

ZEP0-v

Modular clamping system

ZEPO-v (ZERO POINT)

Modular clamping system

v-tech's ZEPO-v is a modular quick-change clamping system with wide application primarily in CNC machining centres. Its purpose is to streamline the production process thanks to very fast and repeatedly accurate replacement of the workpiece, jig or other equipment. It allows users to make the most of the production potential of their machine tools or entire automated production lines.

The core of the ZEPO-v clamping system consists of a unique element in the form of a NES-T pneumatic self-locking nest, whose high tensile force comes from the design and shape of the piston, which is optimized for even distribution of contact stress with emphasis on maintaining compact dimensions. The resulting application, composed of some variant of NES-T in combination with a wide range of UZV-T clamping bases and possibly other elements, covers all conceivable needs of modern metal working operation.

All parts of the ZEPO-v system are designed by our own v-tech design centre and are precisely manufactured in the Czech Republic on top-quality CNC machines. Thanks to the experience from our own production plant, they are also designed to provide meaningful and practical solutions for the end user. The fact that experience, design and production are "under one roof" predestines v-tech to create custom solutions and shift the technical solution towards greater perfection.

To verify the efficiency of using our clamps in-house, we also developed our own specialized software CNC Sensor. By its application, the user obtains valuable data on the utilization of the production centre and ultimately also on the resulting benefits of using ZEPO-v clamping systems and the return on investment.



NES-T

Quick-change clamp

The NES-T pneumatic quick-change clamp is the cornerstone of the portfolio of v-tech clamping systems. It features compact dimensions and high clamping force, which pulls in the clamping pin. The large tensile force of the nest comes from the unique design of the clamping pneumatic piston, the shape of which is optimized for even distribution of contact stress while maintaining compact dimensions.

NES-T is available with two basic diameters 135 mm and 175 mm, including a version for automatic pallet replacement in a fully automated process.

- Radical reduction of adjustment times for clamp replacement by up to 90 %
- Clamping accuracy (> 0.005 mm)
- High clamping force up to 24 kN (31 kN – Ø175 mm)
- Body made of heat-treated high-grade steel
- Self-locking mechanism – the clamping force remains even after the compressed air is disconnected
- Modularity – wide range of configurations
- Setting grooves for 90° indexing
- Compact size – nest height only 41 mm
- Precise processing of all components
- Maintenance-free – hermetically sealed
- Working pressure 8 bar
- Compatibility of all offered models (V-TECH)
- Open/closed indication
- Preparation for process automation – version NES-T-A 135
- Possible use in mechanical engineering requiring fast, accurate, firm connection

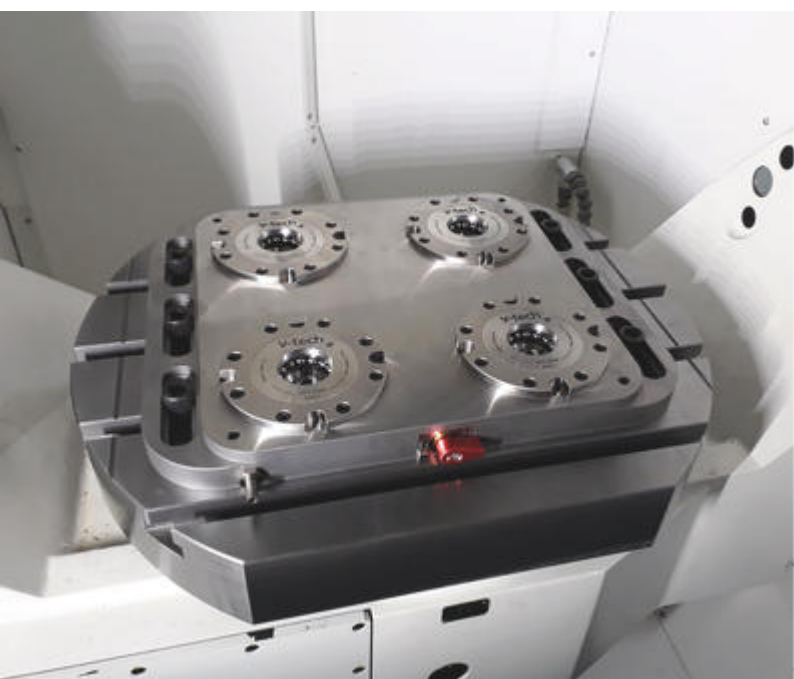


Solution **ZEPO-V**

from
v-tech s.r.o.

Will radically reduce the time required for clamping and adjustment of the clamping device on your CNC machining centre.

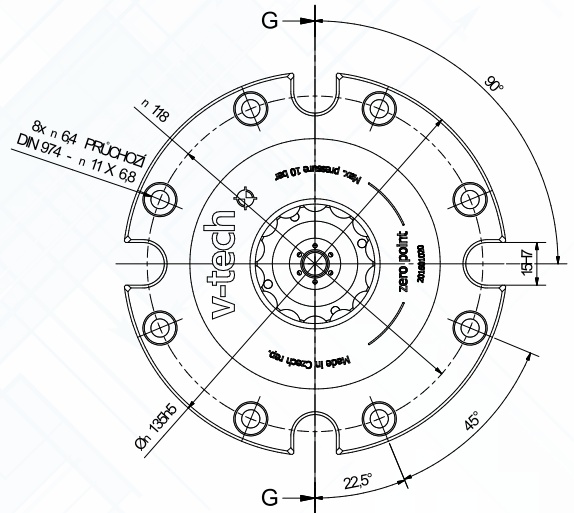
Cut this time by 90 %
and increase the productivity
of your plant!



ZEPo-v Clamping nest 135 mm (5,31in)

Pneumatic quick change, zero point pallet module to built in v-tech 's clamping standard or custom-made applications.

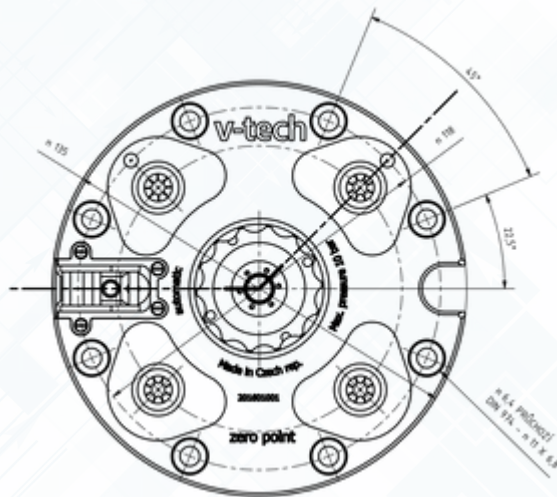
Fundamental element of the clamping system ZEPo-v guarantees the secure and precise clamping of workpieces, even under tough conditions. The self-clamping mechanism means the force is still applied after the air has been disconnected. Universal modul to built in a various clamping stations



- Made from heat treated refined steel
- 24KN of clamping force
- Constant air not required
- Self-clamping mechanism
- Height = 41 mm
- Positioning slots allow for indexing by 90°

PARAMETER TABLE

	TENSILE FORCE (KN)	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE (BAR)	MIN. PRESSURE (BAR)	SETTING ACCURACY (MM)	WEIGHT (KG)
	24	air	8 bar	10	5	< 0,005	2,2
NES-T 135 (CLAMPING NEST Ø 135)	NUMBER OF CYCLES	BLOW CLEANING	UNCOUPLING SENSOR	BLOW CLEANING OF MATING SURFACES	PREPARATION FOR AIRSENSORING	ORDERING NUMBER	
	> 20000	yes	no	no	no	2016010001	



ZEPo-v Clamping nest AUT 135 mm (5,31in)

Pneumatic quick change, zero point pallet module to built in v-tech 's clamping applications automatic

Fundamental element of the automatic clamping system ZEPo-v guarantees the secure and precise clamping of workpieces, even under tough conditions. The self-clamping mechanism means the force is still applied after the air has been disconnected. Universal modul to built in a various clamping stations and automatic applications.



- Made from heat treated refined steel
- Height = 41 mm
- Air cleaning
- Self-clamping mechanism
- Constant air not required
- Ready for airsensing
- 24KN of clamping force
- Positioning slots allow for indexing by 90°
- Sensor or the opening

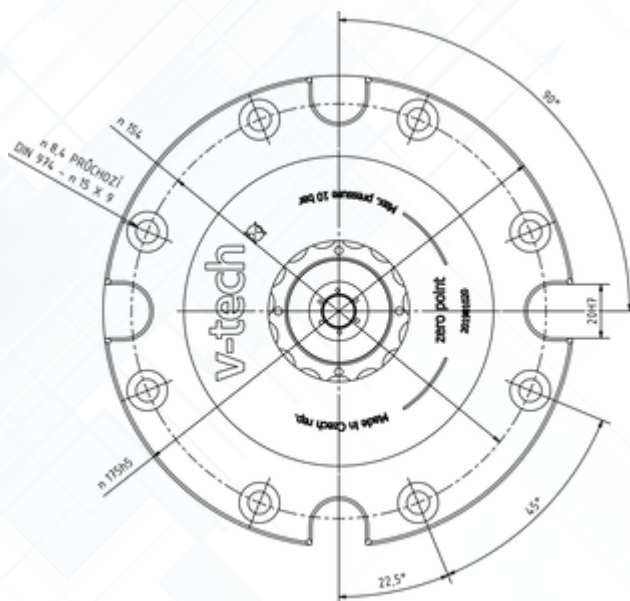
PARAMETER TABLE

	TENSILE FORCE (KN)	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE (BAR)	MIN. PRESSURE (BAR)	SETTING ACCURACY (MM)	WEIGHT (KG)
	24	air	8 bar	10	5	< 0,005	2,2
NES-T-A 135 (CLAMPING NEST Ø 135 AUTO)	NUMBER OF CYCLES	BLOW CLEANING	UNCOUPLING SENSOR	BLOW CLEANING OF MATING SURFACES	PREPARATION FOR AIRSENSORING	ORDERING NUMBER	
	> 20000	yes	yes	yes	yes	2017030001	

ZEPo-v Clamping nest 175 mm (7in)

Pneumatic quick change, zero point pallet module to built in v-tech's clamping standard or custom-made

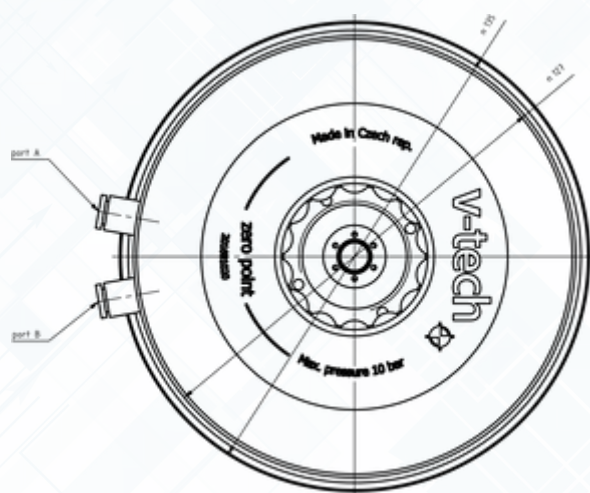
Strengthened element of the automatic clamping system ZEPo-v guarantees the secure and precise clamping of workpieces, even under tough conditions. The self-clamping mechanism means the force is still applied after the air has been disconnected. Universal modul to built in a various clamping stations and applications.



- ✓ Made from heat treated refined steel
- ✓ Self-clamping mechanism
- ✓ 31KN of clamping force
- ✓ Height = 41 mm
- ✓ Constant air not required
- ✓ Positioning slots allow for indexing by 90°

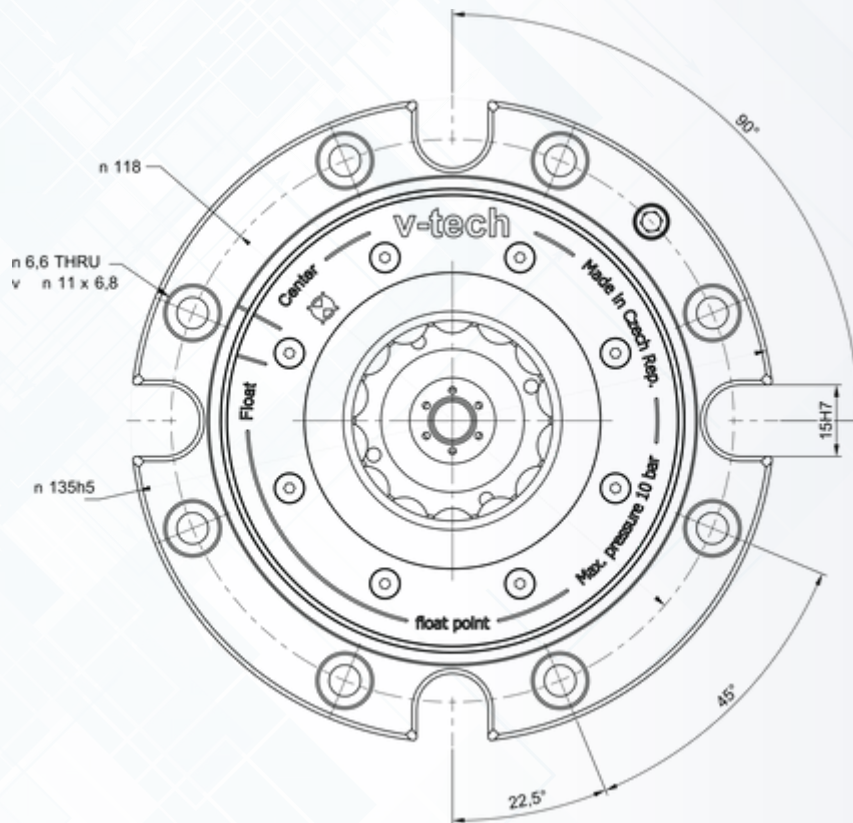
PARAMETER TABLE

	TENSILE FORCE (KN)	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE (BAR)	MIN. PRESSURE (BAR)	SETTING ACCURACY (MM)	WEIGHT (KG)
	31	air	8 bar	10	5	< 0,005	5,1
NES-T 175 (CLAMPING NEST Ø 175)	NUMBER OF CYCLES	BLOW CLEANING	UNCOUPLING SENSOR	BLOW CLEANING OF MATING SURFACES	PREPARATION FOR AIRSENSING	ORDERING NUMBER	
	> 20000	yes	no	no	no	2018030001	



NES-T-F 135 Clamping socket

Another addition to the NES-T 135 family of clamping sockets. Suitable for easier alignment and clamping of pallets or semi-finished products with inaccuracies due to large thermal dilatations or geometric errors in the positions of the clamping pins. The socket allows for a 1 mm offset in the plane of the clamping base and can be simply centred and used as a standard NES-T 135 if required.



- ✓ Possibility to offset the centre by 1 mm
- ✓ Self-locking mechanism
- ✓ The design is based on the proven NES-T 135
- ✓ 24 kN = retraction force

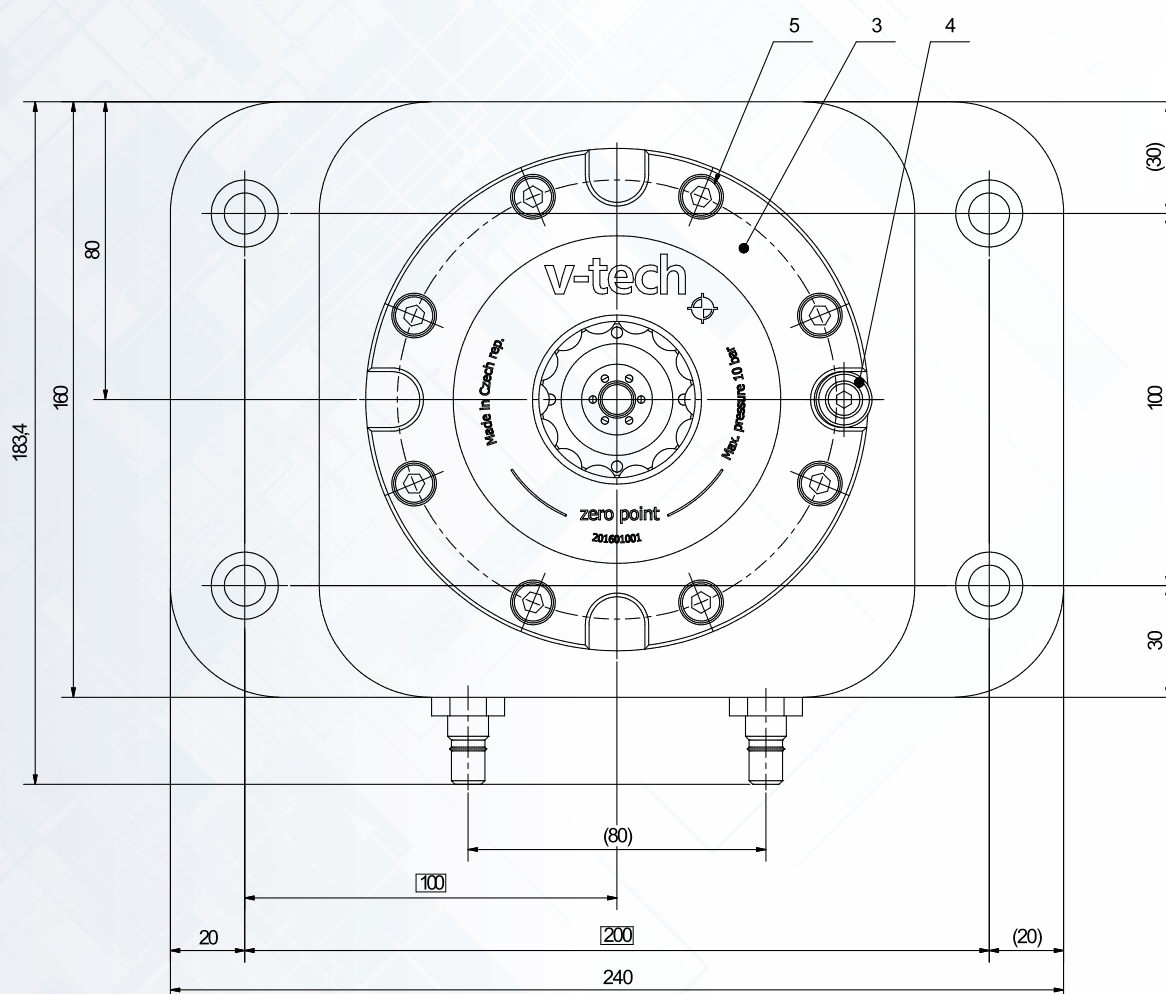
PARAMETER TABLE

	TRACTIVE FORCE (KN)	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE (BAR)	MIN. PRESSURE (BAR)	SETTING ACCURACY (MM)	WEIGHT (KG)
	24	air	8 bar	10	6	< 0.01	2,2
NES-T-F 135	NUMBER OF CYCLES	BLOW CLEANING	UNCOUPLING SENSOR	BLOW CLEANING OF MATING SURFACES	PREPARATION FOR AIRSENSING	ORDERING NUMBER	
	> 20000	yes	no	no	no	2022040001	

ZEPO-v Clamping base 1x NES-t 135

Clamping station with 1 module of NES - t 135 mm.

The 1 receiver clamping base made from top quality refined steel with an emphasis on precise processing. Suitable for variety for cnc milling processes.



- ✓ 1 x 24 kN
- ✓ Refined steel base
- ✓ Simple use and manipulation

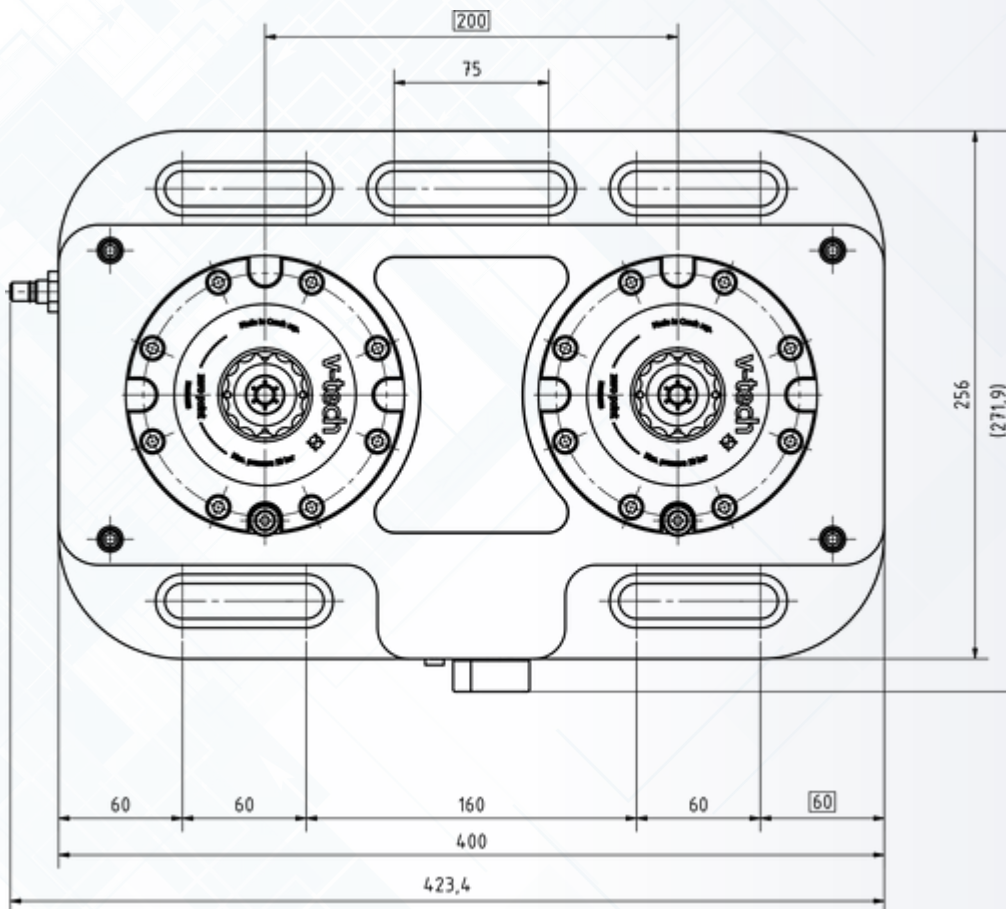
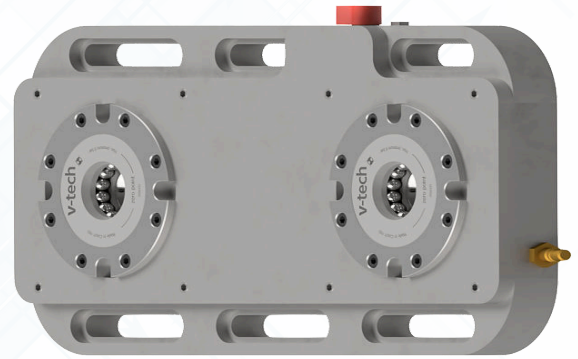
- ✓ Plastic plug included
- ✓ Optional dimensional modification - on demand

PARAMETER TABLE	NUMBER OF NESTS	CLAMPING FORCE (KN)	PALLET CHANGE TIME (S)	FORCE MEDIUM	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T 1H	1	1 x 24	< 10	air	high-grade steel	240 x 160	7	2016010023

ZEPO-v Clamping base 2x200 NES-t 135

Clamping station with 2 modules of NES-t 135 mm

The 2 receiver clamping base made from top quality refined steel. The force allows for in even the most demanding roughing applications.



- ✓ Holding force 2x 24kN
- ✓ Refined steel base
- ✓ Pneumatic rotational valve
- ✓ Plastic plugs included
- ✓ Optional dimensional modification - on demand

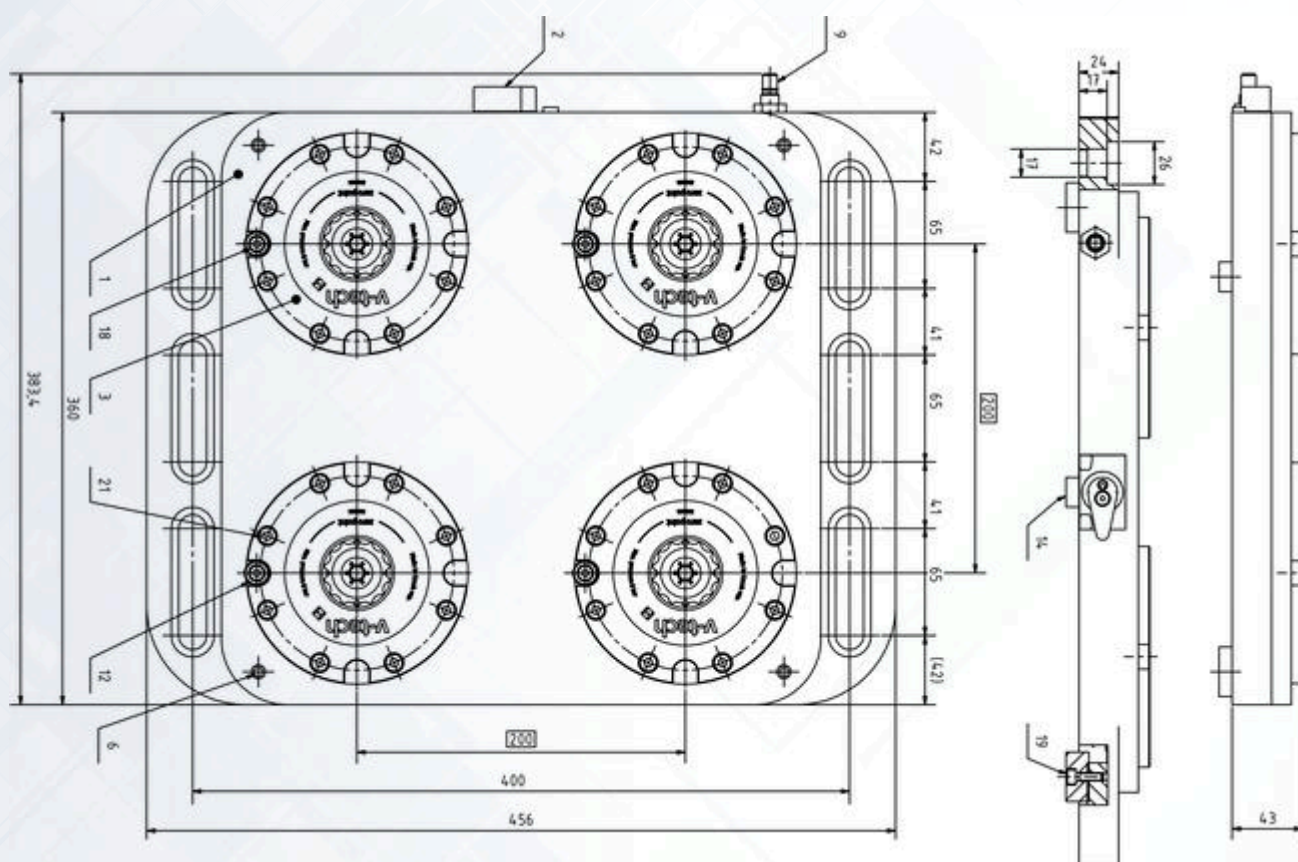
PARAMETER TABLE	NUMBER OF NESTS	CLAMPING FORCE (KN)	NEST SPACING (MM)	PALLET CHANGE TIME (S)	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T 2X300	2	2x24	300	< 10	high-grade steel	500 x 256	19,2	2016010016
UZV-T 2X200	2	2x24	200	< 10	high-grade steel	400 x 256	16,8	2016010018

ZEPO-v Clamping base

4x 200 NES-t 135

Clamping station with 4 modules of NES-t 135 mm

The 4 receiver clamping base made from top quality refined steel. The solution provides quick clamping and positioning of vices and clamping fixtures, ideally for vertical CNC milling centers. Elements can be easily combined in perpendicular directions.



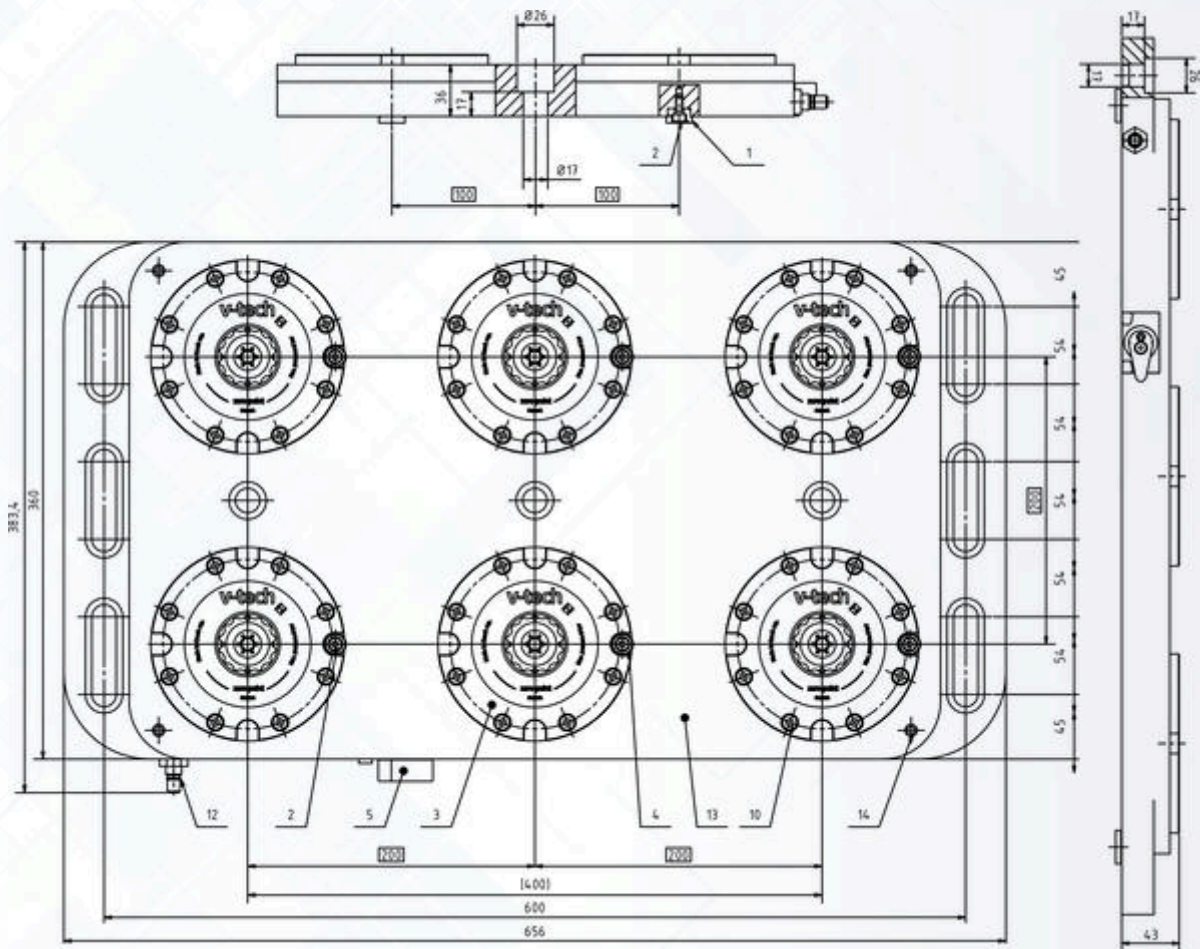
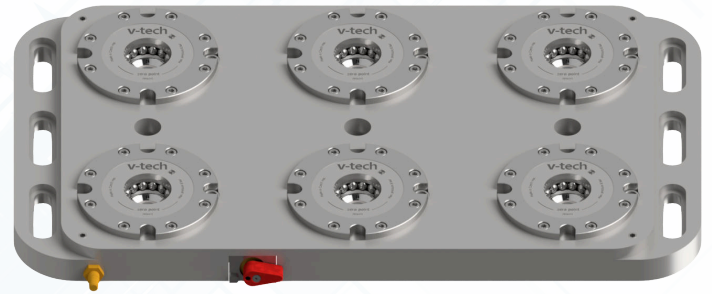
- ✓ Holding force 4x 24kN
- ✓ Refined steel base
- ✓ Pneumatic rotational valve
- ✓ Plastic plugs included
- ✓ Optional dimensional modification - on demand

PARAMETER TABLE	NUMBER OF NESTS	CLAMPING FORCE (KN)	NEST SPACING (MM)	PALLET CHANGE TIME (S)	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T 4X200	4	4x24	200	< 10	high-grade steel	360 x 456	28,6	2016010017
UZV-T 4X300	4	4x24	300	< 10	high-grade steel	556 x 460	52,3	2016010025

ZEPO-v Clamping base 6x200 NES-T 135

Clamping station with 6 modules
of NES-T 135 mm

The 6 receiver clamping base made from top quality refined steel. The solution provides quick clamping and positioning of vices and clamping fixtures in multiple configurations for high volume production.



- ✓ Holding force 6x 24kN
- ✓ Refined steel base
- ✓ Pneumatic rotational valve
- ✓ Multiple configuration
- ✓ Plastic plugs included
- ✓ Optional dimensional modification - on demand

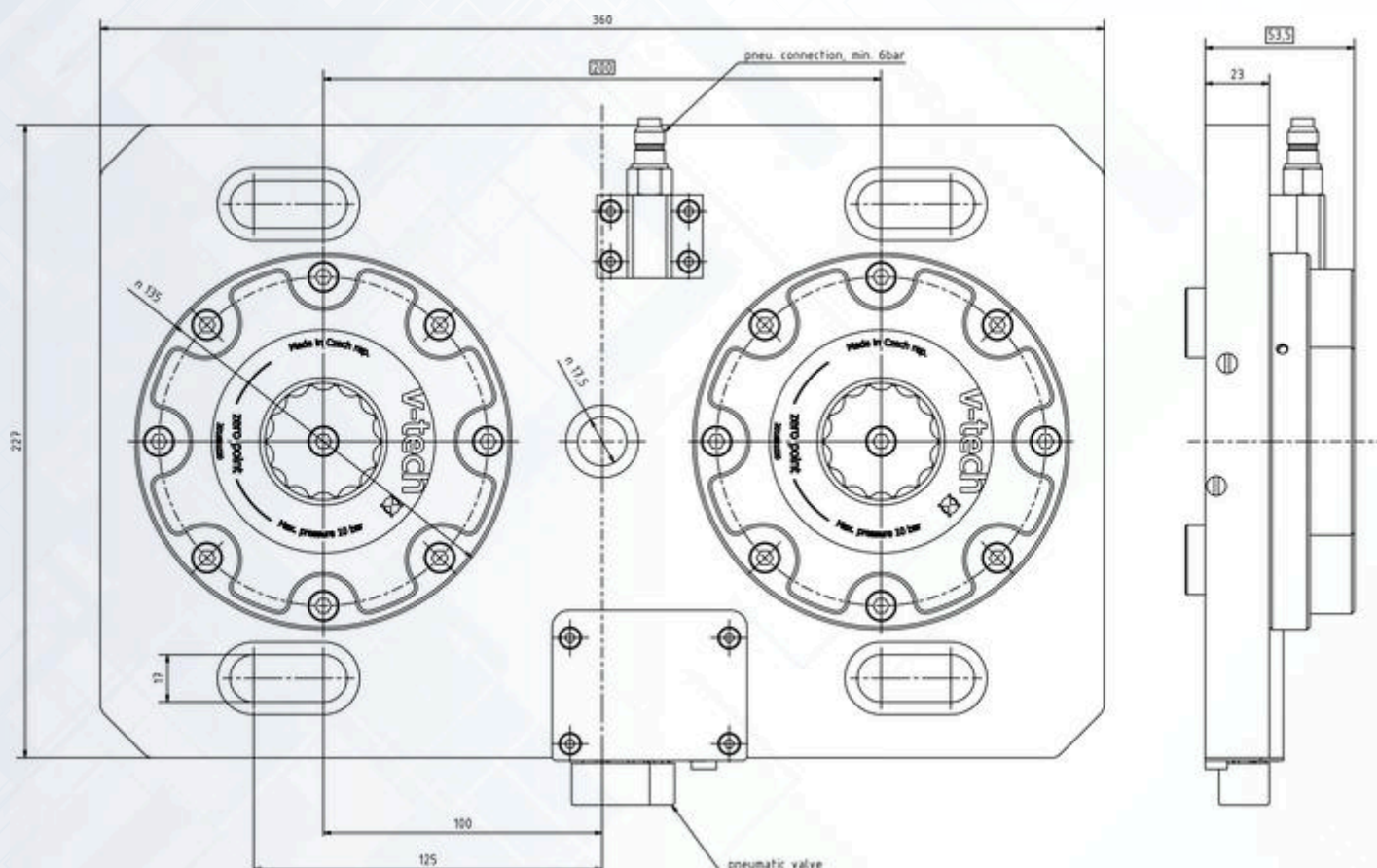
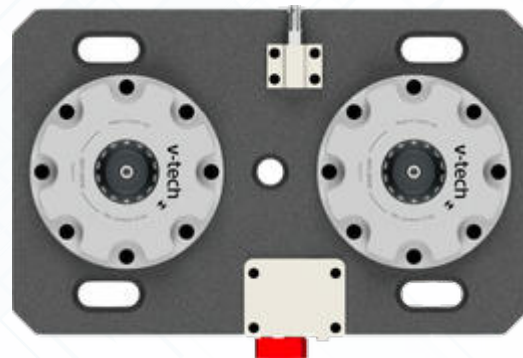
PARAMETER TABLE

PARAMETER TABLE	NUMBER OF NESTS	CLAMPING FORCE (KN)	PALLET CHANGE TIME (S)	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T 6H 200	6	6X24	< 10	high-grade steel	360 X 656	38,6	2016010021

ZEPO-v Clamping LT base 2x200 NES-t 135

Clamping LT station with 2 modules of NES-t 135 mm

The 2 receiver clamping base made from top quality refined steel. The force allows for in even the most demanding roughing applications.



✓ Holding force 2x 24kN

✓ Refined steel base

✓ Pneumatic rotational valve

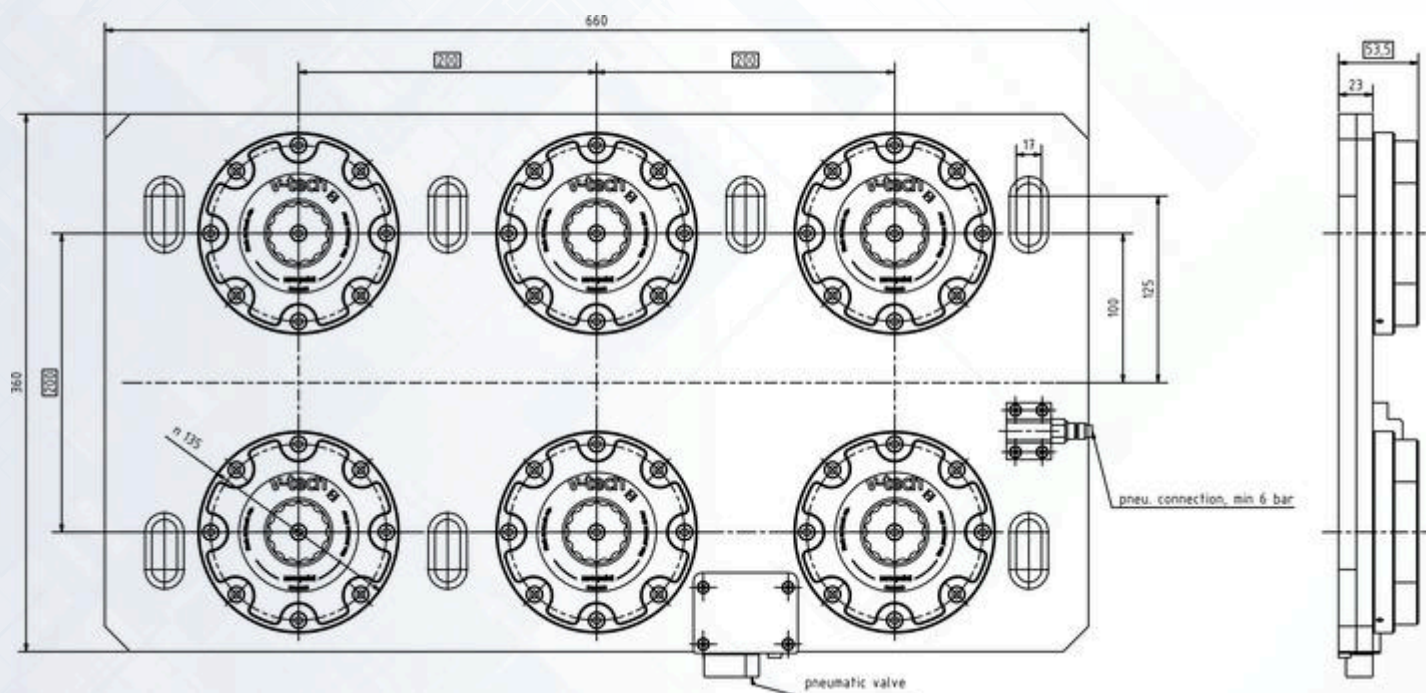
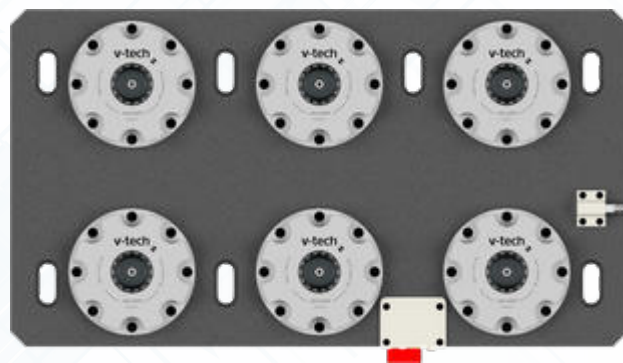
PARAMETER TABLE

	CLAMPING FORCE	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE	MIN. PRESSURE	WEIGHT	DIMENSIONS	MATERIAL	CHANGE TIME (S)	ORDERING NUMBER
UZV-TLT 2H 200	2 x 24 kN (NES-TLT 135)	air	8 bar	10 bar	5 barz	14,2 kg	360 x 227 mm	high-grade steel	<10 s	2021040001

ZEPO-v Clamping LT base 6x200 NES-TLT 135

Clamping LT station with 6 modules of NES-t 135 mm

The 6 receiver clamping base. The solution provides quick clamping and positioning of vices and clamping fixtures in multiple configurations for high volume production.



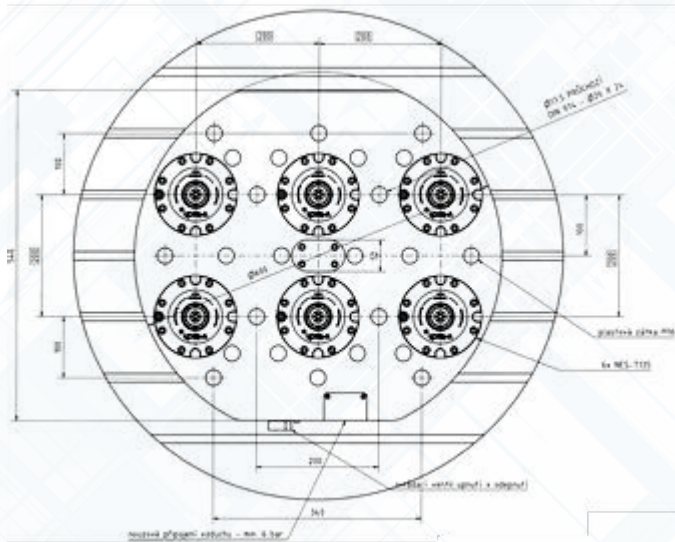
- Holding force 6x 24kN
- Pneumatic rotational valve
- Refined steel base
- Multiple configuration

PARAMETER TABLE	CLAMPING FORCE	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE	MIN. PRESSURE	WEIGHT	DIMENSIONS	MATERIAL	CHANGE TIME (S)	ORDERING NUMBER
UZV-TLT 6H 200	6 x 24 kN (NES-TLT 135)	air	8 bar	10 bar	5 bar	38,6 kg	360 x 655 mm	high-grade steel	<10 s	2021040001

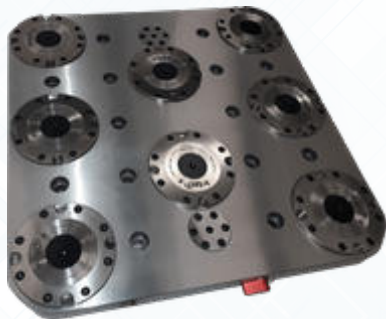
ZEPO-v Clamping base AXILE G8-G6 6x200 NES-t 135

Clamping station with 6 modules for AXILE G6-G8

Modified 6 receiver clamping base specially designed for AXILE G6 - G8 CNC machining center. The solution provides quick clamping and positioning of vices and clamping fixtures for high volume production.



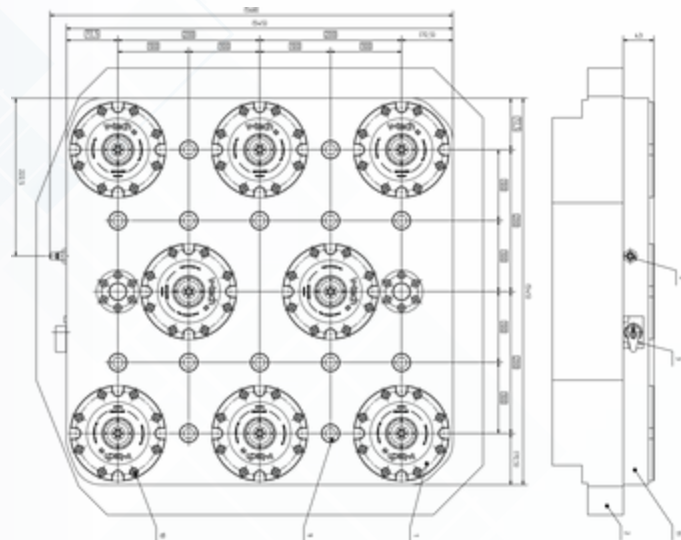
- ✓ Holding force 6x 24kN
- ✓ Refined steel base
- ✓ Pneumatic rotational valve
- ✓ Multiple configuration
- ✓ Fitted to the AXILE G6-G8
- ✓ Plastic plugs included



ZEPO-v Clamping base GROB G551 8x200 NES-t 135

Clamping station with 8 modules for GROB G551

Modified 8 receiver clamping base specially designed for GROB G551 CNC machining center. The solution provides quick clamping and positioning of vices and clamping fixtures for high volume production.



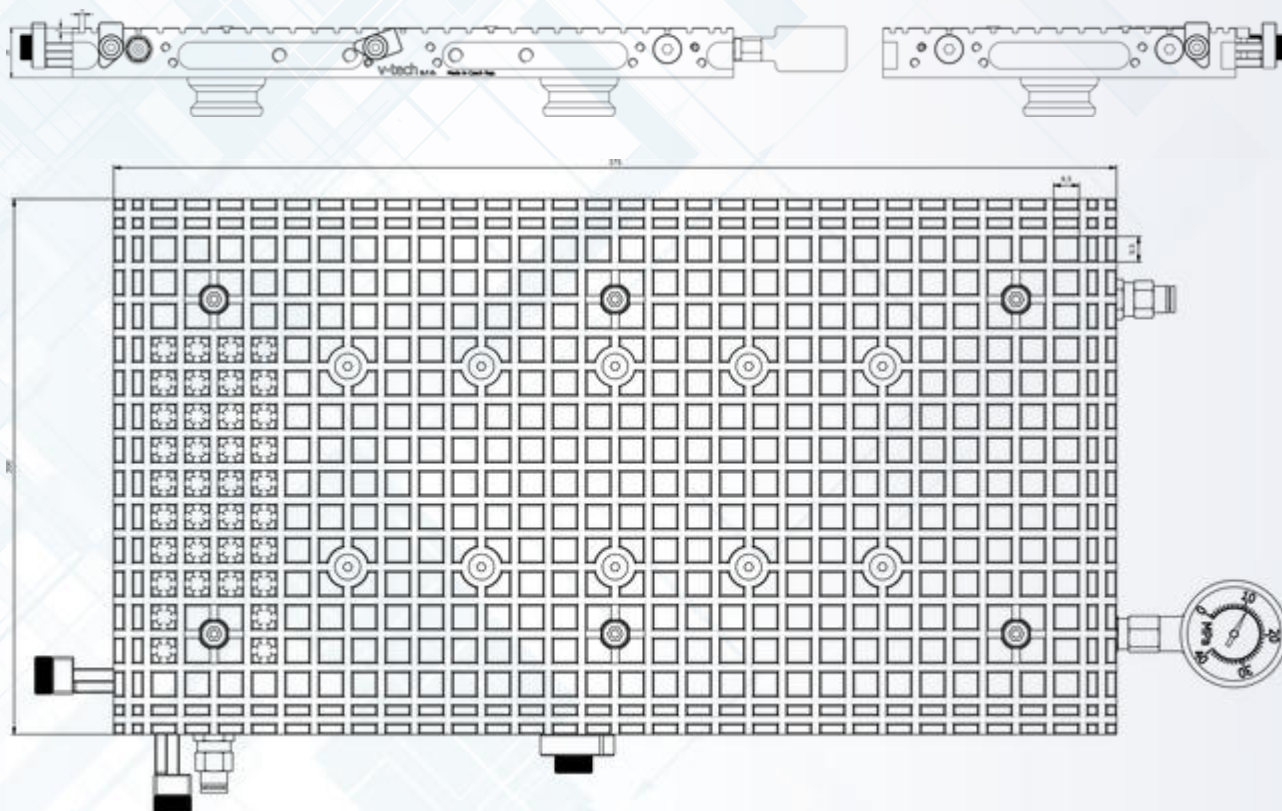
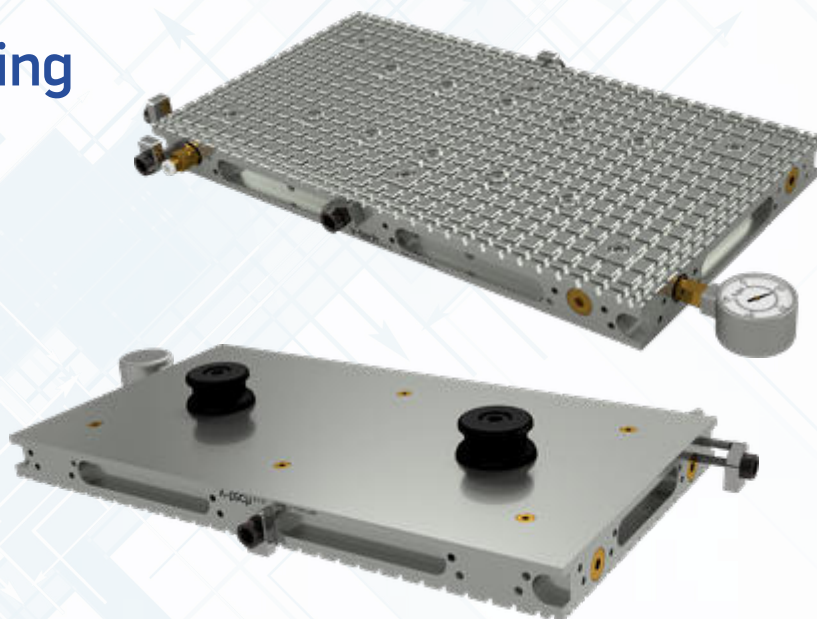
- ✓ Holding force 8 x 24kN
- ✓ Refined steel base
- ✓ Pneumatic rotational valve
- ✓ Multiple configuration
- ✓ Fitted to the GROB G551

VAUP-v Vacuum clamping module 200 x 375

Modular pallet vacuum clamping system.

Vacuum clamping modular bases are used particularly for non-ferrous metals, plastics and wood.

In combination with ZEPO-v stations the system allows fast and simple workpiece change and machining.



- ✓ Gentle technology of clamping
- ✓ Clamping of non-ferrous metals

- ✓ Integrated vacuum pump
- ✓ Modular principle

- ✓ Fast change
- ✓ High holding force

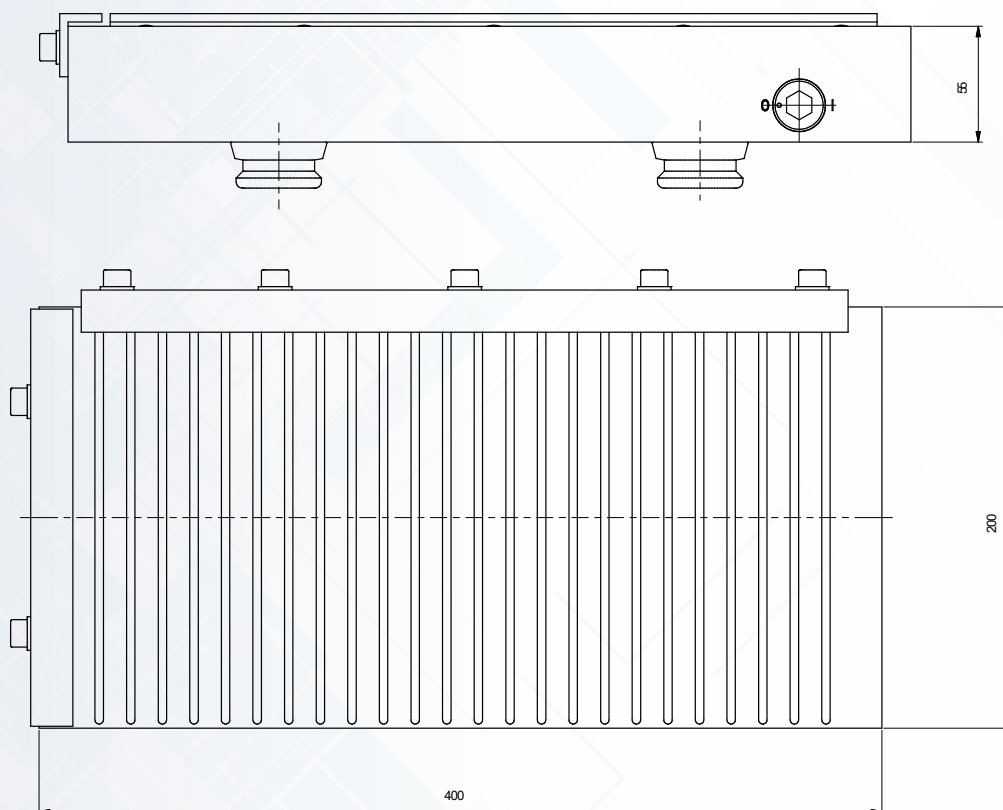
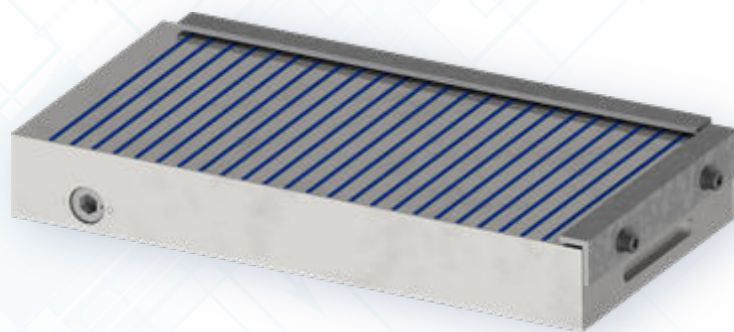
PARAMETER TABLE

PARAMETER TABLE	WIDTH	LENGTH	HEIGHT	WEIGHT	MATERIAL	STUDS SPACING	MAX. VACUUM	ORDERING NUMBER
VAUP-V 200	200 mm	375 mm	28 mm	9,3 kg	Aluminium (Anodized)	200	-90 kPa	210120001

Magnetic palette MAG 400x200

Magnetic palette

The 400x200 magnetic palette is an alternative to the exchangeable PLT2 palette and expands the ZEPO-V kit system with the possibility of quick and productive clamping of ferromagnetic surface workpieces. Convenient changing of the clamping device in a few moments. Strong neodymium magnets and fine pole spacing ensure robust clamping for medium-duty milling and grinding.



- ✓ Fast and robust clamping of flat ferromagnetic materials
- ✓ High clamping force of 160 N/cm² thanks to strong neodymium magnets
- ✓ Part of the ZEPO-V modular kit system to reduce setup times
- ✓ Version with permanent magnets

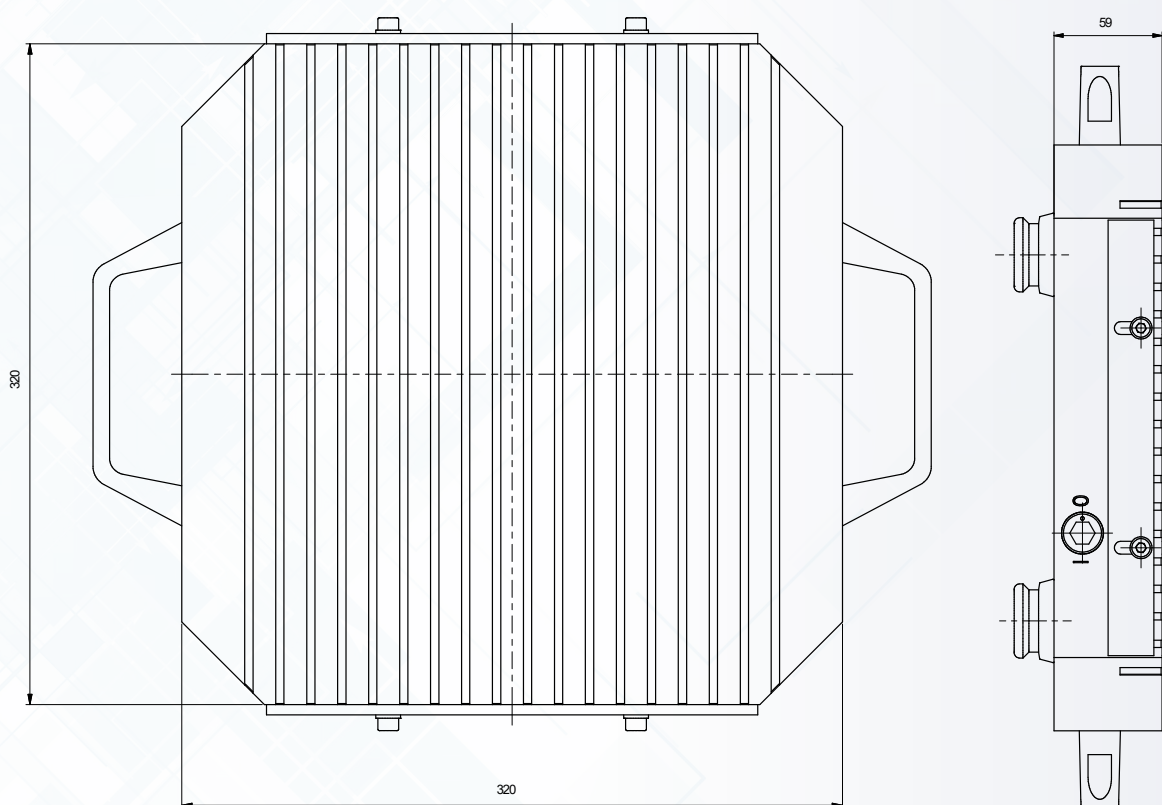
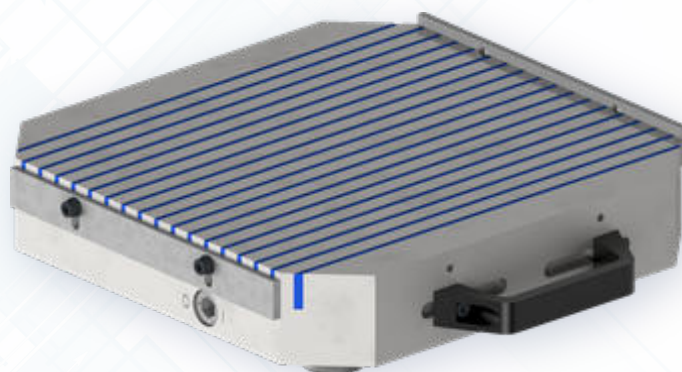
PARAMETER TABLE

	LENGTH	HEIGHT	WIDTH	WEIGHT	CLAMPING FORCE	POLE PITCH	MIN. DIMENSIONS OF WORKPIECE	ORDERING NUMBER
MAG 400X200	400 mm	55 mm	200 mm	33 Kg	160 N/cm ²	15 mm	25x25x6 mm	240030002

Magnetic palette MAG 320x320

Magnetic palette

MAG 320x320 is a magnetic palette with permanent magnets for machining and grinding operations. The board is equipped with clamping pins on the underside as standard for installation in the ZEPO-V modular clamping system. Strong neodymium magnets and fine pole spacing ensure robust clamping for medium-duty milling and grinding. Suitable for machining flat ferromagnetic materials.



- ✓ Fast and robust clamping of flat ferromagnetic materials
- ✓ High clamping force of 160 N/cm² thanks to strong neodymium magnets
- ✓ Part of the ZEPO-V modular kit system to reduce setup times
- ✓ Version with permanent magnets

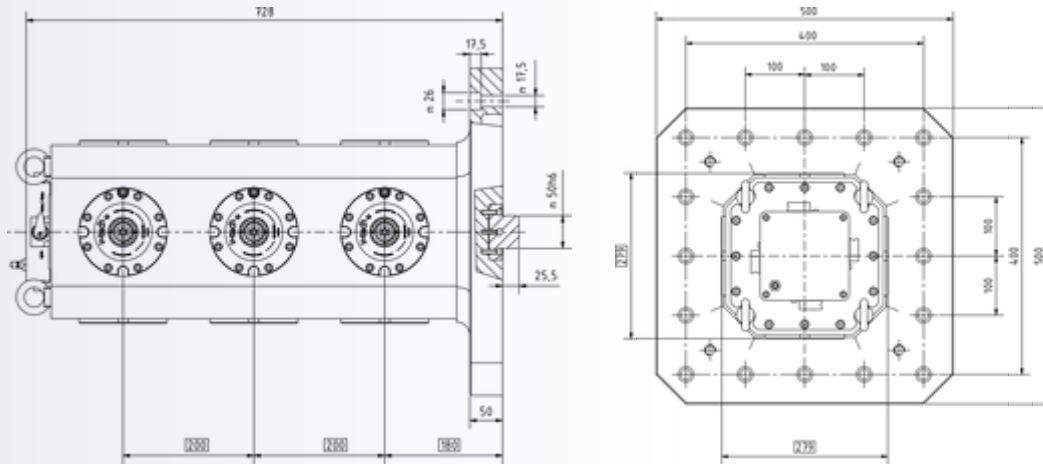
PARAMETER TABLE

	LENGTH	HEIGHT	WIDTH	WEIGHT	CLAMPING FORCE	POLE PITCH	MIN. DIMENSIONS OF WORKPIECE	ORDERING NUMBER
MAG 320X320	320 mm	59 mm	320 mm	37 kg	160 N/cm ²	15 mm	25x25x6 mm	240030001

ZEPo-v Tombstone 12x500x500 NES-t 135

12 receiver cast iron clamping tower.

Cube clamping tombstone for CNC horizontal machining centers. Equipped with 12 precisely positioned NES-t 135 modules around the perimeter. The robust casting is made of high-quality cast iron mainly due to degree of internal damping to ensure a stable machining process. The geometry of the tower was optimized via a FEM analysis using state-of-the-art simulation tools. Each row of clamping nests is controlled by a pneumatic valve at the top of the tower. The tower can be set on a pallet using a 50h6 centring pin.



- ✓ Cast iron body
- ✓ 50h6 centring pin
- ✓ Pneumatic control valve configuration

PARAMETER TABLE	NUMBER OF NESTS	CLAMPING FORCE (KN)	PALLET CHANGE TIME (S)	FORCE MEDIUM	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T-T 12 500X500	12	12 x 24	< 10	air	cast iron	500 x 500	227	2017010001

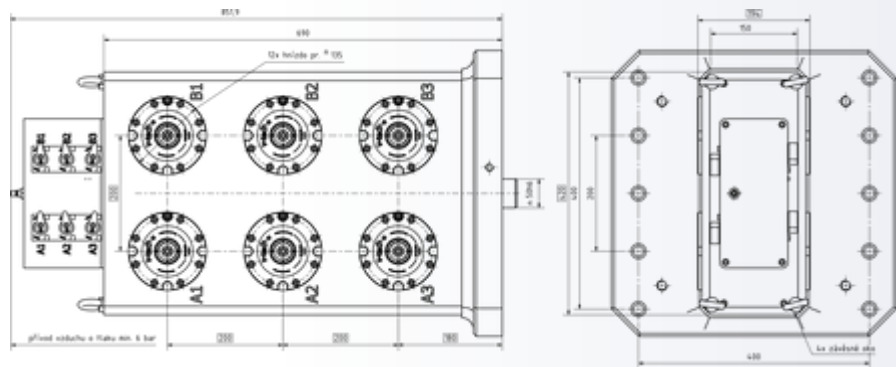


ZEPo-v Tombstone 12x500x180 NES-t 135

12 receiver cast iron clamping tower.

Block clamping tombstone for CNC horizontal machining centers. Equipped with 12 precisely positioned NES-t 135 modules from 2 sides. The robust casting is made of high-quality cast iron mainly due to degree of internal damping to ensure a stable machining process. The geometry of the tower was optimized via a FEM analysis using state-of-the-art simulation tools. Each row of clamping nests is controlled by a pneumatic valve at the top of the tower. The tower can be set on a pallet using a 50h6 centring pin.

- ✓ Cast iron body
- ✓ 50h6 centring pin
- ✓ Pneumatic control valve configuration

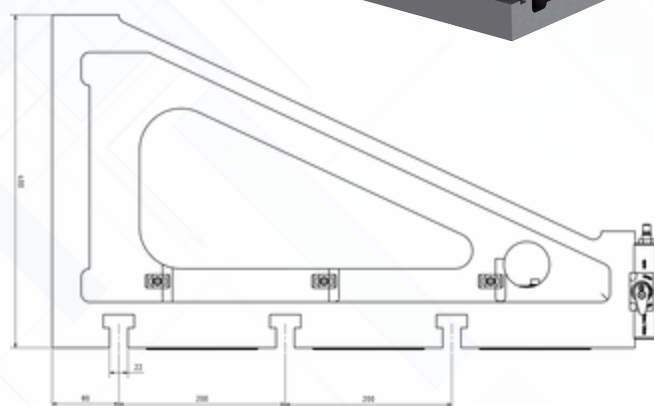
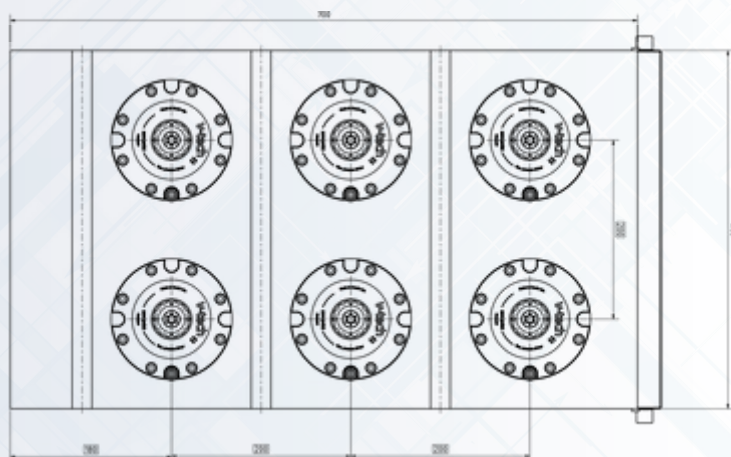


PARAMETER TABLE	NUMBER OF NESTS	CLAMPING FORCE (KN)	PALLET CHANGE TIME (S)	FORCE MEDIUM	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T-T 12 500X500	12	12 x 24	< 10	air	cast iron	500 x 180	259	

ZEPo-v Clamping plate 6x700 NES-t 135

6 receiver cast iron clamping tower.

Extending solution for horizontal milling centres suitable for conventional as well as CNC machines. Six precisely distributed clamping nests allow clamping and setting of a vice, universal chuck, special jig or the workpiece itself. Thanks to the self-locking mechanism of the clamping nests, the pulling force remains even after the compressed air supply is disconnected. The body of the plate is made of high-quality cast iron and features milled setting T-slots for unusual workpieces.



- ✓ 6 NES-T clamping nests
- ✓ 6 plastic plugs
- ✓ Body made of high-grade steel

- ✓ 2 positioning blocks
- ✓ for the mill table slot

- ✓ 1 clamping pin – fixed
- ✓ 4 clamping pins – 1° of play
- ✓ 2 clamping pins – 2° of play

PARAMETER TABLE

	NUMBER OF NESTS	CLAMPING FORCE (KN)	PALLET CHANGE TIME (S)	FORCE MEDIUM	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T-TB 6 700X400	6	6 x 24	< 10	air	cast iron	700 x 400	205	2017010002



ZEPo-v Pneumatically controlled chuck Ø110

Pneumatically controlled chuck Ø110 for quick change zero point pallet system

The pneumatically controlled universal chuck with an integrated air piston including an adapter and control valve is a powerful tool for quick replacement of semi-finished products. The clamp can be freely configured on the clamping base and is centred to the outer diameter of the clamping nest. For example, a clamping base with 6 nests can be fitted with 6 universal chucks to create a productive multi-clamping system. The universal chuck is fitted with standard jaws. On request, the chuck

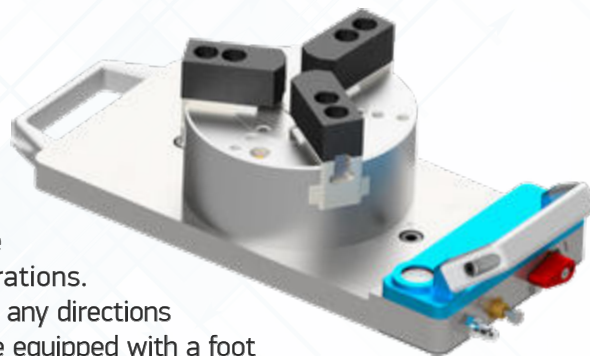
PARAMETER TABLE

	CLAMPING FORCE (KN)	CHUCK DIAMETER (MM)	FORCE MEDIUM	NOMINAL PRESSURE (BAR)	MAX. PRESSURE (BAR)	JAW STROKE (MM)	WEIGHT (KG)	MAX. CLAMPING DIAMETER (MM)	ORDERING NUMBER
SKL-V 110	7,5	110	air	6	7	5,2	9,1	110	2020010002

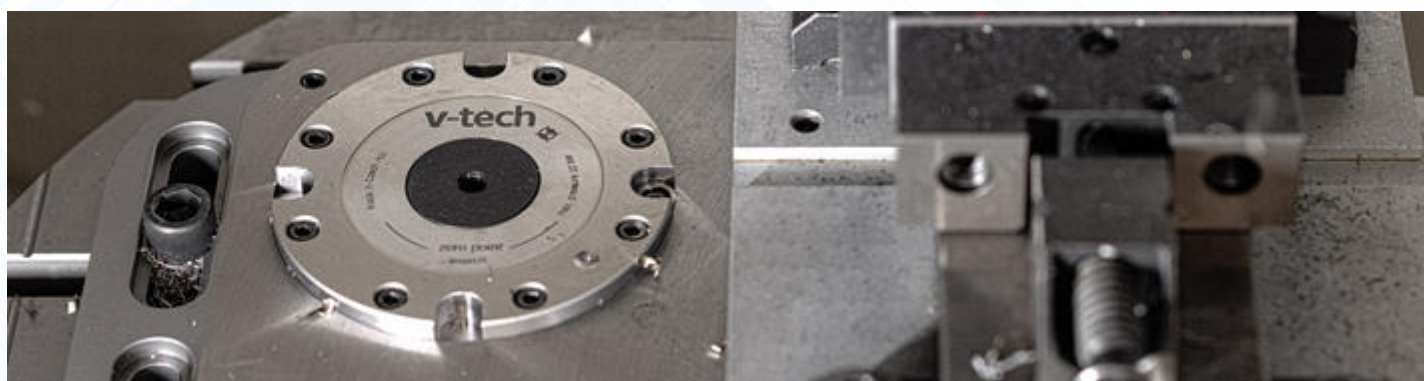
SKL-V 165

Pneumatically controlled chuck $\varnothing 165$

The $\varnothing 165$ pneumatic chuck is a larger alternative to the $\varnothing 110$ version. The universal chuck with an integrated air piston is fitted in an aluminium exchangeable pallet including a control valve and two clamping pins. To set this pallet, at least two clamping nests with 200 mm spacing are required. This ensures firm clamping important for roughing operations. The precise position of the chuck allows the pallet to be configured in any directions and setting points on the clamping base. On request, the chuck can be equipped with a foot pedal or electric switchboard for remote control.



PARAMETER TABLE	CLAMPING FORCE (KN)	CHUCK DIAMETER (MM)	FORCE MEDIUM	NOMINAL PRESSURE (BAR)	MAX. PRESSURE (BAR)	JAW STROKE (MM)	WEIGHT (KG)	MAX. CLAMPING DIAMETER (MM)	ORDERING NUMBER
SKL-V 165	21	165	air	6	7	5,2	21,5	165	2020010001



ZEPo-v Adapter for pneumatically controlled chuck

The adapter is used for precise and firm setting of any universal chuck on a clamping nest with a diameter of 135. The adapter contains a clamping pin and locking screws to ensure precise positioning. As standard, the adapter is available as a semi-finished product for modifying your particular universal chuck. On request,

- ✓ The adapter does not contain a universal chuck

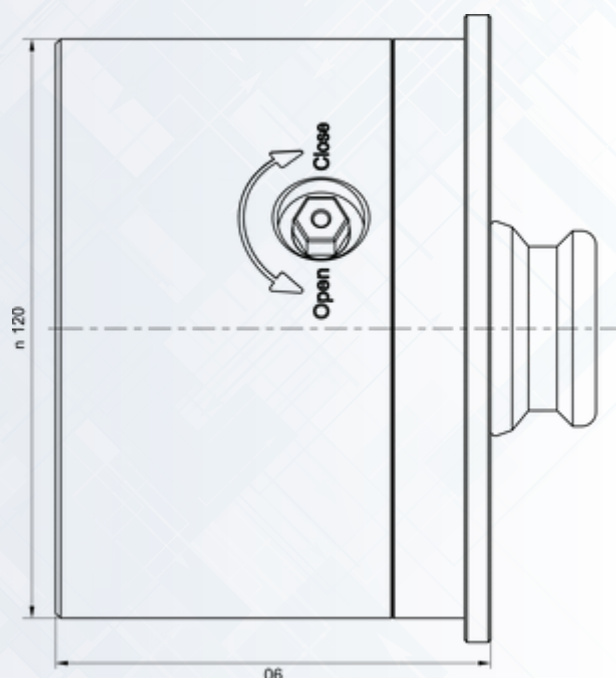
- ✓ Material: steel
- ✓ Ordering number: 2016010010



MCS120-90 Manual clamping attachment

Mechanically operated extension for the quick-change system.

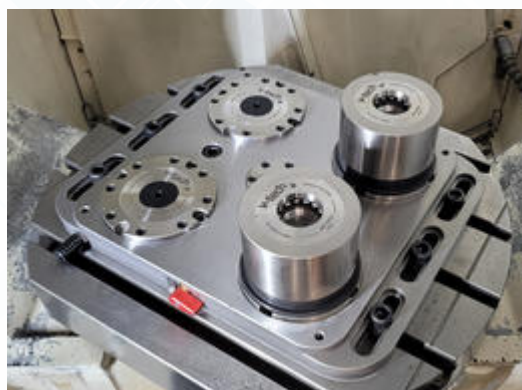
The attachment is an extension of the accessories for the quick-change system for machine tools. MCS120-90 can be mounted directly on the machine tool table or within ZEP-in 135. It serves as an element of ejection of the clamp or semi-finished product from the machine table mainly due to the access of the tool x spindle in 5-axis machine tools. The clamping attachment is mechanically operated by simply turning the key 180°. The high clamping force is comparable to the NES-T 135 clamping socket.



- ✓ Self-locking mechanism
- ✓ Direct mounting on the machine table or in the ZEPo-v 135 system
- ✓ Clamping by simply turning the key 180°
- ✓ Wide variation of configurations and applications

PARAMETER TABLE

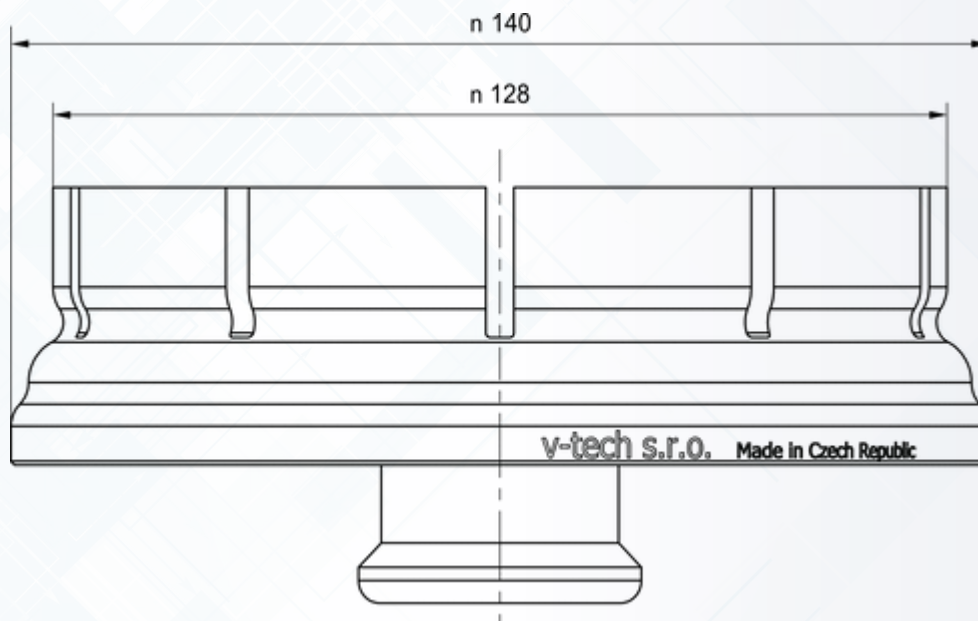
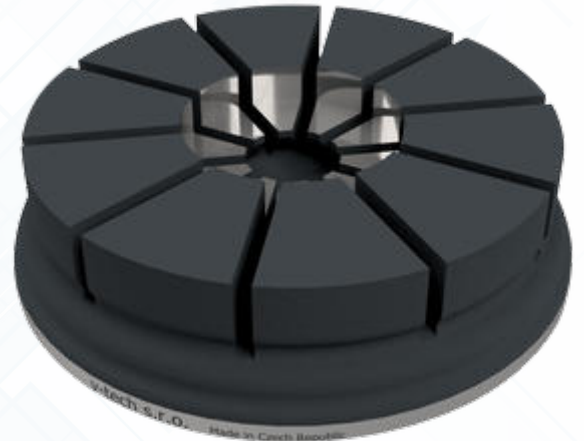
PARAMETER TABLE	TRACTIVE FORCE(KN)	FORCE MEDIUM	HEIGHT (mm)	WEIGHT (kg)	NUMBER OF CYCLES	REPEATED CLAMPING ACCURACY	BLOW CLEANING	ORDERING NUMBER
MCS120-90	20	Manual clamping	90	8,1	> 20000	< 0,005	no	220030001



MHU 135 Clamping collet

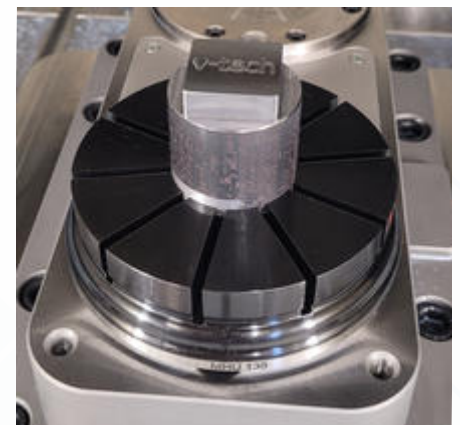
Clamping collet for direct mounting on NES-t 135.

The collet is used for clamping shaped blanks. It fits directly onto the NES-T 135 clamping sockets and the clamping is caused by elastic deformation when the pin is pulled through the socket. The user can mill a suitable shape directly into the collet. Shape setting is also suitable for automatic production operations, where the clamping and opening of the collet can be controlled pneumatically via the clamping socket.



✓ Great variability of clamping

✓ Suitable for automated workplaces



PARAMETER TABLE

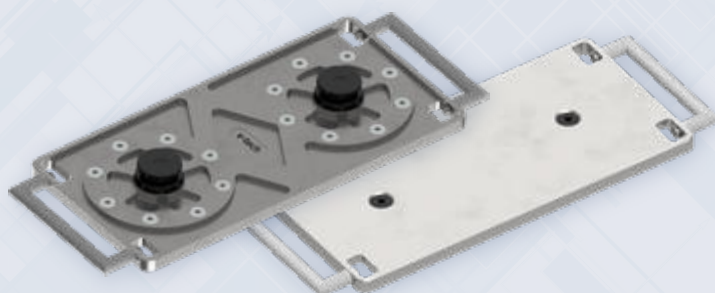
	COLLET DIAMETER (mm)	COLLET HEIGHT (mm)	CLAMPING STEP ON DIAMETER (mm)	COLLET MATERIAL	NUMBER OF CYCLES	ORDERING NUMBER
MHU 135	120	34	0,4	High-grade steel	> 20000	220040012

PLT2 Palette

Universal palette for 2 NES-t

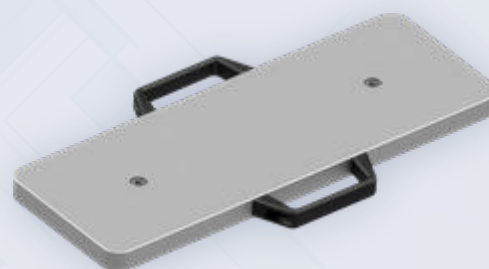
Universal replaceable pallet for 2 NES-t clamping nests for clamping a jig or other clamping device in a clamping base of the UZV-T in the machine. It is equipped with handles to facilitate handling. Made of steel or high strength aluminum. In the + version, the steel is precisely ground and includes hardened touches.

PLT2-FE 400+



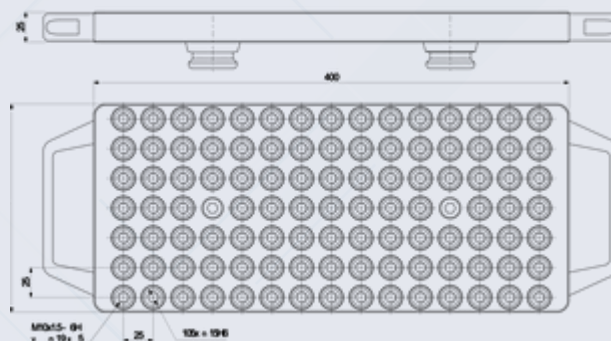
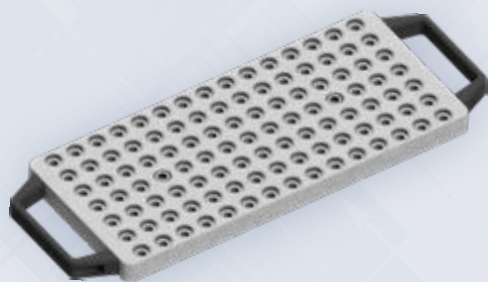
PLT2-AL 200

Replaceable aluminum pallet - blank



PLT2-AL 200H

Palette with 15H6 precision hole grid and M10 threads for any clamp configuration



- Made of high-strength aluminium or steel
- Handles as standard
- Possible modification on demand

PARAMETER TABLE

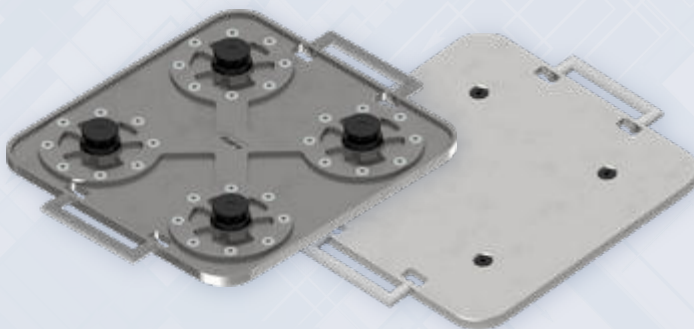
	MATERIAL	DIMENSIONS (MM)	PIN PITCH	WEIGHT (KG)	ORDERING NUMBER
PLT2-AL 400	aluminium	400 x 175 x 25	200	5.6	2016010003
PLT2-FE 400	high-grade steel	400 x 175 x 25	200	14.5	2016010005
PLT2-AL 500	aluminium	500 x 175 x 25	300	6.3	2016010002
PLT2-FE 500	high-grade steel	500 x 175 x 25	300	17	2016010006
PLT2-FE 400+	high-grade steel	400 x 175 x 16	200	6.5	2016010009
PLT2-AL 200H	aluminium	400 x 175 x 25	200	5,2	2016010029

PLT4 Palette

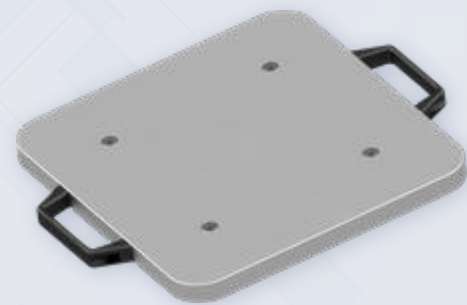
Universal palette for 4 NES-t

Universal replaceable pallet for 4 NES-t clamping nests for clamping a jig or other clamping device in a clamping base of the UZV-T in the machine. It is equipped with handles to facilitate handling. Made of steel or high strength aluminum. In the + version, the steel is precisely ground and includes hardened touches.

PLT4-FE 400+

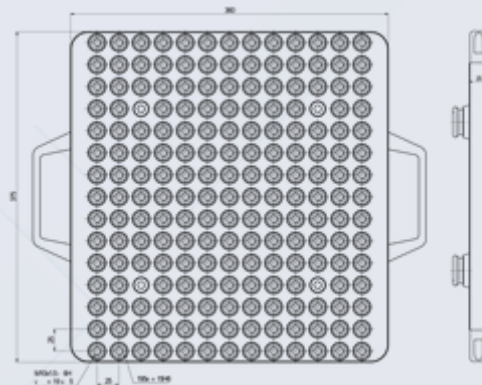
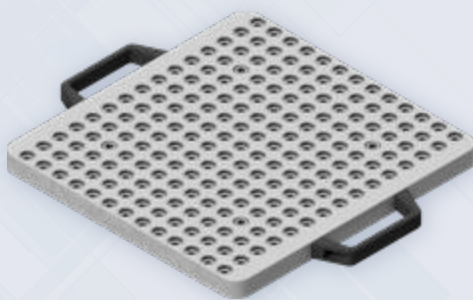


PLT4-AL 200
Replaceable aluminum palette - blank



PLT4-AL 200H

Palette with 15H6 precision hole grid and M10 threads for any clamp configuration



- Made of high-strength aluminium or steel
- Handles as standard
- Possible modification on demand

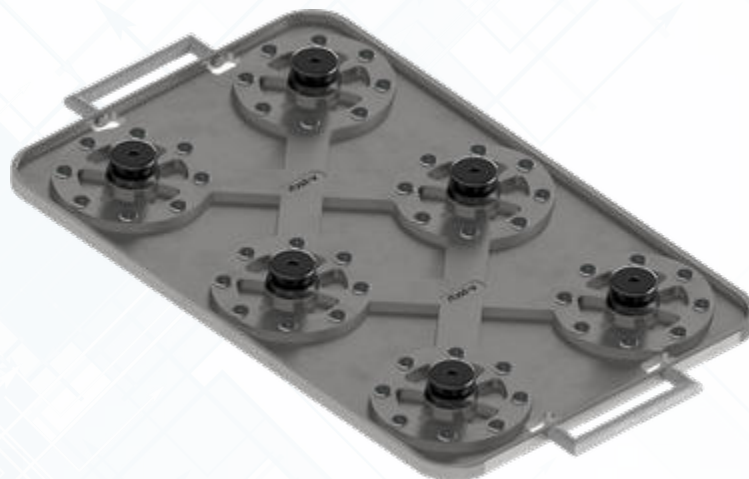
PARAMETER TABLE

	MATERIAL	DIMENSIONS (MM)	PIN PITCH	WEIGHT (KG)	ORDERING NUMBER
PLT4-AL 200	aluminium	375 x 360 x 25	200	9.9	2016010004
PLT4-FE 200	high-grade steel	375 x 360 x 25	200	25.4	2016010007
PLT4-FE 200+	high-grade steel	375 x 360 x 16	200	13.3	2016010008
PLT4-AL 200H	aluminium	375 x 360 x 25	200	9,1	2016010028

PLT6-Universall pallet

Universal 6-pins pallet

A universal pallet for clamping fixtures and other clamping devices to the clamping base of the machine.



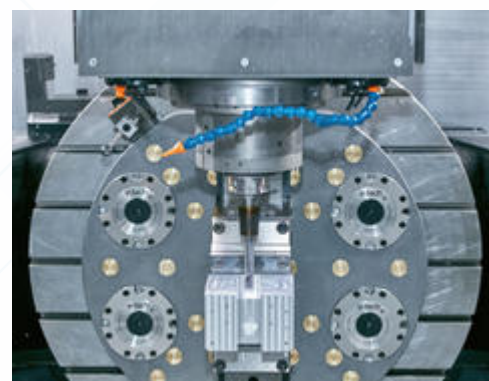
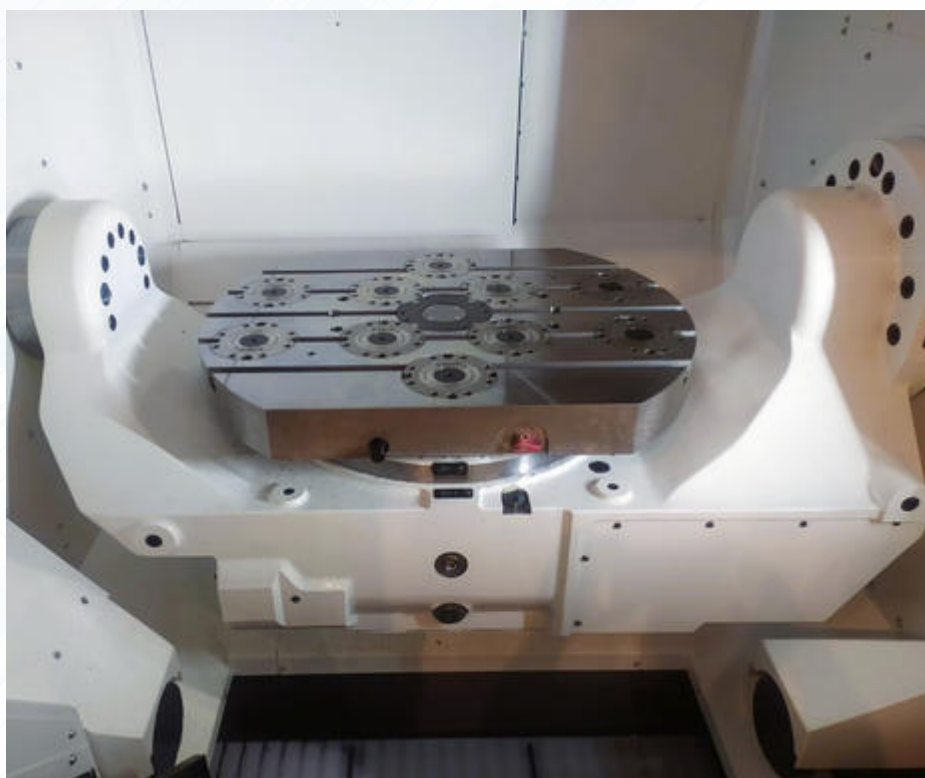
✓ Made of high-strength aluminium or steel

✓ Handles as standard

✓ Possible modification on demand

PARAMETER TABLE

	MATERIAL	DIMENSIONS (MM)	PIN SPACING	WEIGHT (KG)	ORDERING NUMBER
PLT6-FE 200+	high-grade steel	575 x 360 x 16	200	20.6	2016010024



ZEPO-v Locating pin

Fixed pin CEP-135-FIX

Ordering number: 20160107

The high quality hardened steel clamping pin is designed to accurately position workholding and even directly workpieces for easy mounting to the V-Tech zero point baseplates. The pin connects to the clamping pallet via a precise 25 mm diameter.



ZEPO-v Locating pin M10

Fixed pin CEP-135-M10

Ordering number: 20160149

The high quality hardened steel clamping pin is designed to accurately position workholding and even directly workpieces for easy mounting to the V-Tech zero point baseplates. The pin connects to the clamping pallet via a precise 25 mm diameter. M10 thread allows the pin installation from the side of the pallet.



ZEPO-v Locating pin M12

Fixed pin CEP-135-M12

Ordering number: 20160186

The high quality hardened steel clamping pin is designed to accurately position workholding and even directly workpieces for easy mounting to the V-Tech zero point baseplates. The pin connects to the clamping pallet via a precise 25 mm diameter. M12 thread allows the pin installation from the side of the pallet.



ZEPO-v Locating pin 1°

Pin 1° CEP-135-1

Ordering number: 2016010011

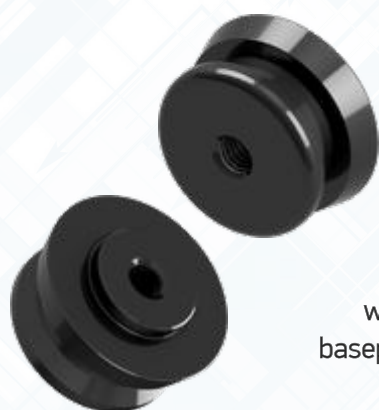
The high quality hardened steel clamping pin is designed to accurately position workholding and even directly workpieces for easy mounting to the V-Tech zero point baseplates. The pin connects to the clamping pallet with one axis thermal compensation.

ZEPO-v Locating pin 2°

Two axes of movement pin CEP-135-2

Ordering number: 20160148

The high quality hardened steel clamping pin is designed to accurately position workholding and even directly workpieces for easy mounting to the V-Tech zero point baseplates. The pin connects to the clamping pallet with two axis thermal compensation.



ZEPO-v Locating pin 2° (M10)

Two axes of movement pin CEP-135-2-M10

Ordering number: 20160172

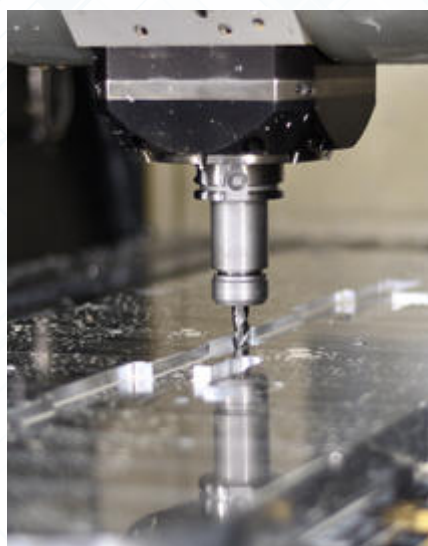
The high quality hardened steel clamping pin is designed to accurately position workholding and even directly workpieces for easy mounting to the V-Tech zero point baseplates. The pin connects to the clamping pallet with two axis thermal compensation. M10 thread allows the pin installation from the side of the pallet.

ZEPO-v Blanking plug 135

Blanking plug CEP-135-PLUG

Ordering number: 2016010051

Plastic plugs available for use as blanking plugs for receivers when not in use.



CLAMPING SYSTEM

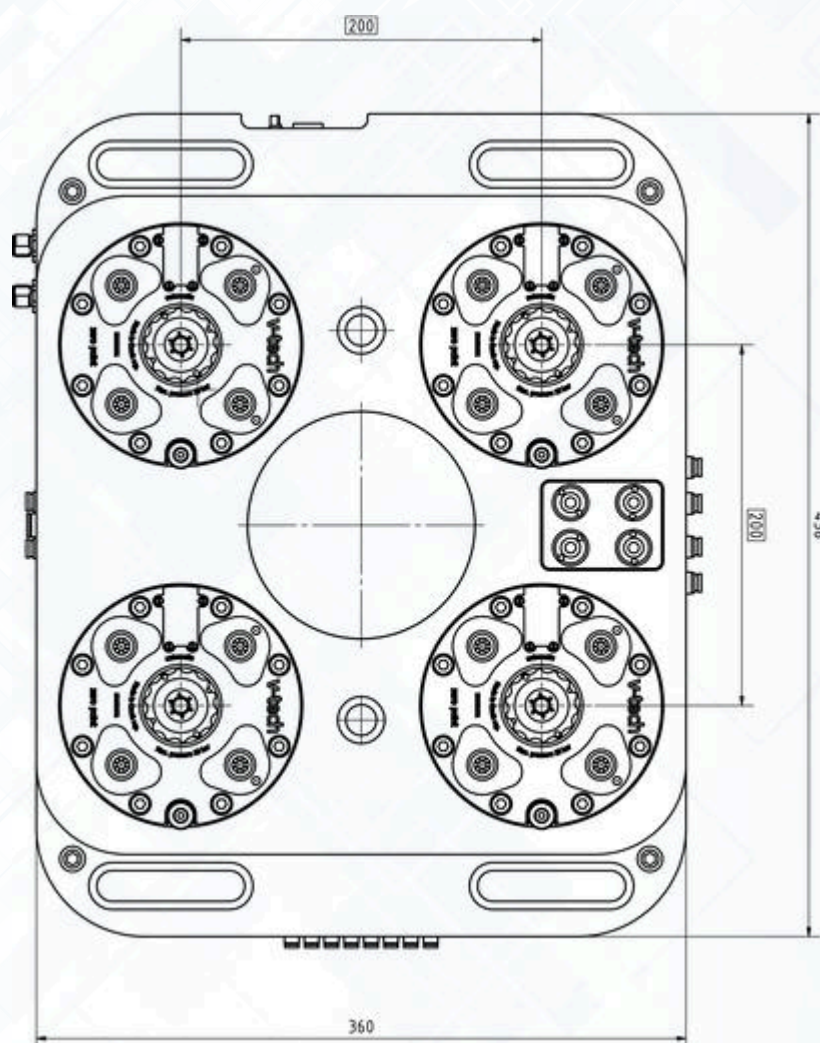
for automatic replacement



ZEPo-v Clamping base Auto 4x200 NES-t A 135

Clamping station with 4 modules of NES-t 135 mm

Massive base made of high quality steel, specially designed for applications in automatic operation together with the Robot Point robotic head.



- ✓ Tensile force 4 x 24 kN
- ✓ RFID sensor
- ✓ Clamp open sensor
- ✓ 4 x plastic plug
- ✓ Highly durable and stable base body
- ✓ Airsensing - checking the correct seating

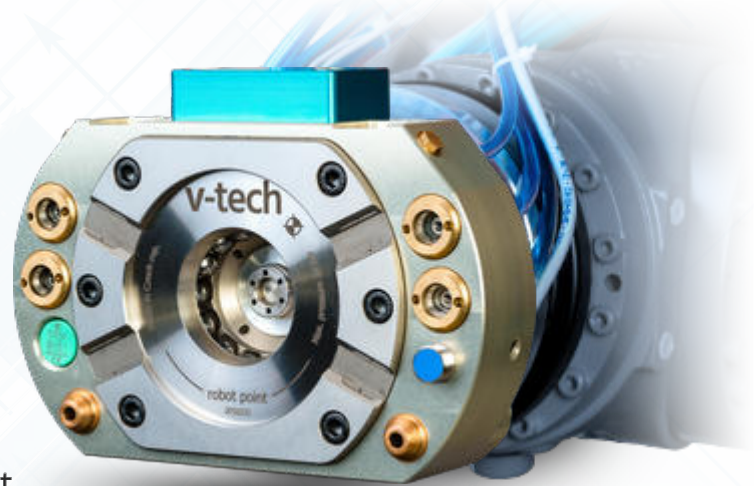
PARAMETER TABLE

	NUMBER OF NESTS	CLAMPING FORCE (KN)	REPLACEMENT METHOD	PALLET CHANGE TIME (S)	BLOW CLEANING OF MATING SURFACES	CHECK OF CLAMPING
	4	4 x 24	automatic	< 10	yes	airsensing
AZV-T 4H 200	PALLET IDENTIFICATION	FORCE MEDIUM	MATERIAL	WEIGHT (KG)	DIMENSIONS (MM)	ORDERING NUMBER
	RFID	air	high-grade steel	26,1	360 x 456	20170300000

ZEPo - Robot Point 135

High-precision robust automatic interface between industrial robot and exchangeable adapter with one NES-t 135 pneumatic clamping nest.

Robot Point provides automatic operation of CNC machine tools using an industrial robot or manipulator. It can be used as a docking system for quick and automatic exchange of gripping and technological heads or as a pallet stacker. The accessory is a docking magazine for interchangeable adapters. It is supplied in 3 positions as standard: with adapter beds fitted with position sensors. The hopper can be expanded modularly.



- ✓ Sensorics including RFID read head
- ✓ Pneumatic control

- ✓ Low weight
- ✓ High load torque

- ✓ Jumpers (hydraulics, tires, electrical signals)

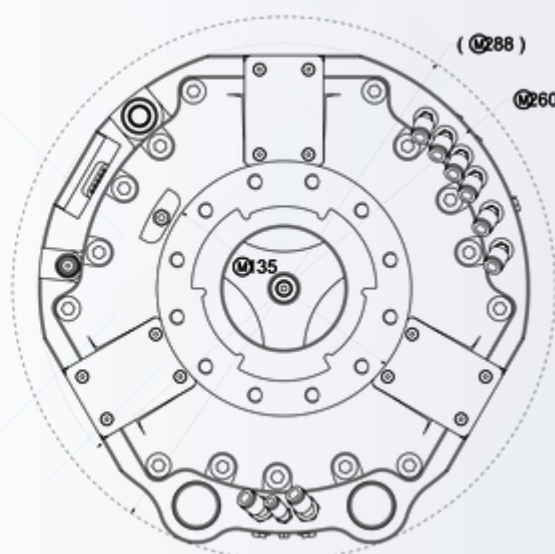
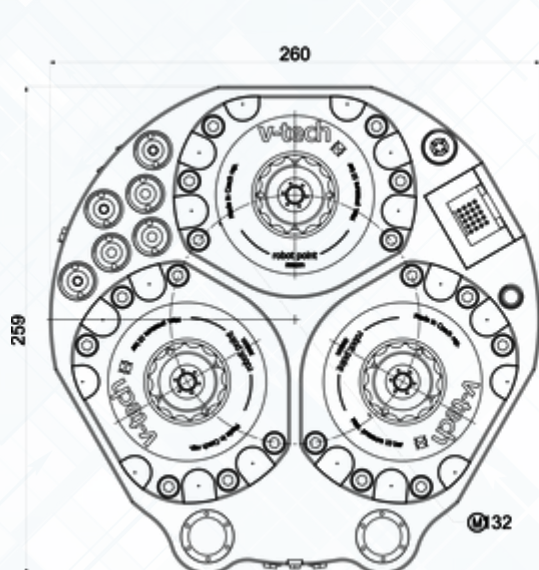
PARAMETER TABLE	CLAMPING FORCE (KN)	REPLACEMENT METHOD	PALLET CHANGE TIME (S)	BLOW CLEANING OF MATING SURFACES	CLEANING NOZZLES	NUMBER OF PNEUMATIC COUPLINGS	NUMBER OF HYDRAULIC COUPLINGS
		24	automatic	< 5	yes	yes	4
ROB-T 135	PALLET IDENTIFICATION	FORCE MEDIUM	MATERIAL	WEIGHT (KG)	DIMENSIONS (MM)	ORDERING NUMBER	
	RFID	air	high-grade steel / high-strength aluminium	3,2	185 × 131 × 89,5	2018120001	



ZEPo - Robot Point 3H 135

High-precision robust automatic interface between industrial robot and exchangeable adapter with three NES-t 135 pneumatic clamping nest.

Robot Point provides automatic operation of CNC machine tools using an industrial robot or manipulator. It can be used as a docking system for quick and automatic exchange of gripping and technological heads or as a pallet stacker. The accessory is a docking magazine for interchangeable adapters. It is supplied in 3 positions as standard: with adapter beds fitted with position sensors. The hopper can be expanded modularly.



- ✓ Sensorics including RFID read head
- ✓ Pneumatic control

- ✓ High load torque
- ✓ Possible modifications based on a customer solution.

- ✓ Jumpers (hydraulics, tires, electrical signals)

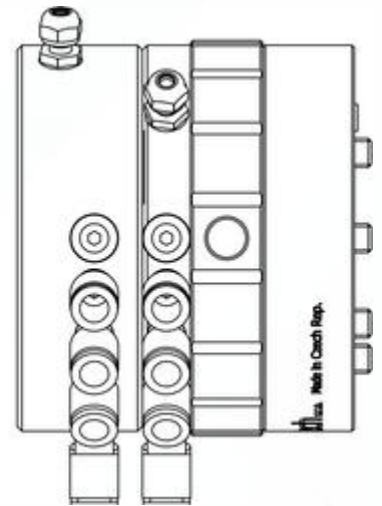
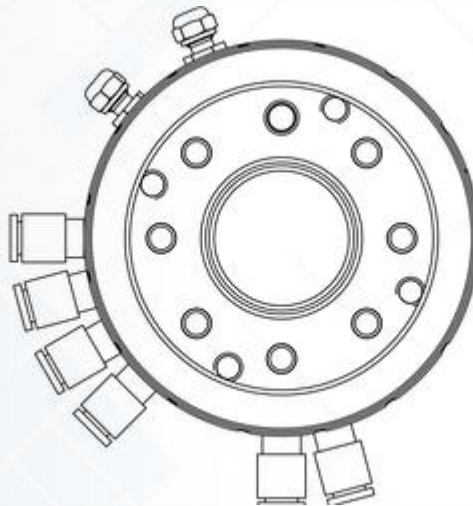
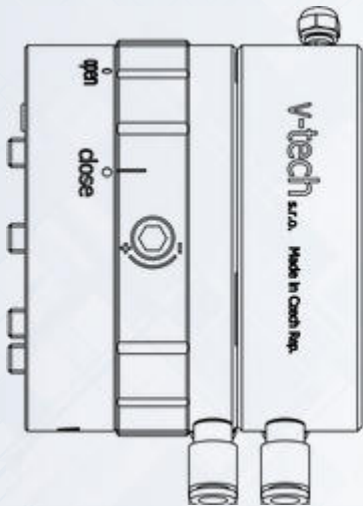
PARAMETER TABLE

	WIDTH	LENGTH	HEIGHT	WEIGHT	REPEATED CLAMPING ACCURACY	MIN. AIR PRESSURE	ORDERING NUMBER
ROB-T 3H	260 mm	259 mm	86 mm	11,2 kg	0,01 mm	6 bar	2100100000

ROB-CLT Quick-change coupling for robotic head

Mechanical clutch for industrial robots

Fast and precise coupling of industrial robot flange and tool (gripping head, technological head, etc.). The ideal solution for frequent tool changes, in which the use of a coupling eliminates the time required for the change itself as well as for measuring the reference points. The ROB-CLT coupling excels in its compact design while maintaining a high load capacity.



- ✓ Rigid and precise clamping
- ✓ Simple control
- ✓ 6x pneumatic jumper
- ✓ 1x signal jumper

PARAMETER TABLE

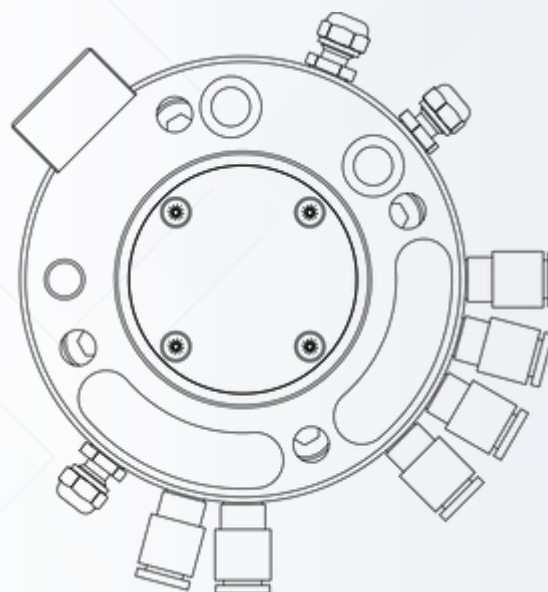
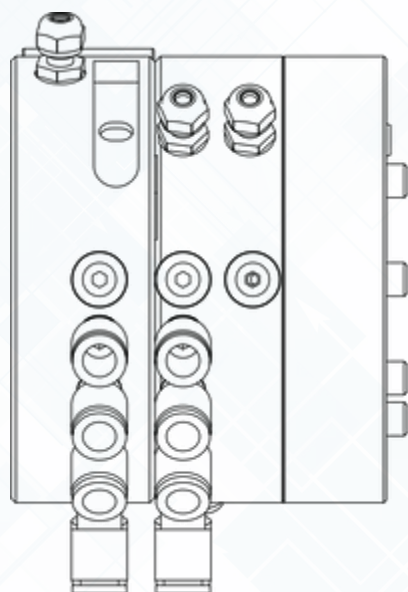
	LENGTH	OUTER DIAMETER	WEIGHT	REPEATED CLAMPING ACCURACY	MAX. TORQUE	ORDERING NUMBER
ROB-CLT 82	70	82	1,1 kg	0,01	120 Nm	2100310000
ROB-CLT 142	73	142	3,7 kg	0,01	255 Nm	

Automatic coupling ROB-CLA 82

Automatic coupling for industrial robots

Automatic alternative to the mechanical coupling ROB-CLT 82. Use for automatic change of the robot tool, whether it is a process or clamping head. The permissible load of the coupling is fully suitable for use in smaller to medium capacity industrial robots. Also suitable for collaborative robots. Docking stand with 4 beds can be purchased as an accessory.

Accessories: stand with docking beds, docking bed with sensor



- ✓ Rigid and precise clamping
- ✓ Automatic docking option, flexible robot tool change

- ✓ 6x pneumatic coupling
- ✓ 1x signal jumper

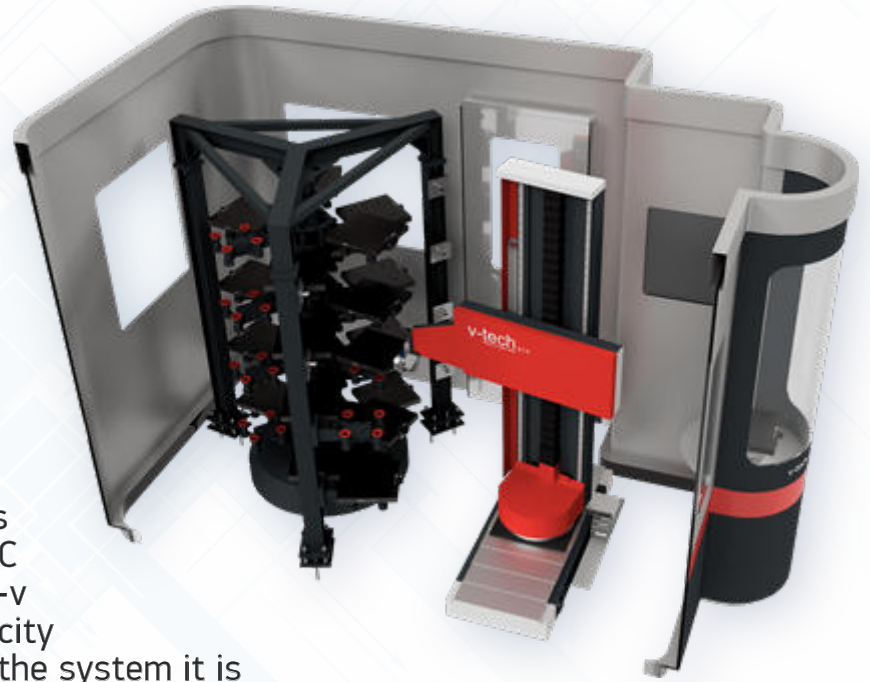
PARAMETER TABLE

	LENGTH (mm)	OUTER DIAMETER (mm)	WEIGHT (kg)	REPEATED CLAMPING ACCURACY (mm)	MAX. LOAD (Nm)	FEATURE 1	FEATURE 2	ORDERING NUMBER
ROB-CLA 82	61,5	82	1,2	0,02	120 Nm	6x pneumatic coupling	1x signal jumper	220080001

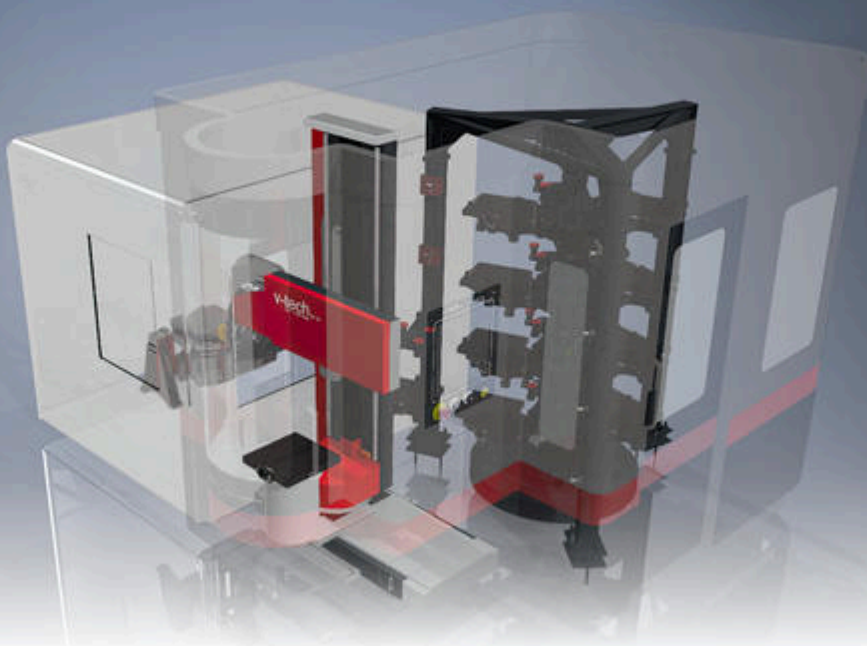
PAL-24 Pallet Changer

Fully automatic pallet stacker for productive and fully automated production.

Manipulator - stacker is adapted for handling clamped blanks on PLT-A pallets in four axes. The semi-finished products are on pallets usually inserted into the CNC machine from the side of the machine. Semi-finished product with a pallet is manipulated on the table of the CNC machine with clamping base ZEPo-v AZV-T. It is designed for large capacity carousel hopper for 24 pallets. Into the system it is possible to connect one or two tanks with a total capacity up to 48 pallets.

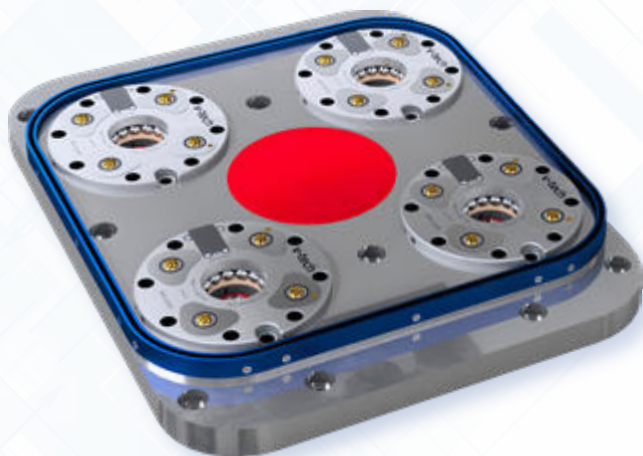


- ✓ Control system compatible with Heidenhain, Fanuc, Siemens and Mazak.
- ✓ The user interface has a visual graphical interface with a touch screen.
- ✓ The transfer table is designed for loading and unloading pallets with workpieces into the stacker system.
- ✓ A safety cover is offered for the system. The cover has customized shapes and colors.



The Stacker main parts:

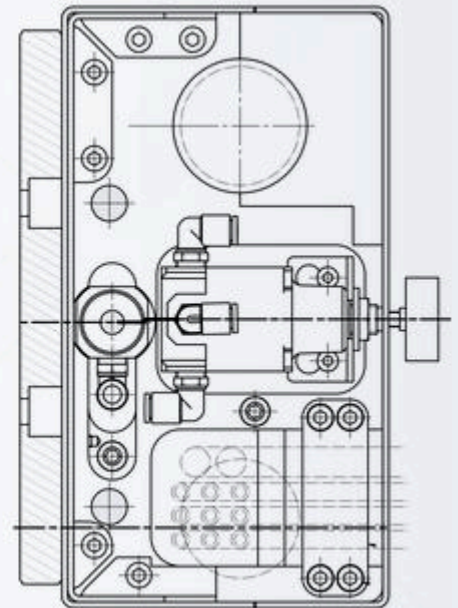
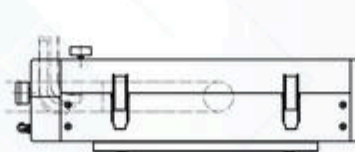
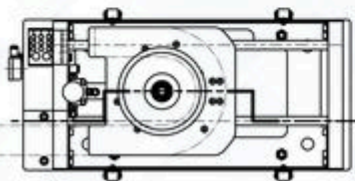
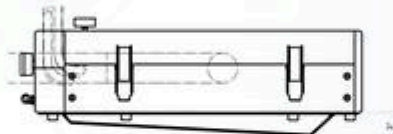
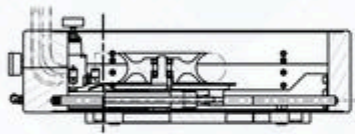
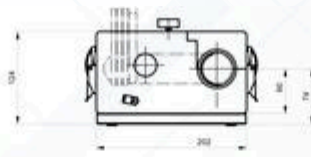
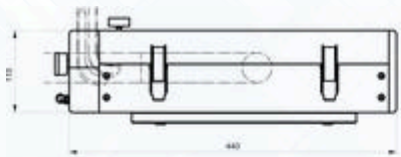
- ⚙ Manipulator – stacker
- ⚙ Large-capacity carousel magazine
- ⚙ Transfer table
- ⚙ Control system Security cover for the entire system



- ✓ Load capacity 220 kg
- ✓ Capacity 24 pallets
- ✓ Integrated control system
- ✓ **Ordering number: 210110000**
- ✓ Preparation for fully automatic unattended production on CNC machine tools

SUCO-v Supply Compensator

Compensation system for maintaining a tight bundle of leads to the end effector of an industrial robot (pneumatics, hydraulics, cables ...)



✓ Pneumatic principle

✓ Possible regulation of compensating

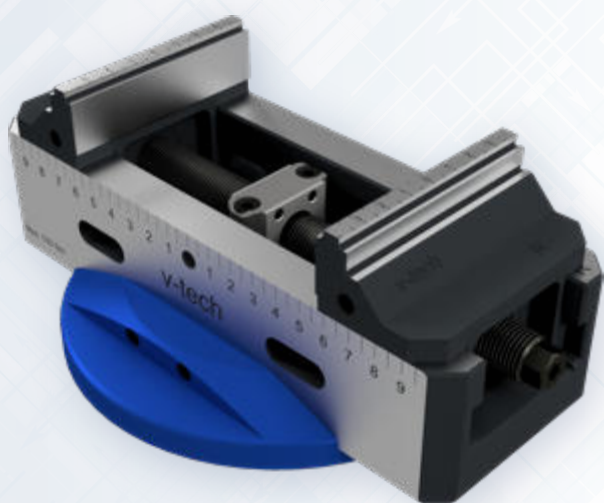
PARAMETER TABLE

	LENGTH	WIDTH	HEIGHT	WEIGHT	MAX. BUNCH DIAMETER	MAX. LENGTH COMPENSATION	ORDERING NUMBER
SUCO-V 440	440	202	124	22,9 kg	65 mm (max. 70)	480 mm (2x 240)	210040011
SUCO-V 660	660	290	134	13,3 kg	43 mm (max 45)	240 mm (2x 120)	210040051

VIS-E 82

Self-centering machine vise

Self-centering vise for productive CNC machining. Suitable for 5 axis machines with rotary jaws. Optimum ratio of clamping force and size. Designed for demands and requirements of applications with an emphasis on rigid and precise clamping of the piece. Suitable for both roughing and finishing operations. Special coating of the central screw for effective transmission of the tightening torque to the clamping force. 2 variants of length L= 170 and 214. As accessories, roughing jaws and exchangeable jaw inserts can be purchased. Suitable with ZEPO-V modular clamping system.



✓ Simple, precise and rigid construction

✓ Hardened and ground sliding surfaces

✓ Interchangeable clamping jaws and inserts

PARAMETER TABLE	LENGTH	HEIGHT	WIDTH	WEIGHT	JAW STROKE	MAX. CLAMPING FORCE	REPEATABLE CLAMPING ACCURACY	ORDERING NUMBER
VIS-E 82	170 mm	79 mm	82 mm	5,4 Kg	106 mm	20 kN	0,02 mm	240020101
VIS-E 82	214 mm	79 mm	82 mm	6,5 Kg	128 mm	20 kN	0,02 mm	240020103

Accessories:
Pair of jaws with exchangeable inserts

Order number: 240021200



Accessories:
Pair of roughing jaws

Order number: 240021118



VIS-E 125

Self-centering machine vise

A wider version of the self-centering vise. Special coating of the central screw for effective transmission of the tightening torque to the clamping force, which ensures rigid and precise clamping of the piece. Suitable for both roughing and finishing operations. It is possible to purchase roughing jaws with hardened teeth that can bite into the raw material. Version in 2 length variants L= 214 and 340. Suitable with ZEPO-V modular clamping system.



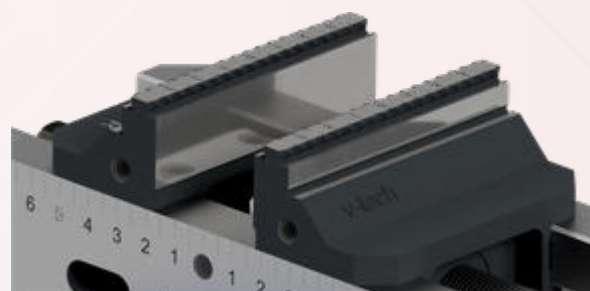
- ✓ Simple, precise and rigid construction
- ✓ Hardened and ground sliding surfaces
- ✓ Interchangeable clamping jaws and inserts

PARAMETER TABLE	LENGTH	HEIGHT	WIDTH	WEIGHT	JAW STROKE	MAX. CLAMPING FORCE	REPEATABLE CLAMPING ACCURACY	ORDERING NUMBER
VIS-E 125	214 mm	79 mm	125 mm	9,3 Kg	106 mm	25 kN	0,02 mm	240020102
VIS-E 125	340 mm	79 mm	125 mm	13,0 Kg	232 mm	25 kN	0,02 mm	240020104

Accessories:
Pair of jaws with exchangeable inserts
 Order number: 240021206



Accessories:
Pair of roughing jaws
 Order number: 240021117



Three face pyramid PRC 135

Clamping pyramid

Three-sided clamping pyramid made from high-strength aluminum with integrated three clamping nests NES-T 135. Suitable for multiple clamping of workpieces or semi-finished products in 5-axis machine tools with a rotary table. As standard, the pyramid is equipped with 4 clamping pins for installation in the ZEPO-V modular clamping system. If necessary, the clamping pins can be removed and fixed directly on the table of the CNC machine.



- ✓ Multiple clamping of the blank for 5-axis machining centers with a rotary table
- ✓ Part of the ZEPO-V modular kit
- ✓ Increased productivity and reduced downtime
- ✓ Robust and precise clamping

PARAMETER TABLE

	LENGTH	HEIGHT	WIDTH	WEIGHT	NUMBER OF CLAMPING POINTS	ORDERING NUMBER
PRC 135	340 mm	143 mm	375 mm	5,5 Kg	3	240020201

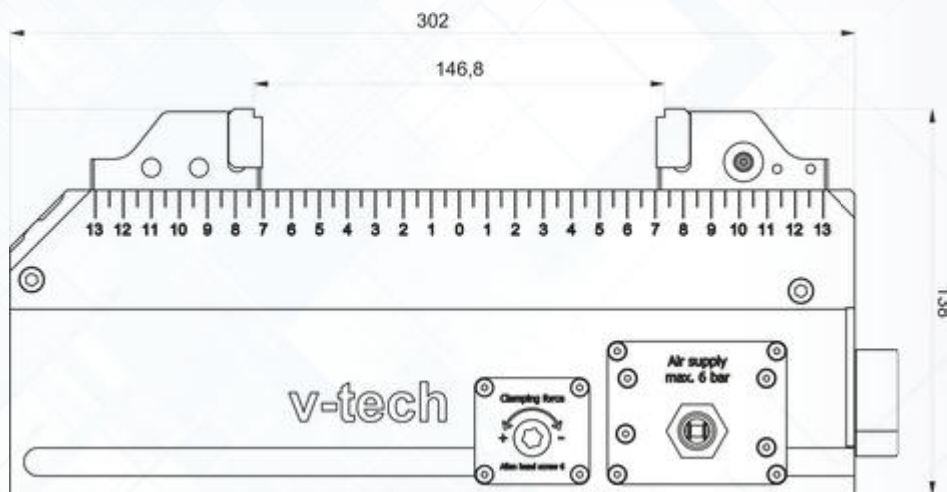
VIS-A 125 Automatic vise

Self-centring pneumatic vise

Solution for clamping of semi-finished products and workpieces for automatic machining workstations. A robust body design combined with a high clamping force is a prerequisite for a stable cutting process. VIS-A operates in both fully automatic mode and manual mode, where the clamping force is derived from a built-in pneumatic drive. The advantage of this solution is the possibility of regulating the clamping force over the entire stroke range. Due to the self-locking principle of the jaw movement, no continuous air supply is required. Compatible with the ZEPo-v clamping system.



Accessories: Upper and lower dead centre end sensors



- ✓ Built-in pneumatic drive
- ✓ Changeable clamping jaws
- ✓ Force control over the entire stroke range
- ✓ Manual x automatic mode option



PARAMETER TABLE

	LENGTH	WIDTH	HEIGHT	WEIGHT	WORKING STROKE	CLAMPING FORCE RANGE	REPEATED CLAMPING ACCURACY	COMPRESSED AIR PRESSURE	ORDERING NUMBER
VIS-A 125	302 mm	139 mm	138 mm	30 kg	133 mm	0.3 - 35 kN	0.02 mm	6 bar	200013200

About us

v-tech s.r.o. was established in 2011 in Přerov nad Labem, Czech Republic. The company was founded from the Michal Vašát business, whose origins date back to 2008. Its main focus is the production of complex mechanical parts and components of production machines. It is mainly single-part and small-series cutting production. In the production of any components and parts, we aim for high quality based on ISO 9001 certification.

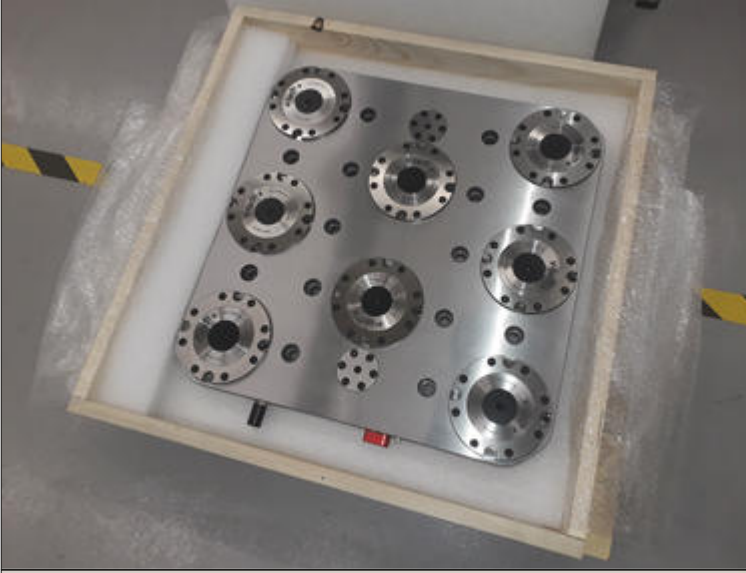
Over time and with increasing experience and investments, v-tech s.r.o. has become a steadily prosperous company with highly qualified personnel. To provide our customers with the best solutions, we not only perform custom production, but also work intensively on launching our own products.

In the field of quick-clamping equipment, we have gradually built a place with our own programme, which consists of standard catalogue products as well as tailor-made solutions. Top products include clamping systems for automatic replacement for robotic centres, which are appreciated especially by implementers of Industry 4.0.

Custom solutions

If the standard solution is insufficient for a certain application or machine, we can design and manufacture a special base according to your technological or machine requirements. We can design and produce a base with 1 nest for the smallest machines, but also bases with 12 nests for the largest ones. In any case, these are pneumatically operated mechanisms designed for fast, firm and accurate replacement of clamps or pallets. A custom-made clamping base will significantly increase the utility value of your machine.



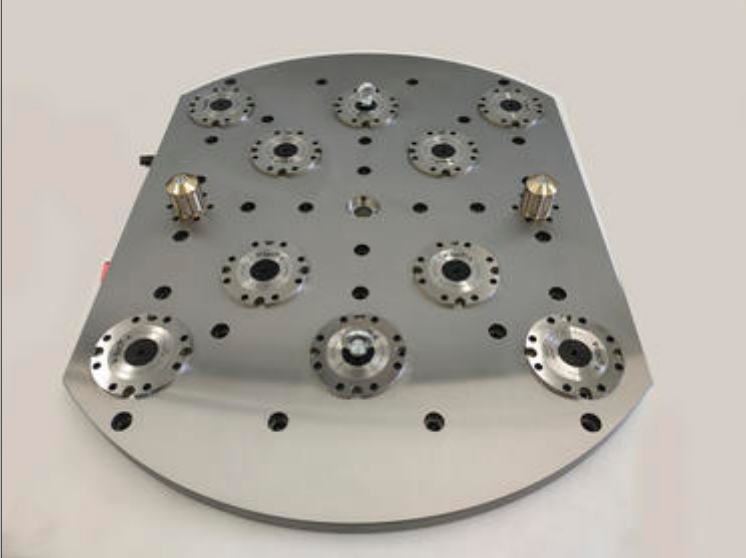


Example 1 – Grob G551

Part of a multi-machine pallet inserter with Grob CNC machines.

Setting and clamping of semi-finished products outside the working area of the machine => saving of machine time when changing pallets and semi-finished products.

Acceleration and simplification of production preparation.



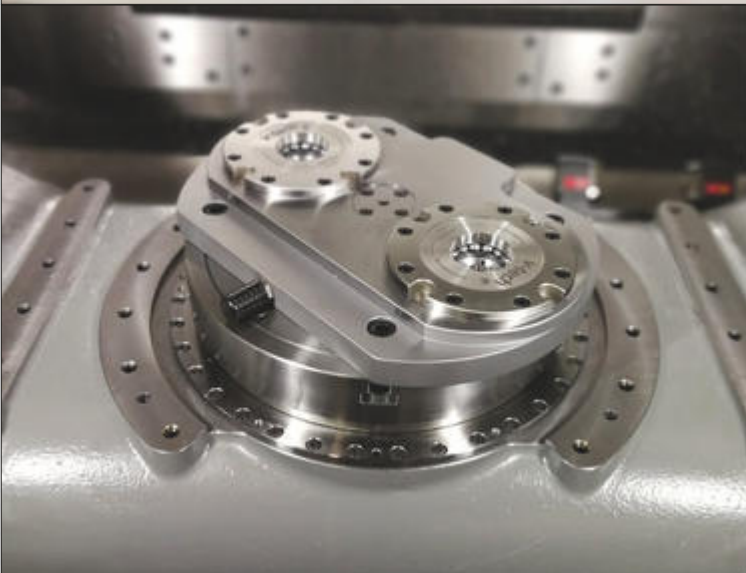
Example 2 – Hermle C52

Replacement of pallets with set and clamped castings for final machining.

Saving time required for clamping and setting a casting on prepared exchangeable pallets when the machine is operating.

Easy and fast handling of pallets in the machine without the need to measure zero points.

Significant time savings when changing a pallet.



Example 3 – Hermle_c250

Elimination of adjustment time when replacing standard workshop tools (universal chucks, vices) and clamping jigs for machining joint replacements.

Emphasis on easy and accurate setting of the clamp.

Reduction of the adjustment time when changing a vice for a universal chuck.



Example 4 – Mazak i600

Universal solution for standard single-part and small-series production on a 5-axis machine tool.

Firm and accurate clamping of vices of various sizes, universal chucks, jigs.

Reduction of the adjustment time when changing clamps and measuring zero points.



CNC Sensor

CNC sensor is an application for monitoring machine-tools and CNC centres created by our own forces and resources v-tech s.r.o. The purpose of the application is to collect and evaluate machine data from CNC machine-tools. This project arose from the requirement of our own engineering production, which suffered from a lack of real data for its management and smooth running. The goal was to create an application whose purchase price would not be dizzying amounts and would provide important data needed for production planning, utilization of production technology, employee motivation, economic evaluation production. The output of the application is an extensive and comprehensive overview of past production, which serves as a tool for identification weak production points, thus reducing operating costs and improving productivity. The application can be freely extended or modify according to specific customer requirements. We offer complete installation, connection of CNC machines and commissioning in your production plant.

Program

Chronologically sorted orders related to a specific part (program).
From the drop-down list, select the part you want to analyse and track the parameters.

- ✓ Number of pieces produced
- ✓ Number of discards produced
- ✓ Percentage of production, adjustment time, downtime and disorders
- ✓ Order number
- ✓ Unit time per 1 piece
- ✓ The Best production time evaluation
- ✓ Machine Setter name (option)
- ✓ Machine Operator name (option)
- ✓ Average hourly cost of production



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