



**METAL FORMING**  
Solutions

Vaptech is a Swiss owned, Bulgarian based company with over 100 years of history and experience in the development, design, manufacturing and installation of high quality completely customized and standard metal forming solutions based off mechanical and hydraulic C-Frame, H-Frame and O-Frame presses with nominal force from 300 to 30 000 kN.

Vaptech's solutions ensure a reliable and efficient production of small, medium and large-sized parts used in a wide range of industries, including automotive, electronics and electrical equipment, aerospace, domestic appliances, white goods and metal packing.

They are suitable for numerous metal forming processes, including:

- Precise cutting
- Stamping
- Forging
- Blanking
- Deep-draw forming
- Progressive and transfer tool processing.

All our equipment is developed, designed, manufactured and tested in-house.

## Vaptech at a Glance

**100+**

years of  
experience

**100%**

customized  
solutions

**40**

countries on continents  
global presence

**6**

**250+**

employees

**40 000 m<sup>2</sup>**

production plant

**1**

supplier =

**1**

responsibility

Your advantages to work with Vaptech:

- Short delivery time
- Cost-effective, highly productive and reliable equipment
- Highest quality complete production lines
- Value added services for extended product life cycle
- Eco-Conscious Software

## Tailor-made Metal Forming Solutions

Our presses are the core of your manufacturing process. Tailor-made to best match even the strictest of requirements, they are built for highest productivity and reliability, featuring rigid, heat-treated corpora and integrating the highest quality EU produced components.

With your individual needs in mind, we engineer complete solutions for customised production lines for metal processing which include: transfer systems, decoilers, feeders, straighteners and other auxiliary equipment.

Our comprehensive services help you minimize downtime, reduce energy consumption and maximise ROI.

### Product offer

#### High quality metal forming presses

- C-frame mechanical presses, nominal force from 300 to 4 000 kN
- H-frame mechanical presses, nominal force from 1 000 to 20 000 kN
- C-frame hydraulic presses, nominal force from 600 to 2 500 kN
- H-frame hydraulic presses, nominal force from 1 000 to 30 000 kN

#### Peripheral equipment

- Progressive die-lines
- Feeding lines
- Transfer and blanking lines
- Link-Drive

### Production line solutions

#### Complete integrated production lines

- Tested and validated for your manufacturing process
- Optimized performance and productivity
- Fully-synchronized production process
- Robust automation and advanced control algorithms
- Industry 4.0 ready

### Services offer

#### New equipment or new production line

- Custom design
- Project management
- Commissioning

#### Operation

- After sales services
- On-site repair
- Dedicated services hotline
- Up to 36 months warranty
- Remote monitoring and troubleshooting
- Preventive & predictive maintenance

#### Refurbishment and modernisation

- Rehabilitation & Rebirth Program





## C-Frame Mechanical

Solutions based on Mechanical C-Frame presses are mainly designed to perform cold pressing operations, such as stamping, punching, cutting, forging, and bending for a number of industries. They are mostly characterized by high production speed, precision and stroke repeatability.

Envisioned for either manual or automatic operations, with compact and ergonomic design, the force range of C-frame press solutions vary from 300 to 4 000 kN.

### Typical Characteristics (Consult us for customized solutions)

Nominal press force range: 300 to 4 000 kN

## C-Frame Hydraulic

Solutions based on Hydraulic C-Frame presses are suitable for various forming, assembly and disassembly operations, requiring a smooth application of the press force.

They are used in a variety of industrial processes such as deep drawing, forming, bending, hot stamping, calibration, compacting and more. While their main field of application is metal processing, hydraulic presses are also used in the manufacturing of non-metallic products. Their key advantage is the step-less adjustment of the press force along the length of the entire stroke.

Vaptech's Hydraulic C-Frame press solutions range from 600 to 2 500 kN and offer the perfect balance between versatility and reliability.

### Typical Characteristics (Consult us for customized solutions)

Nominal press force range: 600 to 3 000 kN





## H-Frame Mechanical

Solutions based on Mechanical H-frame presses comprise of high performance machines with nominal force ranging from 1 600 to 8 000 kN in standard machines and up to 20 000 kN for tailored solutions.

These presses typically vary from one to four connecting rods and include a wide range of optional features and customizations to adapt the machine to even the most complex production needs.

Equipped with proprietary algorithms and automation software, all presses offer maximum regulation, interaction and synchronization. Combined with a user friendly interface, operators can easily input parameters for the safe and efficient operation of the machine.

### Typical Characteristics (Consult us for customized solutions)

Nominal press force range: 1 600 to 20 000 kN



## H-Frame Hydraulic

Solutions based on Hydraulic H-Frame presses have a force range from 1 000 to 8 000 kN in standard solutions and up to 30 000 kN for tailored solutions, offering the perfect balance between high productivity and reliability.

They can be operated independently, in automated press lines or as transfer presses.

Hydraulic H-frame press solutions are used in a variety of industrial processes such as deep drawing, bending, forming and coining operations while ensuring a wide spectrum of application possibilities thanks to their versatility.

### Typical Characteristics (Consult us for customized solutions)

Nominal press force range: 1 000 to 30 000 kN

## High Speed Mechanical Presses

Solutions based on High Speed Mechanical presses have a force range from 40 to 1250 kN, capable of speeds from 60 to 800 strokes per minute, allowing for very efficient production processes. The self-balancing system of the slide allows a high slide-table parity, guarantying quiet and precise operation of the machine.





## Peripheral Equipment

According to the specific needs of your production line, Vaptech offers a range of peripheral equipment. This includes:

### Feeding lines

Uncoiling devices with coil load bearing capacities: 0.5 – 150 kN

Straightening devices:

Straightening rollers: 5 – 19 pcs

Strip widths: 50 – 1 500 mm

Strip thickness: 0.15 – 6 mm

Feeding devices with pneumatic, linear or servo feeding equipment and strip widths: 50 – 1500 mm

Systems for part handling

Scrap removal systems

Unloading systems

Tooling

### Transfer and blanking lines Link-Drive

Vaptech's transfer and blanking line solutions are used for stamping and cutting processes from large coils, ensuring maximum use of the material and efficient production.

The lines can be equipped with feeding lines, transfer/blanking press, tracking system and gripper.

### Progressive die-lines

Solutions based on Vaptech's progressive die-lines, combine punching, coining, bending and several other processes of forming sheet metal, combined with an automatic feeding system.





Production line with pick-and-place articulated arm

## Complete Production Line Solutions

Complete production line solutions deliver efficient, high-volume production processes for small, medium and large details.

Equipped with peripheral devices and transfer systems, Vaptech's complete production line solutions meet the needs of any industry. Depending on the required forming operations, the lines can consist of multiple and diverse types of presses with maximum regulation, interaction and synchronization between all individual devices guaranteed by the integrated proprietary software and automation.

The innovative software package for real-time monitoring, preventive and predictive maintenance of the industrial equipment offers a user-friendly platform for an efficient fault diagnostics to achieve a smooth and seamless process management.

### Benefits

- Fully tested integrated system
- Garanteed performance and productivity
- Short installation and commissioning time
- Training of operating personal
- Real-time monitoring and fault diagnostics for smooth operation
- CE certification

Each project follows a strictly defined cycle



### Project management

To ensure flawless and successful execution, each project at Vaptech is assigned to a qualified project manager.

Our project managers work closely with customers in order to achieve clear communication, adequate feed-back through regular progress reporting and realistic deadline agreements.



## Automation & Industry 4.0

### Benefits

Reliable and efficient control with advanced algorithms

Robust automation architecture. Siemens inside

Safe operation. Pilz safety system

### Automation

Vaptech's metal forming solutions are equipped with our proprietary algorithms and automation designed to provide maximum regulation, interaction and synchronization.

### Industry 4.0 ready

Vaptech has developed two tailored solutions to makes its solutions Industry 4.0 ready.

### Remote monitoring and troubleshooting

Through an internet connection, Vaptech's support specialists are able to run diagnostics and repair problems remotely. This way we help you minimize downtime and optimize onsite maintenance works.

### Preventive and predictive maintenance

Vaptech has developed award winning interconnected software modules for physical parameters monitoring, operational data analysis and early detection of equipment servicing needs.

We provide customers with up-to-date statistics of the machines, warnings of potential wear and tear of parts and timely actionable data to schedule maintenance works and prevent downtime.

The software also helps to improve the profitability by providing investors and managers with real time information about production and energy consumption.



**Award winning software DataFruit**





## Custom Design: Latest Technologies for Shorter Design Time & Increased Output



### Custom design according to specific needs

Vaptech's Design team designs, develops and fulfills the most efficient and productive solutions according to the specific customer requests.

Vaptech uses the latest software and methodologies that guarantee high efficiency and productivity such as 3D modeling, Linear Static Stress Analysis, Frequency & Buckling Analysis, Dynamic Analysis, Non-Linear Analysis, Analysis of Composites, Fatigue Analysis, ASME Stress Analysis, Design Optimization and FEA.

## In-house Production and Functional Tests Backed by LEAN Manufacturing

Vaptech has its own mechanical workshop with more than 40 000 m<sup>2</sup> of production area. The workshop is equipped and capable of closing the entire production cycle for heavy welded and machined steel structures including procurement of materials, flame cutting, plate bending, welding, post-welding heat treatment, nondestructive testing, machining, surface treatment, among others.

Every product manufactured at Vaptech is installed in-house and goes through a series of functional tests to ensure rapid installation and commissioning on site allowing for faster return on investment.

Vaptech constantly improves products, working conditions and performance, and has implemented the principle of LEAN manufacturing for continuous improvement of production and productivity.

### Quality Abiding by the Best Standards

**ISO 9001:2015**  
Quality Standard;

**ISO 14001:2015**  
Environmental Standard;

**BS OHSAS 18001:2007**  
Occupational Health and Safety Standard



## Refurbishment & Rebirth Program

Regain and improve your original project investment with Vaptech's Refurbishment & Rebirth Program

Vaptech provides after sales services, as well as refurbishment and modernisation services for existing metal forming solutions.

Our dedicated hotline service is on call to serve your needs. Vaptech's service team is ready to assist with troubleshooting, repairing and onsite maintenance works. Our broad service portfolio includes as well predictive maintenance that helps you to prevent costly downtime. This allows us to monitor your equipment's wearing and schedule regular checks according to your production schedule.

### Benefits

- Fast return on investment
- Increased productivity
- Increased Safety
- Increased Energy Efficiency
- Minimised downtime

### Our modernisation services program includes:

- Diagnostics and analysis
- Spare parts
- Repair
- Modernisation of the hydraulic and control system
- Modifications according to customer specifications
- Complete press refurbishment
- Electrical modernisation and update

### Typical overhaul:

- Machine diagnostics & checking including nondestructive checks for cracks and brakes
- Disassembly of the main units
- Design & production of a new bronze bearing and processing
- Design & production of new mechanical safety systems inside the slide
- Installation of new modern electrical boards
- Assembly, testing and adjusting norms of accuracy
- Complete body painting with custom colors according customer specifications





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## Reference Projects

1. Automated Line with 4000 kN Hydraulic Press with transfer to 3000 kN Mechanical Press
2. 5000 kN Hydraulic Press with 1000 mm Ejector
3. 2 x 1600 kN Hydraulic Press
4. Custom 500 kN Mechanical Press
5. 600 kN Hydraulic Press
6. 2500 kN Mechanical Press
7. 3150 kN Mechanical Press
8. 5000 kN Mechanical Press



4



5



6





## More Than 100 Years of Excellence in Machine Industry and Manufacturing

Founded in 1914, Vaptech has more than 100 years of excellence in machine industry and manufacturing. To date, the company has evolved into a highly appreciated global supplier of highest quality, innovative products, services and solutions in the Metal Forming, Hydro Power, and Biomass industries.

Headquartered in Sofia, Bulgaria, with production facility located in Pleven, Vaptech has over 250 employees and more than 40 000 m<sup>2</sup> of workspace. Vaptech has projects in over 40 countries on 6 continents.

Vaptech's philosophy is uncompromisingly focused on:

- Excellent product quality
- Integrity & Punctuality
- Innovation in every aspect
- Win-win experiences
- 100% satisfaction of the clientele
- Fastest return on investment for our clients



### Our business sectors

Metal Forming



Hydro Power



Biomass



# Dedicated Service Hotline

Through a global network of experienced and reliable longterm partnerships, Vaptech is able to provide you with dedicated service reactivity for all your questions and concerns.

Vaptech service centre is available to you on:

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