you become familiar with this instruction manual and comply with all its recommendations.
- This instruction manual must be kept available to all operators. The manufacturer will supply additional copies on demand.
- The MANIBOX winches are designed for **lifting** and **pulling** operations. Please ensure that the operator has read this manual and is qualified to operate the machine in the conditions provided for.
- Never use this winch with a load exceeding the maximum working load specified (see p. 3 paragraph 2.4)
- This device is designed for lifting (or pulling) a load. In no case should it be used to hold a load in tension, especially if this load is likely to change (barges, circus tents, etc.)
- These winches may not, under any circumstance, be used to lift staff.
- This device should never be used above people without the load secured by any other method.
- Before each use, the operator must check the correct condition of the device, its rope, hook, marking and shoring.
- The manufacturer declines all responsibility for the consequences of using or installing devices against the recommendations of this manual, as well as for the consequences of dismantling, altering or replacing original parts or components with parts or components from other sources without its written agreement.
- It is strictly forbidden to motorise these devices.

2 – Introduction to the devices

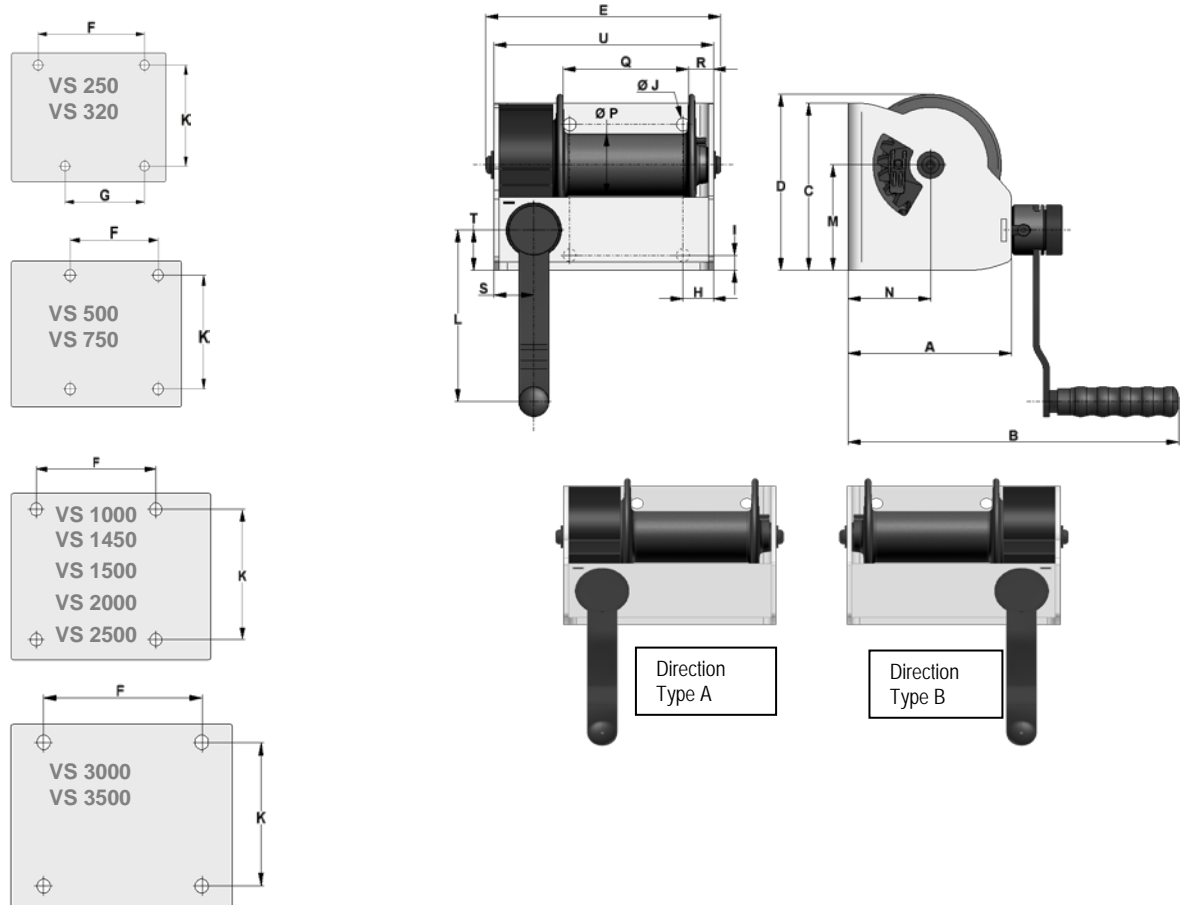
MANIBOX are manual lifting and pulling winches built in accordance with current standards and recommendations.

MANIBOX VS: 12 capacities available in the range: from 250 kg to 3.5 tonnes.

2.1. Build

- Rigid steel frame
- Drum made from steel and cast iron or a polymer material
- Reduction gear system protected by a metal cover
- Drum release system, except for the 250 kg and the 320 kg models.
- Automatic brake
- Ergonomic crank assembly with rotary handle. The arm of the crank can be adjusted to minimise the force according to the load.
- Paint and cataphoresis protection, optional galvanised or stainless-steel frame.

2.2. Dimensions:



Capacity kg	Orientation Type	A	B	C	D	E	F	G	H	I	øJ	K	L	M	N	øP	Q	R	S	T	U
250	A	140	307	135	142	206	130	95	25	14	4ø11	100	240	84	73	50	100	21	40	35	190
320	A	140	307	135	142	206	130	95	25	14	4ø11	100	240	84	73	50	100	21	40	35	190
500	A	162	325	166	175	233	112	-	30	15	4ø13	130	240	105	82	62	124	25	40	40	217
750	A	162	325	166	175	233	112	-	30	15	4ø13	130	240	105	82	62	124	25	40	40	217
1000	B	302	470	290	302	322	167	-	45	20	4ø17	250	340	180	130	103	180	35	56	50	300
1450	B	302	470	290	302	322	167	-	45	20	4ø17	250	340	180	130	103	180	35	56	50	300
1500	B	350	518	330	330	370	200	-	50	25	4ø21	250	340	194	162	105	220	39.5	58 123	50	350
2000	B	350	518	330	330	370	200	-	50	25	4ø21	250	340	194	162	105	220	39.5	58 123	50	350
2000	B	356	520	390	390	420	260	-	39	25	4ø21	295	340	224	171	121	262	45.5	60 125	50	400
2500	B	356	520	390	390	420	260	-	39	25	4ø21	295	340	224	171	121	262	45.5	60 125	50	400
3000	A	480	640	450	450	530	390	-	55	40	4ø25	380	340	307	153	145	289	54.5	62 126	55	500
3500	A	480	640	450	450	530	390	-	55	40	4ø25	380	340	307	153	145	289	54.5	62 126	55	500

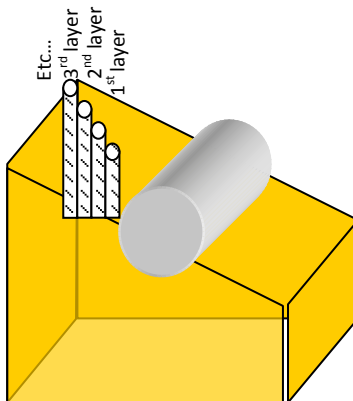
2.3. Technical features of the different models

Model	Capacity on the 1st layer (kg)	Capacity on the last layer (kg)	Wire rope capacity at the 1st layer (m)	Max. rope capacity (m)	Wire rope diameter (mm)	Crank force (kg)	Lift per crank revolution (mm)	Weight (without rope) (kg)
VS 250	380	250	2,5	15	5	11	17	7.5
VS 320	380	320	2,5	6	6	11	17	7.5
VS 500	750	500	3	18	7	14	11	12
VS 750	750	750	3	3	7	14	11	12
VS 1000	1450	1000	5,5	30	9	14	8	37.5
VS 1450	1450	1450	5	5	10	14	8	37.5
VS 1500	2000	1500	5,5	23	11.5	14	6	52
VS 2000	2000	2000	5,5	6	12	14	6	52
VS 2000	2500	2000	7	17	13	14.5	5	80
VS 2500	2500	2500	7	6	13	14.5	5	80
VS 3000	3500	3000	7,5	18,5	15.8	15	3	140
VS 3500	3500	3500	7,5	7,5	16	15	3	140

The rope diameter provided above refers to the capacity on the last layer.

Caution! It is compulsory to check that the resistance factor of the wire rope complies with the lifted load (factor 5)

2.4. Maximum working loads according to the layer of rope used (kg)



	1 st layer	2 nd layer	3 rd layer	4 th layer
VS 250	380	320	280	250
VS 320	380	320		
VS 500	750	650	560	500
VS 750	750			
VS 1000	1 450	1 250	1100	1000
VS 1450	1 450			
VS 1500	2 000	1 750	1500	
VS 2000	2 000			
VS 2000	2 500	2 000		
VS 2500	2 500			
VS 3000	3 500	3 000		
VS 3500	3500			

2.5. Accessories

The MANIBOX VS can be supplied with ropes and accessories. Accessories such as pulleys must conform with EN 13157 regulation.

2.6. Operation

When operating the crank, depending on the direction of rotation, the load goes up or down. When no more force is exerted on the crank, the brake comes into action and maintains the load in position.

There must be sufficient force on the machine

Table of minimum forces: load

VS 250	VS 500	VS 1000	VS 1500	VS 2000	VS 3000
VS320	VS 750	VS 1450	VS 2000	VS 2500	VS 3500
10 kg	20 kg	40 kg	60 kg	60 kg	100 kg

3 - Handling - Storage

Above 1,000 kg, to handle and position a winch, place a sling around the drum. This causes the device to tilt, allowing it to be easily and safely handled.

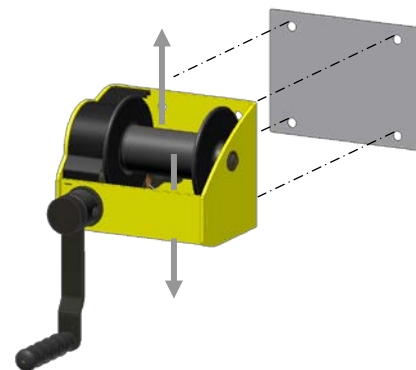
It is advisable to store this equipment to protect it from bad weather.

4 – Use, assembly and commissioning

Please observe the following precautions:

4.1. Fixing

	Fixing screws
VS 250	4 screws Ø10 mm
VS 320	4 screws Ø10 mm
VS 500	4 screws Ø 12 mm
VS 750	4 screws Ø 12 mm
VS 1000	4 screws Ø 16 mm
VS 1450	4 screws Ø 16 mm
VS 1500	4 screws Ø 20 mm
VS 2000	4 screws Ø 20 mm
VS 2000	4 screws Ø 20 mm
VS 2500	4 screws Ø 20 mm
VS 3000	4 screws Ø 24 mm
VS 3500	4 screws Ø 24 mm



All these screws must be at least 6.8 class.

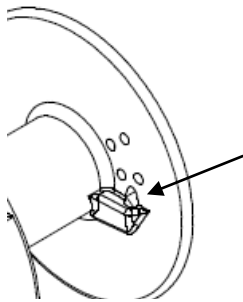
Calculate and check that the fixing supports have enough strength to easily withstand the loads to be lifted or pulled.

4.2. Rope

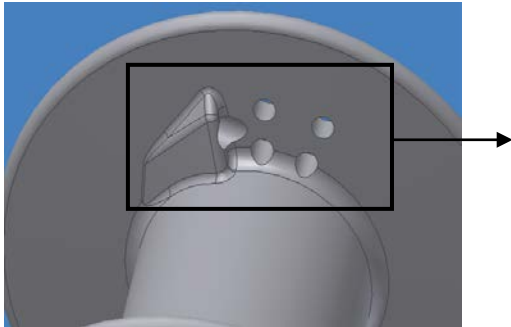
Models	Ø (mm)	Max. capacity (m)	Number of layers
VS 250	5	15	4
VS 320	6	6	2
VS 500	7	18	4
VS 750	7	3	1
VS 1000	9	30	4
VS 1450	10	5	1
VS 1500	11.5	23	3
VS 2000	12	6	1
VS 2000	13	17	2
VS 2500	13	6	1
VS 3000	15.8	18.5	2
VS 3500	16	7.5	1

4.3. Installing the rope:

Strictly observe the rope winding direction. To lift the load, turn the crank clockwise: a click will be heard. To lower the load, turn the crank in the opposite direction.



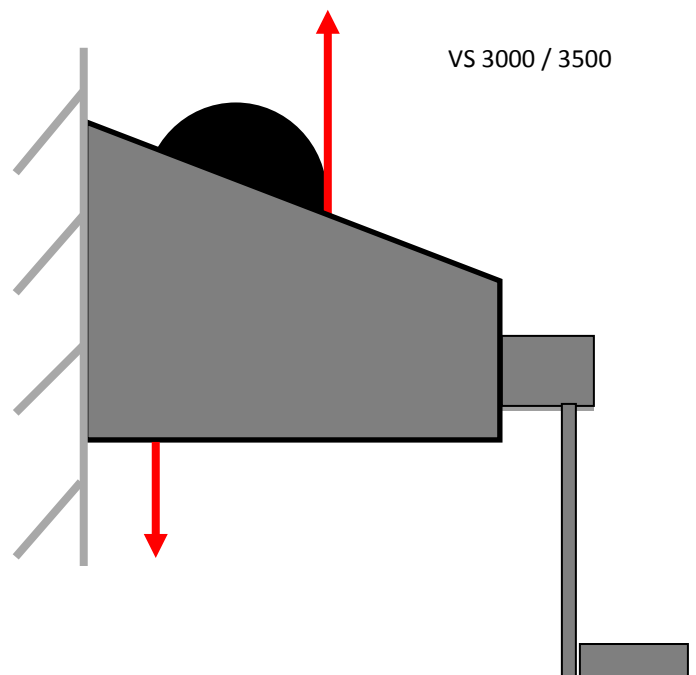
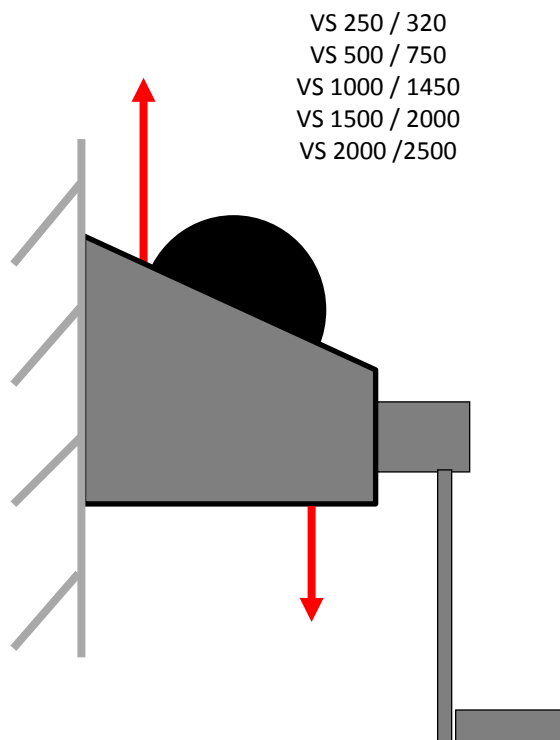
A device is placed on the drum to ensure correct winding



DANGER! If the rope is not wound in the right direction, the brake will not operate

In the event of an error, a safety device is provided to prevent incorrect winding of the rope: the operator gets the impression of turning with no load. In this case, remove the rope and attach it in the opposite direction.

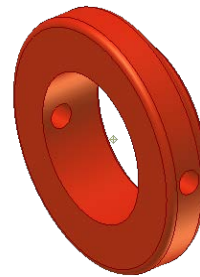
4.4. Rope outlets



4.5. Disengagement

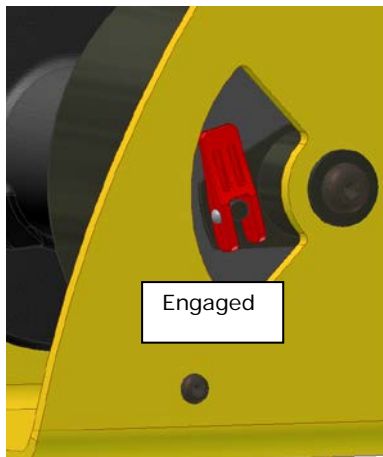


VS 500-VS 750 / VS 1000-VS 1450



VS 1500-VS 2000 / VS 2000-VS 2500
VS 3000-VS 3500

To engage VS 500, VS 750, VS 1000 or VS 1450:

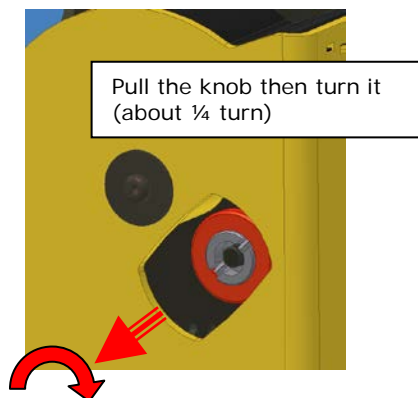


Engaged



Disengaged =
drum released

For VS 1500, 2000, 2500, 3000 or 3500:



Pull the knob then turn it
(about ¼ turn)

To engage it again, turn the knob until it engages.

CAUTION! Never disengage a loaded winch!

Before disengaging, make sure no load is connected to the rope. The rope should not be under tension.

5 –Maintenance

The delivered winches are ready to be used (after installing the rope if not supplied by the manufacturer).

When using for the first time, lubrication is not required as this has been performed in the factory. Nor is any specific check required.

A periodic maintenance check is required once a year.

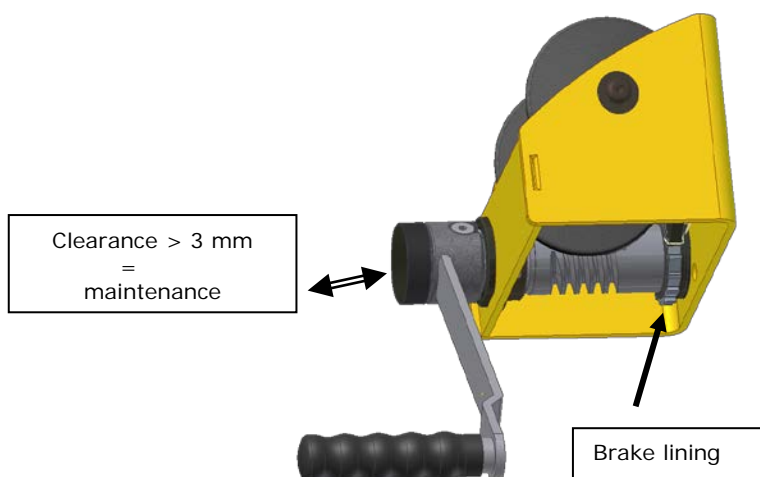
Regularly grease the gears with EP2-grade grease for open gears.

Regularly and before each use: check the condition of the rope, hook and its safety catch. If the manufacturer does not supply the rope and hook with the device, check that the rope and hook used guarantee a degree of safety corresponding to break factor 5.

Periodically check the correct operation of the brake (static tests: rated load + 50 %)

During annual maintenance, do not forget to **oil the stop** (ref. 20043 for models 250, 320, 500 and 750 – ref. 13661 for models 1000 to 3500). Recommended oil: ISO VG 220 (for example: Mobil Glygoyle 30).

Regularly check the wear of the brake linings. When they are no longer visible, or when the clearance exceeds 3 mm, they need to be replaced.



6 – Prohibitions for use

Before using the winch, check that there is no risk of overloading due to: adherence to the floor, suction, jamming, etc. Take warning against the following improper uses or handling operations:

It is prohibited to:

- Lift loads exceeding the rated load specified on the plate of the device;
- Unwind the drum completely (keep 2 to 3 extra-turns);
- Pull sideways;
- Swing the load;
- Use the winch to lift personnel;
- Stand under the load;
- Use ropes with a diameter and texture not complying with the specifications of this manual (factor 5);
- Use damaged or spliced ropes;
- Use hooks without catches, not suitable for the loads specified on the device or in bad condition;
- Insert objects into the moving parts;
- Work on the device when loaded;
- Release the drum when loaded;
- Allow the load to fall freely;
- Motorise the device
- Use the rope of the device as a sling;
- With no load, turn the crank in the opposite direction to lifting (for the 1000, 1450, 2000 and 2500 kg models only). If this operation is necessary, it is advisable to disengage or apply a manual force by pulling on the rope.
- Use handles different from the original ones;
- Use the devices for operations other than those for which they are designed;
- Use the winch as a fall-prevention device, regardless of the height of the fall and the load applied.
- Use parts or components other than the manufacturer's original parts or components;
- Reeve, positioning the fixed point on the winch.

7 – Important recommendations

- Long descents can cause the braking system to overheat and damage it. It is strongly recommended to respect a stopping time of several minutes every 5 metres during the lowering stage. This recommendation mainly affects the 1000, 1450, 2000 and 2500 kg models.
- The operating temperature must be comprised between -10°C and +50°C.

8 – Statutory, compulsory checks by the user

This equipment has been designed to withstand the following tests:

- Dynamic proof test with factor 1.1.
- Static proof test with factor 1.5

A periodic maintenance check is required once a year.

Check the wear of the brake linings regularly.

The user must keep a safety log (Art. R.233.11). In compliance with the regulations, the user must keep an inspection book, where all actions and inspections conducted on the device shall be recorded (FEM rule 9755).

9 – Putting out of operation

When the equipment is in a state of decay and likely to create risks, the user is obliged to dispose of the device, i.e. to put it out of operation and dismantle it if required.

10 – Frequently asked questions

Problem found	Possible causes	Solutions
The drum does not turn when the handle is turned	The winch is disengaged	Make sure the disengaging lever is in the engaged position. See paragraph 4.4
	The cable is installed in the wrong direction and the security device is triggered.	Make sure the cable is installed in the right direction. See paragraph 4.3
The disengaging lever is too stiff to move it	The winch is still loaded or the cable is simply under tension.	Check that no loads are applied to the winch and that there is no tension on the cable. See paragraph 4.4
Excessive force needs to be applied to the handle	The load to be lifted or pulled is too heavy	Set the load down carefully and check the real weight to be lifted or pulled. The load may not exceed the limit force of the winch. See paragraph 2.4
The winch vibrates or “whistles”	The brake is overheating. This phenomenon only occurs in the cable unwinding direction. See paragraph 7	Allow it to cool for at least 5 minutes.
	The brake linings are too worn. See paragraph 8	The winch needs service.
	The gears have lost their lubrication.	Lubricate the gears. See paragraph 5

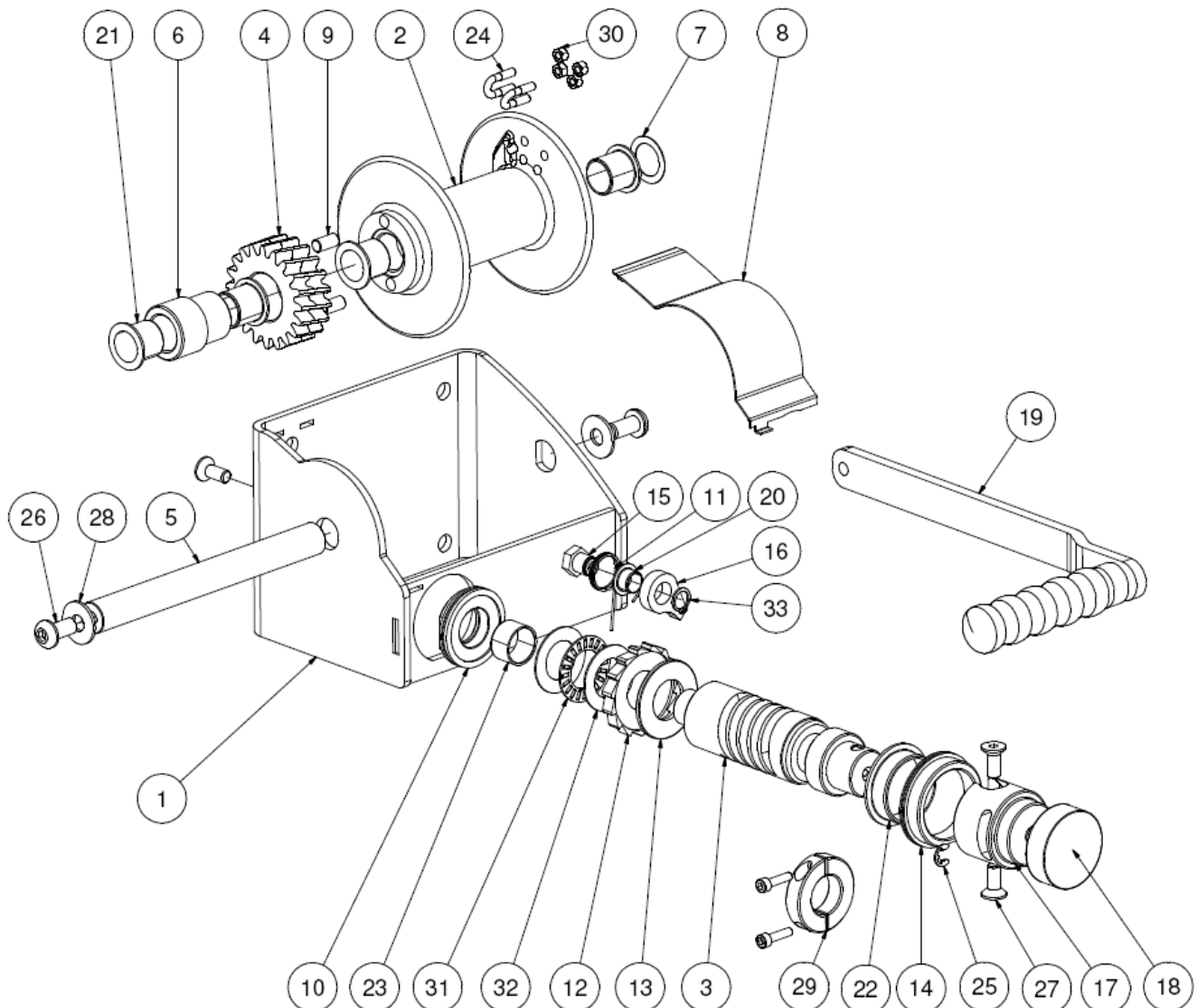


12 – Spare parts

VS 250 kg-VS 320 kg

Rep.	N°	Description
1	22981	Frame
2	22982	Drum
3	22983	Screw
4	22984	20-tooth gear
5	22985	Drum shaft
6	22986	Spacer hub
7	22987	21x30x05 spacer
8	22988	Cover
9	22989	Piles
10	22995	Rear bearing
11	22996	Detent spring
12	22757	Ratchet
13	22758	Lock washer
14	2291	Front bearing
15	22914	Link pin
16	22915	Catch
17	22916	Crank head

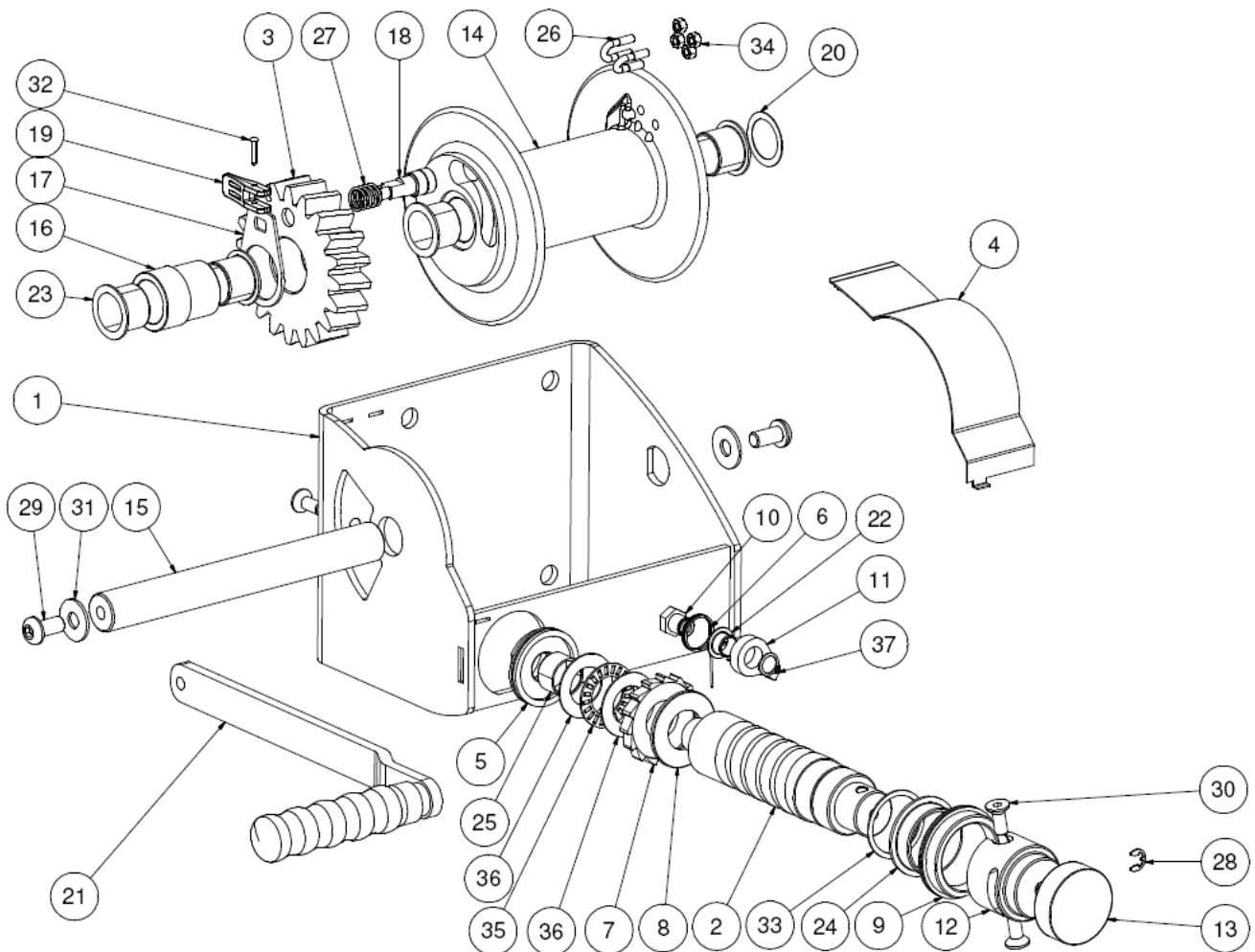
Rep.	N°	Description
18	22917	Lock button
19	22933	Short crank sub-assembly
20	2760	GFM 1214 09 ring
21	2763	GFM 2023 21 ring
22	2766	GFM 4044 14 ring
23	2772	GSM 2225 15 ring
24	2777	D5 stainless-steel cable clamp
25	13505	7144-7 ring
26	13645	TBHc screw M10x20
27	13650	TFHc screw M8x20
28	13658	LLU 10 washer
29	13663	Split stop ring 2-25
30	13666	M5 stainless-steel nut
31	20043	AXK 2542-A needle-thrust bearing
32	20044	AS 2542 stop washer
33	21045	E12 retaining ring



VS 500 kg-VS 750 kg

Rep.	N°	Description
1	22991	Frame
2	22992	Screw
3	22993	20-tooth gear
4	22994	Cover
5	22995	Rear bearing
6	22996	Detent spring
7	22757	Ratchet
8	22758	Lock washer
9	22910	Front bearing
10	22914	Link pin
11	22915	Catch
12	22916	Crank head
13	22917	Lock button
14	22922	Drum
15	22925	Drum shaft
16	22926	Spacer hub
17	22927	Plate
18	22928	Disengaging pin
19	22929	Disengaging lever

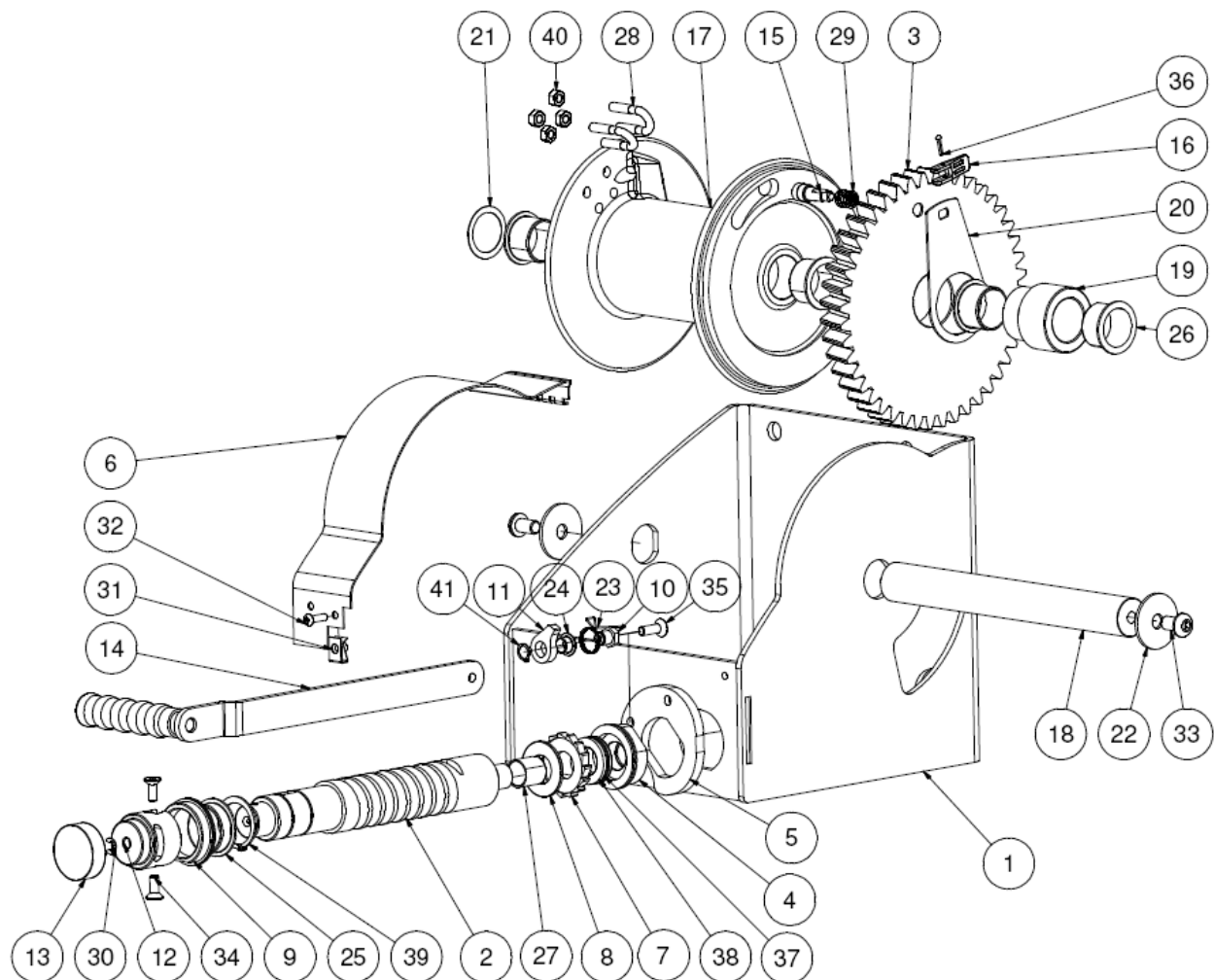
Rep.	N°	Description
20	22932	26x35x05 spacer
21	22933	Short crank sub-assembly
22	2760	GFM 1214 09 ring
23	2765	GFM 2528 21 ring
24	2766	GFM 4044 14 ring
25	2772	GFM 2225 15 ring
26	2775	Cable clamp
27	2779	Disengaging spring
28	13505	7144-7 ring
29	13645	TBHc screw M10x20
30	13650	TFHc screw M8x20
31	13658	LLU 10 washer
32	13659	3.2x18
33	13664	40x1.75 spring retaining ring
34	13666	M5 stainless-steel nut
35	20043	AXK 2542 A needle-thrust bearing
36	20044	AS 2542 stop washer
37	21045	E12 spring retaining ring



VS 1000 kg- VS 1450 kg

Rep.	N°	Description
1	22751	Frame
2	22752	Screw
3	22753	44-tooth gear
4	22754	VS no. 2 rear bearing
5	22755	Rear bearing plate
6	22756	Cover
7	22757	Ratchet
8	22758	Lock washer
9	22910	Front bearing
10	22914	Link pin
11	22915	Catch
12	22916	Crank head
13	22917	Lock button
14	22918	Assembled long crank
15	22928	Disengaging pin
16	22929	Disengaging lever
17	22942	Drum
18	22949	Drum shaft
19	22950	Gear hub
20	22951	Plate
21	22955	36x47x05 spacer

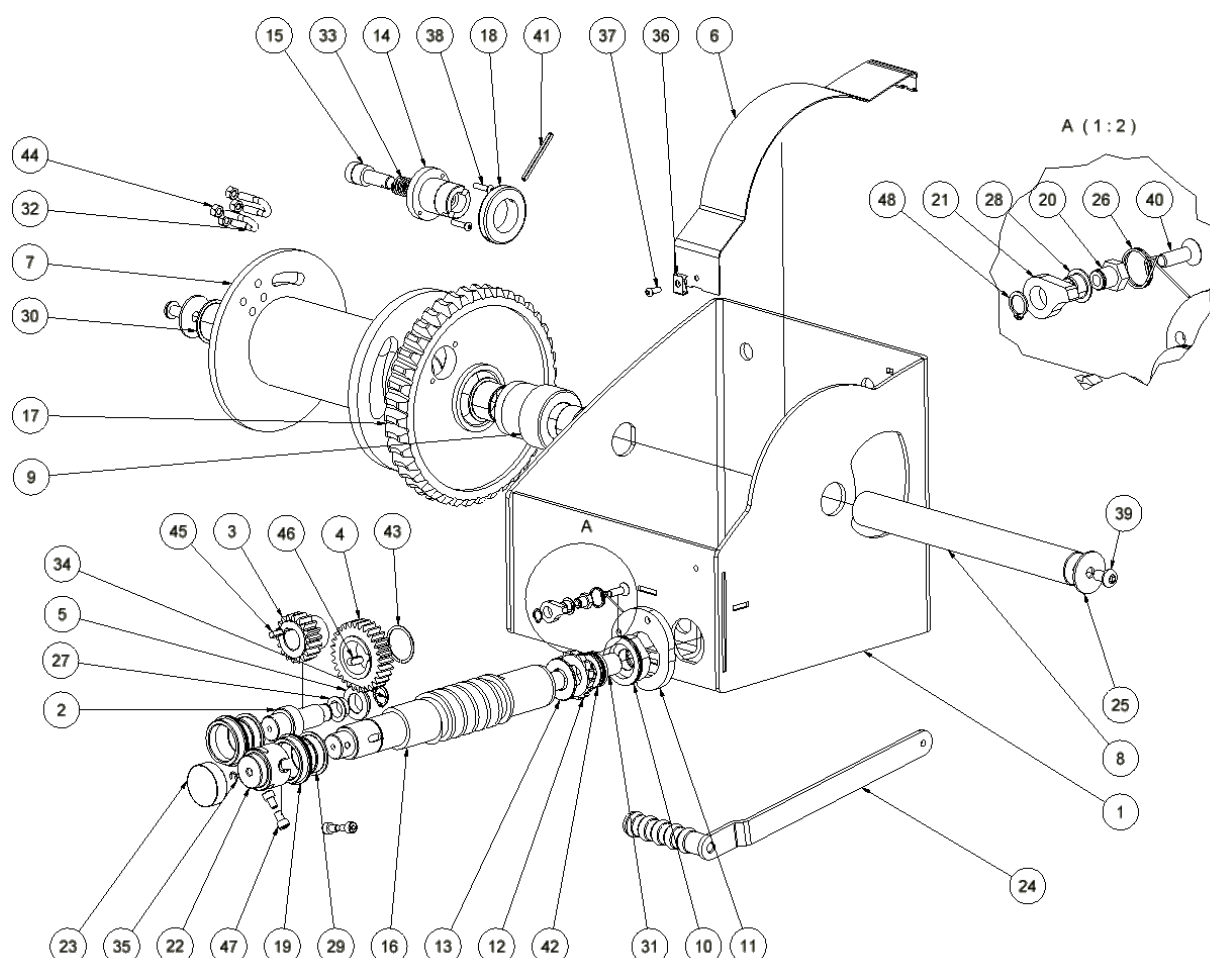
Rep.	N°	Description
22	22978	12x50x3 washer
23	22996	Detent spring
24	2760	GSM 1214 09 ring
25	2766	GSM 4044 14 ring
26	2768	GSM 3539 26 ring
27	2773	GSM 2225 25 ring
28	2774	Cable clamp
29	2779	Disengaging spring
30	13505	7144-7 ring
31	13622	M6 spring nut
32	13641	TBHC screw M6x20
33	13646	TBHC screw M12x20
34	13650	TFHC screw M8x20
35	13651	TFHC screw M8x25
36	13659	3.2x18 aluminium rivet
37	13661	Thrust roller bearing 8-11-05
38	13662	GS washers 8-11-05
39	13664	40x1.75 spring retaining ring
40	13665	M8 stainless-steel nut
41	21045	E12 spring retaining ring



VS 1500 kg- VS 2000 kg

Ref.	No.	Description
1	22761	VS 1500 frame
2	22762	Low-speed shaft
3	22763	18-tooth pinion
4	22764	29-tooth gear
5	22765	Dual-speed bearing
6	22766	VS 1500 cover
7	22767	Drum sub-assembly
8	22768	VS 1500 shaft
9	22769	VS 1500 hub
10	22754	No. 2 VS rear shaft
11	22755	Rear bearing shield
12	22757	VS ratchet
13	22758	Brake washer
14	22773	Release boss
15	22774	Release pin
16	22790	VS 1500-3000 screw
17	22791	40-tooth gear
18	22323	Release button
19	22910	Front bearing
20	22914	Ratchet pin
21	22915	Ratchet
22	22916	Crank head
23	22917	Tightening knob
24	22918	Assembled long crank

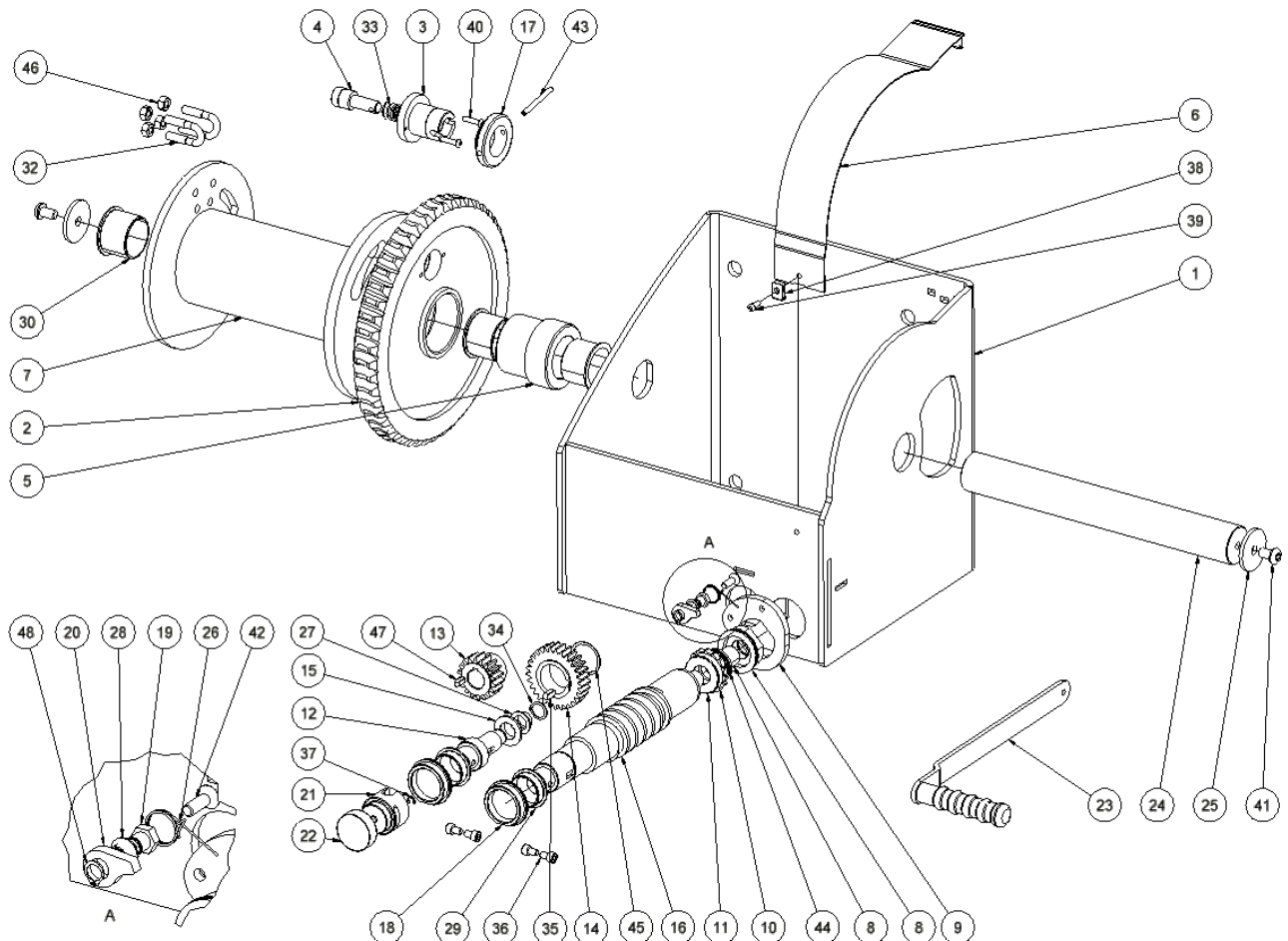
Ref.	No.	Description
25	22978	12x50x3 washer
26	22996	VS click spring
27	2749	Ring GFM-2033-11
28	2760	Ring GFM-1214-09
29	2766	Ring GFM-4044-14
30	2769	Ring GFM-4044-30
31	2773	Ring GSM-2225-25
32	2774	Rope clamp
33	2857	21.6 compression spring
34	13045	20x1.2 external snap ring
35	13505	7144-7 ring
36	13622	M6 spring nut
37	13640	M6x16 button head hex socket screw
38	13642	M6x25 button head hex socket screw
39	13646	M12x20 button head hex socket screw
40	13651	M8x25 flat head hex socket screw
41	13660	6x65 split pin
42	13661	8-11-05 roller stop
43	13664	40x1.75 segment
44	13665	M8 stainless-steel nut
45	13672	6x6x20 FA key
46	13228	8x7x20 FA key
47	13275	M8x10 hex socket screw
48	21045	12x1 external snap ring



VS 2000 kg-VS 2500 kg

Key	No.	Description
1	22771	VS 2000 chassis
2	22772	50-tooth wheel
3	22773	Disengaging boss
4	22774	Disengaging pin
5	22775	VS 2000 hub
6	22776	VS 2000 cover
7	22777	VS 2000 drum sub-unit
8	22754	VS no. 2 rear bearing
9	22755	Rear bearing plate
10	22757	VS ratchet
11	22758	Brake washer
12	22762	Low-speed shaft
13	22763	18-tooth sprocket wheel
14	22764	29-tooth wheel
15	22765	Dual-speed bearing
16	22790	VS 1500-2000 screw
17	22323	Disengaging button
18	22910	Front bearing
19	22914	Ratchet shaft
20	22915	Ratchet
21	22916	Handle head
22	22917	Locking button
23	22918	Assembled long handle
24	22971	GR/VS 2000 drum shaft

Key	No.	Description
25	22979	12x55x5 washer
26	22996	VS ratchet spring
27	2749	GFM-2003-11 bearing ring
28	2760	GFM-1214-09 bearing ring
29	2766	GFM-4044-14 bearing ring
30	2770	GFM-5055-40 bearing ring
31	2773	GFM-2225-25 bearing ring
32	2778	Ø 13 stainless-steel rope clamp
33	2857	21.6 compression spring
34	13045	External circlip retaining ring 20x1.2
35	13228	8x7x20 FA Key
36	13275	M8x10 Allen screw
37	13505	7144-7 ring
38	13622	M6 spring nut
39	13640	M6x16 hex socket button head screw
40	13642	M6x25 hex socket button head screw
41	13646	M12x20 hex socket button head screw
42	13651	M8x25 hex socket button head screw
43	13600	6x65 mechanical pin
44	13661	8-11-05 roller stop
45	13664	40x1.75 segment
46	13668	M10 stainless-steel nut
47	13672	6x6x20 FA key
48	21045	External retaining ring 12x1



VS 3000 kg- VS 3500 kg

Key	No.	Description
1	22781	VS 3000 chassis
2	22782	Drum sub-unit
3	22783	53-tooth wheel
4	22784	Intermediate hub
5	22785	Intermediate shaft
6	22786	VS 3000 cover
7	22787	Flange sprocket wheel sub-unit
8	22788	VS 3000 wheel hub
9	22789	Drum shaft
10	22790	VS 1500/3000 screw
11	22791	40-tooth wheel
12	22792	Ø 53 stop
13	22795	16x65x5 washer
14	22754	VS no. 2 rear bearing
15	22757	VS ratchet
16	22758	Brake washer
17	22762	Low-speed shaft
18	22763	18-tooth sprocket wheel
19	22764	29-tooth wheel
20	22765	Dual-speed bearing
21	22773	Disengaging boss
22	22774	Disengaging pin
23	20107	Handle unit
24	22323	Disengaging button
25	22910	Front bearing
26	22914	Ratchet shaft
27	22915	Ratchet
28	22916	Handle head

Key	No.	Description
29	22917	Locking button
30	22974	Piles
31	22979	12x55x5 washer
32	22996	VS ratchet spring
33	2749	GFM-2023-11 bearing ring
34	2758	Ø 15.8 rope clamp
35	2760	GFM-1214-09 bearing ring
36	2766	GFM-4044-14 bearing ring
37	2769	GFM-4044-30 bearing ring
38	2771	GFM-606580-62 bearing ring
39	2773	GFM-2225-25 bearing ring
40	2857	Disengaging spring
41	13045	External retaining ring 20x12
42	13066	M8x25 hex head screw
43	13083	M12x30 hex head screw
44	13228	8x7x20 FA Key
45	13275	M8x10 Allen screw
46	13505	7144-7 ring
47	13622	M6 spring nut
48	13625	M16x60 hex head screw
49	13641	M6x20 button head screw
50	13642	M6x25 hex socket button head screw
51	13660	6x65 mechanical pin
52	13661	8-11-05 roller stop
53	13664	40x1.75 segment
54	13669	M12 stainless-steel nut
55	13672	6x6x20 FA key
56	21045	External retaining ring 12x1

