IEM®

on life's side

DEAR READER,

It has been true for a long time now that the satisfaction of our customers depends on more than the physical properties of our products; instead, the importance of the digital – in other words, data-based – benefits continues to increase. For the mutual success of our customers and our company, we are connected by a constant exchange of ideas and information – after all, if we want to provide the perfect cardiovascular management solutions for patients, we need them to be actively involved in the process.
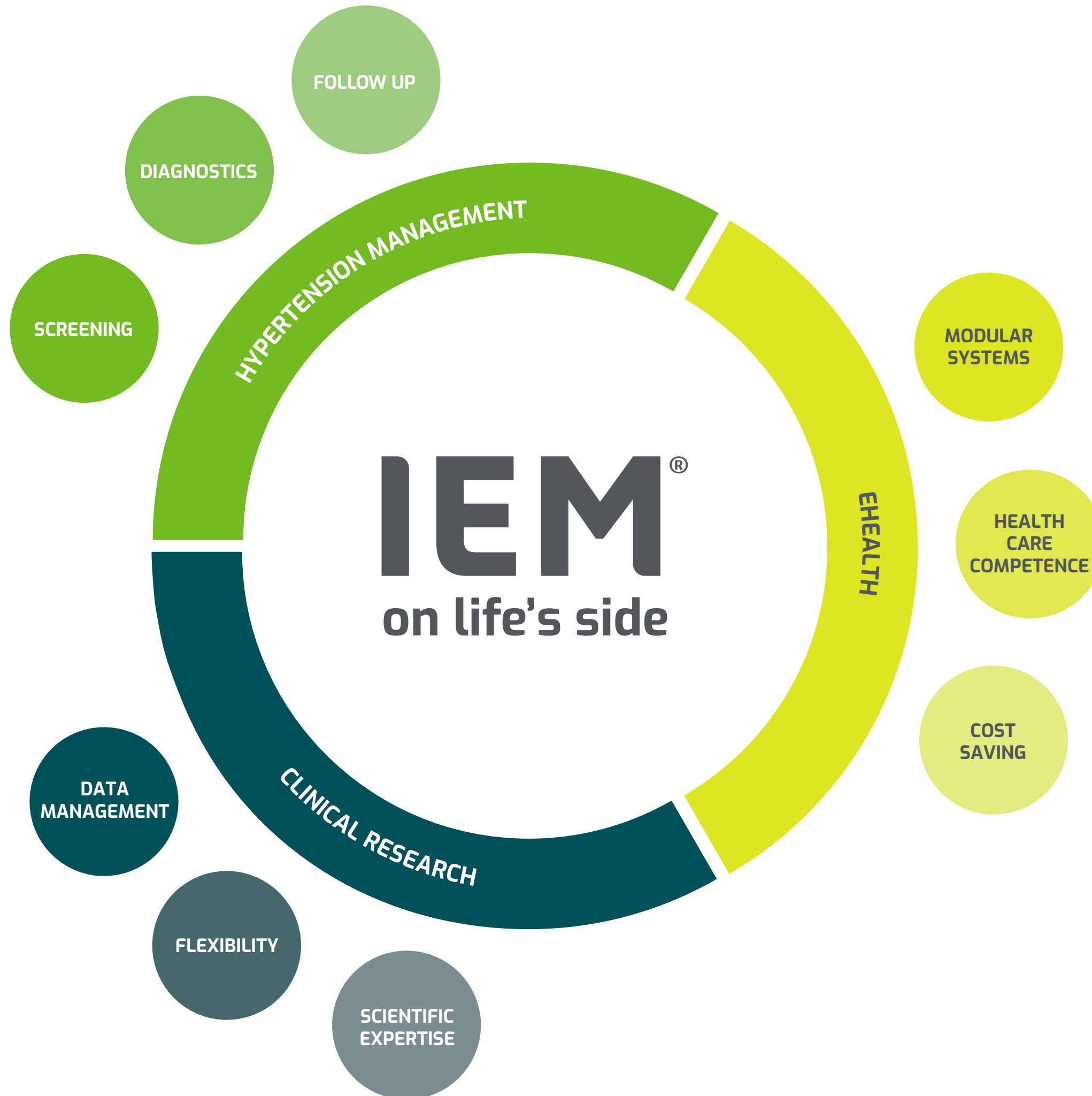
As a father-and-son management team, we are proud to present this catalogue showcasing our new brand and extended strategy, as well as lots of new products.

Change is happening more quickly than ever these days, but is also only set to accelerate further. So we look forward to sharing many more new advances with you!

Uwe Korth (CEO) & **Thomas Korth** (COO)

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Research

Intensive research is the central pillar of many years of successful business. To this end, IEM intensively collaborates with universities, research institutions and Key Opinion Leader around the world. The results of scientific projects are an essential element of the development of our products.

Production

As an ISO-certified company, we care about offering only products of the highest quality, which is why we monitor every process step in accordance with defined standards at our in-house production facility – living up to the excellent reputation German engineering enjoys. In times of high capacity usage, we can meet your demand with short lead times thanks to our ability to scale flexibly.

Development

Based on the results of intensive research, we develop innovative inhouse solutions in line with the high standards regarding quality, longevity and usability. With careful usability engineering, documentation and continuous functional checks, we develop series-production ready products that offer maximum value. Alongside IEM-branded products we also develop products made to order (e.g. OBL).

Sales

Our aspirations also include ensuring quality in the sales process. This means that we provide you with direct access to experts within IEM for each field and target group. Our products are sold domestically as well as internationally through certified medical device retail partners who receive training and regular audits for quality control purposes. This allows us to guarantee that you receive the same standard of service and support around the world, from sales advice to product repair.

COMPANY

Cardiovascular diseases are No. 1 cause of death worldwide. Related symptoms reduce our quality of life and reduce life expectancy. Doctors, clinics, pharmacies, research institutes and healthcare providers around the world are working to improve the quality of life of each individual with individual methods and treatings. They all need technologies that allow individual screening of the population, guarantee reliable diagnosis and provide secure eHealth systems.

Solutions that meet these requirements are developed by IEM. The skills of our partners in combination with our technologies help people to live a healthier life because our health is our highest good.

IEM - on life's side

COMPLIANCE

Data security and Data management

Innovative medical solutions must be safe and reliable while also offering significant medical value. Not only that, but they also need to be adapted to customer and product-specific needs by enabling interoperability. These standards are especially important when it comes to the transmission of health data. This is why these requirements constitute the basis of all IEM systems. The collection and transmission of measured values is strictly anonymous, with security being provided by apps, modems and GSM modules, which are integrated in measurement devices and approved as medical devices.

Together, they constitute the core of the data management system alongside the IEM gateway server (medical product). The powerful and failsafe gateway server processes data in line with the highest security standards and transmits it in encrypted form and anonymously to IEM solutions or, if so desired, to the customer's own databases in any standard format.

In addition to maximum data security, the gateway server in conjunction with the IEM transmission units enables the development of new, interoperable systems to allow optimised patient care.

Gateway-Server
- Redundant server systems
- Server monitoring with status report
- 99,9% system availability
- Data received exclusively from registered senders
- Anonymous and encrypted data transmission
- Medical product
- ISO 27001-certified server provider

Quality management

Our products and services are developed in accordance with international standards and undergo extensive testing in line with specific and relevant standards: within our company, by independent testing institutions and under the critical eye of internationally renowned clinics and clinical research organisations.
Our software and system development process encompasses the entire product development process from drawing up the medical product specifications to clinical testing. Together with our customers, we efficiently develop innovative solutions and incorporate requirements in accordance with IEC 60601-1, IEC 60601-1-2 and IEC 80601-2-30.
Quality requirements (according to ISO 13485 and ISO 9001) are integrated into the development process from the outset as a matter of course. We apply these standards to systematically achieve the best customer and patient satisfaction possible with respect to our devices and services.

SERVICE

Communication

Our employees are available via a diverse range of communication routes. In addition to traditional methods such as e-mail, telephone and fax, our staff will also be glad to assist you personally via online chat, video conferencing or in face-to-face meetings. We also offer the option to monitor the status of orders and deliveries online and in real time.

Response time

Your needs have absolute priority for us. We usually answer queries and concerns on the same day, and always at least within 24 hours. When contacting our staff via online chat, they will also respond to your enquiries within an average of 10 seconds.

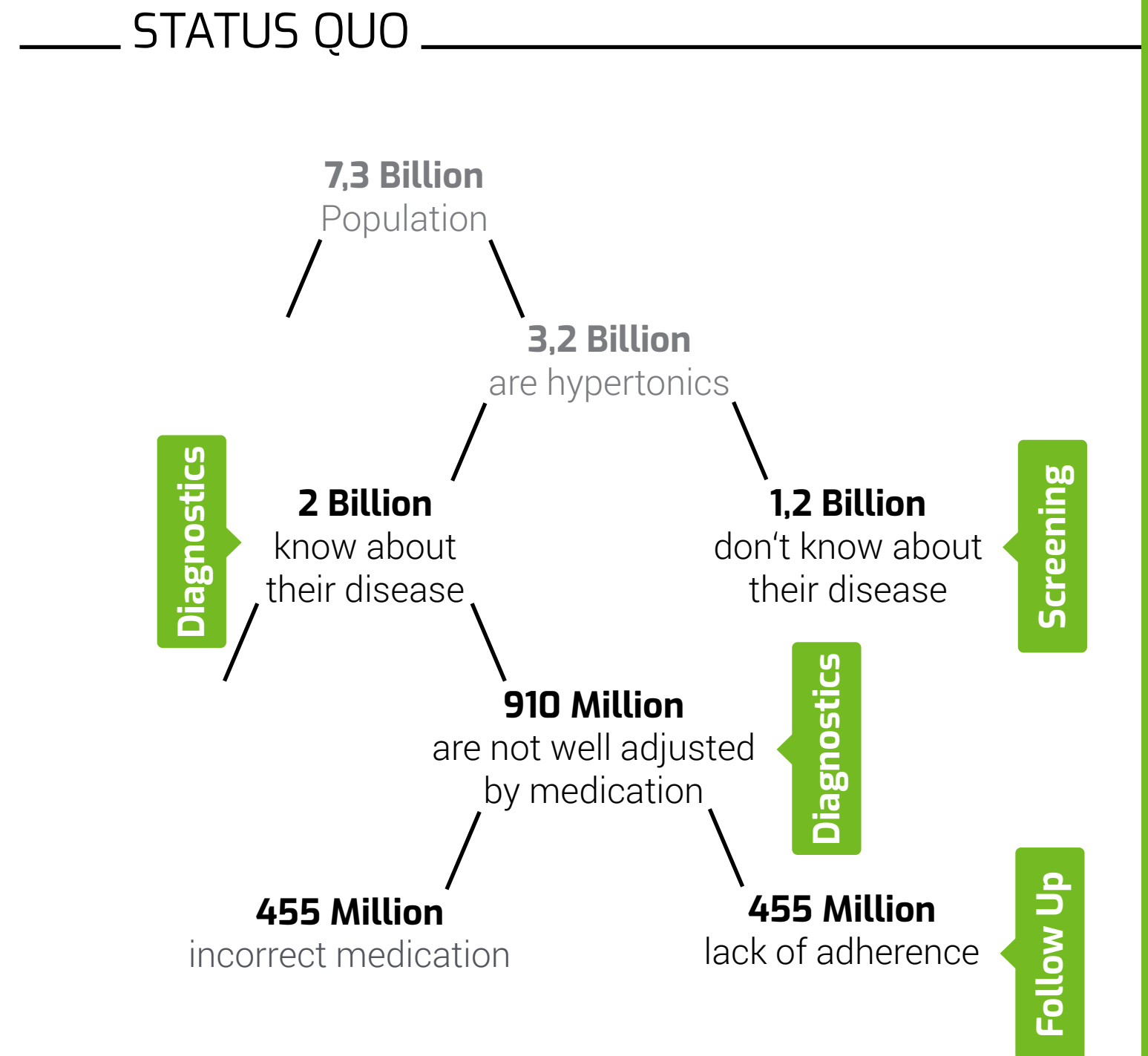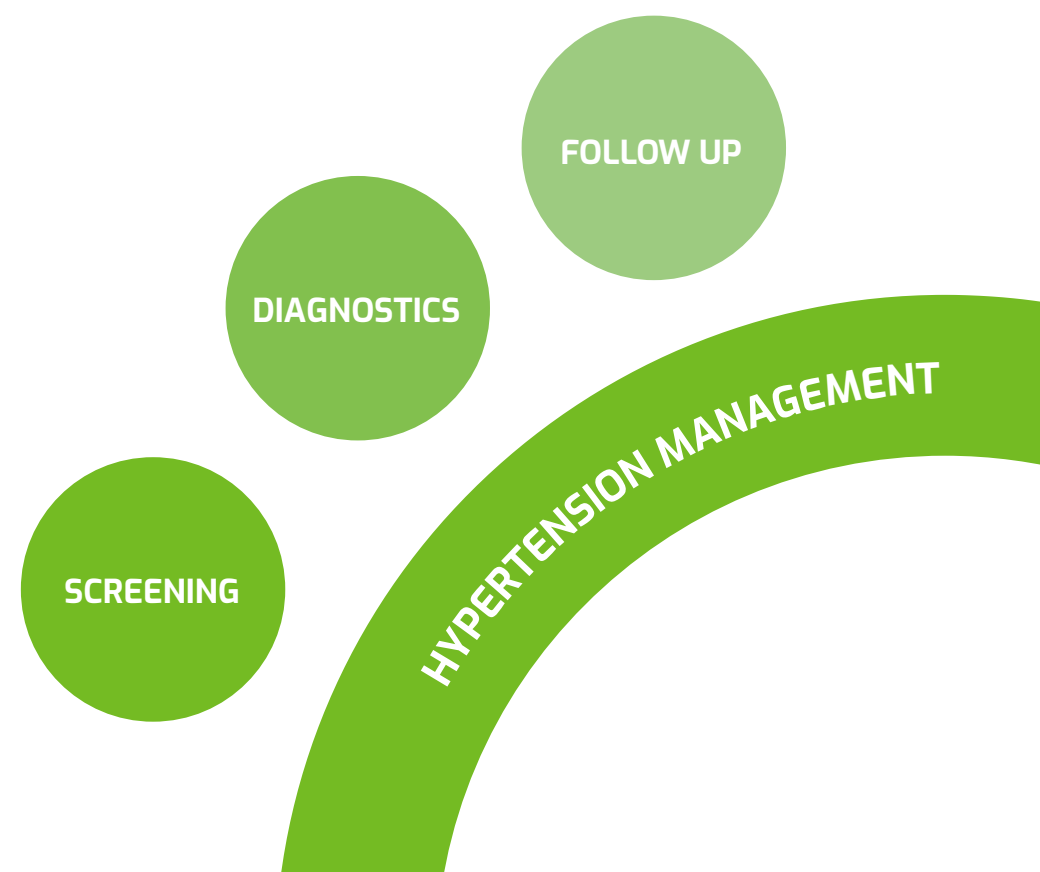## Repair service

Your device will be maintained and repaired personally in-house in accordance with high quality standards. While the device is being inspected or repaired, you have the benefit of loan devices that allow you the benefit of uninterrupted use. All repairs are performed within 24 hours. The status of the device inspection, repair and delivery tracking can be viewed online at any time.
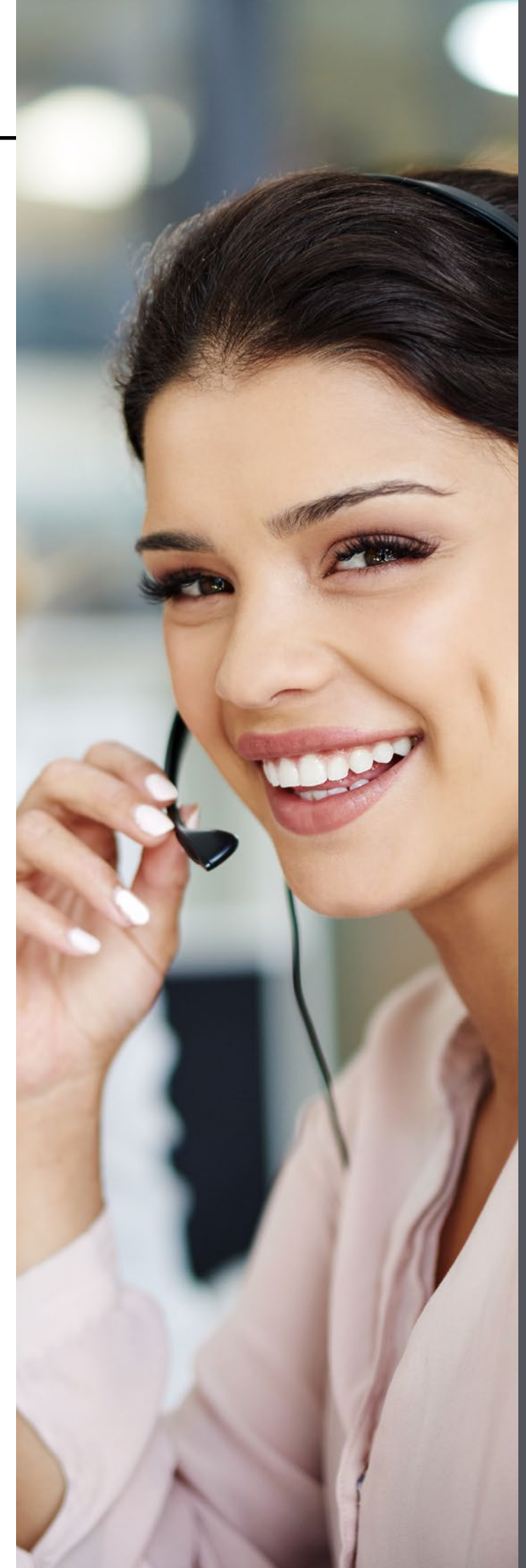
HYPERTENSION MANAGEMENT

Comprehensive care for hypertensives

Hypertension (high blood pressure) and its secondary diseases (heart disease, kidney failure, strokes, etc.) are the number one causes of death worldwide according to the World Health Organisation (WHO), with an anually mortality rate of 41 million. There are more than 1.6 billion identified hypertensives globally, though the true figures are probably higher. There is also a need for action in helping uncontrolled hypertensives due to a lack of compliance or prescription of the wrong medication.

7,3 Billion
Population

3,2 Billion
are hypertonics

Diagnostics

2 Billion
know about
their disease

1,2 Billion
don't know about
their disease

Screening

910 Million
are not well adjusted
by medication

Diagnostics

455 Million
incorrect medication

455 Million
lack of adherence

Follow Up

FOLLOW UP

DIAGNOSTICS

HYPERTENSION MANAGEMENT

SCREENING

From screening solutions for identification and risk classification of unknown hypertensives, to systems for making and confirming diagnoses and telemetry concepts for optimising treatment and monitoring:
IEM supports healthcare providers around the world to strengthen awareness of the risk of cardiovascular diseases and uses innovative hypertension management technologies to contribute to primary and secondary prevention for long-term health promotion.

With the agedio® vascular age measurement, you offer your customers an innovative prevention service that can significantly reduce the risk of heart attack or stroke during their lifetime by early detection of high-risk patients and unknown hypertensives.

The non-invasive measurement and analysis of measurement results can be quickly performed in just a few minutes. These can then be incorporated into a clear and concise report, visualised by means of a traffic light system. The results compare the apparent ageing of the vessels with the actual biological age of the patient, giving people identified as high-risk the chance to take preventive measures, and so to significantly reduce the personal risk of a cardiovascular event.

IEM screening solutions can be used in a wide range of applications: Customers use IEM screening technologies worldwide in pharmacies, medical practices and hospitals, but also in corporate healthcare management and the fitness and nutrition sector.

Non-invasive blood pressure and vascular age screening

Clear presentation of results in the form of a report

Information and recommendation for action

Using our validated ABPM system creates added clinical and commercial value, and enables the user to make a reliable diagnosis. A single blood pressure measurement is ideally supplemented by an ABPM in order to identify significant daily fluctuations in blood pressure. In this way different hypertension phenomena (e.g. white coat hypertension, masked hypertension, nighttime hypertension etc.) can be diagnosed.

IEM has been working on conventional methods of blood pressure measurement to incorporate pulse wave analysis (PWA), which includes key cardiovascular parameters and can be offered as an optional upgrade. Our long-term monitors can perform a pulse wave analysis alongside blood pressure measurement in the context of an automatic measurement cycle.

An analysis of individual PWA parameters provides a clearer picture of the cardiovascular risk than peripheral blood pressure alone. In addition, the ESH/ESC guidelines on classification and treatment of hypertension help to produce a significantly better indication when making a decision on medication. To ensure that the process of visiting the medical centre and treating the patient is as efficient as possible, we integrate intelligent assistance into our products in the form of Smart Solutions*, and these also encourage patients to accept our ABPM systems far more readily.

Presentation of results report to doctor

Prescription of 24-hour long-term measurement

Performance of 24-hour long-term measurement

Analysis of the measurement results and diagnosis by the doctor

Prescription of therapy and provision of a telemetric home blood pressure measurement device

Solutions for Screening
Blood pressure and pulse wave analysis to identify arterial stiffness

- Quick and dependable identification of high risk patients
- Various use cases
- Visualized results in individual reports
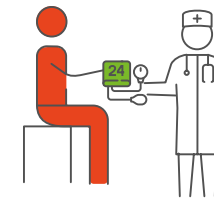
Solutions for Diagnostics
Blood pressure and haemodynamics in a single device

- Upgradable haemodynamic parameters
- Significantly better patient compliance
- Higher efficiency with Smart Solutions*

* siehe hierzu Seite 33

The patient's adherence management begins with the medical diagnosis of hypertension. For an effective therapy setting, it is therefore crucial to monitor blood pressure while taking medication and make adjustments if necessary. With our blood pressure telemedicine systems, you can support patients in the first few weeks of their treatment. Daily measurements from the patient, which can be transmitted directly to the practice from anywhere in the world thanks to the integrated GSM module, can be viewed at any time or summarised into an automated report. The knowledge that the doctor is constantly monitoring the undistorted values helps to enhance patient compliance and boost the patient's awareness. The minimal effort and simplification of the blood pressure treatment increases patient satisfaction and makes everyday practice easier. It has also already been scientifically proven that telemedicine is superior to conventional therapy. Telemedicine has enabled blood pressure readings to be reduced much more substantially in the first few weeks and – with improved patient compliance – more durably thank with conservative therapy.* As a pioneer of innovative solutions, you can offer patients the fastest way to reduce the risk of cardiovascular diseases.

* Source: Neumann CL, Menne J, Schettler V et al. Long-term effects of 3-month telemetric blood pressure intervention in patients with inadequately treated arterial hypertension. Telemed J E Health. 2015; 21(3):145-50
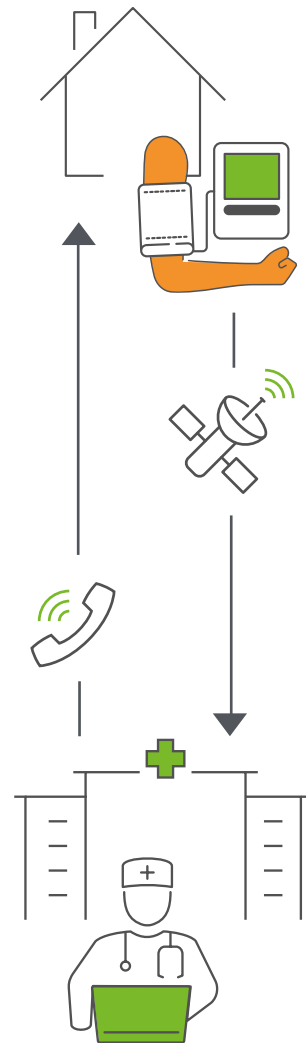
Real-time transmission of measured values. Regular control of values and therapy adjustment by the doctor as necessary

Solutions for Therapy Follow Up

Digital blood pressure adjustment

- Significantly better therapeutic results
- Considerable time savings for doctors and patients
- Immediate therapy adjustments due to automatic status reports

Successful treatment thanks to optimum therapy adjustments, as well as long-term success thanks to high patient compliance

The Hypertension Management Software Client Server (HMS CS) is our in-house patient and evaluation management software and seamlessly combines screening, diagnostics and follow-up.

Secure data management and simple networking form a trustworthy basis for every doctor and healthcare provider, who works safely with sensitive data and networks all areas. You save time through direct and wireless communication and location-independent workplaces by using the desktop software HMS CS in all areas of hypertension management. Through the possible integration into your practice or clinic software, you optimize patient management and guarantee full patient management.

Screening

Diagnostics

eHealth & CRO

Follow Up
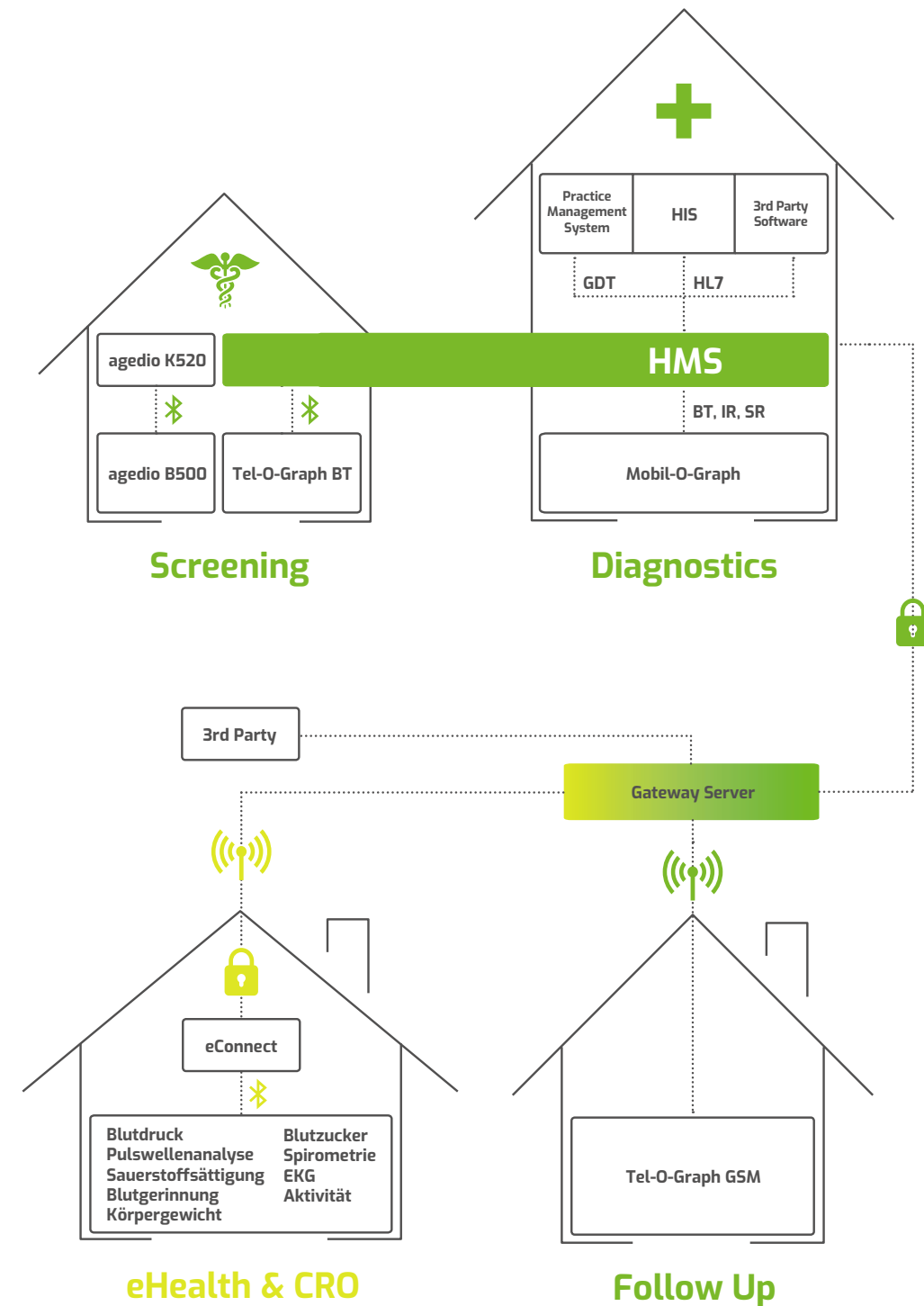
„WE SHOULDN'T ASK WHY,
BUT RATHER WHAT FOR"

– DR. STEFAN FRÄDRICH

PRODUCTS

Hypertension Management

IEM®

agedio B500

The agedio® vascular age measurement is an innovative screening service for cardiovascular risk detection and enables health-promoting preventive measures at an early stage. Vascular age measurement is a further development of classic blood pressure measurement. The clinically validated agedio® B500 measuring device performs a blood pressure and pulse wave analysis during an upper arm measurement within an automatic measuring cycle. The measurement is carried out in combination with the iOS app agedio® K520 installed on an iPad, which enables a clear preparation of the measurement results in a report for your customer and also for his doctor. The result allows a clearer statement on cardiovascular risk than peripheral blood pressure alone and is an independent predictor of cardiovascular events.

Customer benefits

Healthcare service providers
- Identification of new clients with long-term client retention
- Additional income and increased sales of other health products and services
- An innovative screening service that appeals to a broad target group
- USP compared to competition and creation of added value for customers
- Enhancement of services offered in the field of prevention
- High customer motivation for further health-promoting measures

Providers of company health management services
also benefit from a screening solution by encouraging employees to act preventively or quickly and thereby reduce sickness-related absenteeism.

System benefits

- Reliable data thanks to high measurement precision (BHS (A/A) grading) of the approved medical product
- User-friendly thanks to one-button operation, large display and fast measurement without unpleasant effects (AFL: Auto-Feedback Logic)
- Easy processing of results in automatically generated reports for customers and their doctors

Parameters

Basic	
Brachial systole	cBP systole
Brachial diastole	cBP diastole
MAD	Cardiac Output
Heart rate	Peripheral resistance
Pulse pressure	Reflection coefficient
AIx @75	PWV

Technical Data

Dimensions	L 150 mm x B 109 mm x H 56 mm
Display	70 mm x 72 mm, Character height 20 mm
Weight	325 g
Technique	oscillometric
NIBP Accurancy	validated according to ISO 81060-2 and BHS (A/A Grading)
Systolic Range	30-290 mmHg
Diastolic Range	30-240 mmHg
Pulse Rate Range	30-240 BPM (Beats per min)
Pulse Rate Accuracy	±2% or ±3 BPM, whichever is greater
Transducer Accuracy	± 3 mmHg over full range in operating conditions
Operating Modes	manual
Operating Temperature	+5°C to 40°C
Operating Humidity	15% to 93% RH, non-condensing
Storage Temperature	-25°C to +70°C
Storage Humidity	up to 90% RH, non-condensing
Operating Voltage	4 - 6 VDC (4 x AA NiMH or Alkaline)
Power Consumption	using 5 VDC Nominal
Storage Capacity	15 Measurements
Communication	Bluetooth 2.1 + EDR or Infrared
Transmission output power	Class 1 (100 mW)

Set

Basic Set T30603101
Our Basic set provides you with the accessories needed for blood pressure measurement and pulse wave analysis to determine the vascular age, alongside the monitor.*

Scope of delivery:
- agedio® B500
- 3 cuffs (sizes S, M and L)
- 4 Batteries
- Set pouch
- Tape measure
- Manual

* Measurement evaluation via iOS App agedio® K520

PRODUCT

Accessories

Article no.	Description
T30504100	OD cuff S (20-24 cm)
T30505100	OD cuff M (24-32 cm)
T30506100	OD cuff L (32-38 cm)
T30507100	OD cuff XL (38-55 cm)
M25509200	Cotton sleeves (50 pcs.)
M25570404	Set pouch, printed
M01653003	Charger
M25630200	Rechargeable battery, 1700 mAh
T01651104	Batteries, AA, alkaline (4 pcs)
H14000200	Wi-Fi access point
M01580000	Tape measure IEM

Are you interested in this product?
Visit our website at **www.iem.de**

IEM®
Tel-O-Graph BT

The clinically validated blood pressure monitor Tel-O-Graph® BT is the first measurement device on the market that can be used in two areas of application. It can be used for screening in the doctor's office and clinic, as well as for telemedical home blood pressure and vascular age measurement.

Screening
In screening scenarios, it provides doctors with the ability to use additional measurement parameters such as central blood pressure and pulse wave speed to quickly and reliably identify patients at elevated risk of cardiovascular disease, and to make better treatment decisions.

Telemedical applications
In telemedicine applications, after each measurement the patient's measured values are automatically transmitted by Bluetooth, in encrypted form, from the Tel-O-Graph® BT to the eConnect modem and then the Hypertension Management Software Client Server (HMS CS) or to a telemonitoring platform. This allows doctors and medical professionals to review measured values at any time with minimal effort, or to make adjustments to treatment.

PRODUCT

Customer benefits

Screening
- Fast and reliable identification of patients at greater risk of cardiovascular disease
- Diverse application options
- Visualized evaluations in individual reports

Telemedical application
- Minimal coaching/support needed thanks to absolute ease of use and reliable data transmission
- Individual association with project or study-specific needs
- Implementation of completely unique care services and study designs thanks to optimised measurement of central blood pressure and pulse wave analysis

Parameters

| Parameters	Basic	License cBP	License PWA
Brachial systole	✓	✓	✓
Brachial diastole	✓	✓	✓
MAD	✓	✓	✓
Heart rate	✓	✓	✓
Pulse pressure	✓	✓	✓
cBP systole	x	✓	✓
cBP diastole	x	✓	✓
AIx @75	x	✓	✓
Cardiac output	x	x	✓
Peripheral resistance	x	x	✓
Reflection coefficient	x	x	✓
PWV	x	x	✓

System benefits

- Reliable data due to high measurement precision (BHS (A/A) grading) of the approved medical product
- User-friendly due to one-button operation, large display and fast blood pressure measurement without unpleasant effects (AFL: Auto-Feedback Logic)
- Option to add central aortal blood pressure and pulse wave analysis individually to blood pressure measurement

Technical Data

Dimensions	L 150 mm x B 109 mm x H 56 mm
Display	70 mm x 72 mm, Character height 20 mm
Weight	325 g
Technique	oscillometric
NIBP Accurancy	validated according to ISO 81060-2 and BHS (A/A Grading)
Systolic Range	30-290 mmHg
Diastolic Range	30-240 mmHg
Pulse Rate Range	30-240 BPM (Beats per min)
Pulse Rate Accuracy	±2% or ±3 BPM, whichever is greater
Transducer Accuracy	± 3 mmHg over full range in operating conditions
Operating Modes	manual
Operating Temperature	+5°C to 40°C
Operating Humidity	15% to 93% RH, non-condensing
Storage Temperature	-25°C to +70°C
Storage Humidity	up to 90% RH, non-condensing
Operating Voltage	4 - 6 VDC (4 x AA NiMH or Alkaline)
Power Consumption	using 5 VDC Nominal
Storage Capacity	15 Measurements
Communication	Bluetooth 2.1 + EDR or Infrared
Transmission output power	Class 1 (100 mW)

PRODUCT

Sets
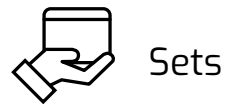
eHealth Set T30601101
Our eHealth Set offers you all the necessary components for telemedical use with automatic transmission of the measured values to the eConnect Transmission modem.

Scope of delivery:
- Tel-O-Graph® BT
- 1 cuff (size M)
- 4 Batteries
- HMS CS
- Manual

Basis Set T30601102
With the Basic set, you get all the components you need to measure blood pressure and then analyse the results using our HMS CS software.

Scope of delivery:
- Tel-O-Graph® BT
- 1 cuff (size M)
- 4 Batteries
- USB bluetooth adapter
- HMS CS
- Manual

Premium Set T30601103
While our Premium set gives you highly advanced and extremely agile equipment along with the monitor, offering a long-term option to reshape the everyday routine in your medical practice.

Scope of delivery:
- Tel-O-Graph® BT
- 3 cuffs (sizes S, M and L)
- 4 Batteries
- Set pouch
- USB bluetooth adapter
- HMS CS
- Manual

Accessories

Article no.	Description
Z00000500	License cBP (Triple measurement, central Blood Pressure)
Z00000501	License PWA (Triple measurement, central Blood Pressure, Pulse Wave Analysis)
T30504100	OD cuff S (20-24 cm)
T30505100	OD cuff M (24-32 cm)
T30506100	OD cuff L (32-38 cm)
T30507100	OD cuff XL (38-55 cm)
M25509200	Cotton sleeves (50 pcs.)
M25570404	Set pouch, printed
T01651104	Batteries, AA, alkaline (4 pcs)
M25594200	USB bluetooth adapter
M25609207	HMS CS installation CD

Are you interested in this product?
Visit our website at **www.iem.de**

IEM®
Mobil-O-Graph

The Mobil-O-Graph® is considered as a classic among ABPM devices for use in doctors' practices and clinics. Its intuitive combined with Hypertension Management Software (HMS) helps to increase the efficiency of day-to-day practice operations and have made the Mobil-O-Graph® one of the most popular long-term blood pressure measuring devices in diagnostics. The Mobil-O-Graph® also optionally offers the ability to determine the haemodynamic condition of blood vessels using pulse wave analysis. This allows for better risk classification of patients, and enables optimised, individualised therapy adjustments in connection with hypertension management. In addition to high measurement accuracy and measured value reproducibility, the Mobil-O-Graph® is also one of the most commonly used diagnostic measurement systems with currently over 400 publications in the field of arterial stiffness.

Customer benefits

Specialists in cardiology, hypertensiology, general and internal medicine
- Intuitive user-independent pulse wave analysis measurement
- Identification of hypertension-related phenomena for better decision-making regarding treatment
- Support of therapy decision based on central blood pressure and haemodynamic analysis (central blood pressure, cardiac output and peripheral resistance)
- Time saving thanks to improved personalised therapy
- Optimised patient management thanks to intuitive patient report

Specialists in the field of nephrology
- Patient-specific risk analysis for dialysis optimisation
- Saves time by making specific preparations for the dialysis patient
- Personalised therapy adjustment improves the patient's quality of life, and extends life expectancy

Clinical Research
- Reliable data due to the high precision (BHS (A/A Grading) and ESH) of the certified medicinal product validated measurement algorithms for pulse wave analysis
- Straightforward, intuitive use of the Mobil-O-Graph® for optimal integration in a study setting
- Maximum data interoperability and reliable data access

System benefits

- Optional step-by-step expansion of ABDM measurement to include central blood pressure and pulse wave analysis
- Longevity due to high international protection class (IP42) & high quality product components
- Clinically validated results due to high measurement accuracy (BHS A/A grading and ESH)
- Gentle and fast blood pressure measurement using the Auto Feedback Logic (AFL) algorithm
- Easy to use and to integrate into everyday practice thanks to Smart Solutions

Smart Solutions:

- Battery contact connector for reliable and correct insertion of (rechargeable) batteries
- Battery compartment lid with haptic feedback for superior grip when opening
- Cone-fit cuffs that fit perfectly
- Alignment aids for correctly choosing and positioning cuffs
- Cuffs without latex, PVC or plasticisers
- The Schott plug feedback mechanism enables easy and reliable connection of the cuffs to the Mobil-O-Graph®
- Support strap on the Mobil-O-Graph® belt pouch keeps the cuff tube in its designated position
- USB cable connector with anti-kink protection
- Laminated quick guide for hygienic use
- Step-by-step expansion of the Mobil-O-Graph® to include central blood pressure and pulse wave analysis

Parameters

Parameters	Basic	License cBP	License PWA
Brachial systole	✓	✓	✓
Brachial diastole	✓	✓	✓
MAD	✓	✓	✓
Heart rate	✓	✓	✓
Pulse pressure	✓	✓	✓
cBP systole	x	✓	✓
cBP diastole	x	✓	✓
AIx @75	x	✓	✓
Cardiac Output	x	x	✓
Peripheral resistance	x	x	✓
Reflection coefficient	x	x	✓
PWV	x	x	✓

PRODUCT

Technical Data

Dimensions	L 128mm x W 75mm x H 30mm
Weight	ca. 240 g incl. Batteries
Technique	oscillometric
Systolic Range	60-290 mmHg
Diastolic Range	30-195 mmHg
Pressure Range	0 - 300 mmHg
Pulse Rate Range	30-240 BPM (Beats per min)
Accuracy	± 3 mmHg (Static pressure)
Leakage	System: ≤ 6 mmHg / min • Cuff: ≤ 4 mmHg / min
Operating Temperature	+10°C - +40°C
Operating Humidity	15% - 90%
Storage Temperature	20°C - +50°C
Storage Humidity	15% - 95%
Power supply	2x AA NiMH 1,2 V and min. 1700 mAh (HR6) 2x AA Alkaline 1,5V (LR6)
Battery capacity	>300 Measurements with M-Cuff and high-grade batteries
Storage Capacity	300 Measurements
Communication	Bluetooth, USB-connector, Infrared, Serial RS232
Sendeleistung	Class 1

PRODUCT

Sets
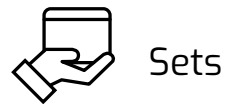
Basic Set M26100200
With the Basic set, you get all the components you need to conduct long-term blood pressure measurement and then analyse the results in our HMS CS software.

Scope of delivery:
- Mobil-O-Graph® monitor
- 1 cuff (size M)
- 2 Batteries
- Pouch incl. shoulder strap
- Set pouch
- USB Bluetooth adapter
- USB cable
- HMS CS
- Short guide
- Manual

Comfort Set M26101200
While our Comfort set includes a wide selection of accessories for everyday clinical use, along with the monitor and two analysis units.

Scope of delivery:
- Mobil-O-Graph® monitor
- 3 cuffs (size S, M and L)
- 4 rechargeable batteries
- Charger
- Pouch incl. shoulder strap
- Set pouch
- USB Bluetooth adapter
- USB cable
- Tape measure
- HMS CS
- Short guide
- Manual

Premium Set M26102200
Our Premium set gives you highly advanced and extremely agile equipment, along with the monitor and two analysis units, offering a long-term option to restructure the everyday routine in your medical practice.

Scope of delivery:
- Mobil-O-Graph® monitor
- 3 cuffs, turnable (size S, M and L)
- 4 rechargeable batteries
- Charger
- Leatherette pouch incl. shoulder strap
- USB Bluetooth adapter
- USB cable
- Tape measure
- HMS CS
- Short guide
- Manual

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Accessories

Article no.	Description
Z00000500	License cBP (24h) (Triple measurement, central Blood Pressure)
Z00000501	License PWA (24h) (Triple measurement, central Blood Pressure, Pulse Wave Analysis)
M25566210	Mobil-O-Graph® cuff, XS (14-20 cm)
M25566211	Mobil-O-Graph® cuff, S (20-24 cm)
M25566212	Mobil-O-Graph® cuff, M (24-32 cm)
M25566213	Mobil-O-Graph® cuff, L (32-38 cm)
M25566214	Mobil-O-Graph® cuff, XL (38-55 cm)
M25566201	Mobil-O-Graph® cuff S, turnable (20-24 cm)
M25566202	Mobil-O-Graph® cuff M, turnable (24-32 cm)
M25566203	Mobil-O-Graph® cuff L, turnable (32-38 cm)
M25566204	Mobil-O-Graph® cuff XL, turnable (38-44 cm)
M25566205	Mobil-O-Graph® cuff XXL, turnable (44-55 cm)
M25566206	Mobil-O-Graph® cuff S, disposable (20-24 cm) (20 pcs)
M25566207	Mobil-O-Graph® cuff M, disposable (24-32 cm) (20 pcs)
M25566208	Mobil-O-Graph® cuff L, disposable (32-38 cm) (20 pcs)
M25566209	Mobil-O-Graph® cuff XL, disposable (38-55 cm) (20 pcs)
M25509200	Cotton sleeves (50 pcs.)
M25570402	Mobil-O-Graph® pouch incl. shoulder strap
M25570301	Shoulder strap for pouch
M25570401	Mobil-O-Graph® leatherette pouch incl. shoulder strap
M01653003	Charger
M25630200	Rechargable battery, 1700mAh
T01651104	Batteries, AA, alkaline (4 pcs)
M25599200	USB cable, 4-Pin
M25594200	USB bluetooth adapter
M01574004	Serial cable, 4-Pin
M01576000	Printer cable, 4-Pin
M25747201	USB to seriell adapter
D01570200	Infrared-eye, IR-med
M25570404	Set pouch, printed
M01580000	Tape measure IEM
M25609207	HMS CS installation CD
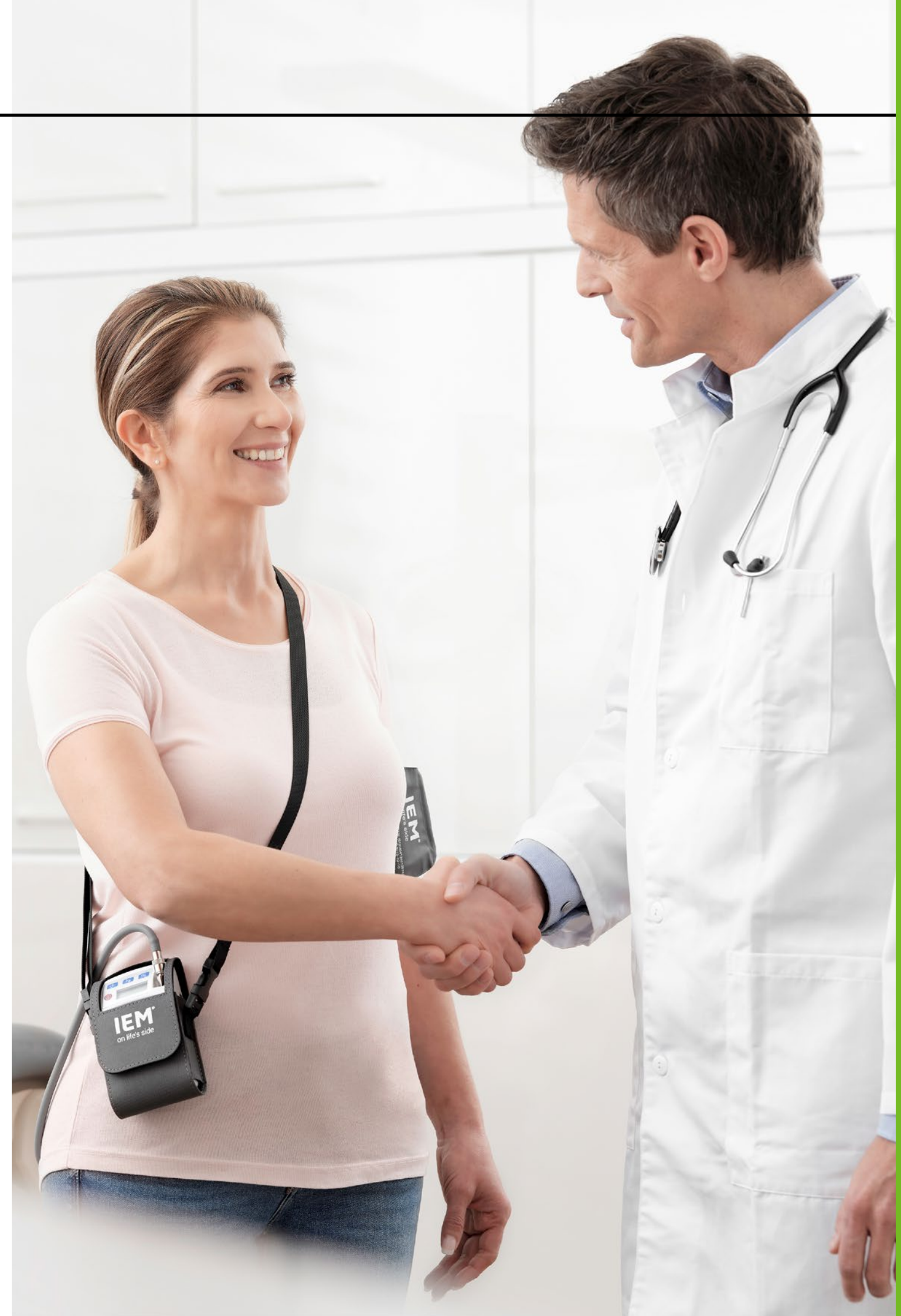
IEM®
Tel-O-Graph GSM

The Tel-O-Graph® GSM is the most innovative and convenient solution available for digital blood pressure adjustment and continuous follow-up of blood pressure readings.

The user normally uses the system to measure their own blood pressure twice or three times daily from the comfort of home. Following measurement, the measured values are encrypted and automatically sent using mobile communication signals from the Tel-O-Graph® GSM to the Hypertension Management Software (HMS CS) or the telemedicine platform, in which it can be managed at the click of a button. The measurement data can also be transferred via GDT or HL-7 to the practice administration software or hospital information system from the HMS CS. The measured values are clearly set out in graphic form, and combined to create automatic reports. This means that the treating doctor or medical professionals have the option of reliably monitoring blood pressure readings with minimal effort at any time, or of adjusting treatment. Measurement data can also be forwarded directly to our customers' specific in-house databases.

PRODUCT

Customer benefits

Specialists in cardiology, hypertensiology, general and internal medicine
- Significantly better treatment results
- Substantial time savings for doctor and patient
- Treatment adjustment at a glance thanks to automated status reports

Clinical Research & Care projects
- Minimal coaching/support needed thanks to absolute ease of use and reliable data transmission
- Compliance with strict data security standards
- Individual association with project or study-specific needs

System benefits

- Reliable data thanks to maximum measurement precision (BHS (A/A) grading) of the approved medical product
- User-friendly thanks to one-button operation, large display and fast blood pressure measurement without unpleasant effects (AFL: Auto-Feedback Logic)
- Direct and encrypted transmission of measured values from home to the doctor using the integrated SIM card and GSM module
- Large measurement storage (350 measurements)

Parameters

Basic
Brachial systole
Brachial diastole
Heart rate

PWA available on request

Technical Data

Dimensions	L 150 mm x B 109 mm x H 56 mm
Display	70 mm x 72 mm, Character height 20 mm
Weight	325 g
Technique	oscillometric
NIBP Accurancy	validated according to ISO 81060-2 and BHS (A/A Grading)
Systolic Range	30-290 mmHg
Diastolic Range	30-240 mmHg
Pulse Rate Range	30-240 BPM (Beats per min)
Pulse Rate Accuracy	±2% or ±3 BPM, whichever is greater
Transducer Accuracy	± 3 mmHg over full range in operating conditions
Operating Modes	manual
Operating Temperature	+5°C to 40°C
Operating Humidity	15% to 93% RH, non-condensing
Storage Temperature	-25°C to +70°C
Storage Humidity	up to 90% RH, non-condensing
Operating Voltage	4 - 6 VDC (4 x AA NiMH or Alkaline)
Power Consumption	using 5 VDC Nominal
Storage Capacity	350 Measurements
Communication Capacity	depends from the Quality of battery approx. 200 Measurements per set of batteries
GSM Chip	Cinterion EHS6
Frequency bands	GSM/GPRS/EDGE: Quad band 850/900/1800/1900MHz UMTS/HSPA+: Five band 800/850/900/1900/2100MHz
Transmission output power	Class 1, 3, 4 and E2 (2 W) for 800MHz and 2100MHz
Sleep-down Mode	Shutdown after each Measurement, Module power off
Internet Access	Default for APN, User, Password and DNS released by IEM

PRODUCT

Sets

Basic Set T30602101
Our Basic set includes all the components the patient needs to take their own blood pressure measurements at home.

Scope of delivery:
- Tel-O-Graph® GSM
- 1 cuff (size M)
- 4 Batteries
- HMS CS
- Manual

Premium Set T30602102
Our Premium set comprises highly advanced and extremely agile equipment, along with the monitor itself, and provides a means of restructuring everyday routines in your medical practice.

Scope of delivery:
- Tel-O-Graph® GSM
- 3 cuffs (sizes S, M and L)
- 4 Batteries
- Set pouch
- HMS CS
- Manual

Accessories

Article no.	Description
T30504100	OD cuff S (20-24 cm)
T30505100	OD cuff M (24-32 cm)
T30506100	OD cuff L (32-38 cm)
T30507100	OD cuff XL (38-55 cm)
M25509200	Cotton sleeves (50 pcs.)
M25570404	Set pouch, printed
T01651104	Batteries, AA, alkaline (4 pcs)
M25594200	USB bluetooth adapter
M25609207	HMS CS installation CD

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Visit our website at **www.iem.de**

IEM®

HMS CS

The Hypertension Management Software Client Server (HMS CS) is a combined analysis and patient management solution. The server/client function can be used both in clinics and in doctors' practices with standard HL7 and GDT interfaces. The focus of the software is on managing office blood pressure readings, performing short-term clinic monitoring (for hypertensive crisis situations), ABPM, HBPM and T-HBPM. Synchronisation between the HMS CS and the eHealth database server is a proven, secure function that enables patient data to be managed in the cloud, thereby allowing the patient to be managed from anywhere.

Informative tables and graphs provide the doctor with clear and quick assistance in choosing the right therapy. A personalised patient report also improves therapy compliance and deepens the bond of trust in the doctor-patient relationship.

The analysis software provides the doctor with all of the patient's vital signs at a glance and has all necessary interfaces integrated. The software is adapted and optimised for the work processes of clinics and doctors' practices. On standard operating systems (Microsoft, Mac and Linux) regular feature and software updates for HMS CS ensure that the software is always adapted to new technical and customer requirements.
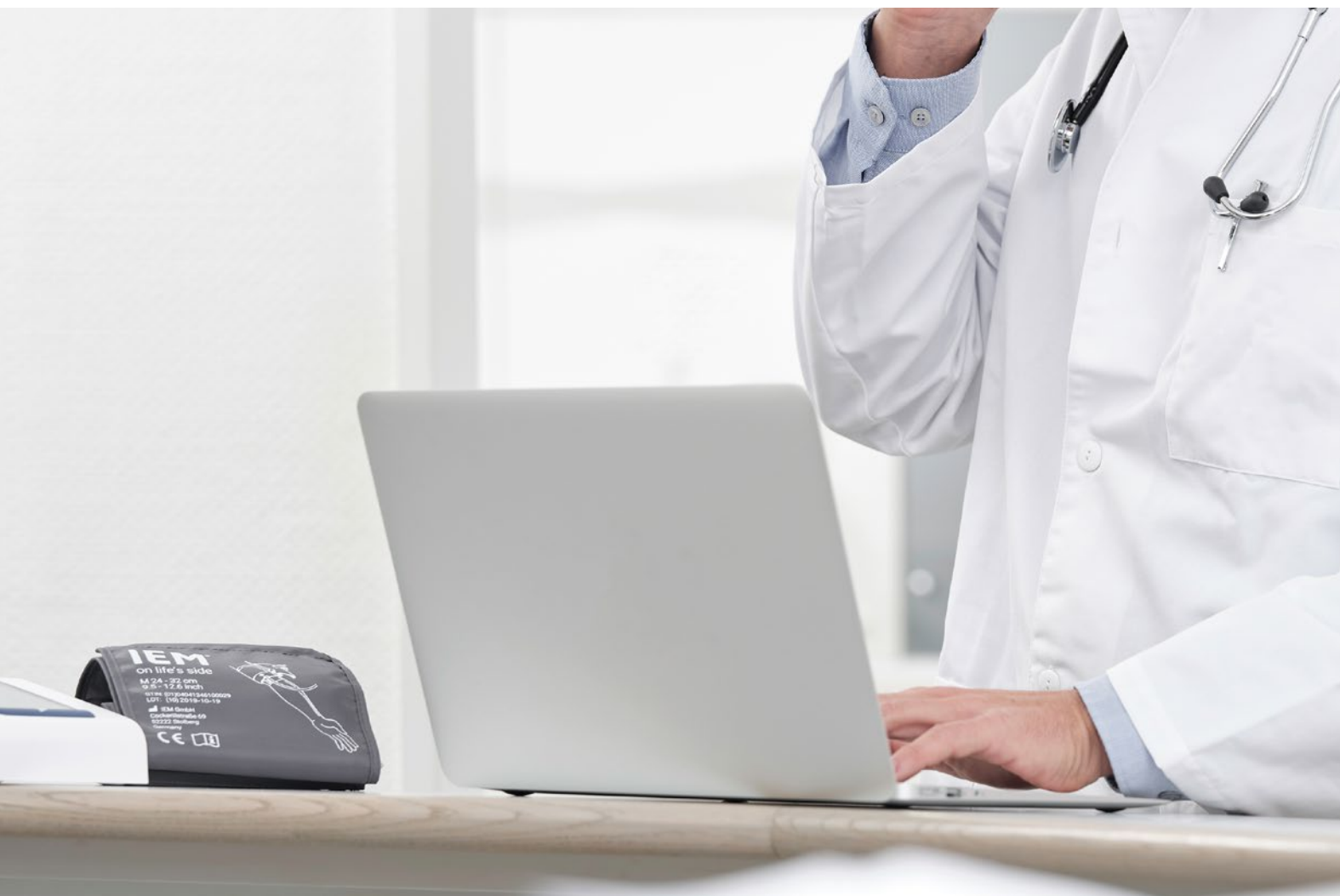
☞ Customer benefits

- Fast and optimised therapy decisions thanks to clear graphs
- Optimised patient guidance and communication is provided in a clear and concise patient report
- Displays the standard child thresholds for ABPM
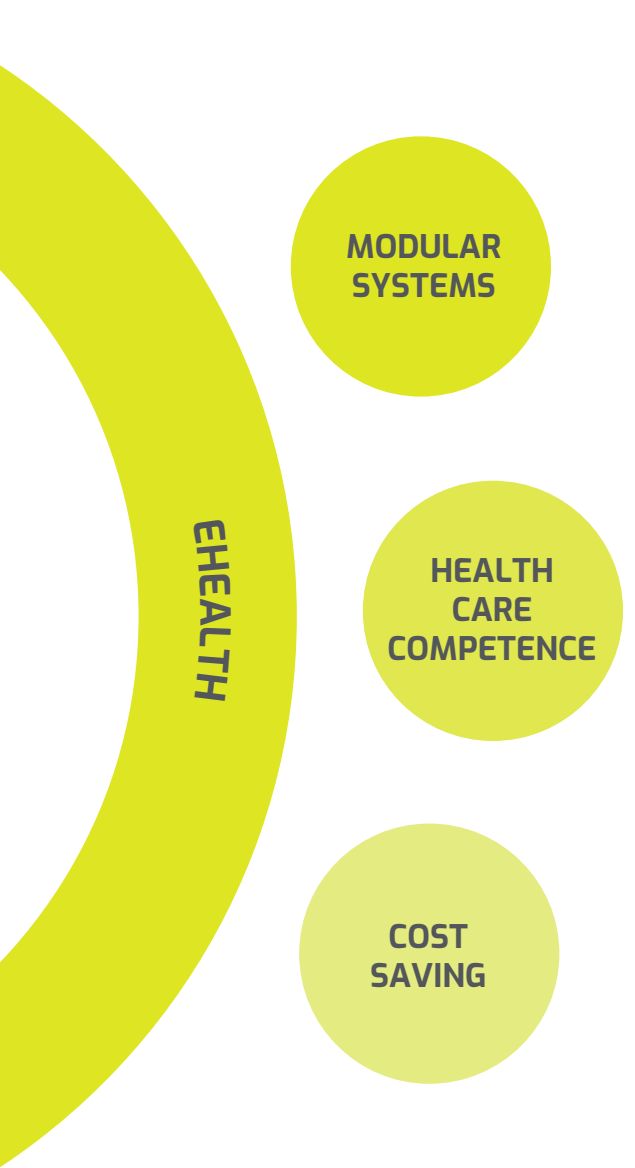- Software adapted to medical practice workflows

⊕ System benefits

- High-level personalisation of the intuitive HMS CS software
- Compatibility with all standard practice and hospital information systems (GDT, HL7) with client/server function
- Step-by-step expansion of HMS CS software to include central blood pressure and pulse wave analysis

IEM®

HMS CS

Setup Anweisungen
Legen Sie die CD in das CD-ROM Laufwerk ein.
Wenn die Installation nicht automatisch startet, wählen Sie „Start" / „Ausführen...", geben <cd>:\SETUP ein und drücken Sie ENTER. (<cd> ist der Buchstabe des CD-ROM Laufwerkes)

Setup Instruc
Insert CD in C
If the installati
automatically, p
Start button and
Type <cd>:\SETU
ENTER. (<cd> is t
CD-ROM drive)

Hypertension Management Software CS

IEM GmbH
Gewerbepark Brand 42
52078 Aachen
Germany

CE 0044

eIFU on CD

Are you interested in this product?
Visit our website at **www.iem.de**

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MODULAR SYSTEMS

HEALTH CARE COMPETENCE

EHEALTH

COST SAVING

eHEALTH

The number of people suffering from cardiovascular diseases, high blood pressure, type 2 diabetes mellitus and COPD worldwide is increasing year-on-year. These conditions result in reduced quality of life and a shorter life expectancy, and put a huge strain on the healthcare sector.

By using the latest telemedicine treatment methods, doctors, clinics, research institutes and healthcare providers are working on improving care and enhancing patients' quality of life. Reliable and compatible solutions which are easy to operate are crucial to the success of these telemedicine methods. These solutions should also be flexible enough to meet the requirements of the care concept and the treatment method.
The IEM eHealth solutions have been developed on this basis, and enable the monitoring of all standard vital signs ranges. By combining our partners' innovative healthcare programmes with IEM eHealth services, we work together to improve people's health.

Overview of eHealth services

- Hardware and software for telemonitoring of all standard vital signs
- Very easy to use (plug-and-play concept)
- High data security
- Optimal network coverage through multi-network roaming SIM cards

- Comprehensive services (e.g. logistics, support)
- Development of customer-specific solutions
- Years of experience as an eHealth service provider for doctors, clinics, healthcare projects and clinical research organisations

MODULAR SYSTEMS

The relevant requirements for designing healthcare projects or implementing telemedicine products for everyday use in practices and hospitals vary widely. In light of this, IEM eHealth solutions are modular in structure, with an offering that encompasses hardware, data management, software, coaching, and service packages; this modular approach means we can supply you with just the services you need for your projects. The excellent interoperability of our solutions also makes it possible to integrate them with the components you already use (e.g. existing patient software).

Hardware

Software

Data Management

Coaching

Service Package

Hardware - measurement of all standard vital signs

Different monitors can be used to record different vital signs depending on the underlying clinical picture. IEM gives you the tools to measure all standard vital signs with a single product, so you don't need an armoury of different standalone solutions. Further monitors can also be integrated at your request, to create a single, straightforward system that significantly lightens the workload.

Blood pressure	Pulse wave analysis	Body weight	Blood coagulation	Activity tracking
Peak flow	ECG	Blood glucose	SpO^2	other parameters on demand

Data management

For telemedicine solutions to be effective, it is crucial that the chosen technologies are secure, reliable, and user-friendly.
With this in mind, IEM has integrated all vital signs in one standard complete system. Your patients' measurement data is transmitted completely anonymously, secured by the eConnect transmission modem or by GSM network modules that are integrated into monitors which are certified as medicinal products.
Together with the IEM gateway server, (medicinal products) form the core of the complete solution. The powerful, fail-safe gateway server processes your patients' vital data while adhering to the strictest security standards, and transmits the data – encrypted and anonymous – to IEM software applications or to your existing database solution.
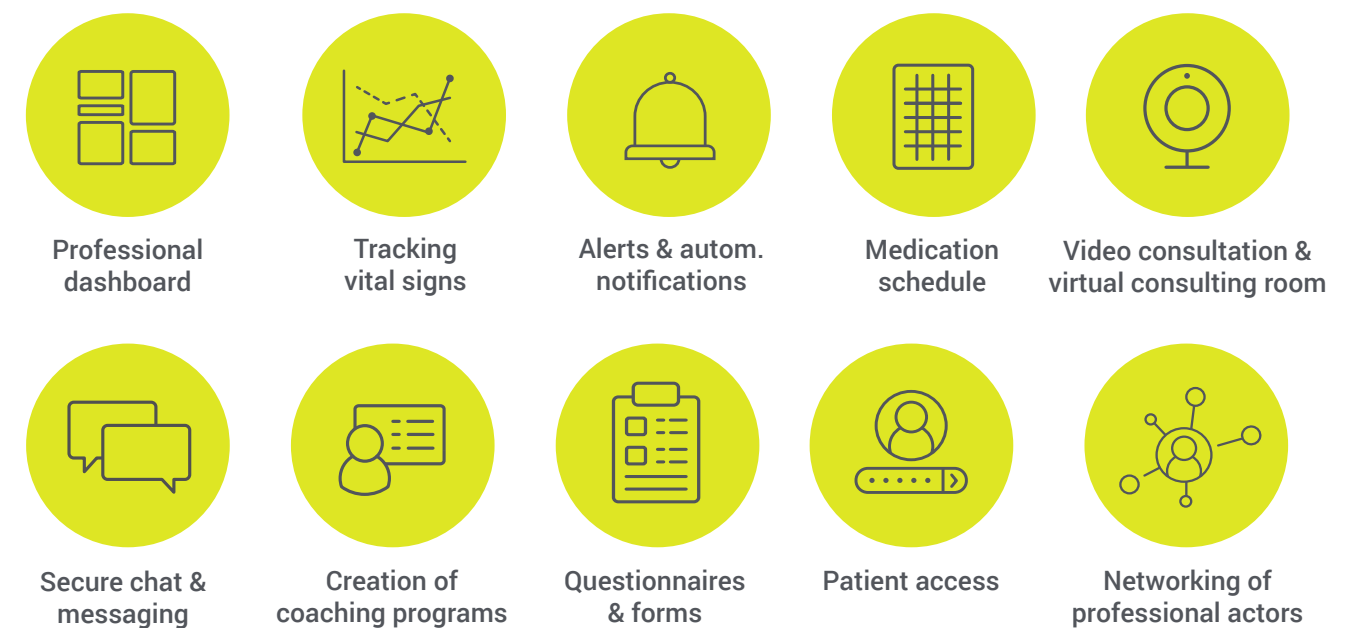Stay on the safe side with our eHealth solutions.

Software - telemedicine platform

We provide a range of software solutions adapted to your needs, all certified as medicinal products. Our Hypertension Management Software Client Server (HMS CS) desktop application is the perfect choice for the exclusive monitoring of blood pressure in medical practice or hospitals; it enables you to quickly and easily monitor your patients' measured values, and to make a treatment decision with just one look.
We can also provide you with a comprehensive telemedicine platform, which gives you an easy way to monitor measured values, communicate with your patients (via chat, mail, video), and to successfully create entire coaching and healthcare concepts if required.

Overview of key functions:

Professional dashboard	Tracking vital signs	Alerts & autom. notifications	Medication schedule	Video consultation & virtual consulting room
Secure chat & messaging	Creation of coaching programs	Questionnaires & forms	Patient access	Networking of professional actors

If you are already using telemedicine software, we would be happy to create an interface between your system and our interoperable solutions. That means you can benefit from our extensive hardware range combined with secure data management, while continuing to work in a software environment you know and trust.

Coaching

IEM has spent many years working with experts to implement designs that improve medical care. This foundation of expertise enables us to make use of established processes and complete solutions, and means we can quickly implement complex healthcare projects. These projects usually focus on indications such as heart disease, COPD, hypertension management and cardiac arrhythmia.

MODULAR SYSTEMS

Service package

The time needed to configure, prepare, and handle the logistics of introducing telemedicine devices often represents a considerable hurdle. IEM can help overcome this, and guarantee that your projects run smoothly by means of proven processes.

Overview of our services:

- Logistics (shipping and collection)
- Device configuration and final function tests
- SIM card management
- Refreshing and storing devices
- Tailored support services
- Free replacement of eHealth sets in the event of a service claim
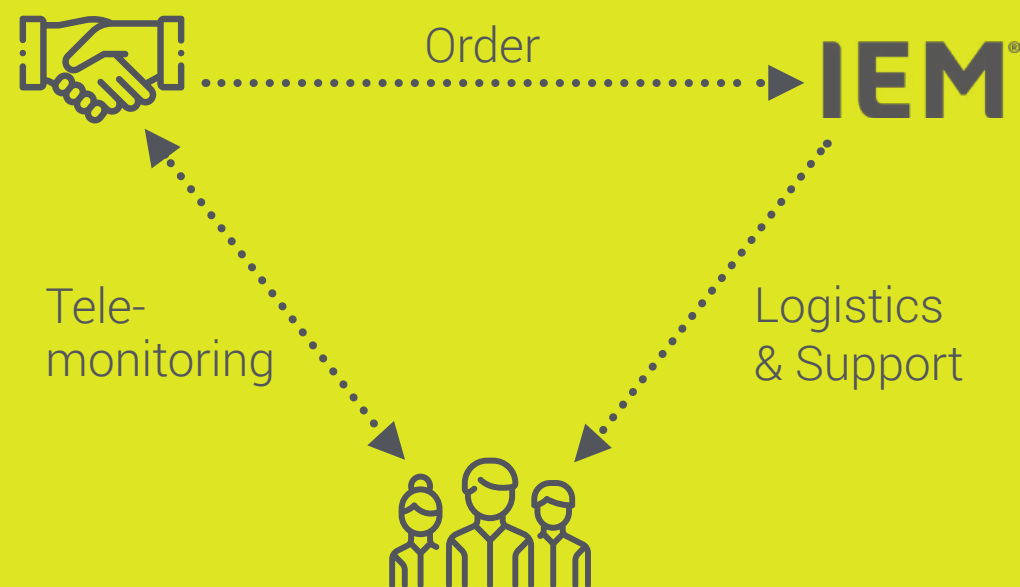
HEALTHCARE COMPETENCE

Looking for the perfect telemedicine solution to reduce your workload and to improve medical care? As an expert partner and eHealth service provider, we provide you with comprehensive advice on how to integrate telemedicine solutions into your everyday practice, clinic, and project routines.

The benefits to you in brief:

- Expert eHealth service provider
- Professional advice
- Coordination of tailored modifications to hardware, software, interfaces, processes, and other relevant documents
- Solution implementation
- Extensive training

COST SAVINGS

Alongside improvements in medical care, the use of eHealth solutions can offer significant cost savings for the professional medical user and health insurance companies.

Digital blood pressure measurement (follow-up) in medical practices

Digital blood pressure measurement in a medical practice both increases the reliability of the blood pressure measurement, and significantly reduces the workload for the treating doctor. For conventional treatment of high blood pressure, several doctor's appointments are usually necessary. If the physician opts for the digital blood pressure measurement route, the patient is given a home telemedicine blood pressure monitor straight after the diagnosis is made. From this, the doctor automatically receives each measurement in the IEM software and in the practice administration system. Automated weekly reports allow the treating doctor to make therapeutic decisions with just one look. If necessary, medication can be adjusted with just a quick phone conversation. After around six to eight weeks, blood pressure can often be regulated quite easily, saving a considerable amount of time for both doctor and patient.

COST SAVINGS

Heart disease healthcare project

Chronic heart disease is one of the most widespread internal diseases in the industrial world. It involves multiple visits to the doctor, and is also the most-frequently cited reason for hospital stays in Germany; the disease clearly exerts a heavy load on the patient and also entails considerable healthcare costs.

The care situation can generally be greatly improved through the use of eHealth solutions for targeted weight monitoring. Along with a significant reduction in mortality rates, the hospitalisation rate can also be appreciably lowered, leading to improved quality of life for the patient, and significantly reduced treatment costs.

Mortality rate

Cost reduction

-46%   **-40%**
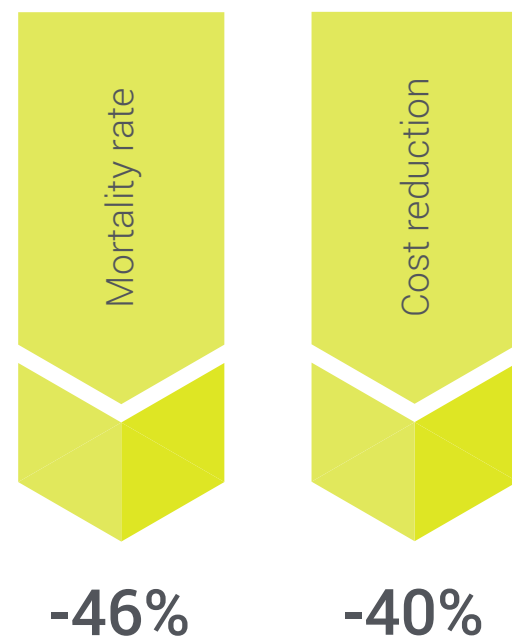
Kielblock B, et al. Dtsch Med Wochenschr 2007;132(9):417-422

FOR PLEASANT MEMORIES
YOU HAVE TO WORRY IN
ADVANCE.

– PAUL HÖRBIGER

PRODUCTS

eHealth

IEM®
eConnect

eConnect, which is approved as a medical product, was specifically designed for telemonitoring in care projects, doctors' practices and clinical environments. This modern eHealth transmission modem allows a variety of compatible monitors to be used to record all standard vital parameters. The high level of interoperability allows other Bluetooth devices to be connected to the eConnect on demand so that all needed measured values can be imported with just one modem and transmitted securely. The elegant design and easy plug-and-play handling makes the eConnect ideal for use in a domestic environment.

PRODUCT

Customer benefits

Specialists in cardiology, hypertensiology, general and internal medicine

- High patient acceptance among all age groups thanks to easy plug-and-play use
- Minimised time and workload thanks to automated receipt and transmission of measurements
- Customised implementation of telemonitoring solutions thanks to high interoperability

System benefits

- Easy plug-and-play operation and automatic delivery of measurement data
- High data security thanks to communication encryption by this approved medical product
- Enables interoperability with almost any measurement device with Bluetooth support
- Ability to transmit data to third-party solutions

Parameters

IEM Products	3rd Party
Blood pressure	Blood glucose
Puls wave analysis	Blood clotting
Weight	Spirometry
	Oxygen saturation
	ECG
	Activity

Technical Data

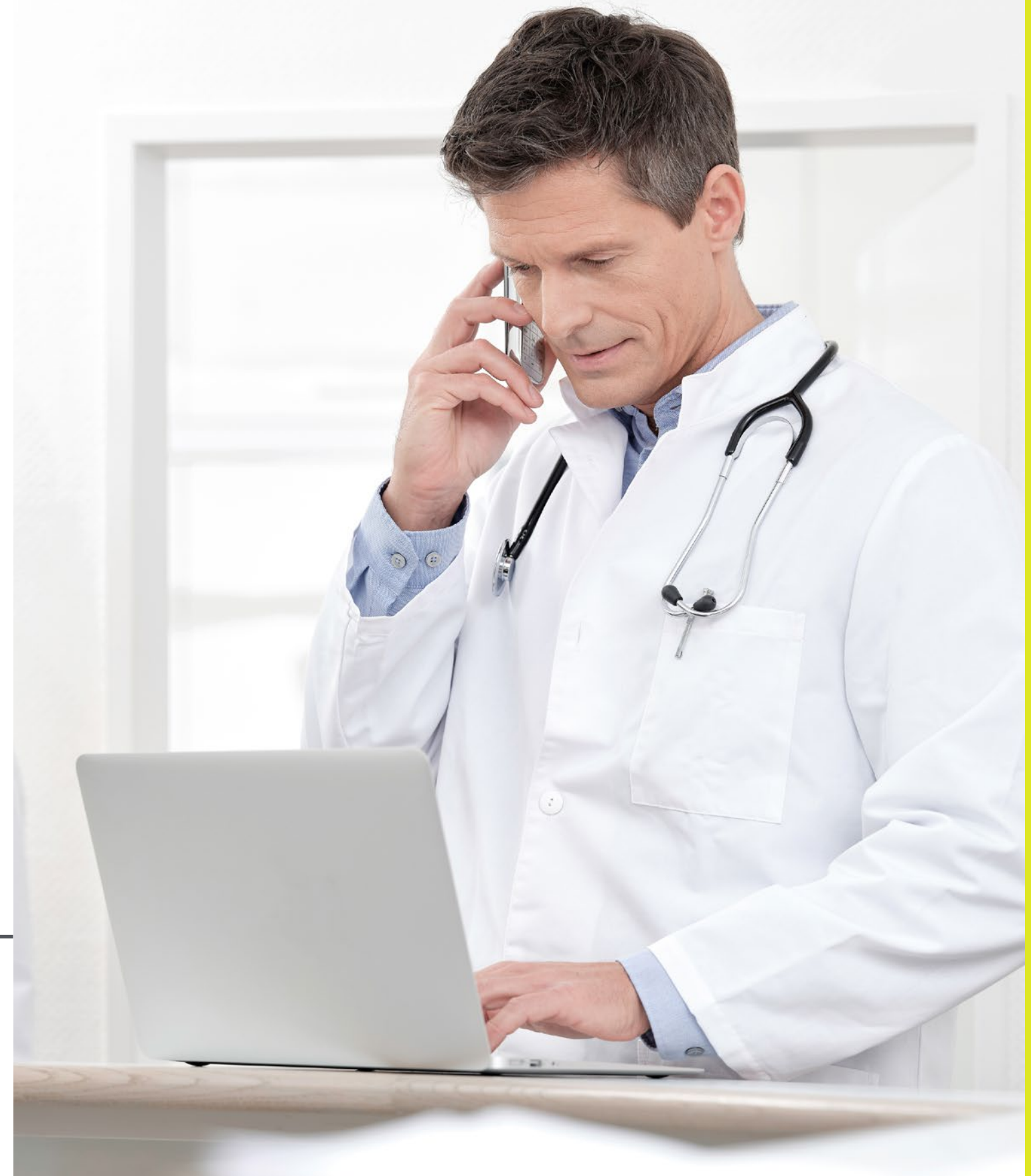|	
Dimensions	H 36 mm x W 107 mm x D 104 mm
Weight	111 g
Backend Protocol	HTTPS (PUT instruction)
Data format	JSON
Encoding	SSL
SIM detection	Automatic provider settings detection
SIM format	Mini-SIM (2FF): ID-000
Antennas	BT and GSM internal
Status	3 Status led (Color: blue, red, yellow, green)
USB	Type B; only for service
Enclosure Material	ABS; IP Protection: 20; color: white; UL 94 V-0
Switchmode	AC-DC
Input Rating	100-240V~, 50-60 Hz
Output Rating	6W, 12V
Operating Conditions	+5 °C to +40 °C
Storage Conditions	+5°C to +50 °C
Data rate GSM module	350 Kbps
Output power GSM module	Class 4 (2 W) for GSM 850 and E-GSM 900 Class 1 (1 W) for DCS 1800 and PCS 1900
Configuration GSM module	Remote or via PC software
Communication GSM module	Bluetooth, USB-connector, Infrared, Serial RS232
Bluetooth module	Bluetooth Classic, Bluetooth Low Energy
Bluetooth protocols	SPP, iAP2, HID and GATT over BR Bluetooth

Sets

Basic Set B99410000

Our Basic set gives you all the components needed to record and reliably transfer vital signs measured by the patient.
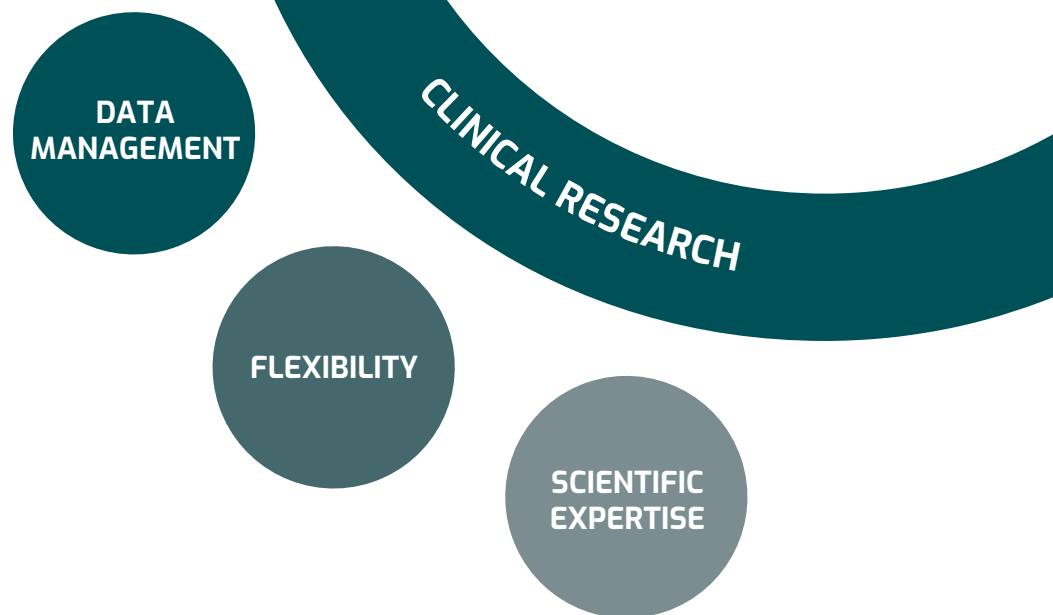
Scope of delivery:
- eConnect
- Power adapter
- Manual

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Overview of Clinical Research services

- Cardiovascular solutions specialist:
    - Long-term blood pressure measurement
    - Measurement of central blood pressure, pulse wave velocity, and haemodynamic parameters (for example, heart minute volume, peripheral resistance) at home, in the office, and at any time of day.
    - eHealth solutions for recording all standard vital signs

- Plug-and-play design
- Study-specific hardware and software development
- Implementation of data interfaces
- Stringent data security standards
- Effective project management
- Experienced partner with a global academic network and more than 1,300 academic publications

DATA MANAGEMENT

We put extremely reliable data management and a very high level of data security at the heart of our solutions. We provide networked systems that are tailored to your needs and teamed with our complete solutions, while always keeping to these standards.

- Stringent data security standards
- Data transfer to customers' own solutions
- Optional global server locations for gateway server and database
- Protection against data loss thanks to redundant systems with extremely high system availability
- Data management based on global data protection and integrity standards
- Conformity with all relevant IEC and ISO standards
- All solutions components are certified as medicinal products

FLEXIBILITY

When devising clinical studies, it is often essential that solutions can be provided quickly, and adapted to changing requirements at short notice if necessary. Our short decision-making chains and streamlined processes will help you to implement your studies successfully. We make any necessary changes to solutions during the course of studies, and offer a high degree of flexibility.

- Customised solutions
- Study-specific software development
- Change of server location (e.g. to the country where the project is being conducted)
- Implementation of process steps adapted to the specific study
- Customised supporting documents (for example, letters to participants and brief instructions)

CLINICAL RESEARCH

IEM focuses on exactly what is needed for successfully performing clinical studies. Among IEM's key strengths are the provision of professional assistance for the implementation of technical solutions, and ongoing support during clinical trials. Alongside effective project management, we offer hardware and software solutions individually tailored to the study requirements, to ensure that studies run smoothly.

FLEXIBILITY

- Short-notice provision of the requested solutions
- High flexibility for clinical research organisations and study partners, enabled by the ability to quickly adapt solutions during the course of the study.

SCIENTIFIC EXPERTISE

The requirements of clinical research are often highly varied and specific. With more than 20 years of experience, and a record of our solutions being used in more than 1,300 academic studies, IEM is a trusted and reliable partner in the clinical sector. We can advise you on the right hardware and software solutions to choose, and offer effective project management to ensure that the solution is properly implemented.

- Comprehensive advice
- Effective project management
- Monitoring
- Installation and training
- Regulatory affair (RA) management
- Global academic network
- More than 1,300 academic publications from "Journal of Hypertension" to "The Lancet" medical journal.

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