



# CHEST THERAPY DEVICE

a Well life, a Clean Breath



CLINICALLY **PROVEN**



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# MEDYES

*Patented  
Technology*



Chronic Cough



Respiratory Tract  
Infections



Shortness of Breath  
and Wheezing



Genetic Factor

**Chest Therapy Device** is a  
**Lung physiotherapy** device  
using **HFCWO** technique and  
has received a **patent** from the  
Turkish Patent Institute with  
the number 2020/22848.

## CHEST THERAPY DEVICE

CHEST THERAPY DEVICE

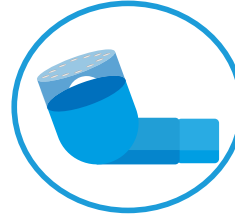
**MEDYES**  
SAĞLIK TEKNOLOJİLERİ

# What are airway clearance techniques?



## Chest Physiotherapy

Chest physiotherapy (CPT) is a rehabilitation procedure that a therapist applies to patients' backs to help clear excess secretions from their lungs.



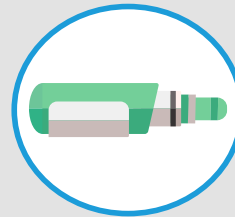
## Positive expiratory pressure

This method restricts the outflow of air and increasing the intrapulmonary pressure when exhaled into it. Thus, the small airways clogged with sputum are opened.



## Cough / Wheezing

Coughing is one of the easiest airway clearance techniques. It helps to drain mucus from the lungs and clear the airways.



## Chest physiotherapy

OscPEP therapy provides the combination of positive expiratory pressure with high frequency oscillations.



## Active Cycle of Breathing Technique

Active breathing technique includes controlled breathing, chest expansion exercises, and forced coughing to help expel mucus.



## High Frequency Chest Wall Oscillation

(HFCWO) is performed with a mechanical vest that gently Compresses the chest wall to loosen mucus.

# High Frequency Chest Wall Oscillation (HFCWO)

High frequency chest wall oscillation (**HFCWO**), an effective alternative to airway clearance techniques; It is the application of compression to the chest wall through an inflatable jacket connected to an air flow generator. The intermittent airflow rapidly compresses and releases the chest wall at various frequencies, creating an oscillation in airflow within the airways. This treatment produces effectively reported and recurrent “mini-coughs” with rapid squeezing and releasing action. **HFCWO** application is a method that provides a temporary increase in expiratory flow, cough-like tearing force production and reduction in mucus viscoelasticity, which provides mucus clearance and increases central and peripheral mucus clearance.

## **HFCWO treatment:**

- ◆ It separates mucus from the walls of the lung airways.
- ◆ It reduces the viscosity of secretions.
- ◆ It pushes mucus into larger airways where it can be more easily drained or absorbed



# MEDYES Chest Therapy Device



**MEDYES** Chest Therapy Device uses **HFCWO** technology to help clear patients' airways. Thanks to the vest used, it removes the mucus from the bronchial walls. It helps move secretions from smaller airways to larger airways where they can be coughed up or absorbed.

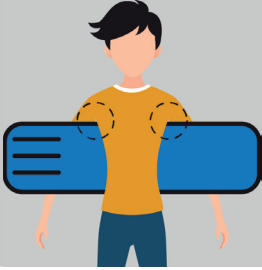
**MEDYES** (Medical Vest Systems) Chest Therapy Device produced by **Hamle Technology Group Companies** consists of an air pulse generator and a vest. The air pulse generator and vest system fills and empties the system with air up to 20 times per second, the thing that compress the rib cage gently and smoothly ensuring the comfort of the patient. High-frequency vibrations allow the excessive amount and thick consistency of pulmonary secretion accumulated in the respiratory tract to be thinned and easily expelled by coughing. High frequency pulmonary rehabilitation system is used as an effective alternative to traditional physiotherapy in chronic pulmonary diseases such as cystic fibrosis, COPD, bronchiectasis(BE)andCOVID-19.It helps to reduce pulmonary complications and increases clinical stability.

# WHO CAN BENEFIT FROM THE CHEST THERAPY DEVICE?

- ◆ *Patients with retained secretion*
- ◆ *Patients who have difficulty in secretion clearance*
- ◆ *Presence of atelectasis caused by mucus plugging*
- ◆ *Cystic Fibrosis (CF)*
- ◆ *Bronchiectasis*
- ◆ *Chronic Pulmonary And Neuromuscular conditions*
- ◆ *Chronic Obstructive Pulmonary Disease (COPD)*
- ◆ *COVID-19 Treatment*

# INSTRUCTIONS FOR USE

The vest is used by choosing one of the small (**S**), medium (**M**), large (**L**) sizes according to the patient's body size.



**1**

## STEP 1

The buckles and velcro fasteners on the front of the vest open.



**2**

## STEP 2

The vest is put on the patient



**3**

## STEP 3

The vest is adjusted according to the patient's body from the velcro fastening parts on the shoulder and front.



**4**

## STEP 4

Two hoses coming from the device are attached to the hose inlets of the vest.



**5**

## STEP 5

From the compression straps on the front buckles, the vest is adjusted to be loose against the body.



# Chest Therapy Device Features

## Garment Versatility

- ◆ Comfortable breathable fabric and soft texture  
Machine washable  
between 60- 90 degrees for sterilization.
- ◆ Can be disinfected with proper disinfection.
- ◆ Offers additional options for size and size.



## Adjustable Functions

Adjustable functions that can be customized with pressure, frequency, and time settings.



# Chest Therapy Device Features

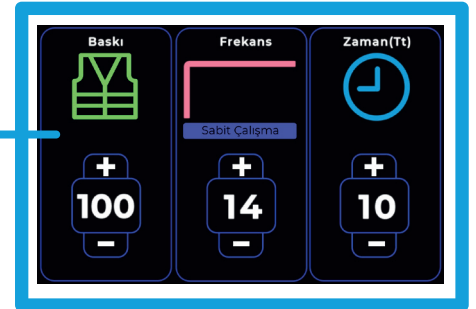


## Easily portable

- ◆ A carrying handle is available to facilitate transport.
- ◆ It is designed for health institutions and home applications.
- ◆ It is light and portable, suitable for carrying.

## Customized Mods

It can work in 4 different modes as constant work, sinusoidal work, incremental work, resting work.

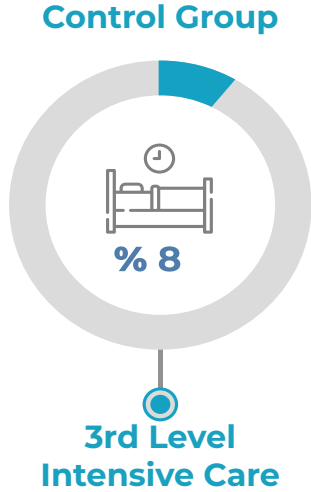


## Dashboard

The device has a touch screen that allows easy adjustment from the display screen.

# CLINICALLY PROVEN

## 3rd Level Intensive Care

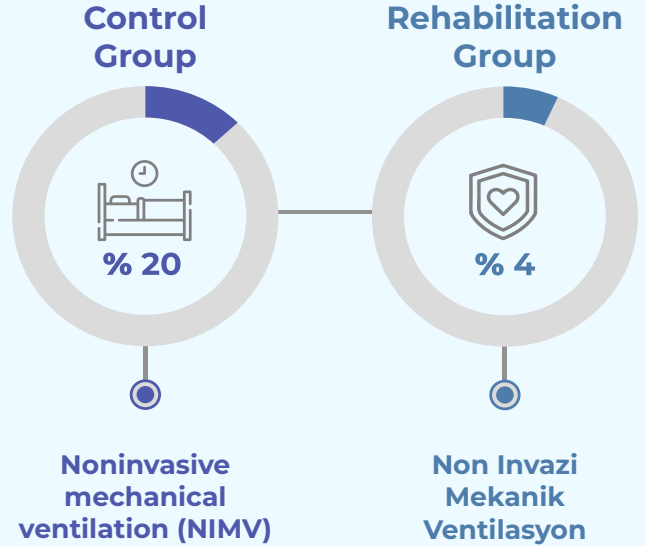


There is a significant difference between the two groups in terms of third level intensive care needs.

8% of the patients in the control group (Group K) entered the third level intensive care unit.

In the rehabilitation group (Group R), no patient entered the tertiary intensive care unit.

## Clinical Results



20% of the patients in the control group (Group K) felt the need for Noninvasive mechanical ventilation (NIMV).

Only 4% of the patients in the rehabilitation group (Group R) felt the need for noninvasive mechanical ventilation (NIMV).

The need for HFO (High Flow Oxygen) therapy of the patients in the rehabilitation group was also reduced by half compared to the patients in the control group.

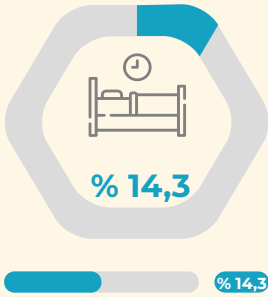
**MEDYES** Chest Therapy Device aims to provide patient oxygenation and secretion excretion, not to treat any underlying specific disease or condition. Doctors have recommended the **MEDYES** Chest Therapy Device for patients with the specified conditions.

# CLINICALLY PROVEN

## Treatment process

(Before and after using the Chest Therapy Device)

### Process of hospitalization



### Oxygenation rate



In the clinical study, a 14.3% decrease was observed in the hospitalization period of the patients in the rehabilitation group (Group R) treated.

Oxygenation rate of the rehabilitation group increased x2.9 times compared to the control group.

## Clinical Evidence

(Patient outcomes using Chest Therapy Device)



The Chest Therapy Device used in our study has been clinically proven to prevent cough and secretion accumulation and has been shown to be used in Pulmonary Rehabilitation. Supporting the pulmonary rehabilitation of patients with Covid 19 with a Chest Therapy Device provides clinical improvement, reduces the need for Noninvasive mechanical ventilation (NIMV), and these results are proven by pulmonary function tests, which are statistically significant.

Numerous clinical studies document the effectiveness of **HFCWO** (High Frequency Chest Wall Oscillation) Therapy used in the **MEDYES** Chest Therapy Device in stimulating secretions.



# MEDYES

**MEDYES** has developed many projects in the process of supporting the fight against the epidemic during the Covid Pandemic that loomed all over the world in 2019. One of these projects is the Chest Therapy Device, which is aimed to be used for the treatment of Covid patients. Our project has succeeded in being one of the 35 projects deemed suitable for support among 444 projects submitted by **TÜBİTAK** within the scope of 1507 SME R&D call during the initial period of the pandemic. Our device developed in this project will be able to undertake an important function to reduce the effects of the Covid-19 disease on a world scale. The device, which was developed together with the academicians of **Atatürk University and Sakarya University of Applied Sciences**, is planned to be an effective solution to combating the epidemic and chronic lung diseases. Our project, developed in cooperation with Atatürk University, received the 'JURY INCENTIVE AWARD' in the State University category at the Inspiring Public Administration Project Awards organized by the **Turkish Quality Association (KALDER)**.



## Hamle Technology Group Companies

**MEDYES** one of the **Hamle Teknoloji Group** companies that started its activities in 2002, integrated the experience gained in the production and automation sector into the medical sector and started its activities in 2020. It has produced masks and other medical materials with the mask production machines that it has developed and put into production in a short time in Covid-19. The company carried out R&D studies with the support of **TÜBİTAK** and carried out 3 different physiotherapy studies. It has emerged as a brand that produces products and services in a short time with the physiotherapy devices it has developed. It continues its efforts to add new products to its product family with the R&D Studies carried out.

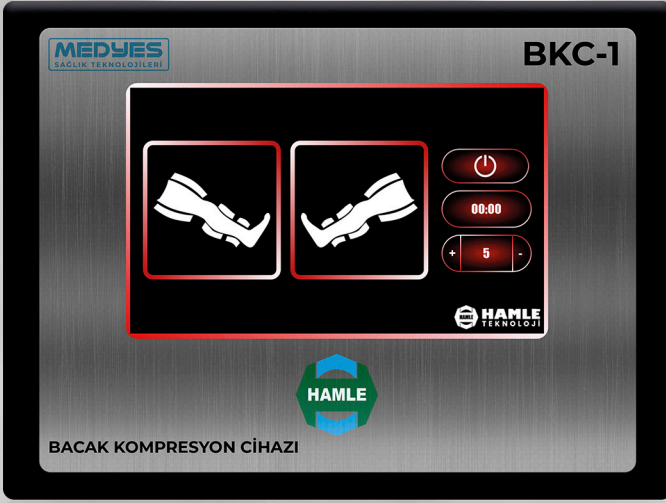
For more information about products and services or order, please contact your **MEDYES** sales representative or **MEDYES** customer service at **+90 262 644 58 50**



CHEST THERAPY DEVICE



# Leg Compression Device



Please Scan QR Code  
to Watch Device  
Introduction Video



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# Leg Compression Device

All human bodies are managed by circulation of blood and lymph. **Leg compression device** helps that various patients are recovered from their disease by promoting legs' blood and lymph circulation and metabolism. Basically this device is a so effective automatic drainage and circulation system. The leg compression device helps patients effectively recover from lymphedema also is used to promote the blood circulation, drain toxic and stagnant lymph and release lumped muscles with soft massage for their slimming. This device apply intermittent pressure to the legs improving arterial blood flow, mobilization of pooled blood with an increase in venous return increasing the effective circulatory volume



*The device works in the form of making sequential pressure on the legs from the bottom up by inflating and lowering the cuffs wrapped around the leg intermittently.*



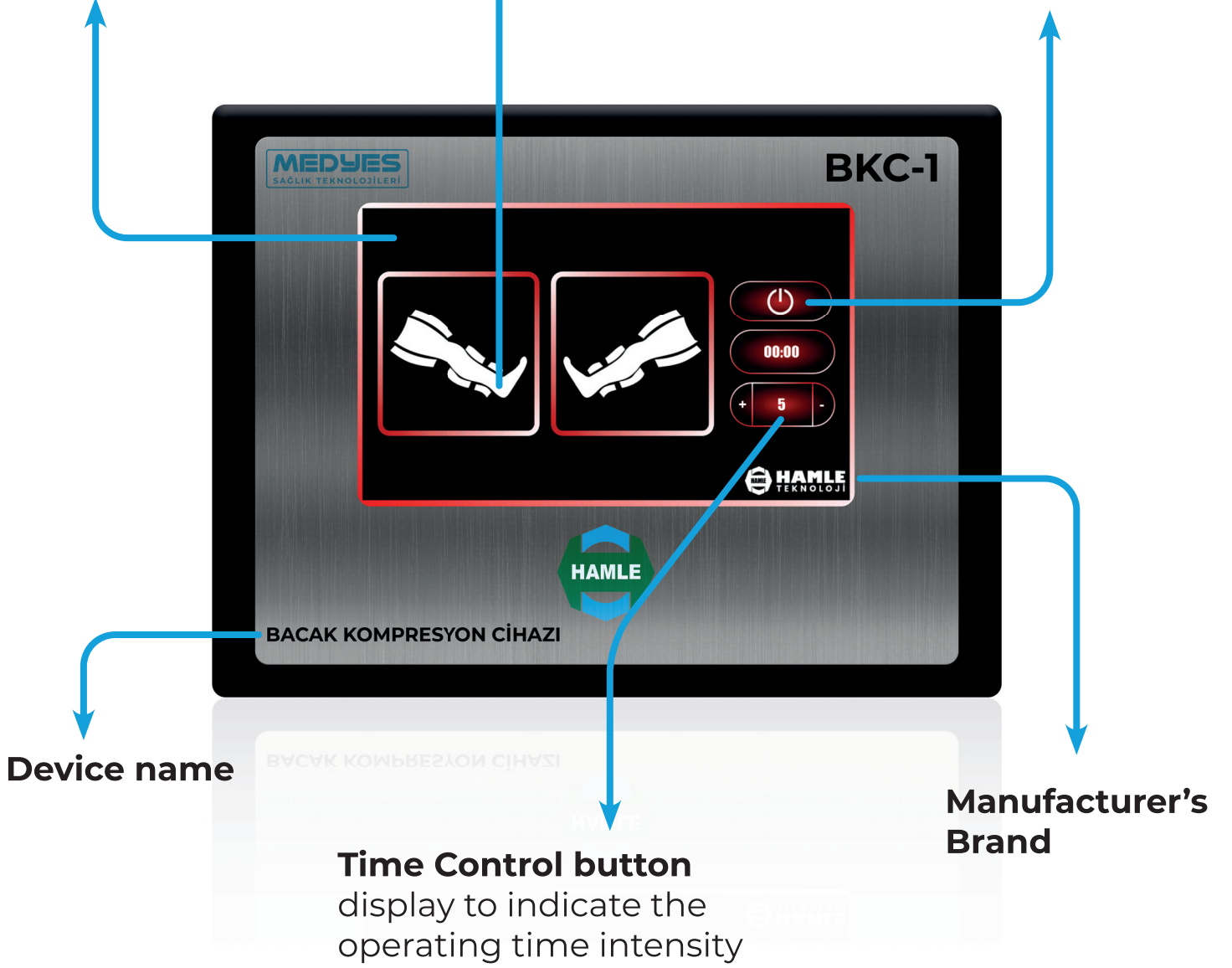
## Optional Leg Selection

Two leg or desired leg selection button

## Start / Stop Button

button to start / stop the compressor after set up the options

## Touch Screen

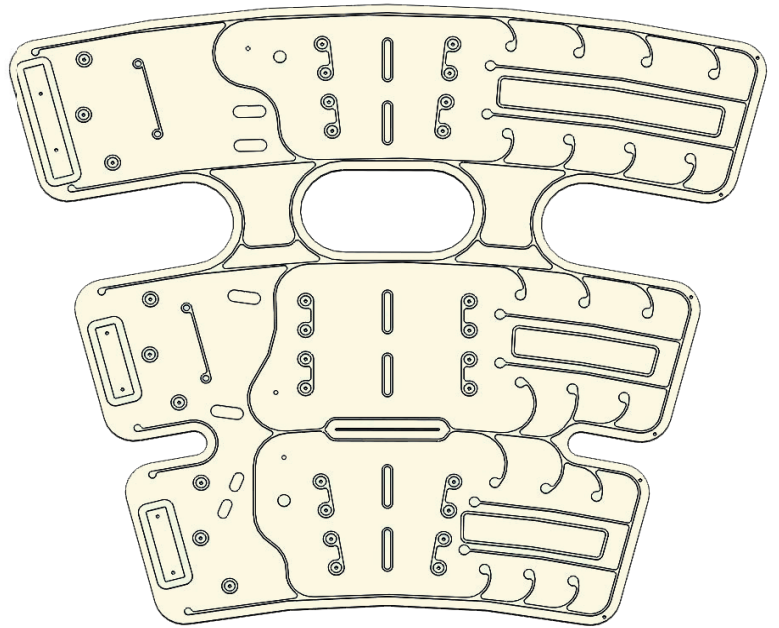
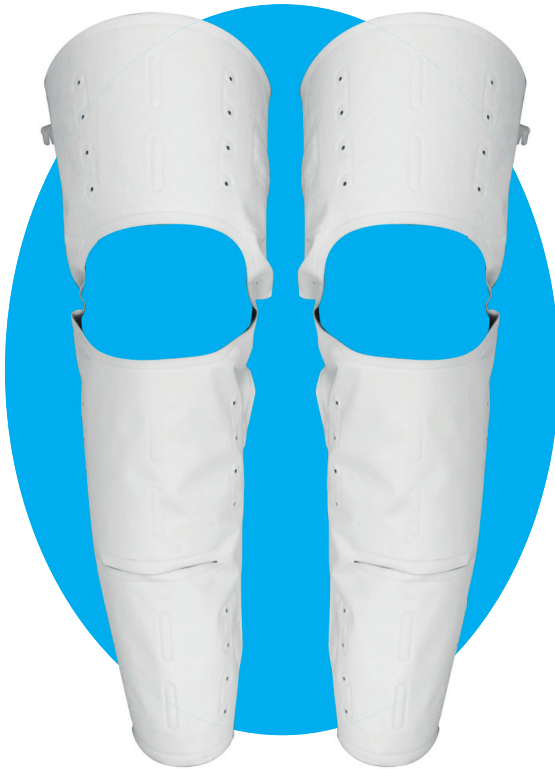


We recommend all beginners to apply the device with the lowest pressure for 5 minutes for their safe use. User can increase the pressure intensity gradually, according to a patient's state and a doctor's advice. The device usage time should be checked by a doctor.

# Leg compression device advantages?

## ◆ LEG CUFFS

- ◆ Single leg option offers the flexibility to use one garment
- ◆ The independent chambers inflate sequentially
- ◆ Each chamber is inflated to a different pressure to maximize blood flow.
- ◆ Cuffs, ensures effective compression with correct sizing thanks to the variety of sizes
- ◆ Hygienic use is possible thanks to the wipeable surface



Suitable for home  
and healthcare  
facility use



Ability to customize  
compression cycles for the  
patient

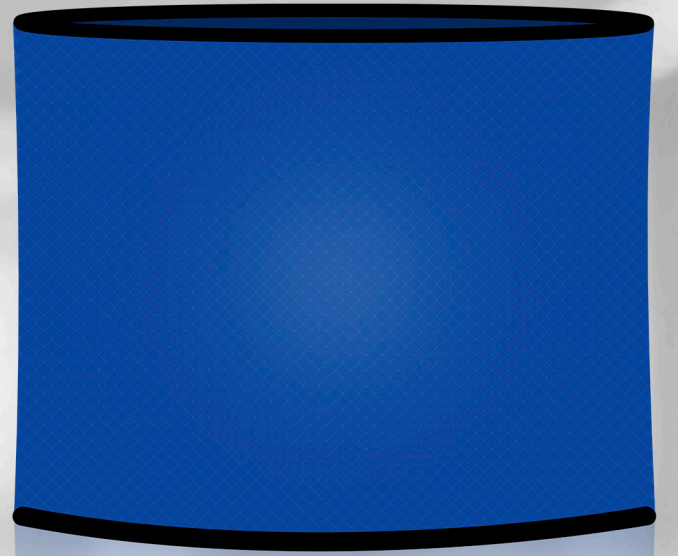
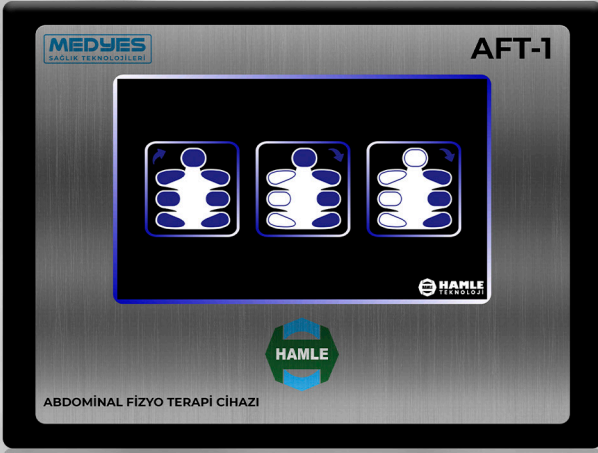


The advantage of reducing  
the need for healthcare  
workers






Non-invasive, drug-free  
treatment opportunity

# Abdominal Physiotherapy Device

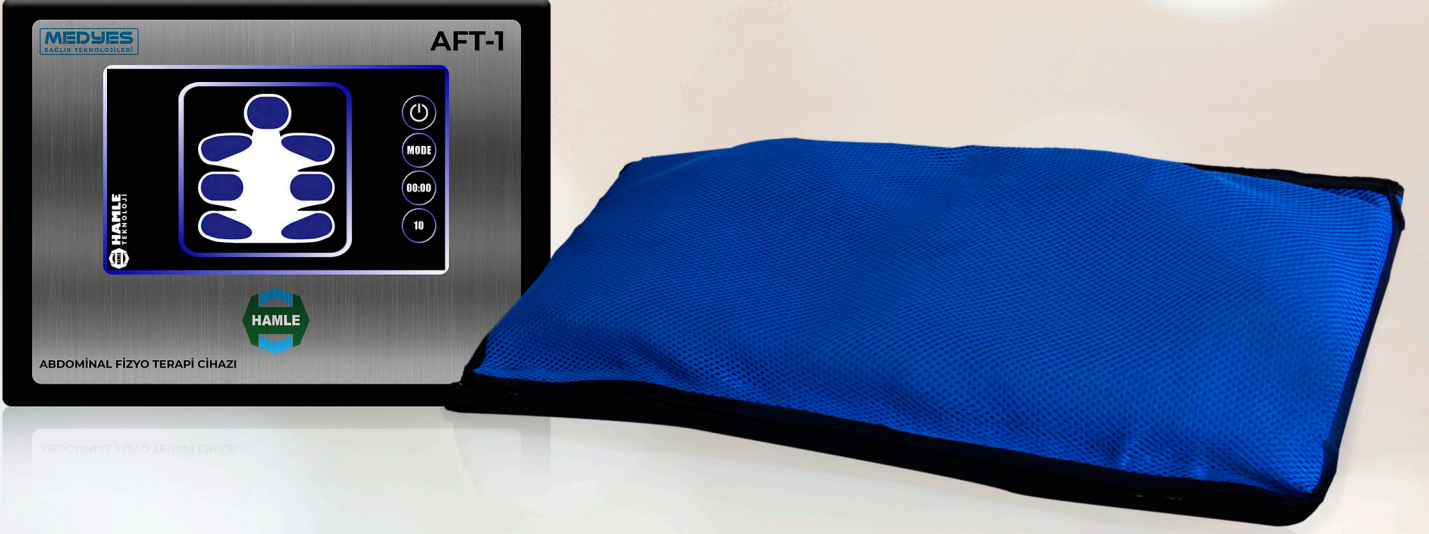


Please Scan QR Code  
to Watch Device  
Introduction Video

 [www.hamlemed.com](http://www.hamlemed.com)  +90 262 644 58 50  [bilgi@hamlemed.com](mailto:bilgi@hamlemed.com)



# Abdominal Physiotherapy Device



## Alternative solution to the Problem of constipation

Chronic constipation is the hardening of the stool that occurs as a result of slowing bowel movements. Due to this hardness in the stool, defecation becomes difficult. Abdominal physiotherapy device offers an effective solution to this problem with a drug-free method. Thanks to the cuff used in the abdominal region, it naturally stimulates intestinal transit.

*Abdominal physiotherapy device,  
it imitates the massage technique  
applied by physiotherapists.*



**Compression zones**  
display screen

**Start / Stop Button**

Button to start/stop compressor after setting options

**Manufacturer Brand**

**Touch screen**  
easy to use

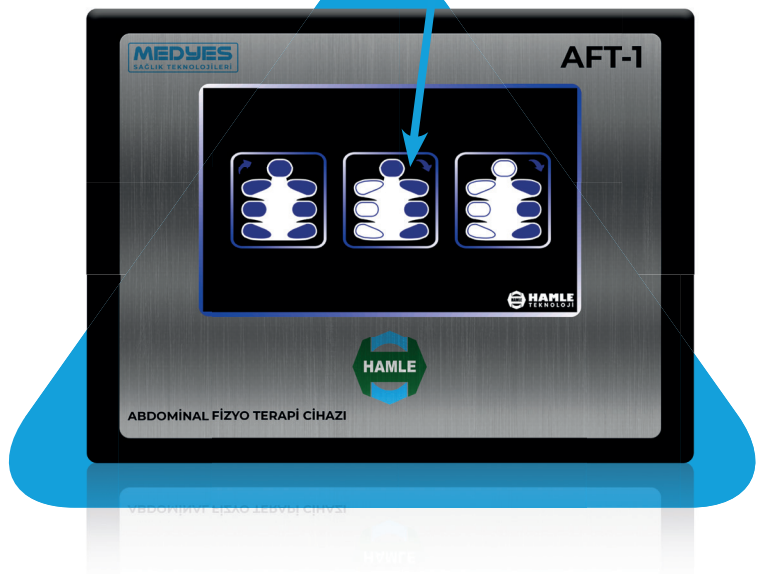
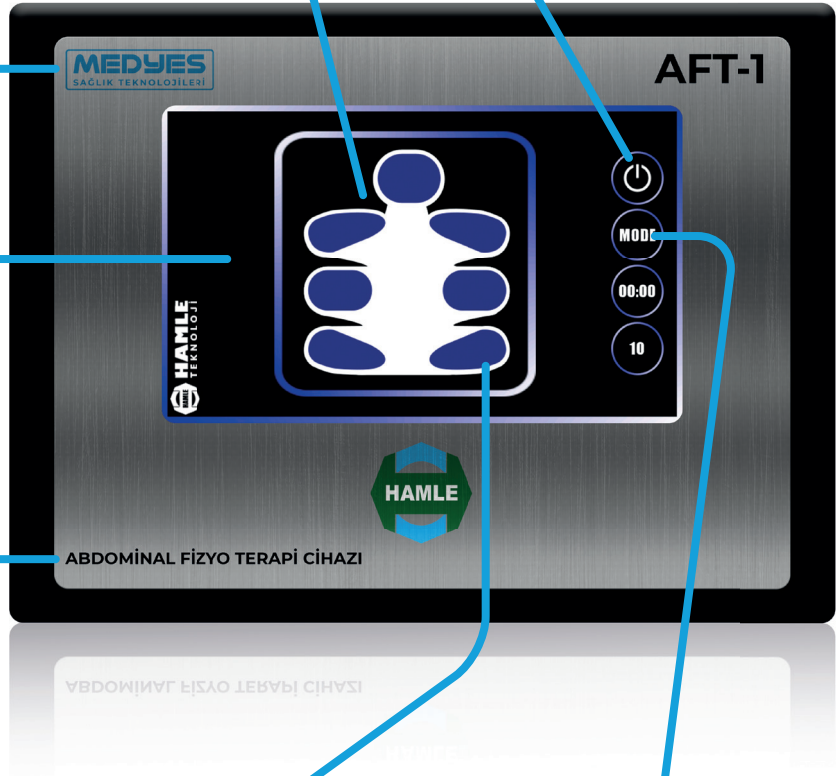
**Device Name**

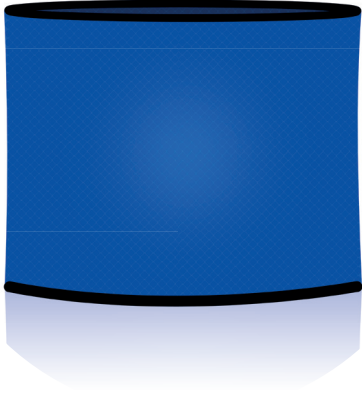
**Time Controller**

Display to indicate runtime intensity

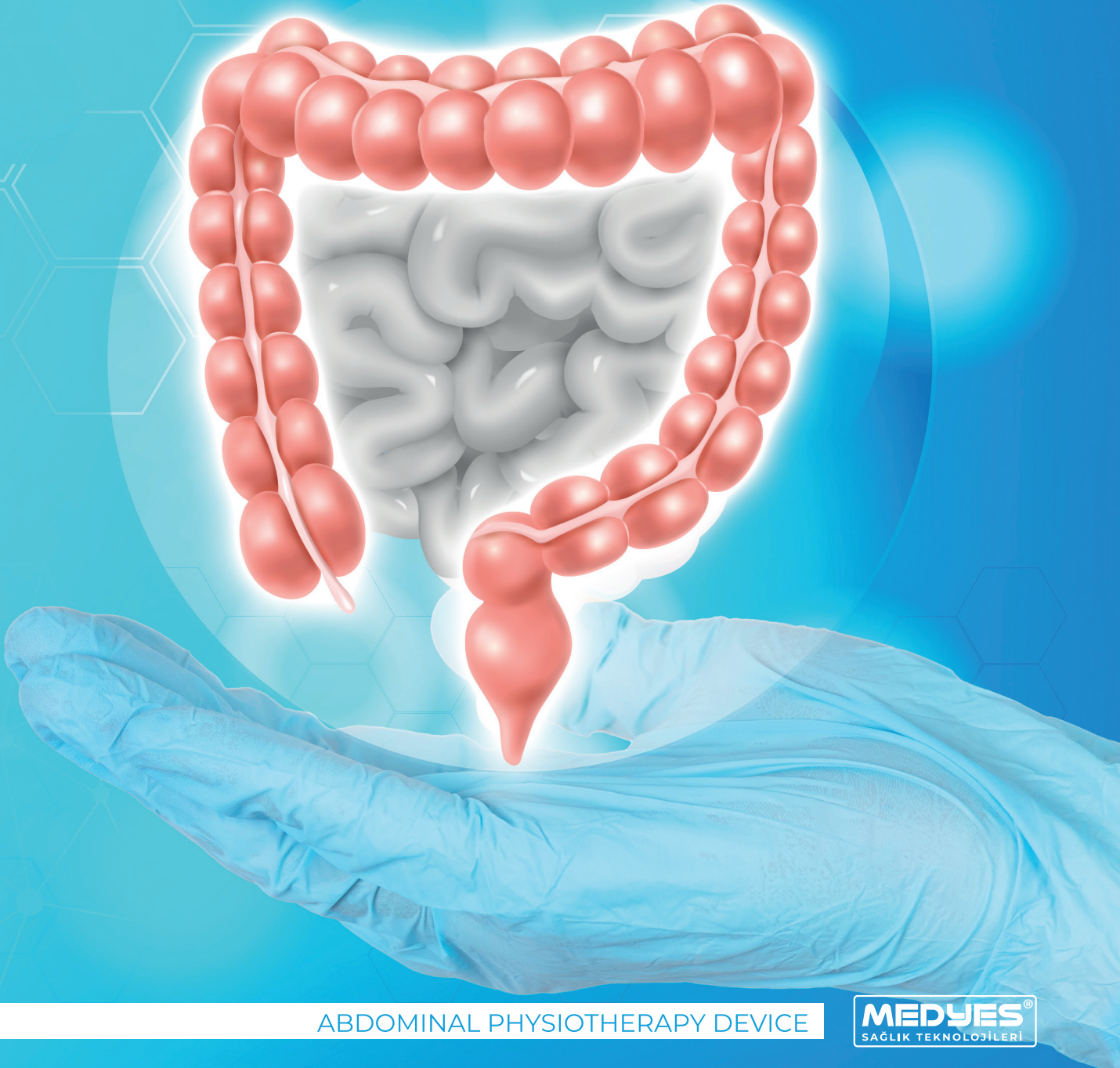
**Mode Selection Screen**

Pressure can be applied to the desired intestinal area.





***There are 3 different regions that press within the belt. In these regions, there are 3 different pressure points in the ascending colon and the descending colon. There is 1 bass note in the transverse column. The pressures here take place sequentially and parallel to the intestinal passage.***

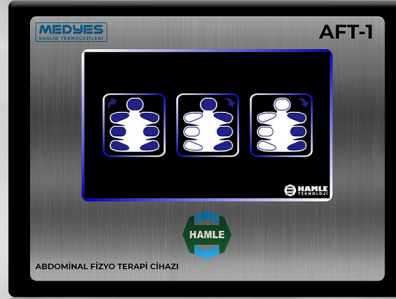




# PHYSIOTHERAPY DEVICES



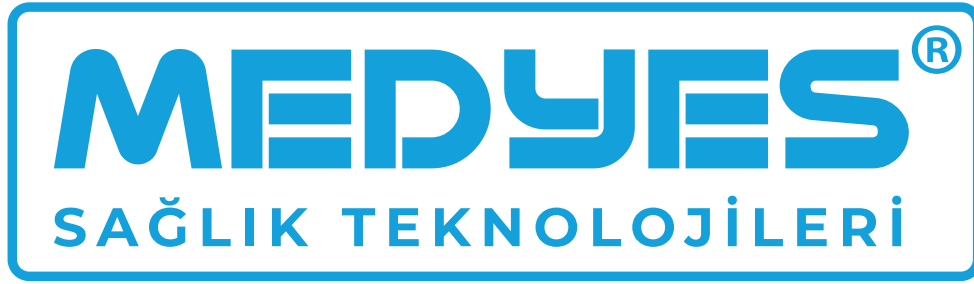
BACAK KOMPRESYON CİHAZI



ABDOMİNAL FİZYO TERAPİ CİHAZI



*Technology  
for Health*



@hamle-teknoloji



@hamleteknoloji



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HAMLE is the giant of the Turkish industrial sector with its technology-oriented service, operational efficiency and importance it attaches to innovation.



# Digital Transformation Focused Training Sets







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Gebze / Kocaeli / TURKEY



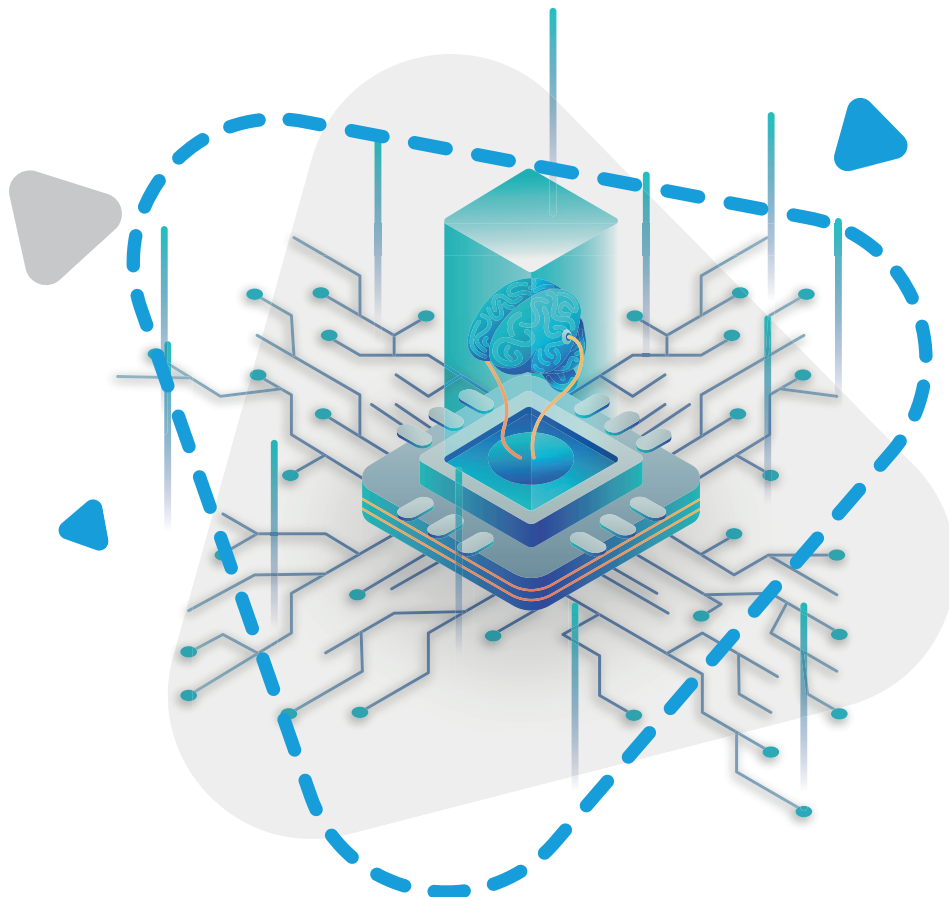
# TECHNOLOGY DEVELOPMENT REGION

## About Us

**Hamle Mühendislik** contributes to the development of vocational education in Turkey with its Digital Transformation Focused Training Sets. It channels the dynamism of the Turkish youth into Turkey's digital transformation. While **Hamle Technical Education Sets** follow the education processes of the students using software and hardware facilities, they present many parameters related to the progress of the lessons, homework status and the learning processes of the students on the teacher's screens for the evaluation of the educators. With our "learn yourself" software developed for many courses, our training sets that function as educational assistants do the lectures, while the teacher only assumes the role of technical consultant that the student needs in the development processes. While the classical method, which continues with the teacher's lecture, obliges the whole class to progress at the same time, our "**Learn by Yourself**" method, in which each student can plan their own education process, supports the willing and talented students to highlight their abilities and talents, and enables the working student to realize their professional development faster. Hamle Teknoloji carries out its activities with the vision of maintaining its leading role in the digital transformation of education with a continuous R&D perspective.

# **DIGITAL TRANSFORMATION FOCUSED TRAINING SETS**

Hamle Technical Education Sets increase the efficiency of education by incorporating digital technologies such as artificial intelligence, image processing, augmented reality, and data processing into education processes, while contributing to the development of students' digital skills.



# SIEMENS

## S7 1500 PLC TRAINING SET



- ◆ 1511T technological CPU 60ns bit performance
- ◆ Siemens KTP700 7" operator panel
- ◆ Internal power supply
- ◆ Built-in Ethernet switch
- ◆ 220V AC PC Connector supply
- ◆ 8 channels internal (8 Permanent/Pushed buttons), 8 channels external (socket) digital inputs
- ◆ 8 channels internal (Lamp), 8 channels external (socket) digital output
- ◆ 2 x Ethernet Ports (1 x Profinet IRT, 1 x Ethernet)
- ◆ Possibility of high speed data communication (Servo, Remote I/O, etc..) via Profinet
- ◆ Possibility of connection to external devices (Digital) via connector
- ◆ Tia Portal V14 and above software support
- ◆ OPC over TCP/IP, Scada, PC etc..
- ◆ Profinet connection possibility suitable for all topologies
- ◆ Compact and useful structure
- ◆ With technological objects;
  - o Motion(speed, position, synchronization, external encoder measurement, synchronous encoder tracking, position tracking between drivers (Camtrak), program control over position, driver ratio (Cam) etc..)
  - o PID (temperature, 3 steps, compact and fast parameter commands)
  - o RFID
  - o (Incremental and absolute SSI encoder)

**Dimensions (WxDxH)**  
44x18x34 cm

**HMI**  
KTP700 Basic PN, 7"  
PROFINET interface,  
800 x 480 resolution

**PLC**  
SIMATIC S7-1500T, CPU 1511T-1  
PN, 225 KB program memory  
+ 1 MB data, PROFINET IRT  
x 2 port switch, 60 ns bit  
performance

**Built-in Switch**  
There is 1

**Persistent button**  
There are 8

**Spring pushbutton**  
There are 8

**Lamp**  
There are 8

**PC Ethernet port**  
There is 1

**Industrial Eth. port**  
There is 1

**Feed**  
220V AC PC type fused

**External Connector**  
37 pin D-SUB

**Demo application**  
There is



# SIEMENS

## SERVO MOTOR TRAINING SET



- ◆ SIEMENS 0.4 KW 240VAC V90 PN Servo Drive
- ◆ Internal power supply
- ◆ Profinet connection possibility suitable for all topologies
- ◆ Internal emergency stop button (Safe Torque Off) 220V AC PC type connector supply
- ◆ Permanent buttons for programmable digital input
- ◆ Lamp indicator for programmable digital output
- ◆ Possibility of control with Profinet Communication
- ◆ Programming and setting possibility via Tia Portal
- ◆ Compact and useful structure

**Dimensions (WxDxH)**  
44x18x34 cm

**Driver**  
Sinamics V90 400W servo drive; profinet version

**Engine**  
1.27Nm; Nn=3000rpm;  
TTL 2500 ppr

**Persistent button**  
There are 4

**Spring pushbutton**  
No

**Lamp**  
There are 2

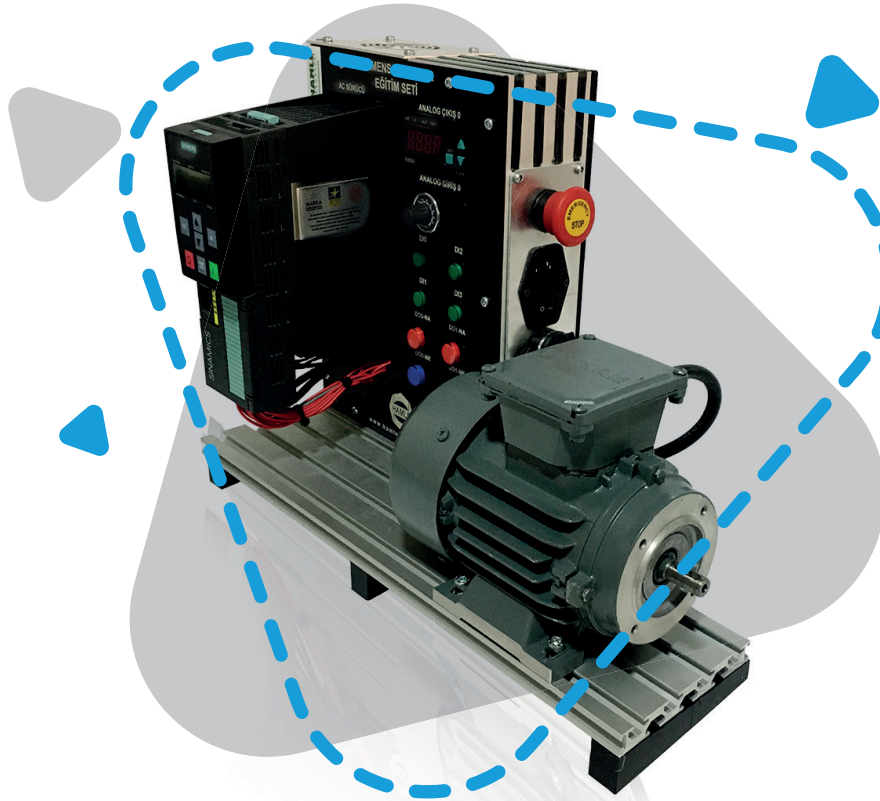
**PC Ethernet port**  
No

**Industrial Eth. port**  
There are 2

**Feed**  
220V AC PC type  
fused

**External Connector**  
No

**Demo application**  
There is



- ◆ SIEMENS CU240E-2 PN Driver
- ◆ SIEMENS SINAMICS BOP-2 Operator panel
- ◆ 0.18KW GAMAK AC motor
- ◆ Internal emergency stop button (Safe Torque Off)
- ◆ SpeedAdjustmentPossibilitywithAnalogPotentiometer
- ◆ Analogue output monitoring with programmable digital display
- ◆ Pushbutton for programmable digital input
- ◆ Lamp indicator for programmable digital output (NC-Red, No-Green)
- ◆ Profinet connection facility suitable for all topologies
- ◆ Possibility of control with Profinet Communication
- ◆ Programming and setting possibility via Tia Portal
- ◆ Compact and useful structure

**Dimensions (WxDxH)**  
46x25x34 cm

**Driver**  
SIEMENS CU240E-2 PN  
CPU + PM240-2 Power  
Module + BOP-2 panel

**Engine**  
0.18 KW GAMAK

**Persistent button**  
No

**Spring pushbutton**  
There is

**Lamp**  
There are 4

**PC Ethernet port**  
No

**Industrial Eth. port**  
There are 2

**Feed**  
220V AC PC type fused

**External Connector**  
No

**Demo application**  
There is

# OMRON

## NX1P2 TRAINING SET



- ◆ OMRON NX1P2 PLC
- ◆ OMRON 7" DISPLAY
- ◆ Internal power supply
- ◆ Built-in Ethernet switch
- ◆ 220V AC PC Connector supply
- ◆ 8 channels internal (8 Permanent/Pushed buttons), 8 channels external (socket) digital inputs
- ◆ 8 channels internal (Lamp), 8 channels external (socket) digital output
- ◆ 2 x Ethernet Ports (1 x Ethercat, 1 x Ethernet/IP)
- ◆ Possibility of high speed data communication (Servo, Remote I/O, etc.) over Ethercat
- ◆ Possibility of connection to external devices (Digital) via connector
- ◆ SYSMAC 1.2 and above software support
- ◆ OPC over Ethernet/IP, Scada, PC etc..
- ◆ Ethercat connection possibility suitable for serial topology
- ◆ Ability to connect and manage 16 Ethercat Slaves
- ◆ 2 axis interpolation, 4 axis PTP possibility
- ◆ Optional card slots for Serial communication and Analog
- ◆ 1.5MB logic 2MB internal memory
- ◆ PNP/NPN input
- ◆ 7" operator panel with Prescribing, Logging, Trend graphics
- ◆ Ability to recognize and program all connected products on Ethercat via SYSMAC
- ◆ Compact and useful structure

**Dimensions (WxDxH)**  
44x18x34 cm

**HMI**  
NB7W-TW01B OMRON HMI

**PLC**  
NX1P2-1040DT1 SYSMAC  
24DI/16DO ETHERCAT PLC

**Built-in Switch**  
There is 1

**Persistent button**  
There are 8

**Spring pushbutton**  
There are 8

**Lamp**  
There are 8

**PC Ethernet port**  
There is 1

**Industrial Eth. port**  
There is 1

**Feed**  
220V AC PC type fused

**External Connector**  
37 pin D-SUB

**Demo application**  
There is

# OMRON

## SERVO MOTOR TRAINING SET



- ◆ OMRON 1S series 0.4 KW 240VAC Servo drive
- ◆ Internal power supply
- ◆ Possibility of connection in accordance with serial topology
- ◆ Internal emergency stop button (Safe Torque Off)
- ◆ 220V AC PC type connector supply
- ◆ Permanent buttons for programmable digital input
- ◆ Lamp indicator for programmable digital output
- ◆ Possibility of control with Ethercat communication
- ◆ Programming and setting possibility via SYSMAC
- ◆ Compact and useful structure

**Dimensions (WxDxH)**  
46x25x34 cm

**Driver**  
1S series 400W Ethercat  
servo drive

**Engine**  
1S series 400W 23 bit battery-  
free absolute encoder

**Persistent button**  
There are 4

**Spring pushbutton**  
No

**Lamp**  
There are 2

**PC Ethernet port**  
No

**Industrial Eth. port**  
There are 2

**Feed**  
220V AC PC type fused

**External Connector**  
No

**Demo application**  
There is



# OMRON

## AC MOTOR TRAINING SET



- ◆ OMRON 3GMX2 ECT AC motor driver
- ◆ 0.18KW GAMAK AC motor
- ◆ Internal emergency stop button (Safe Torque Off)
- ◆ SpeedAdjustmentPossibilitywithAnalogPotentiometer
- ◆ Analogue output monitoring with programmable digital display
- ◆ Pushbutton for programmable digital input
- ◆ Lamp indicator for programmable digital output (NC-Red, No-Green)
- ◆ Connection possibility suitable for serial topology
- ◆ Possibility of control with Ethercat Communication
- ◆ Programming and setting possibility via SYSMAC
- ◆ Compact and useful structure

**Dimensions (WxDxH)**  
46x25x34 cm

**Driver**  
OMRON 0.4KW 3GMX2  
Ethercat communication  
ac motor driver

**Engine**  
0.18KW GAMAK

**Persistent button**  
No

**Spring pushbutton**  
There is

**Lamp**  
There are 4

**PC Ethernet port**  
No

**Industrial Eth. port**  
There are 2

**Feed**  
220V AC PC type fused

**External Connector**  
No

**Demo application**  
There is

# SMART PLC TRAINING ROBOT



- ◆ Using Turkish PLC with Fultek Speed PLC
- ◆ Diagnostic and real time clock RTC
- ◆ All permanent memory
- ◆ 8 permanent buttons
- ◆ 8 spring pushbuttons
- ◆ 8 output lamps
- ◆ 4 analog potentiometers
- ◆ Easy to use with 2 input/output ports, easy connection to side modules
- ◆ 220VAC pc type fused supply
- ◆ 8 high speed counter inputs and 8 high speed counter outputs

**Dimensions (WxDxH)**  
36x36x30

**HMI**  
X2 Base 7 Touch HMI  
Panel 7" 800x480  
CPUARM9 400mHz

**PLCS**  
PLC CPU 101 (SC-11410-00-00)  
8DI/8DQ (SM-30808-00-00)

**Analog Device**  
There are 4

**Persistent button**  
There are 8

**Spring pushbutton**  
There are 8

**Lamp**  
There are 8

**PC Ethernet port**  
There is 1

**Industrial Eth. port**  
There is 1

**Feed**  
220V AC PC type fused

**External Connector**  
37 pin D-SUB

**Demo application**  
There is

# SIMENS S7 1200

## SMART PLC TRAINING ROBOT



- ◆ Siemens S7 1511T technological CPU 60ns bit performance
- ◆ Internal power supply
- ◆ Built-in Ethernet switch
- ◆ 220V AC PC Connector supply
- ◆ 8 channels internal (8 Permanent/Pushed buttons), 8 channels external (socket) digital inputs
- ◆ 8 channels internal (Lamp), 8 channels external (socket) digital output
- ◆ 2 x Ethernet Ports (1 x Profinet IRT, 1 x Ethernet)
- ◆ Possibility of high speed data communication (Servo, Remote I/O, etc..) via Profinet
- ◆ Possibility of connection to external devices (Digital) via connector
- ◆ Tia Portal V14 and above software support
- ◆ OPC over TCP/IP, Scada, PC etc..
- ◆ Profinet connection possibility suitable for all topologies
- ◆ Compact and useful structure
- ◆ LattePanda Windows 10 4G/64GB OnBoard
- ◆ LattePanda 7"(inç) IPS ekran
- ◆ LattePanda Kapasitif Dokunmatik Panel

**Dimensions  
(WxDxH)**  
44x18x34 cm

**Built-in Switch**  
There is 1

**Persistent  
button**  
There are 8

**Spring  
pushbutton**  
There are 8

**Lamp**  
There are 8

**PC Ethernet port**  
There is 1

**Industrial Eth. port**  
There is 1

**Feed**  
220V AC PC  
type fused

**External Connector**  
37 pin D-SUB

**Demo application**  
There is

**HMI**  
LattePanda 7 inch 1024x600 IPS  
Display - LattePanda  
Capacitive Touch Panel for 7 inch  
Display - LattePanda 1024\*600

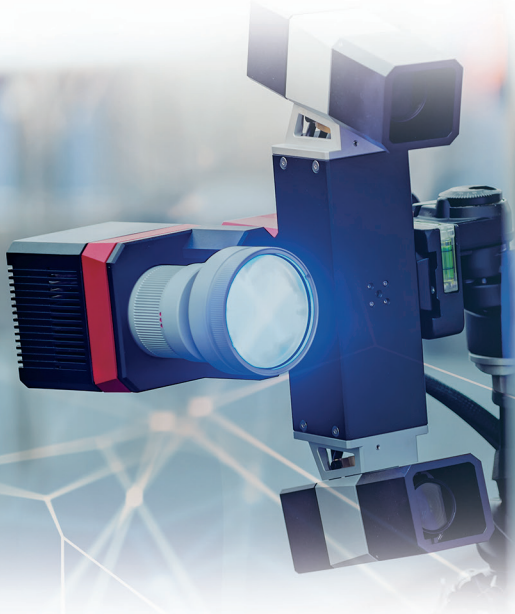
**PLCS**  
SIMATIC S7-1500T, CPU 1511T-1 PN, 225  
KB program memory + 1 MB data,  
PROFINET IRT x 2 port switch, 60 ns bit  
performance

**PC**  
LattePanda Windows 10 4G/64GB  
OnBoard Intel Cherry Trail Z8300  
Quad Core 1.8GHz RAM: 4GB DDR3L  
GPU: Intel HD Graphics, 12 EUs @200-  
500 Mhz, tek kanal bellek

# Next Generation Image Processing Technology in Industry **HEGİS**

**What is Image Processing?** Image processing technology is divided into three groups as low, medium and high level. Basics of image processing such as low level, contrast enhancement, sharpening consists of elements. Intermediate image processing is the regional handling and grouping of data.

At a high level, it is the conversion of grouped images into data with computer support and turning them into useful information.



## HEGİS

### With Industrial Camera

- ◆ Quality control
- ◆ Robot Positioning
- ◆ Product Counting
- ◆ Barcode Reading

## Industry Use Processes of Image Processing Technology

As a result of the digitalization in the world, the use of image processing technology in different sectors such as education, health, security, traffic and astronomy, as well as industrial applications, has become widespread. The use of image processing technology in the industry starts with the detection of the image in the enterprise with the help of smart sensors, respectively, and consists of the stages of collecting the image, systematically classifying the image, making sense of the image and converting it into useful data for the business.

Image processing technology is widely used in businesses in areas such as missing and faulty product detection, quality control, surface and shape analysis, product counting, barcode and QR code reading, color analysis, product similarity detection. In the work areas where image processing technology is used, it helps businesses to save time, reduce costs, reduce human-induced production errors, measure production and personnel efficiency, and save labor.

As **Hamle Teknoloji**, we continue to produce benefits as a solution partner for businesses in different sectors, primarily industrial enterprises, with the **HEGİS (Hamle Image Processing System)** image processing technology that we developed as a result of our R&D work.



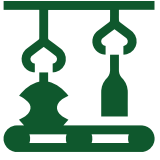
# Artificial Intelligence Supported (HEGiS) Hamle Image Processing System in Your Enterprise



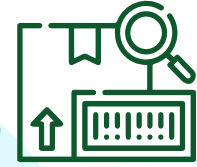
Quality  
**Control**



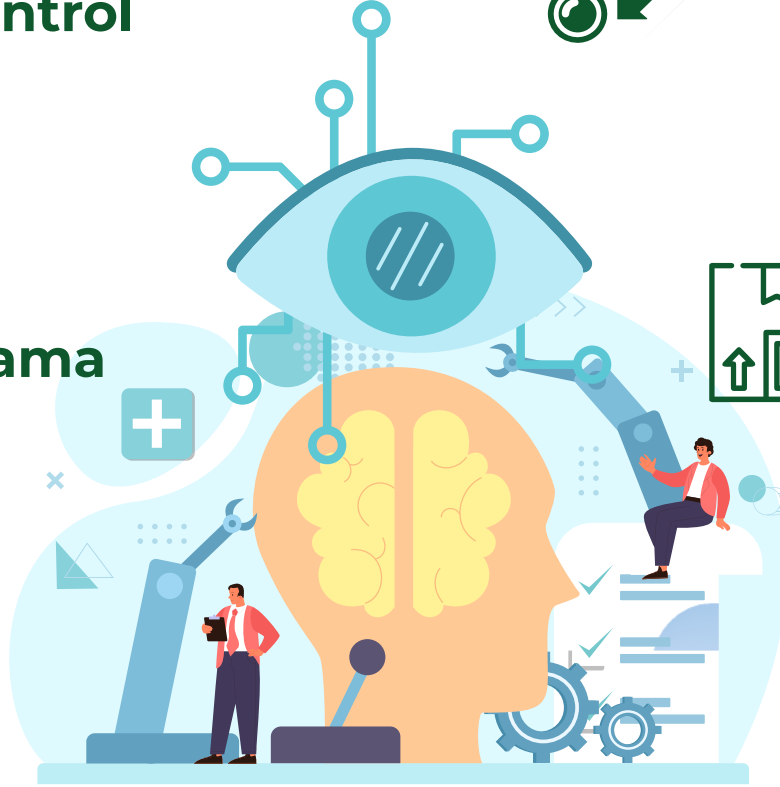
Heat and Tilt  
**Measurement**



Ürün  
**Ayıklama**



Barcode  
**Read**



Product  
**Counting**

**Do you know** that you can use it in your processes?

# PRATİK TEDARİK

## Industrial Technology Supplier...

## About Us

**Pratiktedarik.com**, Industrial Automation and Electricity, Robotic Automation, Medical, Software, Consulting and Digital Transformation sectors, established in Gebze in 2002, now serving in the **Information Valley Technology Development Zone** and strengthening Turkey's Industry with R&D investments. It serves as the **e-commerce sales platform of Hamle Technology Group**, which is its target.

**Pratiktedarik.com** has the features and dimensions required by various sectors of the **Pilz brand, Enda, Frecon, Fultek and Signal Teknik-Mucco** brands; With its digital display, sensor and thermostat product groups, it provides sales services throughout Turkey under the assurance of **Hamle Teknoloji Group**.

It will continue to serve as an important supplier of the sector with all kinds of technical support and secure payment method and fast delivery that our customers need before, during and after sales.

### Our Mission

To design and implement an organization that supports digital transformation by providing fast and innovative services to our users and business partners in the field of Industrial Technology products and contributes to the shaping of the e-commerce sector in Turkey in this field.

### Our vision

With the slogan of '**The right product, good price and fast delivery**', we keep the satisfaction of our customers at the highest level and offer them superior technology, high brand quality and a dynamic human resource.

**Industrial Technology Supplier...**

Scan QR Code  
for Website



# Pratik Tedarik

"Doğru Ürün, İyi Fiyat, Hızlı Teslimat..."

[www.pratiktedarik.com](http://www.pratiktedarik.com)



**Your Industrial  
Supplier**



As **Hamle Mühendislik**, we have transferred our experience of more than 20 years in the sector to digital. You can reach thousands of product types of brands in the industrial automation sector quickly and securely on our e-sales site **prattiktedarik.com**



**ENDA**

**PILZ**  
THE SPIRIT OF SAFETY

**MUCCO**

**FRECON**



**FULTEK**



**Schneider  
Electric**

**SIEMENS**



**Allen-Bradley**  
by ROCKWELL AUTOMATION

**Rockwell  
Automation**

**OMRON**



**MITSUBISHI  
ELECTRIC**

**legrand**

**MOELLER**

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