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GEBRAUCHSANLEITUNG
USER MANUAL
MANUEL D'UTILISATION
GEBRUIKSAANWIJZING
MANUAL DEL USUARIO
MANUAL DO UTILIZADOR
MANUALE D'USO

Polar F1/F2/F3™
Fitness Herzfrequenz-Messgerät
Fitness Heart Rate Monitor
Cardiofréquencemètre Fitness
Fitness Hartslagmeter
Monitor de Frequência Cardíaca
para Fitness
Monitor de Frecuencia Cardíaca
para Fitness
Cardiofrequenzimetro per il Fitness

Congratulations on your purchase of a new Polar F1/F2/F3™ Fitness heart rate monitor!

The Polar F1/F2/F3 heart rate monitor is an easy-to-use, entry-level heart rate monitor that is ideal for many reasons:

- Prompts you to exercise at least 30 minutes per day
- Shows your heart rate and elapsed time during exercise
- Enables you to check your average heart rate and total time after each session
- Large easy-to-read display
- Compact design
- One-button functionality

“Recommendations from experts agree that for better health, physical activity should be performed regularly. The most recent recommendations advise people of all ages to include a minimum of 30 minutes of physical activity of moderate intensity (such as brisk walking) on most, if not all, days of the week. It is also acknowledged that for most people, greater health benefits can be obtained by engaging in physical activity of more vigorous intensity or of longer duration.”

U.S. Department of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996; 2:6.

Why should you use a heart rate monitor?

- Training at your own ideal pace is made possible with a heart rate monitor.
- The ability to monitor and measure your progress motivates you.
- A heart rate monitor maximizes the benefits of exercise in a limited amount of time.
- A heart rate monitor provides you with objective information. Are you on the right track? Are you improving?
- A heart rate monitor provides you with immediate feedback; this is why it is an ideal training partner for you!

The Polar F1/F2/F3 heart rate monitor is a reliable and convenient way to measure your heart rate. It is as accurate as using an electrocardiogram (ECG). You can use the wrist unit to conveniently view your heart rate while walking, swimming, cross-country skiing, or any other exercise without disturbing your exercise rhythm. In addition professional athletes and amateurs alike have relied on the information provided by their heart rate monitor for decades, so why shouldn't you?

Read on to find out how to get the best benefit of your new training buddy!

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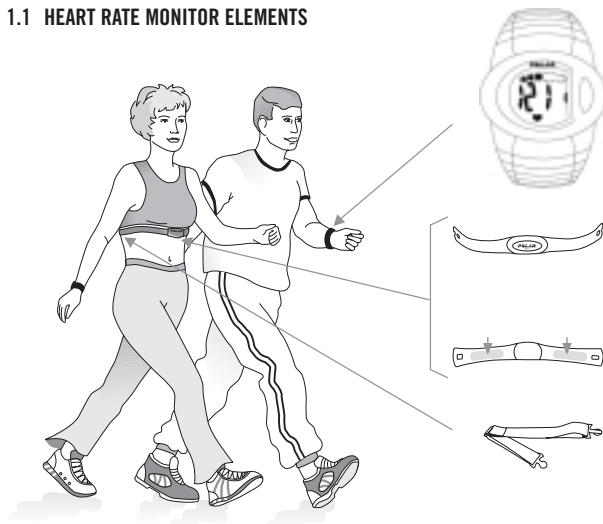
Information specific to the F3 product only is marked in blue.

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1. INTRODUCTION TO THE F1, F2 AND F3 HEART RATE MONITORS

The following chapter contains information on the elements of the F1/F2/F3 heart rate monitors and how to get started.

1.1 HEART RATE MONITOR ELEMENTS



Wrist Unit

The wrist unit allows you to monitor your heart rate and exercise time.

You can set target heart rate limits for yourself, which you can monitor while exercising. The target heart rate alarm •))) sounds or the reading flashes if you exercise outside the limits.

Transmitter

Wear the transmitter while exercising as the transmitter detects and transmits your heart rate to the wrist unit.

The electrode areas are on the back of the transmitter.

Elastic Strap

The elastic strap holds the transmitter in place around your chest.

1.2 WRIST UNIT SIDE BUTTON AND DISPLAY SYMBOLS

This section contains information on how to operate the wrist unit and a symbols guide for reading the data on the display.

Polar F1, F2 and F3 heart rate monitors have one operating side button.



Side button functions:

- Start heart rate measurement.
- Start and stop the stopwatch.
- Activate the functions shown on the display.
- Check your previous exercise file.
- Set the target heart rate limits.



Heart Touch

Bring the wrist unit near the Polar logo on the transmitter and your elapsed exercise time will appear for six seconds. In F3 your elapsed exercise time and time of day flash alternatively for 3 seconds each.

Display symbols

AVG Avg

Indicates that the average heart rate value is on the display. This figure, expressed in beats per minute (bpm), represents the average heart rate measured over a specific period of time (for instance, during an exercise session).

TOTAL Total

Indicates that the total exercise time is on the display.



Exercise Time Indicator

The indicator has six different bullets; each represents 10 minutes. One cycle of bullets takes 60 minutes. When all the bullets are filled in, the cycle starts again. Fill in just three bullets a day, and you will see some health benefits.



Heart Symbol

Indicates your heart rate is being measured.



Target Heart Rate Alarm

Indicates when the target heart rate alarm is on in the **SET** and **EXERCISE** modes.



Watch

Indicates the time of day in measure and file mode.

2. HOW TO ACTIVATE YOUR HEART RATE MONITOR FOR THE FIRST TIME

This chapter contains information on how to start to use your heart rate monitor for the first time and how to wear the transmitter.

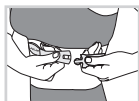
Before you start exercising, we recommend that you read about target heart rate zones on page 30. This information will help you exercise at the right level.

After determining your target heart rate limits, you can go to page 27, which contains instructions on how to set your F2/F3 wrist unit.

Transmitter



1. Attach one end of the transmitter to the elastic strap.



2. Adjust the strap length to fit snugly and comfortably. Secure the strap around your chest, just below the chest muscles, and attach the strap to the other end of the transmitter.



3. Lift the transmitter off your chest and **moisten the two grooved electrode areas on the back**. Check that the wet electrode areas are firmly against your skin and that the Polar logo is in a central, upright position.
4. Wear the wrist unit as a watch and press the side button to start monitoring your exercise. For further information on measuring your heart rate, see the following page.

2.1 MEASURING YOUR HEART RATE

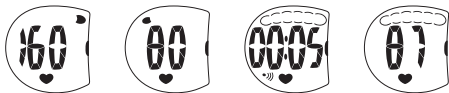


1. Press the side button to start. Keep a minimum of 3 feet/1 meter away from other heart rate monitor users until the heart rate symbol ♥ appears and flashes evenly.

2. The stopwatch starts. Your heart rate appears in six seconds. The heart rate symbol ♥ flashes in time with the beat of your heart.



Before the stopwatch starts, the target heart rate limits, that will be used while you exercise, are shown once on the display. The target heart rate alarm symbol (♥) is shown provided that you have switched it on.



Exercise Time Indicator

1 bullet = 10 minutes of exercise, 6 bullets = 1 hour of exercise. After one hour, when all the bullets are filled in, the cycle starts again.

After 9 hour 59 minutes of exercise the wrist unit returns to the **OFF mode/TIME mode (F3)**. To start measuring your heart rate again, press the side button. This deletes the previous file.

3. To check your exercise time while exercising bring the wrist unit up to the Polar logo on the transmitter. Your elapsed exercise time appears for six seconds.



If the wrist unit does not detect your heart rate signal, 00 appears on the display as your heart rate value. If there is no heart rate signal for more than five minutes, the receiver automatically returns to the **OFF mode/TIME mode**.

2.2 HOW TO STOP AND REVIEW A FILE

1. Press the side button to stop recording the exercise.



2. The file review starts and the average heart rate (AVG), total exercise time (TOTAL) and starting time (F3) flash alternatively three times for 3 seconds each.



3. The wrist unit returns automatically to the OFF mode/TIME mode (F3).



2.3 HOW TO REVIEW YOUR PREVIOUS EXERCISE FILE

1. In the OFF mode/TIME mode, press and hold the side button until FILE appears on the display. Release the side button. FILE, SET and TIME flash alternatively. When FILE is on the display, press the side button to enter the FILE mode.



2. The file shows your previous average heart rate, total exercise time and starting time. They flash alternatively three times and then the wrist unit returns to the OFF mode/TIME mode.



To stop reviewing the file at any time, press the side button.

Note: Information on your previous exercise file is saved until you start recording a new exercise session. At this point, the new information replaces the old.

Note: If you accidentally press the side button and the stopwatch starts running, you have one minute to stop it and save your previous exercise file.

3. HOW TO SET TARGET HEART RATE LIMITS IN F2 AND F3

Before exercising, it is recommended that you set your target heart rate limits and alarm. This way you can make sure that you are exercising at your desired intensity level (light, moderate or heavy). For further information on determining your personal target heart rate limits, see page 30.

If you miss a setting, let the settings scroll to the end and you can start specifying the settings again from step 1. Alternatively you can press and hold the side button at any time until the display returns to the **OFF mode/TIME mode (F3)**. You can start specifying the settings again from step 1.

HI = High limit

LO = Low limit

Ok = Time out, 3 seconds; acceptance of the limit you have set

BEEP = target heart rate alarm on/off

1. In the **OFF mode/TIME mode**, press and hold the side button until **FILE** appears on the display. Release the side button.



2. When **SET** is on the display (**SET**, **FILE** and **TIME** flash alternatively), press side button to enter **SET** mode.



3. **HI** appears briefly on the display, followed by the high limit reading (default 160). Press the side button to change the high limit. The limit can be set in five beat steps. Press the side button until you reach the desired limit and wait for three seconds to approve your choice. **Ok** appears on the display.



4. **LO** appears briefly on the display, followed by the low limit reading (default 80). Press the side button to change the low limit. The limit can be set in five beat steps. Press the side button until you reach the desired limit and wait for three seconds to approve your choice. **Ok** appears on the display. You have completed your target heart rate limits. (The lower limit cannot be set above the upper limit.)



Beep appears briefly on the display. You have two alternatives: to switch the target heart rate alarm **On** or **OFF**.

5. Target Heart Rate Alarm On

On flashes on the display. To switch the alarm **On**, wait for three seconds. **Ok** appears and the receiver returns to the **OFF** mode/**TIME** mode (F3).



6. Target Heart Rate Alarm OFF

If you want to switch the alarm from **On** to **OFF** press the side button when **On** is flashing on the display. **OFF** starts flashing. To switch the alarm **OFF**, wait for three seconds. **Ok** appears. The receiver returns to the **OFF** mode/**TIME** mode. You have completed your settings.



***Note:** If you want to change one of the limits quickly, repeat steps 1 - 3, but instead of waiting for three seconds to approve your choice, press and hold the side button. The receiver returns to the **OFF** mode/**TIME** mode.*

4. TIME SETTING IN F3

In the time mode, press and hold the side button until **FILE** appears on the display. Release the side button. **FILE**, **SET** and **TIME** flash alternatively. When **TIME** is on the display, press the side button to enter **TIME** set mode.



1. Time mode selection (24h/12h)

24h flashes on the display.
Select 24h/12h time mode by pressing the side button.
Wait for three seconds to approve your choice.
Ok appears on the display.



2. 24h time mode: set hours and minutes

Hours flash on the display.
Select the hours by pressing the side button.
Wait for three seconds to approve your choice.
Ok appears on the display.

Minutes flash on the display.
Select the minutes by pressing the side button.
Wait for three seconds to approve your choice.
Ok appears on the display.

3. AM/PM selection

If you chose 12h time mode, **AM** flashes on the display.
Select **AM** or **PM** by pressing the side button.
Wait for three seconds to approve your choice.
Ok appears on the display.



4. 12h time mode: set hours and minutes

Hours flash on the display.
Select the hours by pressing the side button.
Wait for three seconds to approve your choice.
Ok appears on the display.

Minutes flash on the display.
Select the minutes by pressing the side button.
Wait for three seconds to approve your choice.
Ok appears on the display.

5. TARGET HEART RATE ZONE

Your target heart rate zone is a range between the lower and upper heart rate limits expressed as beats per minute (bpm) or as percentages of your maximum heart rate (HR_{max}). HR_{max} = The highest number of heartbeats per minute during maximum physical exertion.

To find your maximum heart rate, you can use the age formula, $HR_{max} = 220 - \text{age}$. For a more accurate measurement of your HR_{max} visit your doctor or exercise physiologist for an exercise stress test.

Target Heart Rate Intensity Zones

When your heart beats at 60-70% of your HR_{max} , you are in the **Light Intensity** Zone. This intensity still feels fairly easy for most people. It helps in weight control and improves endurance and cardiovascular (aerobic) fitness.

Push on to 70-80% of your HR_{max} , and you are in the **Moderate Intensity** Zone. This is especially good for people who are exercising regularly. Exercising in this zone is particularly effective for improving cardiovascular fitness.

At 80-90% of your HR_{max} , you have moved into the **Hard Intensity** Zone. You will find yourself breathing heavily, having tired muscles and feeling fatigued. This intensity is recommended occasionally for fit people.

The table below contains target heart rate intensity zones in beats per minute (bpm) estimated by age in 5-year intervals. Calculate your own HR_{max} , write down your own target heart rate zones and select the ones suitable for your exercise.

Age	HR_{max} (220-age)	Light Intensity 60-70% of HR_{max}	Moderate Intensity 70-80% of HR_{max}	Hard Intensity 80-90% of HR_{max}
20	200	120-140	140-160	160-180
25	195	117-137	137-156	156-176
30	190	114-133	133-152	152-171
35	185	111-130	130-148	148-167
40	180	108-126	126-144	144-162
45	175	105-123	123-140	140-158
50	170	102-119	119-136	136-153
55	165	99-116	116-132	132-149
60	160	96-112	112-128	128-144
65	155	93-109	109-124	124-140

In exercise, different heart rate zones produce different health and fitness benefits. The heart rate zones that suit you depend on your goal and your basic physical condition. Remember to alternate between intensity zones to get variation in your exercise!

6. CARE AND MAINTENANCE

Your Polar heart rate monitor is a high-tech instrument and should be treated with care. The suggestions below will help you fulfill the guarantee obligations and enjoy the product for many years to come.

Taking Care of Your Polar Heart Rate Monitor

- Clean the transmitter regularly after use with a mild soap and water solution. Dry it carefully with a soft towel.
- Never store the transmitter wet. Sweat and moisture can keep its electrodes wet and the transmitter activated, which shortens the battery lifespan.
- Store your heart rate monitor in a cool and dry place. Do not store it in any kind of non-breathing material, such as a plastic bag or a sports bag if it is wet.
- Do not bend or stretch the transmitter. This may damage the electrodes.
- Do not dry the transmitter in any other way than with a towel. Mishandling may damage the electrodes.
- Keep your heart rate monitor out of extreme cold and heat. The operating temperature is 14 °F to 122 °F / -10 °C to +50 °C.
- Do not expose the heart rate monitor to direct sunlight for extended periods, such as by leaving it in a car.

Transmitter Batteries

The estimated average battery lifespan of the transmitter is 2500 hours of use. Contact your authorized Polar Service Center for a replacement transmitter. See your Customer Care and Registration Card for detailed instructions.

Receiver Batteries

The estimated average battery lifespan of the wrist unit is 2 years of normal use (2h/day, 7 days a week). Do not open the wrist unit yourself. To ensure the water resistance properties and the use of authorized components, the wrist unit battery should be replaced by an authorized Polar Service Center only. At the same time a full periodic check of the Polar heart rate monitor will be done.

Service

Should your Polar heart rate monitor need service, see your Customer Care and Registration Card to contact an authorized Polar Service Center. Water resistance cannot be guaranteed after unauthorized service.

7. PRECAUTIONS

7.1 POLAR HEART RATE MONITOR AND INTERFERENCE Electromagnetic Interference

Interference may occur near high voltage power lines, traffic lights, overhead lines of electric railways, electric bus lines or trams, televisions, car motors, bike computers, some motor driven exercise equipment, cellular phones or when you walk through electric security gates.

Exercise Equipment

Several pieces of exercise equipment with electronic or electrical components such as LED displays, motors, and electric brakes may cause interference with stray signals. To try to solve the problem, relocate your wrist unit as follows:

1. Remove the transmitter from your chest and use the exercise equipment as you would normally.
2. Move the wrist unit around until you find an area where it displays no stray reading or the heart symbol does not flash. Interference is often worst right in front of the display panel of the equipment, while the left or right side of the display is relatively free of interference.
3. Put the transmitter back on your chest and keep your wrist unit in this interference-free area as far as it is possible.

Note: *If the Polar heart rate monitor still does not work with the exercise equipment, this piece of equipment may be electrically too noisy for wireless heart rate measurement.*

Crosstalk

The F1, F2 and F3 wrist units are non-coded and pick up transmitter signals within 3 feet/1 meter. Other non-coded signals, picked up simultaneously from more than one transmitter, can cause incorrect readouts.

Using Your Polar Heart Rate Monitor in Water

Your Polar heart rate monitor is water resistant to 100 feet/30 meters. To maintain the water resistance, do not press the side button of the wrist unit under water.

Users measuring their heart rate in water may experience interference for the following reasons:

- Pool water with a high chlorine content and seawater are very conductive. The electrodes of a Polar transmitter may short circuit, which prevents the transmitter unit from detecting ECG signals.
- Jumping into water or strenuous muscle movement during competitive swimming may cause water resistance that shifts the transmitter on the body to a location where it is not possible to pick up an ECG signal.
- ECG signal strength is individual and also varies depending on an individual's tissue composition. The percentage of people who have problems measuring their heart rate is considerably higher in water than in other environments.

7.2 MINIMIZING POSSIBLE RISKS WHEN EXERCISING WITH YOUR HEART RATE MONITOR

Exercise may include some risk, especially for those who have been sedentary. Before starting a regular exercise program, it is recommended that you answer the following questions about your health status. If your answer yes to any of the questions below, we recommend that you consult a doctor before starting an exercise program.

- Have you not exercised for the past 5 years?
- Do you have high blood pressure?
- Do you have high blood cholesterol?
- Do you have symptoms of any disease?
- Are you taking any blood pressure or heart medication?
- Do you have a history of breathing problems?
- Are you recovering from a serious illness or medical treatment?
- Do you use a pacemaker or another implanted electronic device?
- Do you smoke?
- Are you pregnant?

Note that in addition to exercise intensity, medications for heart problems, blood pressure, psychiatric conditions, asthma, breathing etc. as well as some energy drinks, alcohol, and nicotine can affect heart rate.

It is important to be sensitive to your body's reactions during exercise. If you feel unexpected pain or excessive fatigue when exercising, it is recommended that you stop the exercise or continue at a lighter intensity.

Notice to persons with pacemakers, defibrillators or other implanted electronic devices. Individuals who have a pacemaker use the Polar heart rate monitor at their own risk. Before use, we always recommend an exercise test under a doctor's supervision. The test is to ensure the safety and reliability of the simultaneous use of the pacemaker and the heart rate monitor.

If you are allergic to any substance that comes into contact with your skin or if you suspect an allergic reaction due to using the product, check the listed materials in the *Technical Specifications* chapter on page 35. To avoid any skin reaction risk with the transmitter, wear it over a shirt. However, moisten the shirt well under the electrodes to ensure flawless operation.

Note: *The combined impact of moisture and intense abrasion may cause a black color to rub off the transmitter's surface, which might stain light-colored clothes.*

8. FREQUENTLY ASKED QUESTIONS

What should I do if...

...there is no heart rate reading (00)?

1. Check that the electrodes of the transmitter are moistened and that you are wearing it as instructed.
2. Check that you have kept the transmitter clean.
3. Check that there are no sources of electromagnetic radiation in close vicinity to the Polar wrist unit, such as TV sets, cellular phones, CRT monitors, etc.
4. Have you had a cardiac event that may have altered your ECG waveform? In this case, consult your physician.

...heart symbol flashes irregularly?

1. Check that your wrist unit is inside the transmission range and not further than 3 feet/1 meter from the Polar transmitter you are wearing.
2. Check that the elastic strap has not become loose during exercise.
3. Make sure that the electrodes of the transmitter are moistened.
4. Make sure that there is no other heart rate transmitter within the reception range (3 feet/1 meter).
5. Cardiac arrhythmia may cause irregular readings. In this case, consult your physician.

...heart rate reading becomes erratic or extremely high?

You may have come within range of strong electromagnetic signals, which can cause erratic readings on the wrist unit display. Check your surroundings and move further away from the source of the disturbance.

...the wrist unit battery needs changing?

We recommend that all service be done by an authorized Polar Service Center. The 2-year International Guarantee/Warranty does not cover damage or consequential damage caused by service not authorized by Polar Electro. Polar Service Center will test your wrist unit for water resistance after battery replacement and makes a full periodic check of your complete Polar F1/F2/F3 heart rate monitor.

9. TECHNICAL SPECIFICATIONS

The F1/F2/F3 heart rate monitor is designed to

- to help the users to achieve their personal fitness goals.
- to indicate the level of physiological strain and intensity during an exercise session.

No other use is intended or implied. Heart rate is displayed as number of heartbeats per minute (bpm).

Wrist Unit

Battery type:	CR 1632
Battery life:	average 2 years (2h/day, 7 days/week)
Operating temperature:	14 °F to 122 °F/ -10 °C to +50 °C
Water resistance:	up to 100 feet/ 30 meters
Wrist Strap and Strap Loop:	Thermoplastic Polyurethane (TPU)
Wrist Strap Buckle and Strap Tongue:	Polyoxymethylene (POM)
Back cover material:	Stainless steel complying with the nickel release regulations of the EU (EU Directive 94/27/EU and its amendment 1999/C 205/05).
Accuracy of heart rate measurement:	± 1% or ± 1 bpm, whichever larger, definition applies to steady state conditions

Total exercise time:	9 h 59 min
Exercise time display < 1 h:	mm:ss
Exercise time display > 1 h:	hh:mm
Minimum duration of recorded exercise:	1 min
Heart rate limits:	30 - 195 bpm

Polar Transmitter

Battery type:	Built-in Lithium Cell
Battery life:	Average 2500 hours of use
Operating temperature:	14 °F to 122 °F/ -10 °C to +50 °C
Material:	Polyurethane
Water resistance:	Waterproof

Elastic Strap

Buckle material:	Polyurethane
Fabric material:	Nylon, polyester, and natural rubber including a small amount of latex

10. LIMITED POLAR INTERNATIONAL GUARANTEE

- This limited Polar international guarantee is issued by Polar Electro Inc. for the consumers who have purchased this product in the USA or Canada. This limited Polar international guarantee is issued by Polar Electro Oy for the consumers who have purchased this product in other countries.
- Polar Electro Inc. / Polar Electro Oy guarantees to the original consumer / purchaser of this product that the product will be free from defects in material or workmanship for two years from the date of purchase.
- **Please keep the receipt or International Guarantee Card, which is your proof of purchase!**
- The guarantee does not cover the battery, damage due to misuse, abuse, accidents or non-compliance with the precautions; improper maintenance, commercial use, cracked or broken cases and elastic strap.
- Guarantee does not cover any damage/s, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the product. During the guarantee period the product will be either repaired or replaced at an authorized service center free of charge.
- This guarantee does not affect the consumer's statutory rights under applicable national or state laws in force, or the consumer's rights against the dealer arising from their sales/ purchase contract.



This CE marking shows compliance of this product with Directive 93/42/EEC.

Polar Electro Oy is a ISO 9001:2000 certified company.

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11. DISCLAIMER

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This product is protected by one or several of the following patents:

FI 88223, DE 4215549, FR 92.06120, GB 2257523, HK 113/1996, SG 9591671-4, US 5491474, FI 88972, DE 9219139.8, FR 92.09150, GB 2258587, HK 306/1996, SG 9592117-7, US 5486818, FI 96380, US 5611346, EP 665947, DE 69414362, FI 68734, DE 3439238, GB 2149514, HK 812/1989, US 4625733, FI 100924, FI 100452, US 5840039, FI 4150, DE 20008882.3, FR 0006504, FI 4069, US 6272365, FR 9907823, GB 2339833, DE 29910633, FI 104463, US 6183422, FI 4157, DE 20008883.1, FR 0006778, WO 97/33512, GB 2326240.

Other patents pending.