INSTRUCTIONS

AR-C 4.24

Before installing AssemblyReel please read carefully the instruction manual supplied with the product.

The manufacturer is not responsible for physical injuries, material damage or loss of production due to incorrect installation or operation. Failure to adhere to these instruction may void the manufacturer's warranty.

In case of technical queries not addressed in this manual, please contact manufacturer or local distributor for more information.

1 GENERAL INFORMATION

1.1 Manufacturer

ALPHA REEL bvba
Kieldrechtsebaan 51
9130 Verrebroek
Belgium

Phone : +32 (0)3 744 00 75
Fax : +32 (0)3 707 00 76
Email : info@alphareel.be
HTML : www.alphareel.be

1.2 Product

Name	: AssemblyReel
Description	: Motorised Hose Reel for Tool Cable Applications
Version	: AR-C 4.24 – 230V
Patent	: PCT/IB2011/053930
HTML	: www.assemblyreel.com

1.3 Content

Please ensure sure that all parts are received in good condition. If not please contact manufacturer or local distributor.

Following parts should be included in the box:

- ✓ AssemblyReel
- ✓ EasyFix swing bracket (optional)
- ✓ Desoutter supply cable, ca. 1.5 meters
- ✓ IEC power cord with CEE 7/7 plug
- ✓ Instruction manual in English

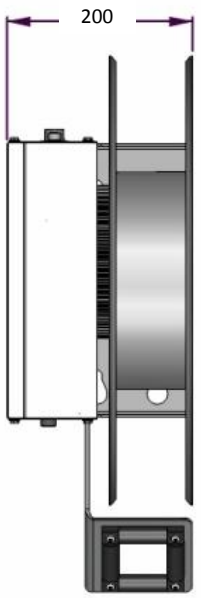
1.4 General Features

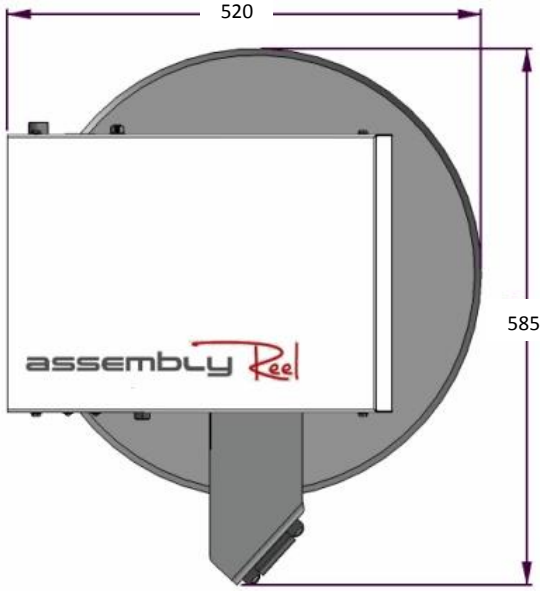
- Complies with all applicable CE and EMC regulations
- 100% maintenance free
- 100% silicone free
- Trouble-free installation (plug-n-play)
- Suitable for heavy duty applications
- Equipped with fail-safe brake to power tool when not in use
- Very little force required to pull out tool cable manually
- Adjustable rewind speed
- Resistance detection system
- Ridged design for increased rigidity
- High gloss powder coated steel for easy cleaning
- Field-proven slip ring module with gold plated contacts
- 2 years warranty

1.5 Technical Features

- Power : 230V
- Power connector : CEE 7/7 plug
- Temperature : 40°C
- Force to pull out cable : ca. 4 Nf
- Static brake capacity : ca. 25 Nf
- Retraction speed : between 0.5 m/sec and 2.0 m/sec
- Noise level : < 75 bB
- Weight : 27 kg
- Protection : IP34

1.6 Dimensions





The AssemblyReel is equipped with a universal IEC-C13 power connector, commonly used on computers, printers, monitors, ... and available in most countries. Each IEC power cord is furnished with one of following plugs:

NEMA 5-15 (USA)
CEE 7/7 (EUR)
BS 1363 (UK)

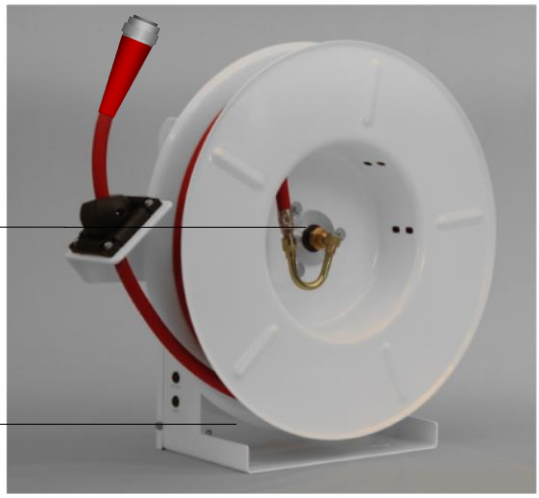
Other plugs are readily available on request

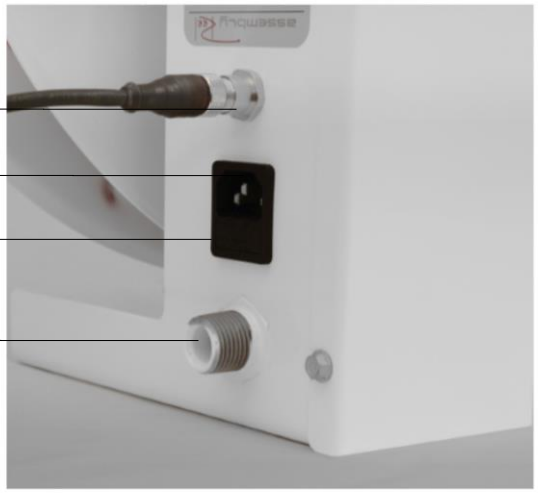
IEC power cord with CEE 7/7 plug

1.7 Important Restrictions

- AssemblyReel is a reeling device and should not be used as hoisting device. The power tool must be supported during motorized retraction of the cable.
- AssemblyReel is designed for power tool applications only. This product is not suitable for use with other electrical devices.
- AssemblyReel is not suitable for outdoor usage nor in humid environments

1.8 Description





2 INSTALLATION

The installation of AssemblyReel may only be performed by suitably skilled and qualified personnel in compliance with prescribed safety regulations. For the definition of skilled personnel consult directive IEC 364.

2.1 Opening Remarks

Before installing AssemblyReel, please note the following considerations:

- When selecting a convenient location do not compromise operator's space for manoeuvring
- 2.5 meter is the recommended installation height
- Prepare 230V power supply with proper earth connection

2.2 Mounting Instructions

The design of AssemblyReel is such that the reel can be mounted on the floor, wall and ceiling or even at a 45° angle, whichever location is most convenient. Using AssemblyReel in combination with the optional 180° EasyFix swing bracket is for ergonomic reasons highly recommended. This is particularly useful where the tool cable is used both sides of the reel's position.

1. Take the EasyFix pivoting wall bracket and remove the reel support from the wall support
2. Fix the wall support to the wall - or other solid structure - by using two appropriate anchor bolts M12. Ensure the two threaded rods are pointing upwards
3. Place one plastic washers on each threaded rod
4. Mount the reel support to the reel housing by using four M10 bolts already pre-mounted
5. Hook the reel support into the wall support
6. Put both washers and security nuts back on the threaded rods of the wall bracket. Leave enough room for the two parts to move freely in both directions
7. Mount the power tool to the tool cable
8. Mount the inlet tool cable to the tool controller unit
9. Connect the 4P micro connector of the reel to the tool controller unit (see also 2.4)
10. Connect reel to properly grounded 230V - 50 Hz power supply by using the EIC-cord
11. Switch on power, green LED indicator "Power On" will come on
12. Check all connections

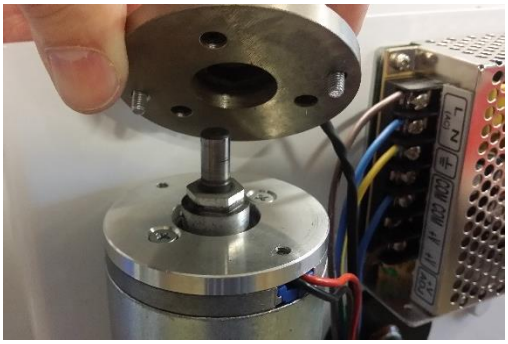
2.3 Electro-magnetic Brake

AssemblyReel comes with a fail-safe brake that keeps the power tool hanging under the reel when not utilised (see cover). Tools up to 2 kg can be stored this way. To unlock the brake it suffice to apply a short but firm pull to the tool.

The fail-safe brake implies that the brake will uphold the tool at all times, even is the power is cut off.

In some applications, especially when short tool cables are used, mounting AssemblyReel under a work bench may be a better option. In that case this electromagnetic brake is of little use and can easily be removed.

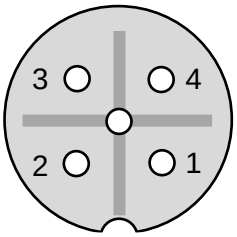
1. Disconnect power supply
2. Open the cover by loosening bolts (2)
3. Disconnect the two white wires at port 3 and 6
4. Remove two bolts (5) on the brake
5. Take away the brake (you can leave the hub)
6. Close the cover
7. Reconnect power supply



2.4 4P Micro Connector

Each AssemblyReel comes with a 4P micro connector at the rear side of the reel. This connector offers a wide variety of I/O possibilities, for instance, sending a job-ok signal to control room or receiving a cable retraction signal from an external tool holder.

In case of power tools, this connector is typically used to receive a cable retraction signal coming from the tool controller unit. The controller can be programmed as such that the retraction starts the moment - or a few seconds later - the last operation has been achieved and approved. For this application it suffice to close (0.2 sec pulse) the black (P4) and white (P2) wire. To learn more about this feature, please contact manufacturer or local distributor.



P1 = Brown
P2 = White
P3 = Blue
P4 = Black

3 OPERATING INSTRUCTIONS

AssemblyReel comes with a fail-safe brake that keeps the power tool hanging under the reel when not utilised (see cover). A short pull on the hose will disengage the brake. The adjustable cable stopper allows the tool hanging at the preferred grabbing height for the operator. Once the preferred grabbing height decided use a tie-rap to secure the cable stopper.

Once the brake disengaged, pull out the desired length of cable manually. Unlike spring driven cable reels, with AssemblyReel the force required to pull out the cable is very low (4 N) and remains constant throughout the whole length of cable. A low counter force is necessary to avoid the drum from spinning and delivering more length of cable than needed due to mass inertia.

An important advantage of AssemblyReel is that the operator does not have to lift the cable or push an additional switch to generate a retraction signal. Due to the 4P micro connector the retraction signal can be programmed in the tool controller unit (see 2.3). When the reel receives a proper retraction signal the red LED indicator will come on for 1 second and the motorized retraction will start.

An integrated safety device based on current detection will avoid damage in case the cable gets stuck. This device interrupts the motorized retraction immediately when the reel detects excessive resistance on the hose during retraction. In that case the red LED indicator *Over Load* will start flashing several times.

To avoid tripping accidents, the speed of the retraction is adjustable to meet the operator's working pace. Hence, once the motorized retraction has started, the cable is cleared from the floor in front of his feet. The retraction speed is adjustable between 0.5 m/sec and 1.5 m/sec by using the speed controller on the front panel of the reel.

4 INTERVENTIONS

4.1 Cable Replacement

Although suitable for most common tool cables, we strongly advise to use HighFlex tool cables because of their superior bending properties, hence better performances in terms of durability.

The AssemblyReel has been designed to make replacing a defect cable as easy and as fast as possible.

1. Pull out the entire length of cable from the drum
2. Disconnect power supply
3. Disconnect the push-n-pull drum connector
4. Lead the defect cable trough the rollers of the cable guide
5. Lead the new cable trough the rollers of the cable guide
6. Connect the push-n-pull drum connector
7. Re-connect powers supply

4.2 Contact Brush Replacement

Given the quality of the contact brushes used on AssemblyReel it is most unlikely these brushes need replacement because of wear. To access the contact brush assembly (36) it is very important to respect the order of taking apart the drum. In any case, do not remove the snap ring (39) before removing the drum assembly (41)!

1. Make sure the power is disconnected
2. Open the drum by removing the six nuts (49) and take away the disk (48)
3. Disconnect the four power wires
4. Disconnect the signal wires
5. Remove the three nuts (43) from the bearing assembly (35)
6. Remove the drum assembly (41), now the contact brush assembly becomes accessible
7. Disconnect the four power wires

8. Remove bolt (37) and replace contact brush assembly (see below)
9. Reconnect power wires
10. Reassemble all parts in reversed order

When mounting a new contact brush assembly, make sure the tension on the brushes are equal at both sided of the slip rings before securing bolt (37).

4.3 Maintenance

AssemblyReel is designed to operate in heavy duty applications without any need for lubrication nor preventive maintenance.

5 DECLARATION OF CONFORMITY

ALPHA REEL bvba, located Kieldrechtsebaan 51 at 9130 Verrebroek in Belgium, hereby confirms that AssemblyReel is designed and manufactured in Europe and in compliance with following European directives and harmonised norms:

Machinery Directive 2006/42/EC
Low Voltage Directive 2006/95/EC
EMC Directive 2004/108/EG
EN-ISO 12100
EN-ISO 13850

Peter Van der Paal
Managing Director
Verrebroek July 24, 2015

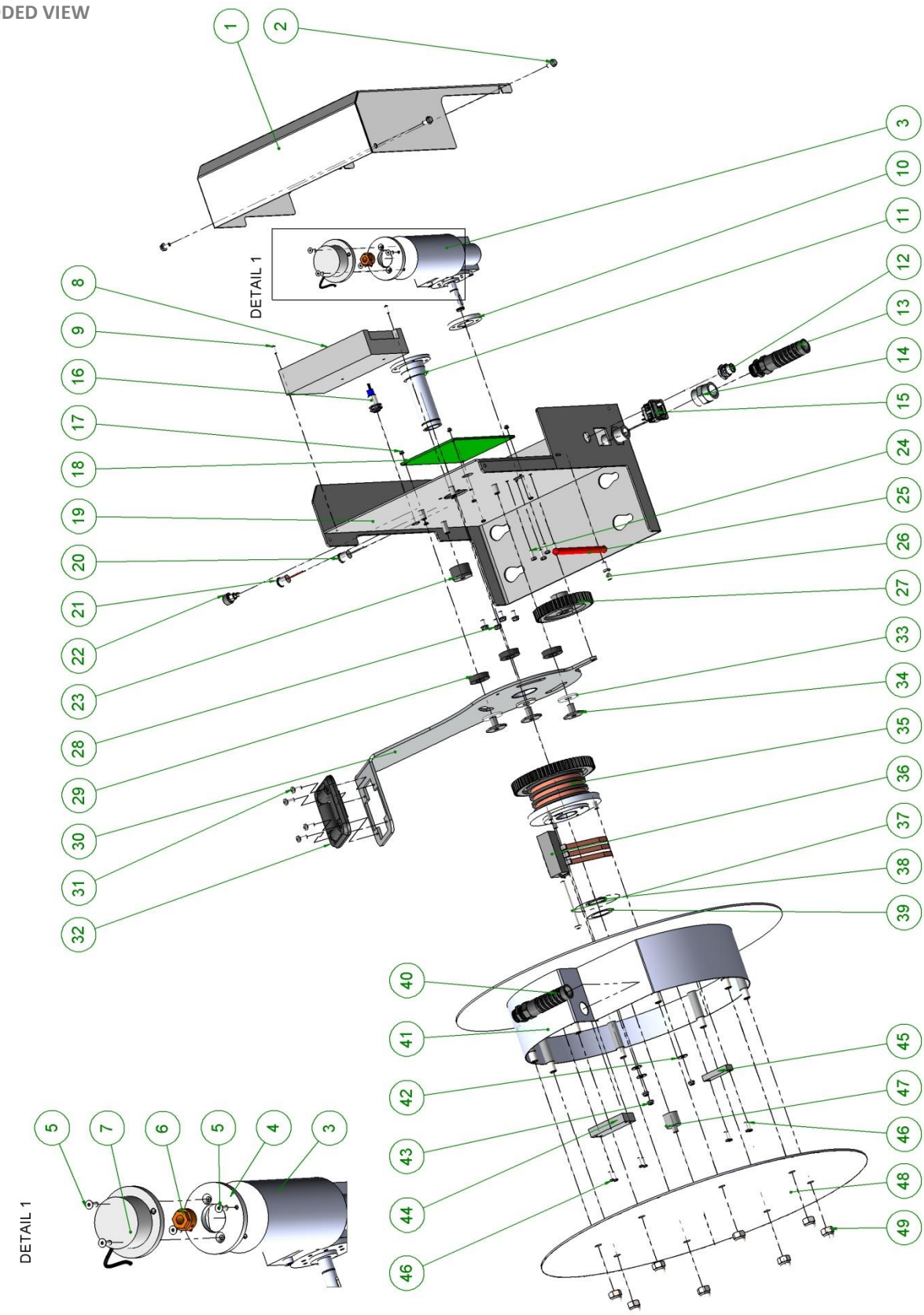
6 GENERAL WARRANTY

ALPHA REEL bvba affirms its product confidence with the following warranty statement:

All component parts are to be free of defects in design, material and workmanship for 24 months from the date of shipment. This warranty does not include the tool cable. During this warranty period ALPHA REEL bvba is liable to repair or replace the defective parts at its own expense.

The warranty does not cover damage caused by accident, abuse or faulty installation. Repairs or changes applied on ALPHA REEL products by third party without written authorization from ALPHA REEL bvba may render the warranty void.

7 EXPLODED VIEW



8 PARTS LIST

	#	reference	description
1	1	1506.0211	AssemblyReel Cover
2	4	1506.1032	Torx Bolt M5x8
3	1	1311.0913	Motor Assembly
4	1	1505.2801	Adaptor Disk Brake
5	4	1506.1029	Torx Bolt M4x10
6	1	1507.1423	Friction Disk Nut
7	1	1311.0914	Brake Assembly
8	1	1311.0916	Power Module 220-230V
9	2	1506.1030	Hex Socket Bolt M3x5
10	1	1506.1312	Adaptor Disk Motor
11	1	1505.2201	Main Shaft
12	1	1506.1501	4P Micro Connector
13	1	1506.1311	Cable Gland
14	1	1507.1309	Adaptor ½'' BSPP/M – M22
15	1	1505.1612	EIC-E14 Power Inlet incl. spare fuse
16	1	1311.1404	Inductive Sensor
17	4	1312.0311	Safety Nut M3
18	1	1311.0915	Controller Board Assembly
19	1	1505.2219	AssemblyReel Housing
20	1	1311.0917	Power On Indicator - Green
21	1	1311.0918	Over Load Indicator - Red
22	1	1311.0921	Speed Controller
23	1	1310.2601	Impact Bumper
24	1	1506.1033	Torx Bolt M4x16
25	1	1505.2904	Impact Spring
26	1	1505.2905	Ball Head Bolt
27	1	1505.2824	Gear Wheel Z42
28	4	1506.1032	Torx Bolt M5x10
29	3	1409.1201	Spacer
30	1	1505.2205	AssemblyReel Guide Arm
31	4	1506.1034	Torx Bolt M4x12
32	1	1304.2805	Roller Guide Assembly
33	3	1505.2849	Washer dia. 8x24
34	3	1504.1611	Flat Head bolt M8x17
35	1	1507.2701	Bearing Assembly with 4 x 30 A slip rings
36	1	1507.2702	Contact Brush Assembly with 4 x 30 A contact brushes
37	1	1506.1512	Dome Head Bolt M6x70
38	1	1506.1511	Spacer Ring Dia. 24
39	1	1506.1031	Snap Ring Dia. 24

40	1	1506.1311	Cable Gland
41	1	1507.2703	AssemblyReel AR-C 4.0 Drum
42	3	1506.1038	Washer Dia. 6x18
43	3	1506.1037	Safety Nut M6
44	1	1506.1313	Terminal Block 4x20A
45	1	1506.1312	Terminal Block 6x5A
46	8	1506.1034	Torx Bolt M3x12
47	1	1506.0102	Gold Plated Slip Ring Module – 12 Channels
48	1	1406.0702	AssemblyReel AR-C Drum Cover
49	6	1506.1036	Dome Nut M8
50	1	1303.3106	ECI Power Cord with CEE 7/7 plug

9 ACCESSORIES

reference	description
55101 SAZ 00180	EasyFix pivoting wall bracket – 180°
55101 SAZ 00340	Pivoting ceiling bracket – 340°
55501 SAZ 00001	Compact work bench suitable for 1 AssemblyReel
55501 SAZ 00002	Compact work bench suitable for 2 AssemblyReels
55501 SAZ 00003	Compact work bench suitable for 3 AssemblyReels
55501 SAZ 00004	Compact work bench suitable for 4 AssemblyReels
55501 SAZ 00005	Compact work bench suitable for 5 AssemblyReels
55401 SAZ 00900	Column 900 mm height
55401 SAZ 02500	Column 2500 mm height
71201 CFC 03001	IEC power cord with CEE 7/7 plug – 1 m (3 ft)
71218 CFC 03001	IEC power cord with BS 1363 plug – 1 m (3 ft)
71211 CFC 03001	IEC power cord with NEMA 5-15 plug – 1 m (3 ft)
71200 CFC 03001	IEC power cord with free ends – 1 m (3 ft)

10 TROUBLE SHOOTING GUIDE

problem	cause	solution
Power On LED does not come on	Malfunction power supply	Check power supply
		Check grounding
		Check fuse IEC connector
	Bad contact problem	Check all power wires between IEC connector and controller board
	Malfunction controller board	Check fuse on controller board
	Faulty controller board	Replace controller board
Brake does not let go	Bad contact problem	Check wires between brake and controller board
	Defective brake	Replace brake
	Malfunction controller board	Check fuse on controller board
	Faulty controller board	Replace controller board
Brake does not hold the tool	Bad contact problem	Check wires between brake and controller board
	Broken fiction disk	Replace brake
Motor does not respond to short pulse on air tool	Length of start pulse too long	Try shorter pulse on air tool
	Length of start pulse too short	Adjust pulse length on controller board
	Malfunction controller board	Check fuse on controller board
	Faulty controller board	Replace controller board
Loss of air pressure on swivel assembly	Broken seal	Replace seal of swivel assembly
Procedures to replace components or to adjust parameters are available. Please contact manufacturer or local distributor for more information.		

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