

IEM[®]
on life's side

PRODUCTS & SERVICES





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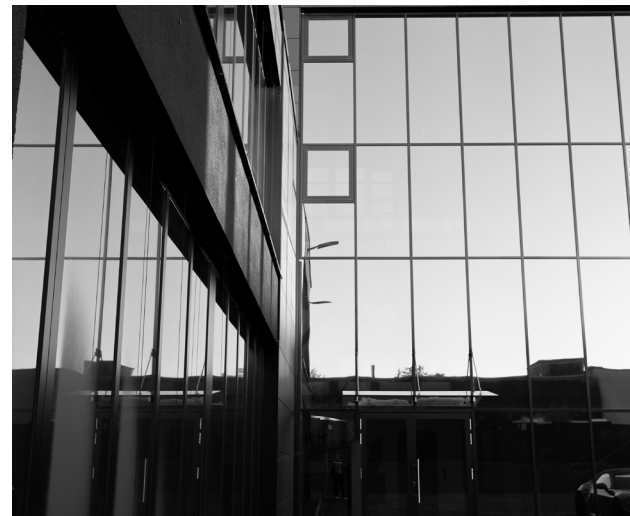
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THOMAS KORTH – **CEO**



DEAR READERS,

At IEM, we firmly believe that innovation never stops. That's why our current product brochure only shows a brief current status. There are a lot of people busying away in the background to develop our new product, which is due for release in the next year.

In a world that overwhelms us with information and products every day, we want to simplify and streamline your day-to-day work.

"The way to simplicity" is not only our promise, but also our passion and the reason we're committed to making our products cooler, more efficient and safer. This allows us to pursue our mission of ensuring the development and provision of innovative technologies with the highest added value for everyone in our supply chain.

We therefore encourage you to get in touch with us, provide feedback and work with us to plan the next steps in the evolution of your business needs. We listen to you so that we can adapt our products to the needs of your customers.

IEM and its employees help people to live healthier lives. After all, our health is our greatest asset. IEM – on life's side.

Best wishes,
Thomas Korth

ONE TEAM

ONE VISION



- Cardiovascular disease is the leading cause of death worldwide¹. The associated symptoms diminish our quality of life and shorten our life expectancy. Doctors, clinics, pharmacies, research institutions, and health care providers around the world are working to improve the quality of life of each individual using tailored approaches to preventative and curative treatment. They all require technologies that allow individual screening of the population and guarantee reliable diagnoses for patients.
- IEM has a range of solutions that meet these requirements. With the skills of our partners combined with our technologies, we help people live healthier lives, because we believe our health is our most valuable asset.

IEM AT A GLANCE



30+
years of
experience



70+
employees



9
teams



40+
Hours/week
free telephone
support



100,000+
worldwide product
installations

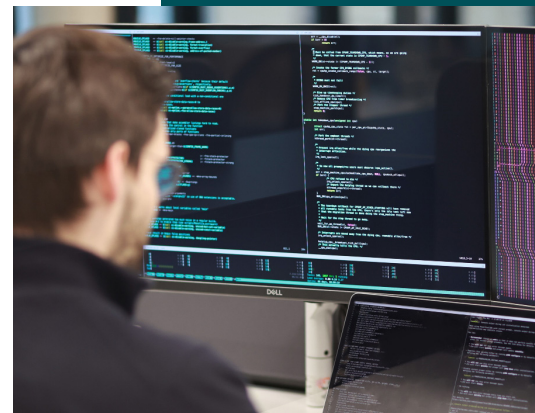
TEAMWORK

MAKES THE DREAM WORK



RESEARCH

Intensive research is the cornerstone of our long-standing success. In addition to our internal research, IEM maintains intensive collaboration with universities, research institutions, and scientific opinion leaders around the world.

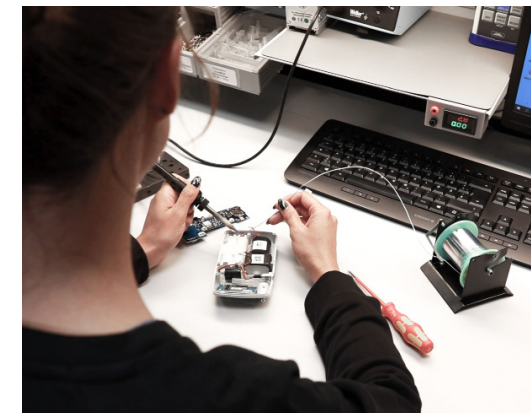


DEVELOPMENT

Based on the results of intensive research, our in-house team develops innovative solutions with the highest standards of quality, longevity, and user-friendliness.



"GREAT THINGS in business are never done by one person. They're done by a TEAM OF PEOPLE."
– Steve Jobs



PRODUCTION

It is particularly important to us that we only ever provide you with products of the highest quality. Thanks to our in-house "Made in Germany" production, we are able to examine and optimize every process step down to the smallest detail, and identify and eliminate potential sources of error at an early stage.



SALES

Our "Customer Relations" team is available to provide you with advice and support by phone or email. The team is made up of experts in every area and target group, who act as your direct point of contact. Sales are also carried out both nationally and internationally by certified and specially trained partners in medical technology retailers.

TEAM

TEAM

AWARDS

2022 – 2024

Top Company | Kununu

IEM Named “Top Company for 2022, 2023 & 2024”

Thanks to the numerous constructive and mostly very good feedback from our employees, we have once again received the “Top Company” seal from Kununu. We are very proud of this award and are very pleased that our employees are happy with us.



Employer of the Future

2023

We are proud to have been awarded the “Employer of the Future” award since 2023, recognizing our company as a “digital, innovative, and modern” employer. Before we were given this award, we were assessed and evaluated in the areas of sustainability, social commitment, employee benefits, further training, leadership culture, and company ratings, among other things. We are very pleased to have received this awesome award.



LOCATION



Headquarter

“State of the Art”

Doesn't Just Apply to Our Products

Our ultra-modern, new headquarter amazes every visitor that comes through our doors. The open and bright structure creates an inviting and friendly atmosphere.



Gewerbepark Brand 42
52078 Aachen, Germany

Warehouse & Production

Our new Im Erdbeerfeld location in Aachen, Germany is home to our production facilities with new, modern workstations and warehouse space.



Im Erdbeerfeld 20
Halle C, EG
52078 Aachen, Germany



LOCATION



BITS, BEERS & PRETZELS

At our “Bits, Beers & Pretzels” events, our employees can enjoy beer, obviously, or other drinks and pretzels alongside informative, exciting and often funny lectures from team members from a wide variety of areas. Whether it's the latest findings, milestones, current projects and/or funny anecdotes, these events are a place for people to listen, debate and discuss.



FUCKUP NIGHTS

Everybody makes mistakes! Accepting them can be difficult enough, not to mention admitting them. But here at IEM we want to benefit from our mistakes and offer the opportunity to talk about them as a team at our “Fuckup Nights”. We want to use our stumbles as an opportunity to learn together and find new solutions that might make our work easier in the future.

IEM
Fuckup
NIGHT



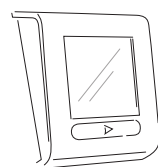
TEAM SPORTS & LEISURE


Our in-house fitness studio offers the perfect opportunity for an after-work workout. Unsurprisingly, the studio is used by our team every day. However, we also hold other leisure/team-building events, such as badminton, bowling, foot golf, escape rooms, or laser tag, which are also very popular with our employees.

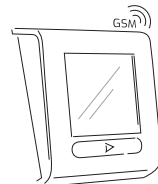
PRODUCTS

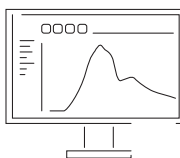
AN OVERVIEW



- 

TEL-O-GRAPH® BT 16
SCREENING | OFFICE BP
- 

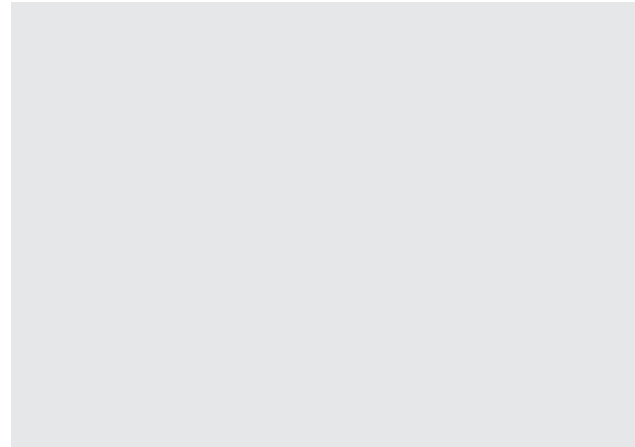
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EVALUATION SOFTWARE

TEL-O-GRAPH® BT

SCREENING | OFFICE-BP



THE TRUE MULTI-TALENT

much more than just a Tabletop Unit

- Accurate Risk Analysis without Waiting Time
- Affordable Upgrade Options to cBP and PWA
- Efficient Workflow - Automated Data Recording

One unit - numerous options: In addition to utilizing the Tel-O-Graph® as a table top blood pressure monitor, you have the option to unlock the license upgrade adding Central Blood Pressure (cBP) or even full Pulse Wave Analysis (PWA) functionalities. This screening allows to identify patients with an increased cardiovascular risk and for reliable therapy decisions.



TEL-O-GRAPH® BT

TEL-O-GRAPH BT



THE RELIABLE SCREENING TOOL FOR YOUR PRACTICE

The Tel-O-Graph® BT allows you to perform a reliable risk analysis without tedious waiting times, and offers the option to include all groundbreaking hemodynamic parameters. Automated documentation ensures increased efficiency in day-to-day practice, while also guaranteeing fast and smooth measurements.



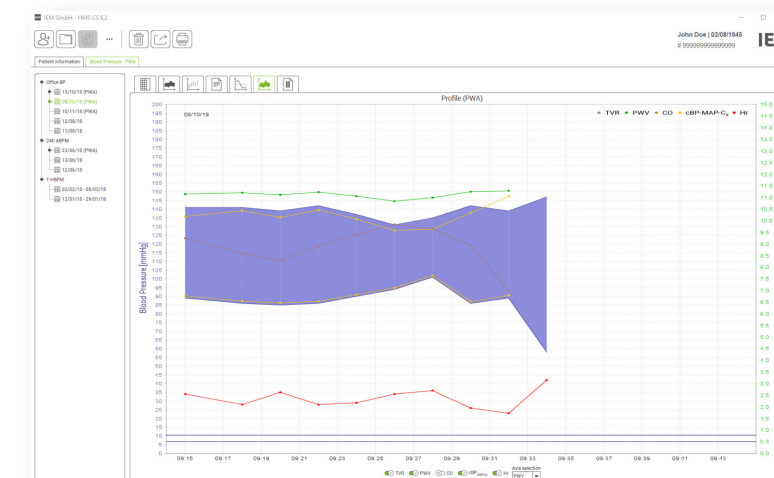
THE ADVANTAGES FOR YOU

- Maximum measurement precision (BHS (A/A) grade)
- User-friendly thanks to single-button operation and large display
- Fast and comfortable blood pressure measurement (AFL – auto-feedback logic)
- Optional expansion for measuring central blood pressure and/or complete pulse wave analysis
- Easy connection to your PMS/HIS via GDT or HL7 for ideal integration into your everyday practice

COMPLETE PULSE WAVE ANALYSIS WITH JUST ONE MEASUREMENT

Working together with the Austrian Institute of Technology (AIT), IEM has taken holistic hypertension management to a new level. In joint development with the AIT, we have expanded the classic oscillometric blood pressure measurement to include comprehensive pulse wave analysis.

The result is a **portable, location-independent screening and diagnostic tool** for your day-to-day practice, for determining vascular age and providing innovative health care services in the field of cardiovascular diseases.



PWA algorithm certified and validated by:



BASED ON THE LATEST STUDIES

Cardiovascular diseases are the leading cause¹ of death worldwide and many of those affected are unaware of their condition². Recent guidelines recommend regular blood pressure screening, as approximately 80% of cardiovascular-related deaths could be prevented through early detection and education about the main risk factors³.





Buy

020100005	Tel-O-Graph® BT monitor
020100004	Tel-O-Graph® BT Premium Set Tel-O-Graph® BT monitor Cuffs (sizes S, M, L) 4 batteries HMS CS
010300001	CBP license Triple measurement Central Blood Pressure
010300002	PWA license Triple measurement Central Blood Pressure Pulse Wave Analysis

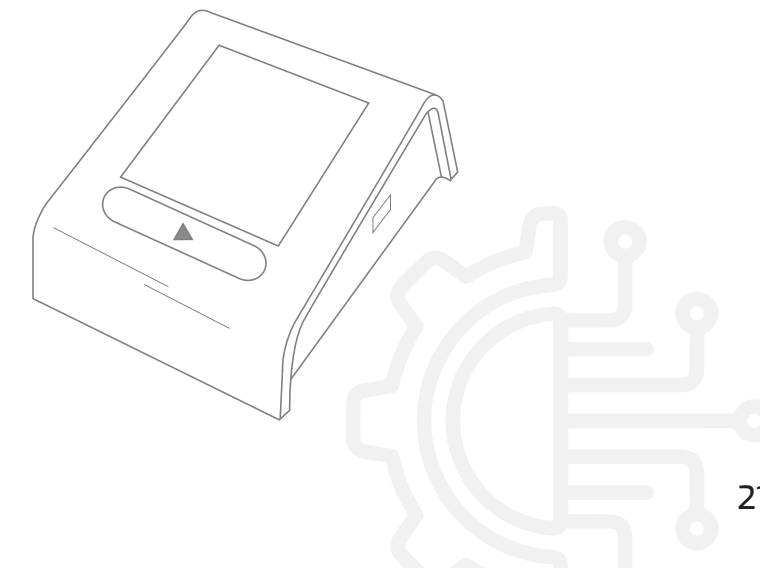


Technical Data

Dimensions	L 151 mm x W 108 mm x H 57 mm
Display dimensions	70 mm x 72 mm, character height 20 mm
Weight	334 g (without batteries)
Procedure	Oscillometric, single measurement with automatic transmission
NIBP accuracy	validated according to ISO 81060-2 and BHS (A/A grading)
Systolic range	60–290 mmHg
Diastolic range	30–195 mmHg
Pulse frequency range	30–240 BPM (beats per minute)
Blood pressure accuracy	+2% or ±3 mmHg, according to which value is higher
Automatic transmission	After every measurement
Operating modes	manual
Operating temperature	+5°C to 40°C
Operating humidity	15% to 93% relative humidity, non-condensing
Storage temperature	-25°C to +70°C
Storage humidity	15% to 93% relative humidity, non-condensing
Operating current	6 V (4 x LR6 or HR6, AA 1.5 V)
Storage capacity	350 measurements, 15 pulse pressure and pulse wave analysis measurements
Bluetooth chip	Silicon Labs WT11u
Bluetooth Version	Bluetooth v2.1 + EDR (Enhanced Data Rate)
Transmit power	Bluetooth class 1 radio (Transmit power: 17 dBm)
Identification of data transmission	Serial number

Accessories

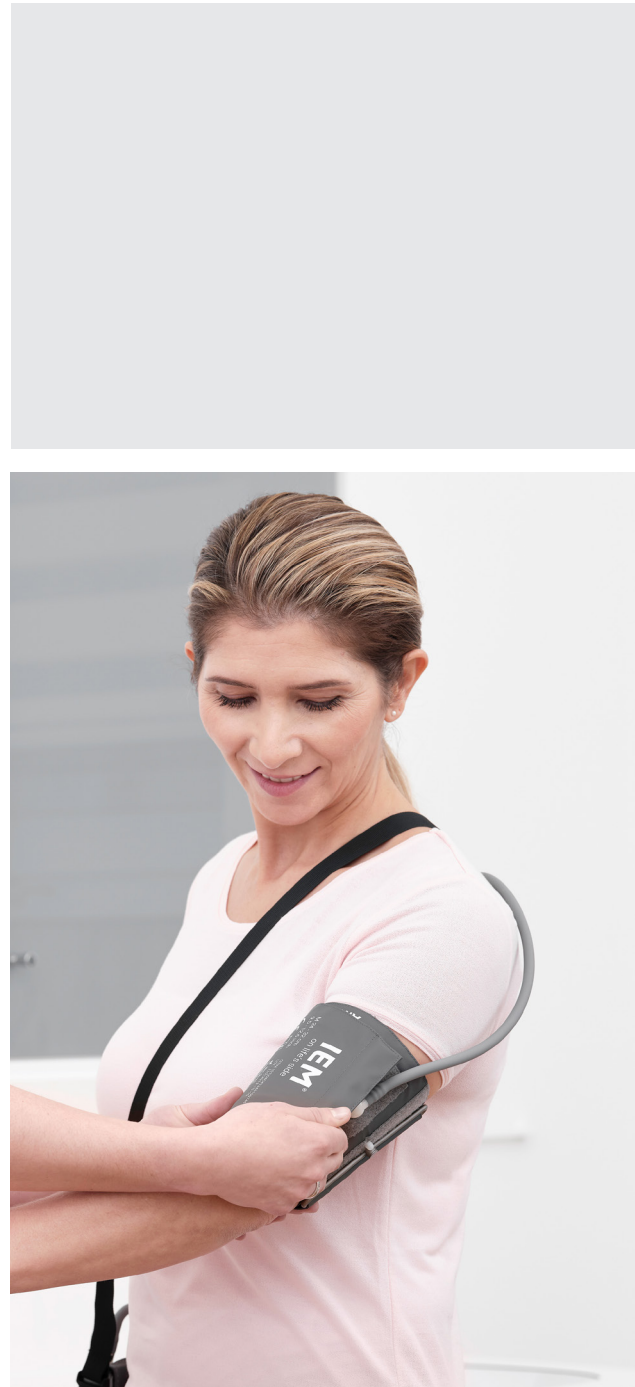
020200001	Tel-O-Graph® cuff, S (20–24 cm)
020200002	Tel-O-Graph® cuff, M (24–32 cm)
020200003	Tel-O-Graph® cuff, L (32–38 cm)
020200004	Tel-O-Graph® cuff, XL (38–55 cm)
010200015	Cotton sleeve protectors (50 pcs)
010200016	Batteries, AA, alkaline (4 pcs)
010200017	USB Bluetooth adapter
010200018	Set pouch, printed
010200019	Rechargeable battery, 1700 mAh
050100001	HMS CS (latest version)



Current price list available on request

MOBIL-O-GRAPH®

DIAGNOSTICS | 24 H ABPM



THE NEW STANDARD for 24h Blood Pressure Readings

- From Blood Pressure to Hemodynamics
- Modular Upgrades via Affordable Licenses
- The Best Choice for a Reliable Diagnosis

Proven bestseller sets a new benchmark: Even years after your purchase the unit can be upgraded from standard ABPM to Central Blood Pressure (cBP) or even to complete Pulse Wave Analysis with eight additional hemodynamic parameters for vascular stiffness screening. These capabilities allow for an ideal cardiovascular management.



MOBIL-O-GRAPH®

MOBIL-O-GRAPH

24 H ABPM COMBINED WITH COMPREHENSIVE PWA

Using our validated Mobil-O-Graph® offers you clinical added value and ensures reliable diagnosis. One-off blood pressure measurement is ideally supplemented by the ABPM. In this way, various hypertension phenomena (e.g. white coat hypertension, masked hypertension, nocturnal hypertension, etc.) can be reliably diagnosed.

+ THE ADVANTAGES FOR YOU

- Option to gradually expand the ABPM measurement to include central blood pressure and pulse wave analysis
- Long service life thanks to international protection class (IP42) and high-quality product components
- Clinically valid results thanks to high measurement precision (BHS A/A grade and ESH)
- Fast and comfortable blood pressure measurement thanks to auto-feedback logic (AFL) algorithm
- Easy connection to your PMS/HIS via GDT or HL7 for ideal integration into your everyday practice



THE MOST EFFECTIVE WAY TO ACHIEVE SAFE DIAGNOSIS

With the Mobil-O-Graph®, the gold standard of care is implemented easily and safely. It has already proven itself in numerous clinical studies and has been used hundreds of thousands of times.

- Patients can be trained on how to use the device in just one minute
- The robustness and long service life of the Mobil-O-Graph® ensure minimal downtime and reduce operating costs to a minimum
- Simple, self-explanatory operation
- High level of convenience for doctor and patient

The evaluation of the individual parameters of the PWA also provides a clearer picture of cardiovascular risk than the peripheral blood pressure.⁴ In combination with the ESH/ESC guidelines for the classification and treatment of hypertension, this results in a significantly better indication when making prescribing decisions.

➤ You can find an overview of all parameters on page 41



Buy

010100001	Mobil-O-Graph® monitor
010100003	Mobil-O-Graph® Premium Set Mobil-O-Graph® monitor Cuffs (sizes S, M, L) Artificial leather bag, incl. shoulder strap USB cable 2 batteries HMS CS
010300001	CBP license Triple measurement Central blood pressure
010300002	PWA license Triple measurement Central blood pressure Pulse wave analysis



Current price list available on request

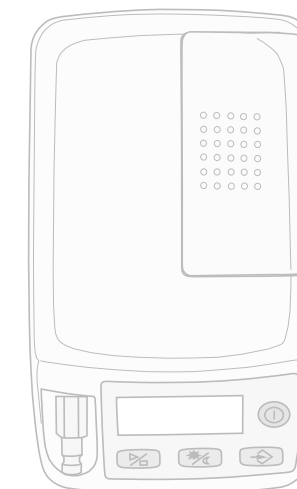
MOBIL-O-GRAPH®

Technical Data

Dimensions	L 128 mm x W 75 mm x H 30 mm
Weight	approx. 167 g (without batteries)
Procedure	oscillometric
NIBP accuracy	validated according to ISO 81060-2 and BHS (A/A grading)
Systolic range	60–290 mmHg
Diastolic range	30–195 mmHg
Pulse frequency range	30–240 BPM (beats per minute)
Blood pressure accuracy	+/- 3 mmHg in display range
Measuring frequency	4 adjustable and freely configurable day and night interval groups, measurements per hour: 0, 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 3
Automatic repeat measurement	If there is a measurement error, the device automatically repeats the measurement after 3 minutes
Operating modes	manual
Operating temperature	+10°C to 40°C
Operating humidity	15% to 90% relative humidity, non-condensing
Storage temperature	-20°C to + 50°C
Storage humidity	15% to 95% relative humidity, non-condensing
Power supply	2 x 1.2 V Ni-MH rechargeable batteries, min. 1500 mAh (AA, Mignon) 2 x 1.5 V batteries (AA, Mignon)
Power consumption	at 5 VDC nominal Sleep 60 µW Idle 105 mW Measurement 540 mW Inflation 2.4 W
Storage capacity	300 blood pressure measurements or 260 blood pressure measurements with pulse wave recording
Communication	Infrared, serial RS232
IP protection class	IP 42

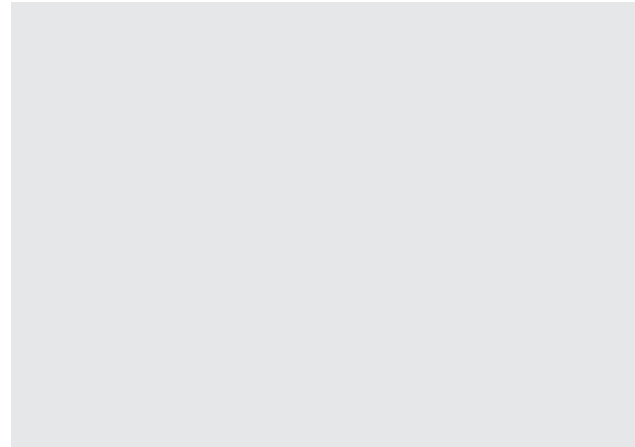
Accessories

010200001	Mobil-O-Graph® cuff, XS (14–20 cm)
010200002	Mobil-O-Graph® cuff, S (20–24 cm)
010200003	Mobil-O-Graph® cuff, M (24–32 cm)
010200004	Mobil-O-Graph® cuff, L (32–38 cm)
010200005	Mobil-O-Graph® cuff, XL (38–55 cm)
010200012	Mobil-O-Graph® synthetic leather pouch, incl. shoulder strap
010200023	Mobil-O-Graph® USB cable, 4-Pin FTDI
010200015	Cotton sleeve protectors (50 pcs)
010200016	Batteries, AA, alkaline (4 pcs)
010200017	USB Bluetooth adapter
010200018	Set pouch, printed
010200019	Rechargeable battery, 1700 mAh
050100001	HMS CS (most up-to-date version)



TEL-O-GRAPH® GSM

FOLLOW-UP | TELEMETRIC HBPM



THE DIGITAL REVOLUTION in Therapy Follow-Up

- Global Transmission of Measurements via GSMLTE
- Considerable Time Savings for Doctors & Patients
- Significantly Better & Sustainable Medical Results

Reliable blood pressure adjustment from a distance:

The Tel-O-Graph® GSM is the most innovative and convenient device for blood pressure monitoring from anywhere in the world. Your patient's blood pressure measurements are transferred directly, automatically and encrypted into a software for further analysis. You benefit from higher patient compliance, authentic blood pressure values and simplified workflows.



TEL-O-GRAPH® GSM

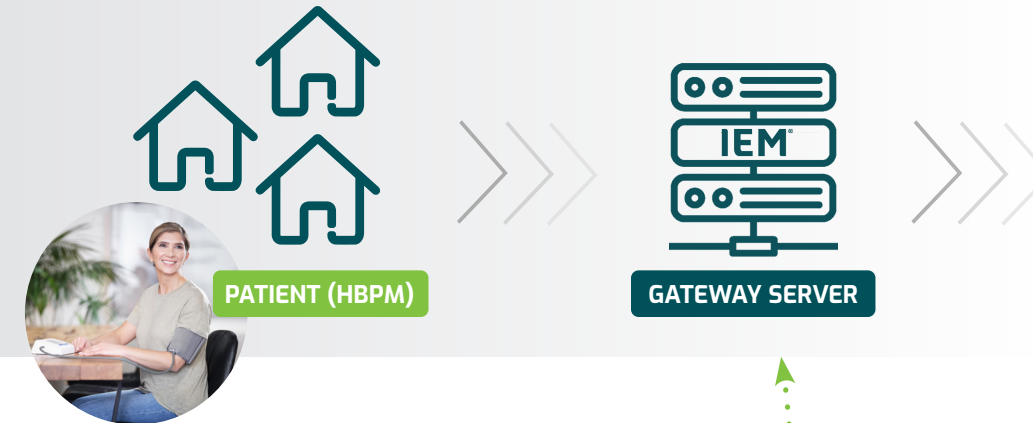
TEL-O-GRAPH GSM

COMPREHENSIVE DIAGNOSIS & TREATMENT CONTROL

The Tel-O-Graph® GSM is the most innovative and convenient solution for remote blood pressure adjustment from any place in the world. The measured values are encrypted and automatically sent from the Tel-O-Graph® GSM via mobile communication to the Hypertension Management Software (HMS CS). All data can be transferred via GDT or HL7 to the practice administration software or hospital information system. The results are clearly graphically illustrated, can be managed easily and can be generated to automatic patient reports

+ THE ADVANTAGES FOR YOU

- Higher treatment compliance from your patients
- Sustainable blood pressure adjustment
- Also enables easy treatment tracking for:
 - Patients in rural areas
 - Elderly patients with limited mobility
 - Patients who are active and highly involved in their job
- Easy connection to your PMS/HIS via GDT or HL7 for ideal integration into your everyday practice



GLOBAL AND AUTOMATED TRANSMISSION

of blood pressure values via GSM/LTE within a few seconds

FROM PATIENT TO DOCTOR



Worrie-free leasing instead of buying!

FULL SERVICE



You take care of your patients,
we take care of the rest!

Tel-O-Graph® GSM

YOU CAN CANCEL ON A MONTHLY BASIS

Contents:

- Tel-O-Graph® GSM monitor
- 3 cuffs (S, M, L)
- 4 batteries
- HMS CS

EUR 34 per month



The most important parameters are included:

Peripheral blood pressure, MAP, heart rate, pulse pressure



Installation & update service

with satisfaction guarantee



Free all-round service

and support from the IEM team

+ CBP license

Additional parameter: central blood pressure

only an extra EUR 16 per month

+ PWA license

Additional parameters: central blood pressure,
Alx @75, cardiac output, peripheral resistance,
pulse wave velocity (PWV)

only an extra EUR 31 per month

Current price list available on request

TEL-O-GRAPH® GSM

Technical Data

Dimensions

L 151 mm x W 108 mm x H 57 mm

Display dimensions

70 mm x 72 mm, character height 20 mm

Weight

344 g (without batteries)

Procedure

Oscillometric,
single measurement with automatic transmission
validated according to ISO 81060-2 and BHS (A/A grading)

NIBP accuracy

Systolic range

60–290 mmHg

Diastolic range

30–195 mmHg

Pulse frequency range

30–240 BPM (beats per minute)

Blood pressure accuracy

+2% or ±3 mmHg, according to which value is higher

Automatic transmission

After every measurement

Operating modes

manual

Operating temperature

+5°C to 40°C

Operating humidity

15% to 93% relative humidity, non-condensing

Storage temperature

-25°C to +70°C

Storage humidity

15% to 93% relative humidity, non-condensing

Operating current

6 V (4 x LR6 or HR6, AA 1.5 V)

Storage capacity

350 measurements,
15 pulse pressure and pulse wave analysis measurements

GSM chip

Cinterion EHS6

Transmit power

Class 1, 3, 4 and E2 (2 W) for 800 MHz and 2100 MHz

Frequency bands

GSM/GPRS/EDGE: Quad band 850/900/1800/1900 MHz
UMTS/HSPA+: Five band 800/850/900/1900/2100 MHz

Internet connection

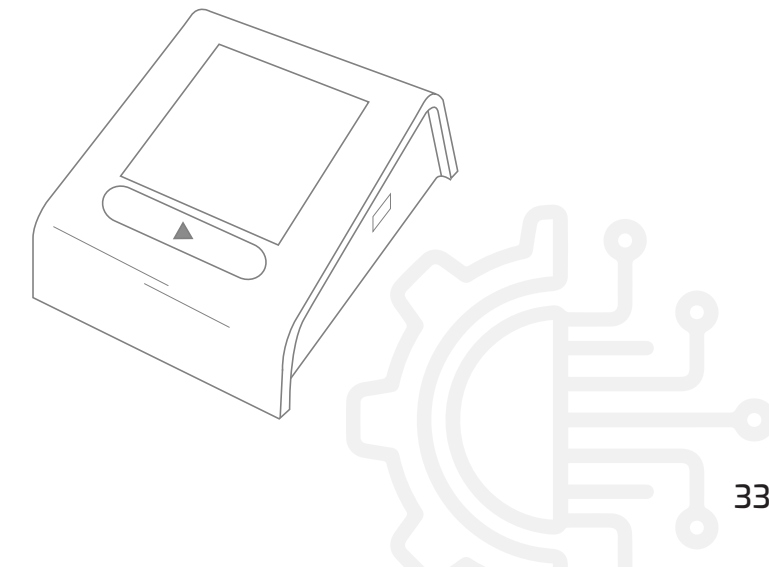
Standard for APN, user, password and DNS on IEM side

Identification of data transmission

Serial number

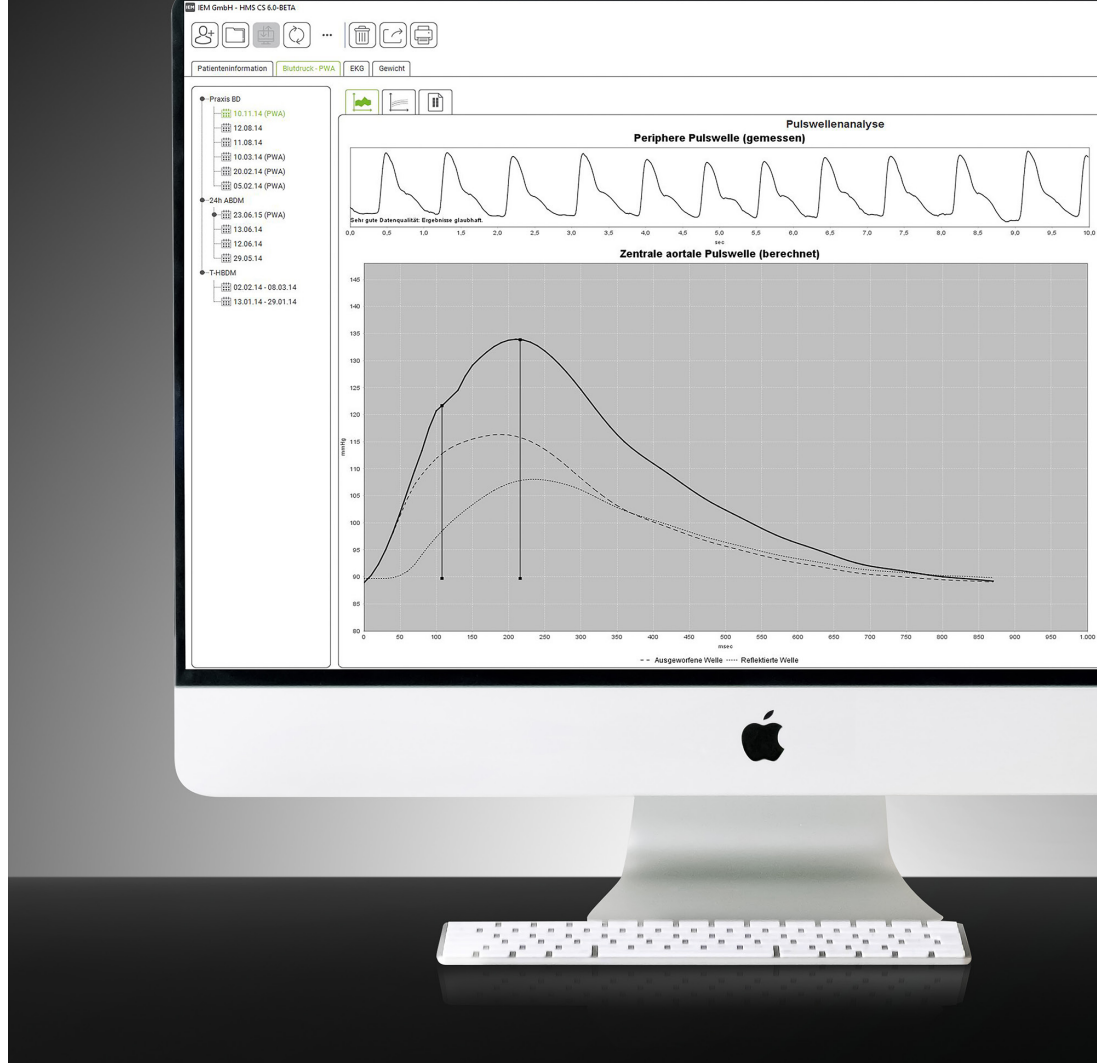
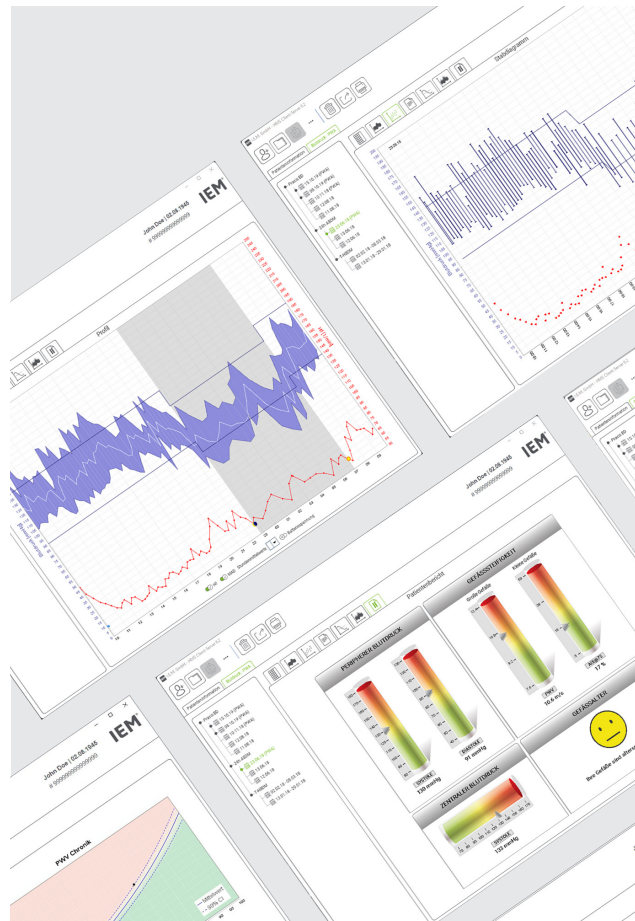
Accessories

020200001	Tel-O-Graph® cuff, S (20–24 cm)
020200002	Tel-O-Graph® cuff, M (24–32 cm)
020200003	Tel-O-Graph® cuff, L (32–38 cm)
020200004	Tel-O-Graph® cuff, XL (38–55 cm)
010200015	Cotton sleeve protectors (50 pcs)
010200016	Batteries, AA, alkaline (4 pcs)
010200017	USB Bluetooth adapter
010200018	Set pouch, printed
010200019	Rechargeable battery, 1700 mAh
050100001	HMS CS (latest version)



CS5H5

EVALUATION SOFTWARE

[illegible]

THE DEPENDABLE ASSISTANT

for your Data Management

- All Cardiovascular Parameters in one Software
- Digital Documentation in a Variety of Reports
- Regular Software Updates Free of Charge

Customized patient reports: Never has a successful Hypertension Management been so easy! Screening, Diagnostics and Follow-Up combined in a single software for an overall successful Hypertension Management. Use the versatile HMS with clear graphs for a sustainable and successful therapy!



ONE SOFTWARE FOR ALL IEM DEVICES



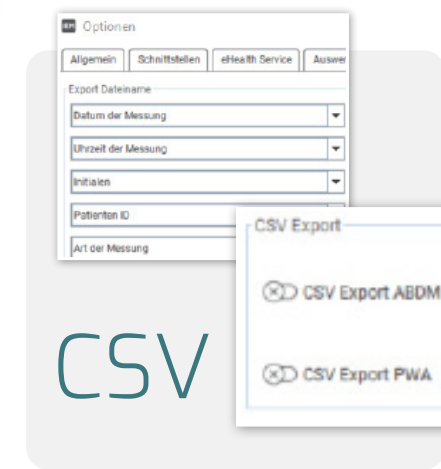
Connecting to Your HIS or PMS

By integrating data interfaces, we offer an easy connection to your hospital information system (HIS) or patient management system (PMS). Our system guarantees the highest security standards and ensures convenient management of the measurement data.



User-defined reports

Export or print your reports as you need them. Only display patient data and the findings or add a measurement value table, bar chart, patient report, or more.



Individual export options

In addition to a PDF or print version, you can also export the report as a CSV file. Before exporting, you can select the data included in the report, such as the time of measurement, patient data, type of measurement, etc.



Compatible with Windows & MacOS

The latest version of our HMS CS is now also available for MacOS. The user interface is user-friendly and modern.



Client & server installation

Whether for a single workstation or an entire hospital, the HMS CS can be flexibly adapted to your work environment and installed either on individual PCs or on a server, meaning it can be connected to multiple workstations.

Health Care Provider

According to the World Health Organization (WHO), hypertension and its consequences (heart disease, kidney failure, strokes, and others) are the leading cause of death worldwide, with an annual mortality rate of 41 million. Globally, there are more than 1.6 billion patients diagnosed with hypertension, without taking into account the number of unreported cases. This high prevalence is also confirmed eminently by figures from the German Hypertension League. There is an urgent need for action, as many patients with hypertension receive inadequate care due to a lack of adherence to treatment, or incorrect medication.

Source: "Blood Pressure – High Blood Pressure and its Effects"
© Deutsche Hochdruckliga e.V.

Pharma & CRO

IEM focuses individually on your needs when implementing clinical studies.

IEM's core competencies include professional support in the implementation of technical solutions, and ongoing support in clinical studies. This is also demonstrated by the hundreds of thousands of installations worldwide. In addition to effective project management, we ensure studies run smoothly by guaranteeing hardware and software solutions that are individually tailored to ensure the problem-free conduct of studies.



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AREAS OF APPLICATION



THE ADVANTAGES OF HAVING **IEM**[®] AS YOUR PARTNER

- Specialist for solutions in the field of cardiovascular health:
 - Long-term blood pressure measurement
 - Measurement of central blood pressure, pulse wave velocity and hemodynamic parameters (including cardiac output and peripheral resistance) as in-practice, 24-hour and telemedical home measurements
 - Telemedical solutions for recording all common vital parameters
- Plug & Play concept
- In-house hardware and software development
- Implementation of data interfaces
- Highest data security standards
 - The secure gateway server prevents data loss and offers unrestricted compatibility with your individual software.
- Effective project management
- Experienced partner with a global academic network and more than 1300 scientific publications
- Outstanding customer service with free telephone support, very good accessibility by telephone and email, as well as professional remote maintenance via PC by experienced, continuously trained technicians

ONE DEVICE – 3 LEVELS

You have the choice – any time. Even years after purchase, the unique upgrade function of the IEM systems allows you to unlock different levels for extra groundbreaking parameters at the click of a mouse.



1 BASIC | BLOOD PRESSURE

- Peripheral (long-term) blood pressure measurement
- Identification of white coat and masked hypertension
- Detection of nocturnal and early morning hypertension

2 ADVANCED | CENTRAL BLOOD PRESSURE

- It is scientifically proven⁴ that central blood pressure is a much more accurate indicator of the risk of cardiovascular events than peripheral blood pressure.
- Sustainable treatment results based on central blood pressure⁵
- Very precise identification of isolated systolic hypertension

3 EXPERT | PULSE WAVE ANALYSIS

- Pulse wave velocity to identify arterial stiffness or organ damage
- Hemodynamic data for personalized medical treatment and treatment control



AN OVERVIEW OF ALL PARAMETERS

Pulse Wave Velocity (PWV)

Pulse wave velocity (PWV) refers to the speed of propagation of the pulse wave along the arteries.

Brachial Systole

Systole is part of the cardiac cycle. To put it simply, it is the tension and therefore blood outflow phase of the heart.

Brachial diastole

Diastole of the chambers of the heart is the relaxation and filling phase. Diastole of the atria occurs during systole of the ventricles.

Mean Arterial Pressure (MAP)

Average value of the blood pressure curve over time.

Heart Rate

Number of heartbeats during a certain unit of time.

Pulse Pressure

Difference between systolic and diastolic blood pressure.
Systole - diastole = pulse pressure

Systolic CBP

Central blood pressure (CBP / aortic blood pressure) is the blood pressure that is present directly in the aorta. This is the systolic value.

Diastolic CBP

Central blood pressure (CBP / aortic blood pressure) is the blood pressure that is present directly in the aorta. This is the diastolic value.

Alx @75

The augmentation index, Alx for short, is part of the pulse wave analysis and is used to assess vascular end-organ damage and the individual cardiovascular risk. This normalizes at a heart rate of 75 bpm.
Augmentation Index (Alx) =
Augmentation pressure (AP) / pulse pressure (PP) x 100

Cardiac output (CO)

Cardiac output (CO) is the amount of blood the heart pumps into the bloodstream in one minute.

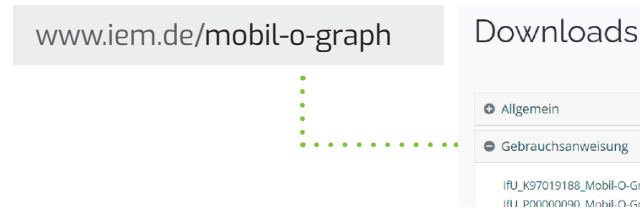
Peripheral Resistance

The resistance that the blood vessels and the viscosity of the blood offer to the volume flow generated by the heart.

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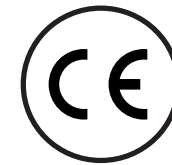


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93/42/EEC Annex II
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Sources:

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