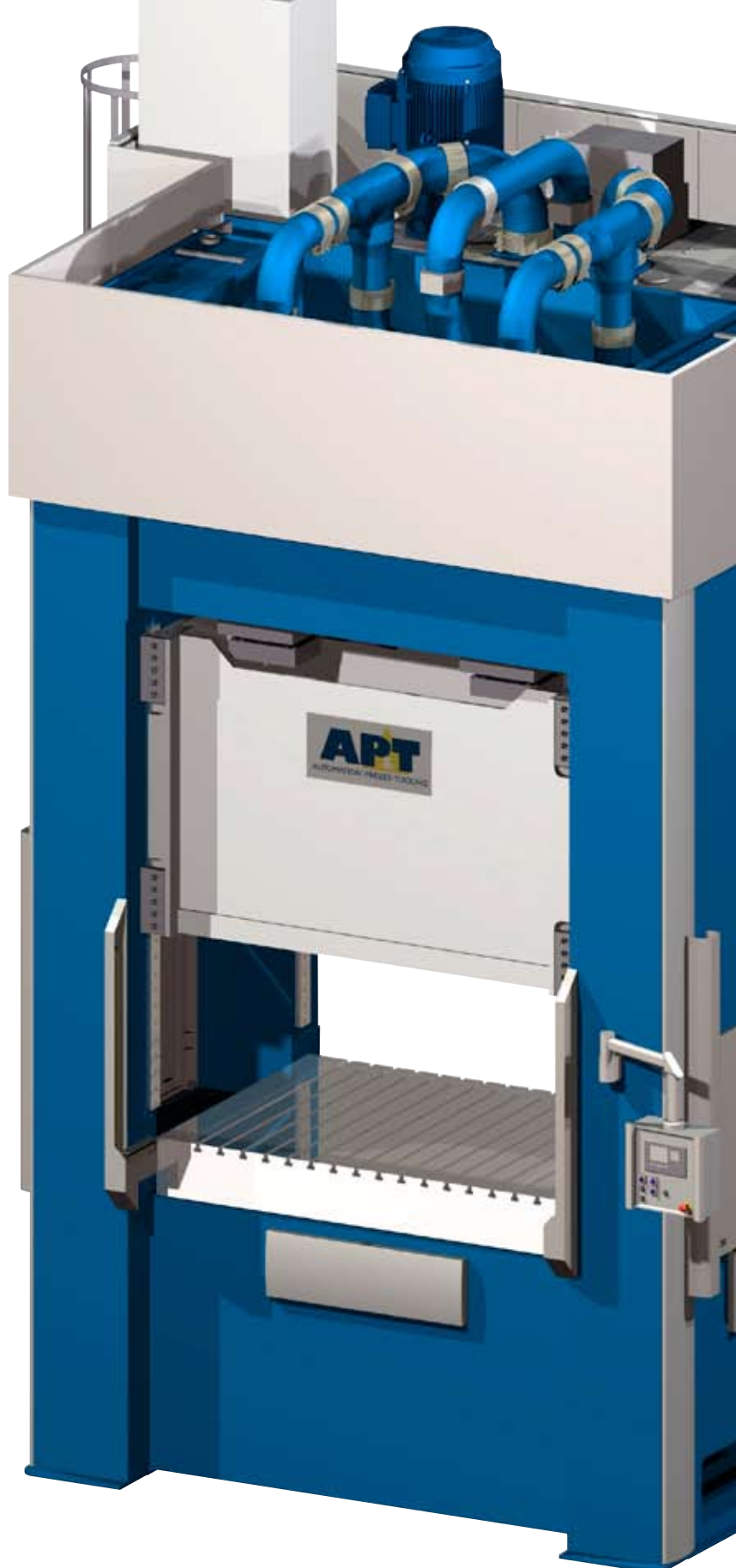


**ODEN – the complete product
line of multipurpose presses**



ODEN – a complete product line of multipurpose presses

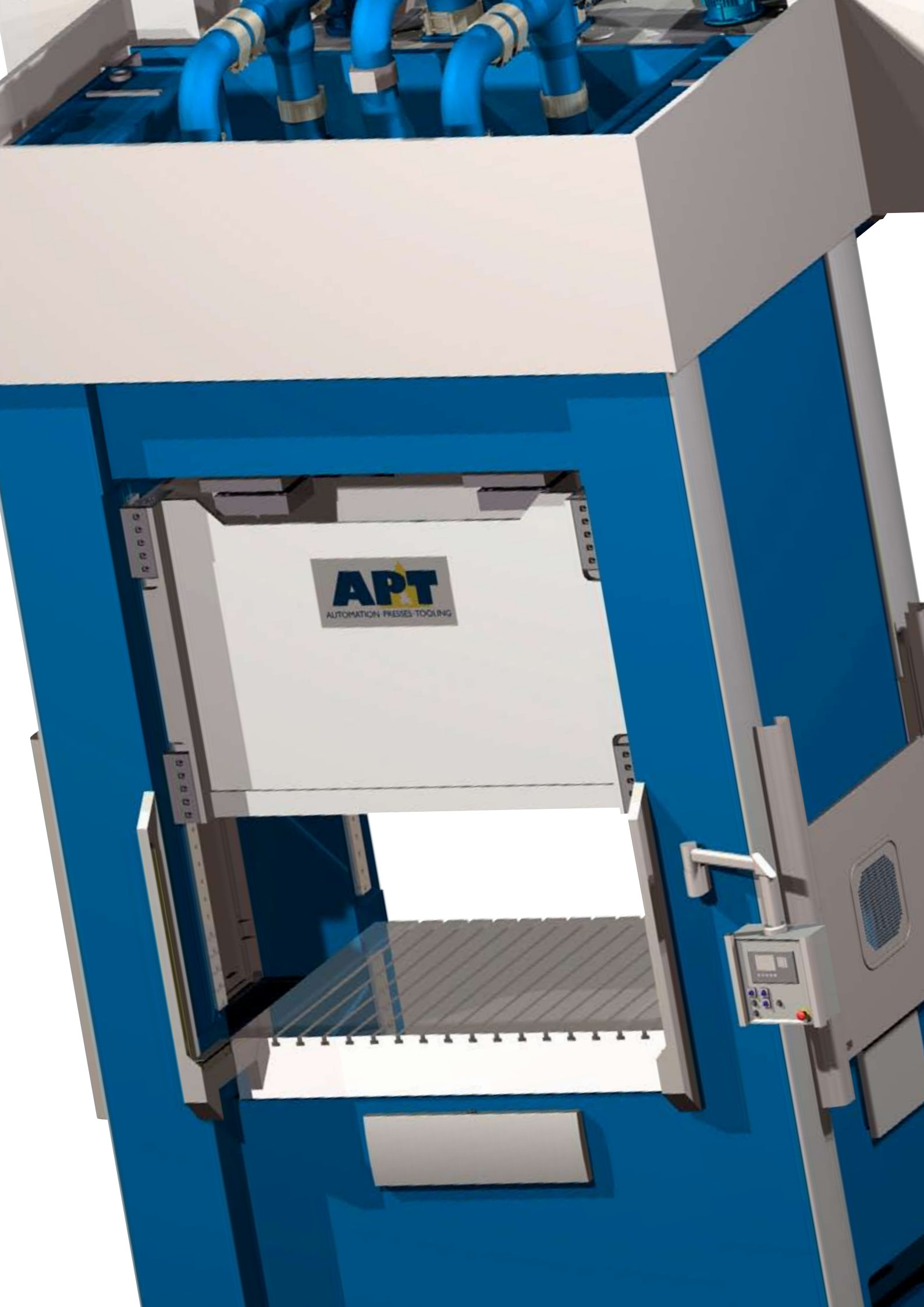
ODEN is AP&T's complete product line of multipurpose presses for press operations like simple drawing, punching, embossing, bending and certain types of hydroforming. ODEN presses are available in a design for forces between 1000 and 12500 kN with a large range of options to be able to find the right press package for your needs. The product line is made up of a number of standardized modules that can be combined, creating a huge number of possible press designs. Standardization means that the modules are quality assured and are most often in stock at the AP&T warehouse. This means higher quality and shorter lead times in both manufacturing and assembly. It also makes servicing quicker and less expensive.

ODEN is available in two basic designs – **ODEN-Welded Plate** and **ODEN-Flexible**. ODEN-WP is a cost-effective design for simple press cells with a limited degree of automation. ODEN-F is available in many different configurations allowing for a wide range of automatic production methods. Both designs are based on standardized components right off the shelf.

AP&T's forty years of experience in hydraulic presses has been integrated into the ODEN product line. We have standardized our best solutions to give you an optimized production solution with market-leading availability topped off with a two-year warranty with free service.

Regardless of which type of ODEN press meets your needs, AP&T offers a solution with:

- ***A high degree of reliability and availability***
- ***Short lead times, faster production start and return on investment***
- ***Standardized modules that facilitate service and access to spare parts***
- ***Low noise level and good work environment***
- ***Two-year warranty with free service***



The modules make it possible

ODEN presses are built with standardized modules that make it possible to create a production solution that suits your needs. The ODEN product line has the potential to create a multitude of unique combinations, where all components have been tested, verified and standardized. Here are some of the most important module choices.

Cylinders

All ODEN presses – standardized pipe connections, hardened and finished surfaces with low friction and long service life. Carbon-fiber based packing material that minimizes vibrations (slip-stick).

Third cylinder function

Third cylinder as ejector or blank holder, located in the center of the press slide with force that can be programmed from the operator's terminal.



Frame ODEN-WP

Frame

All ODEN presses – FEM-calculated, fully welded design with lifting eyes on the top and bottom.

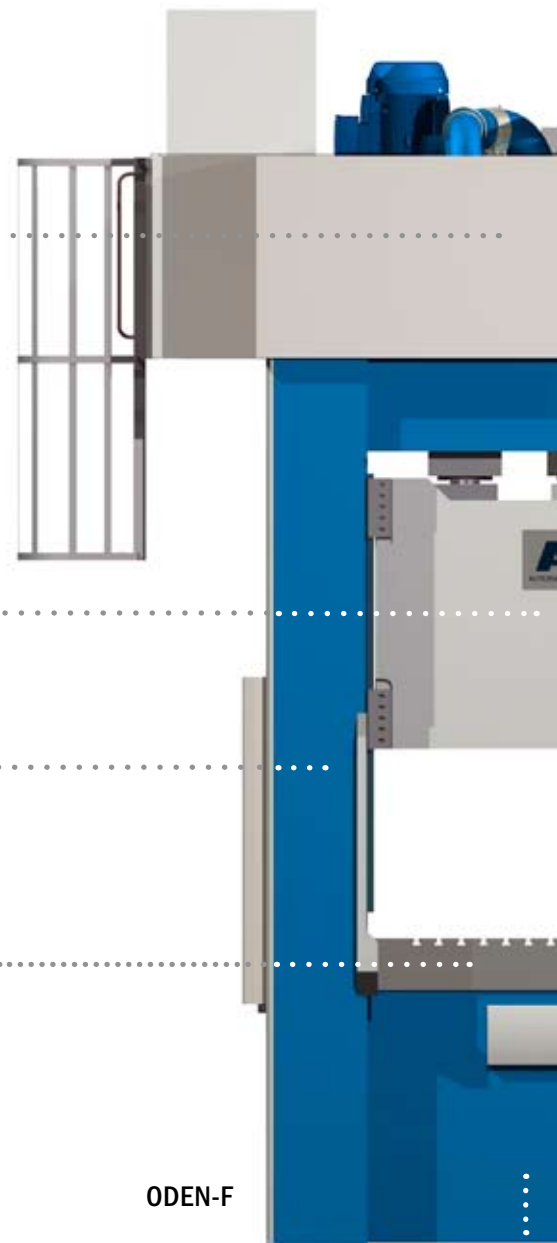
ODEN-WP – front plate and back plate and good accessibility to components, machined surfaces for slide control and adaptation for control system's equipment cabinet.

ODEN-F – four-column design that withstands high loads; optimized for press lines with many choices of gap/stroke/openings in the frame side.

Hydraulic unit

All ODEN presses – standardized attachment facilitates automation, cooling/filter modules in three standard designs and hydraulic valves that comply with DIN standard.

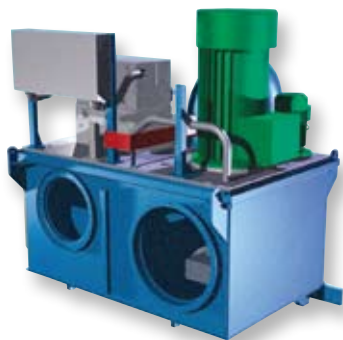
ODEN-F – hydraulic unit in four standard sizes, standardized piping and component positioning, adaptation for shorter CC-dimension between presses in press lines and external dimensions adapted for container freight.



ODEN-F

Cushion function

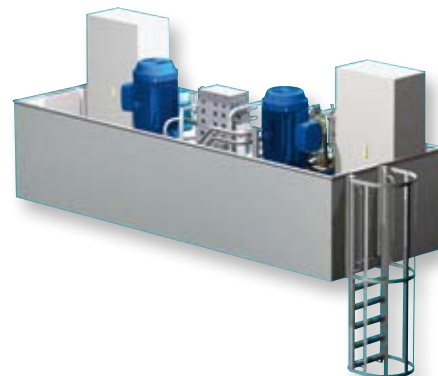
The cushion mounted on the bottom of the frame stretches out the blank when forming. Controlled by proportional valves with gentle movements; cushion forces are adjustable in steps or infinitely adjustable.



Working platform

ODEN-WP – working platform with ladder, floor grating and fencing on rear of hydraulic unit as option.

ODEN-F – modularized working platform with three floor sections, walls that enclose three sides of the hydraulic unit plus ladder or steps. Increased sound insulation as option.



Slide

All ODEN presses – box design with thick reinforcement plates.

ODEN-F – choice between two different gib guides. Increased slide height as option for increased stability.

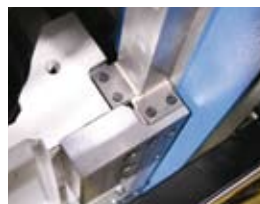
Gib guiding system

ODEN-WP – eight-sided control directly on the frame with self-lubricating, adjustable slide plates.

ODEN-F – eight-sided control on hardened square gib with self-lubricating, adjustable slide plates or prisma control of specially formed gib for increased ability to handle an off-center load.



ODEN-WP – eight sided



ODEN-F – eight sided



ODEN-F – prisma

Control system

Control system with ergonomic operator's terminal, flexible sequence programming, storage of run parameters, pressure feedback, alarm display, authorization levels, etc.



Safety

Ergonomically designed light curtain on the front side of the press; electrically interlocked mechanical protective gates on other sides.

ODEN – hard facts



Choose between the basic designs ODEN-WP and ODEN-F to create your press solution. ODEN-WP is a cost-effective press with closed frame sides. ODEN-F has a frame with open sides with great possibilities when it comes to automation and several options for gib guide and stroke/gap of the slide.

Selectable options	WP	F
Cushion function	X	X
Ejector in slide	X	X
Four alternatives for stroke/gap slide	X	–
Six alternatives for stroke/gap slide	–	X
Choice of opening in frame side	–	X
Higher slide	–	X
Choice of gib guide	–	X
Light curtain	X	X
Protective gates	X	X
Working platform	X	X
Adjusting spindles	X	X
Damper cylinders	X	X
Increased motor output	X	X
Tool clamping	X	X



ODEN-WP

Press force range (kN)

1000, 1600, 2000, 2500, 3150

Press bed sizes (dm)

10/10, 13/10, 13/13, 16/10, 16/13

Daylight (mm)

800, 1000, 1250, 1400

Stroke lengths (mm)

500, 800, 1000, 1250

ODEN-F

Press force range (kN)

1000, 1600, 2000, 2500, 3150, 4000, 5000, 6300,
8000, 10000, 12500

Press bed sizes (dm)

10/10, 13/10, 13/13, 16/10, 16/13, 16/16, 19/13,
19/16, 19/19, 22/13, 22/16, 22/19, 25/13, 25/16,
25/19, 28/16, 28/19, 28/22, 30/16, 30/19, 30/22

Daylight (mm)

800, 1000, 1250, 1400, 1600, 2000

Stroke lengths (mm)

500, 800, 1000, 1250, 1400, 1600

Opening in frame sides (mm)

750, 1050, 1350, 1650, 1950, 2250



AP&T is One Responsible Partner®

AP&T designs, manufactures and markets automation, presses, tools and complete production lines for the metal forming industry. We are experts in forming technology and automated flows and can deliver everything from stand-alone presses, automation products and tools to complete manufacturing solutions. We are totally committed as a supplier – a concept we call One Responsible Partner®.

Our customers are from the automotive, household appliance and indoor climate industries, among others, and we offer a complete line of products to meet the needs of most companies who work with sheet metal forming. We have a presence in more than 20 markets through our own divisions as well as through our agents. Our philosophy is simply to be where our customers are.