

# ZEPO-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.

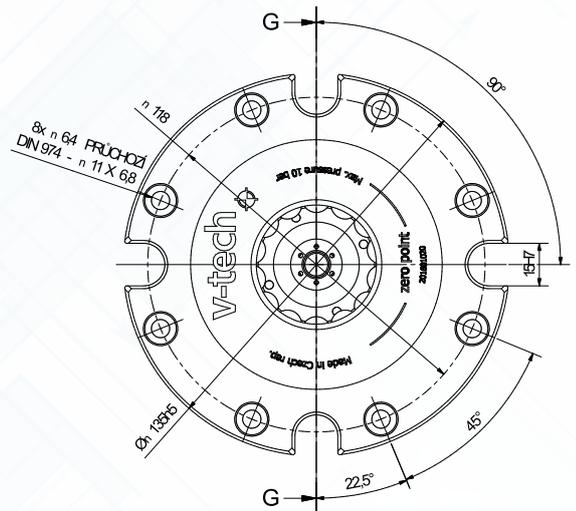
Cut this time by 90 %  
and increase the productivity  
of your plant!



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

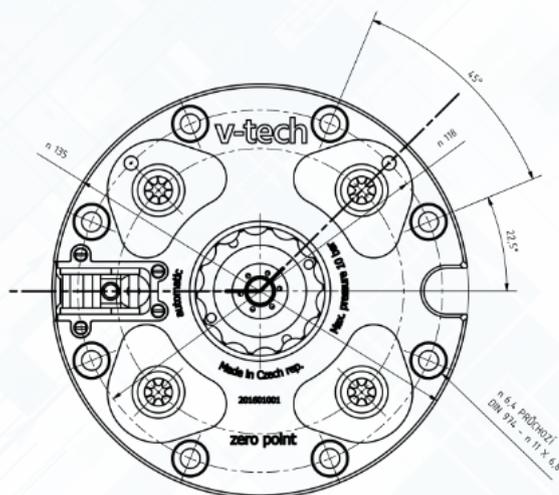
Pneumatic quick change, zero point pallet module to built in v-tech 's clamping standard or custom-made applications.

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
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.



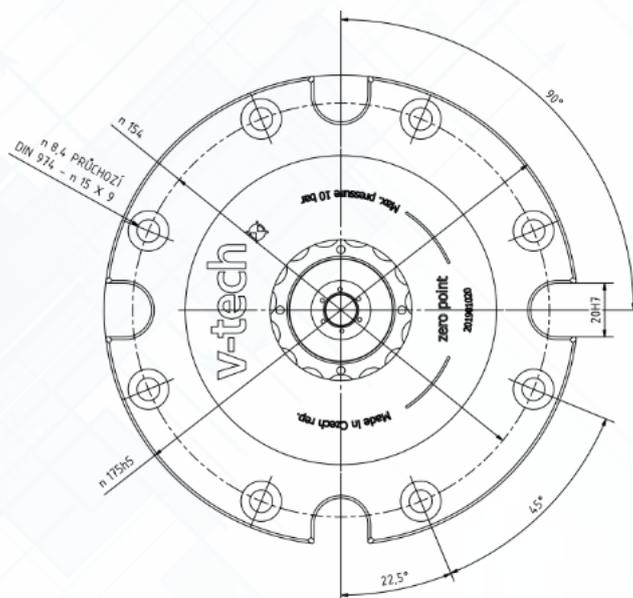
- Made from heat treated refined steel
- Height = 41 mm
- Air cleaning
- Self-clamping mechanism
- Constant air not required
- Ready for airsensing
- 24KN of clamping force
- Positioning slots allow for indexing by 90°
- Sensor or the opening

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
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)

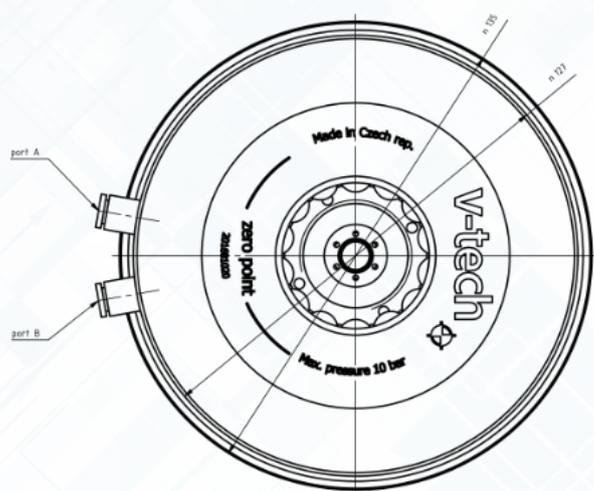
Pneumatic quick change, zero point pallet module to built in v-tech's clamping standard or custom-made

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
NES-T 175 (CLAMPING NEST Ø 175)	NUMBER OF CYCLES	BLOW CLEANING	UNCOUPLING SENSOR	BLOW CLEANING OF MATING SURFACES	PREPARATION FOR AIRSENSORING	ORDERING NUMBER	
	> 20000	yes	no	no	no	2018030001	



## ZEPo-v Clamping nest SOLO 135 mm

Pneumatic quick change, zero point module for direct placing on working table.



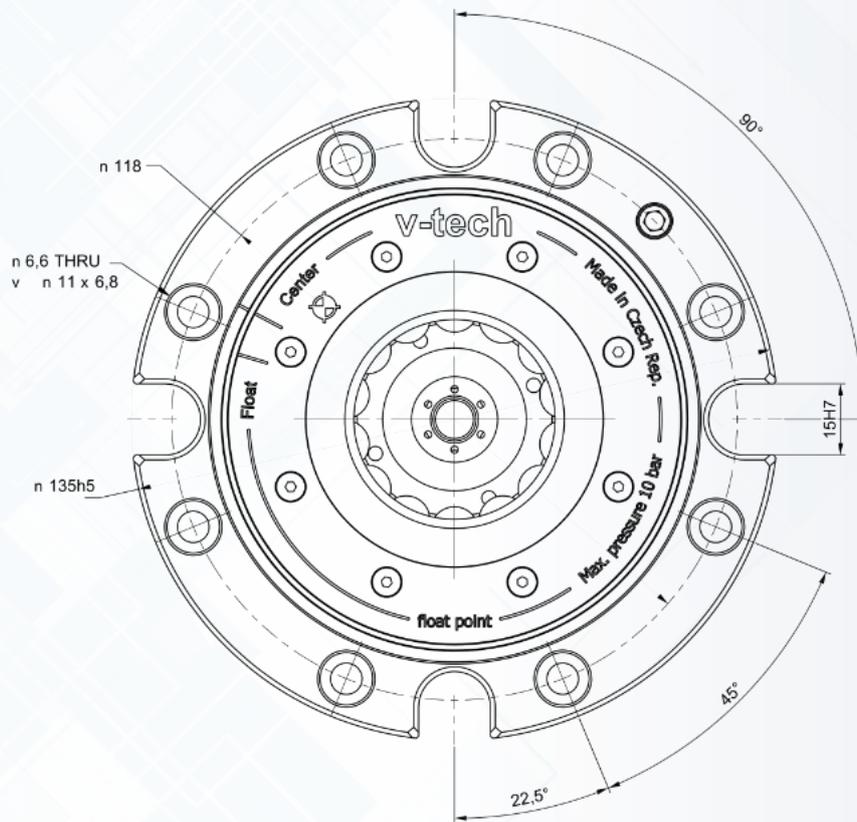
Basic element of the clamping system ZEPo-v guarantees the secure and precise clamping of workpieces, even under tough conditions. The self-clamping mechanism means the force is still applied after the air has been disconnected. Modul for stand-alone applications.

- ✓ Made from heat treated refined steel
- ✓ Self-clamping mechanism
- ✓ 24KN of clamping force
- ✓ Constant air not required

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
NES-T-SOLO 135	NUMBER OF CYCLES	BLOW CLEANING	UNCOUPLING SENSOR	BLOW CLEANING OF MATING SURFACES	PREPARATION FOR AIRSENSORING	ORDERING NUMBER	
	> 20000	yes	no	no	no	2022040001	

## 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
- ✓ The design is based on the proven NES-T 135
- ✓ Self-locking mechanism
- ✓ 24 kN = retraction force

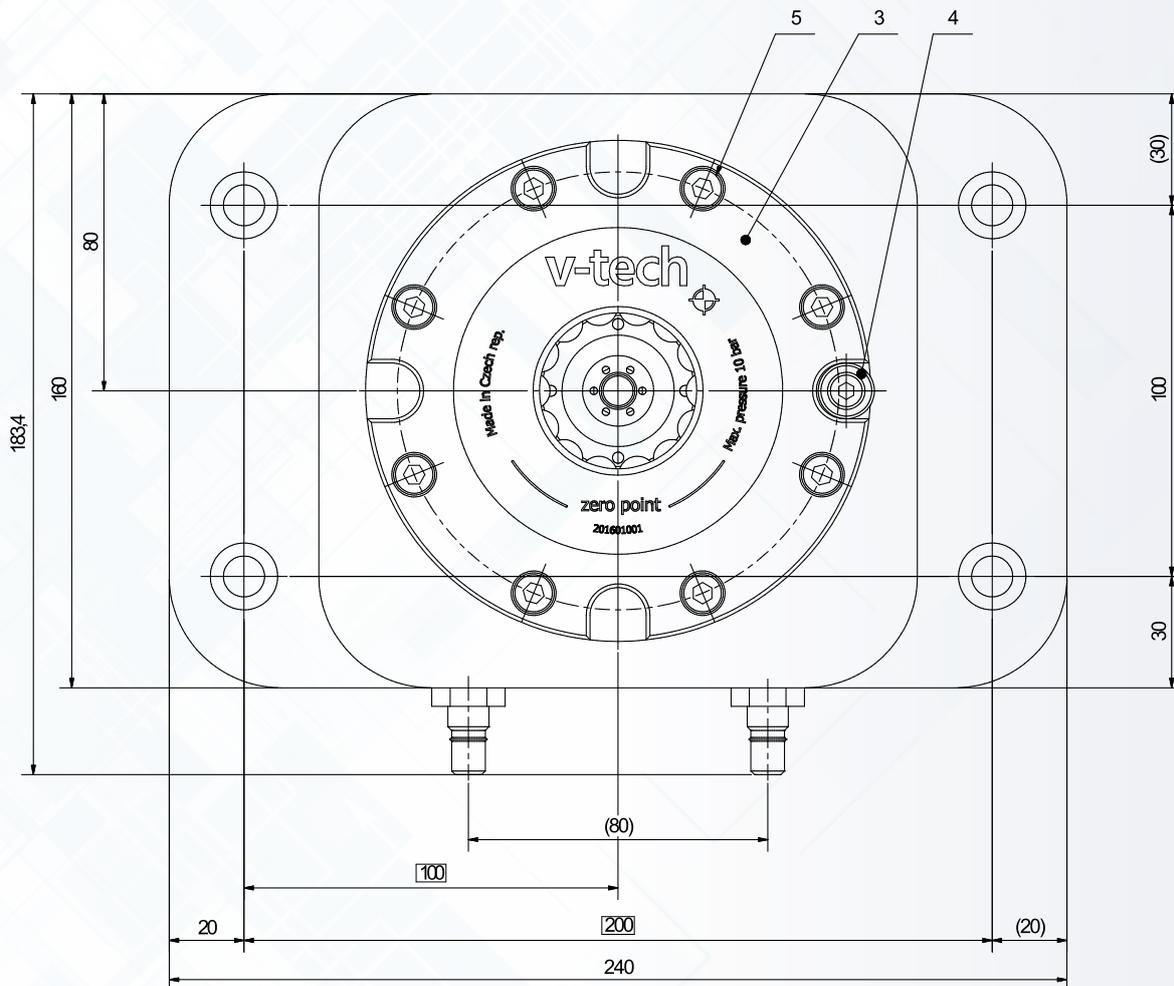
### PARAMETER TABLE

	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 of cnc milling processes.



- ✓ 1 x 24 kN
- ✓ Refined steel base
- ✓ Simple use and manipulation
- ✓ Plastic plug included
- ✓ Optional dimensional modification - on demand

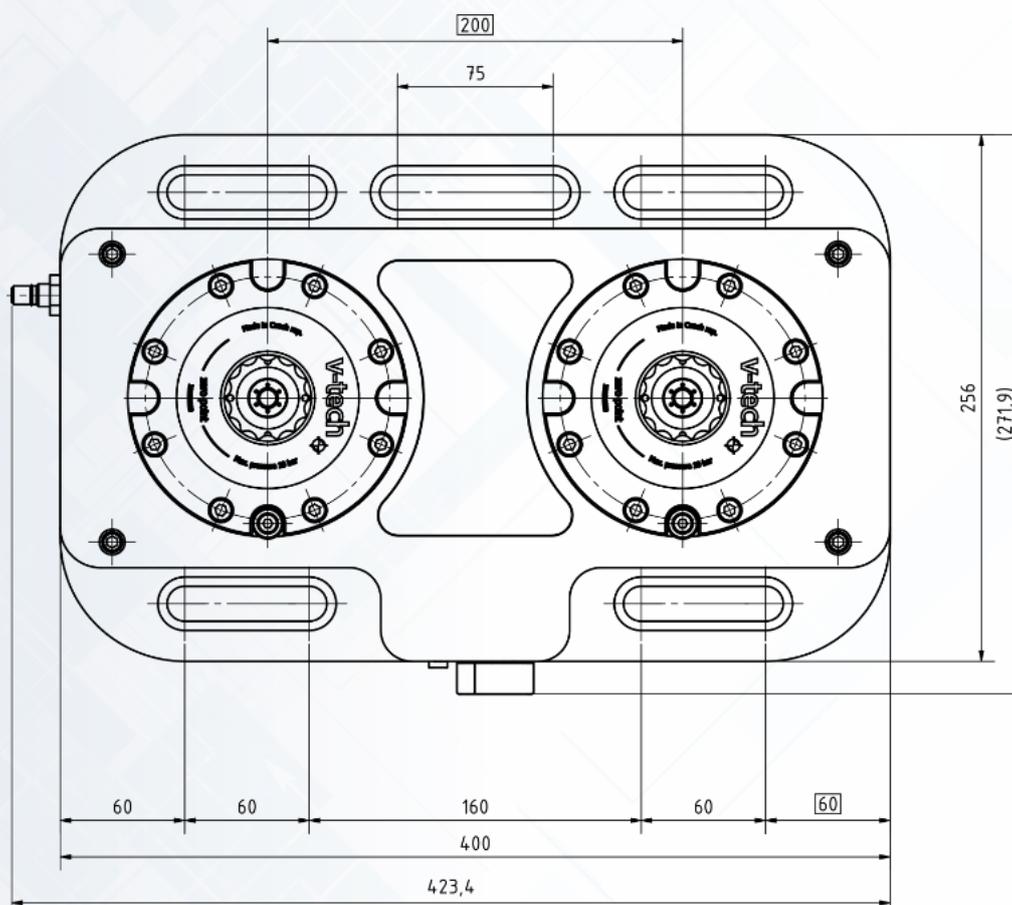
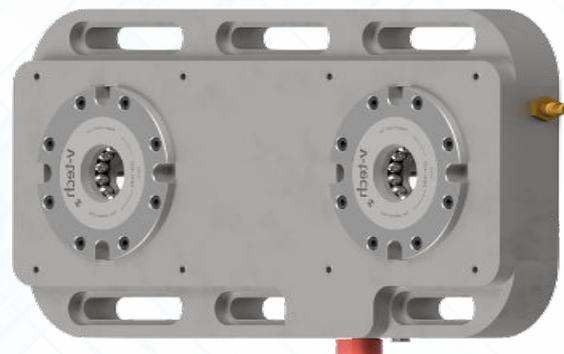
### PARAMETER TABLE

	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

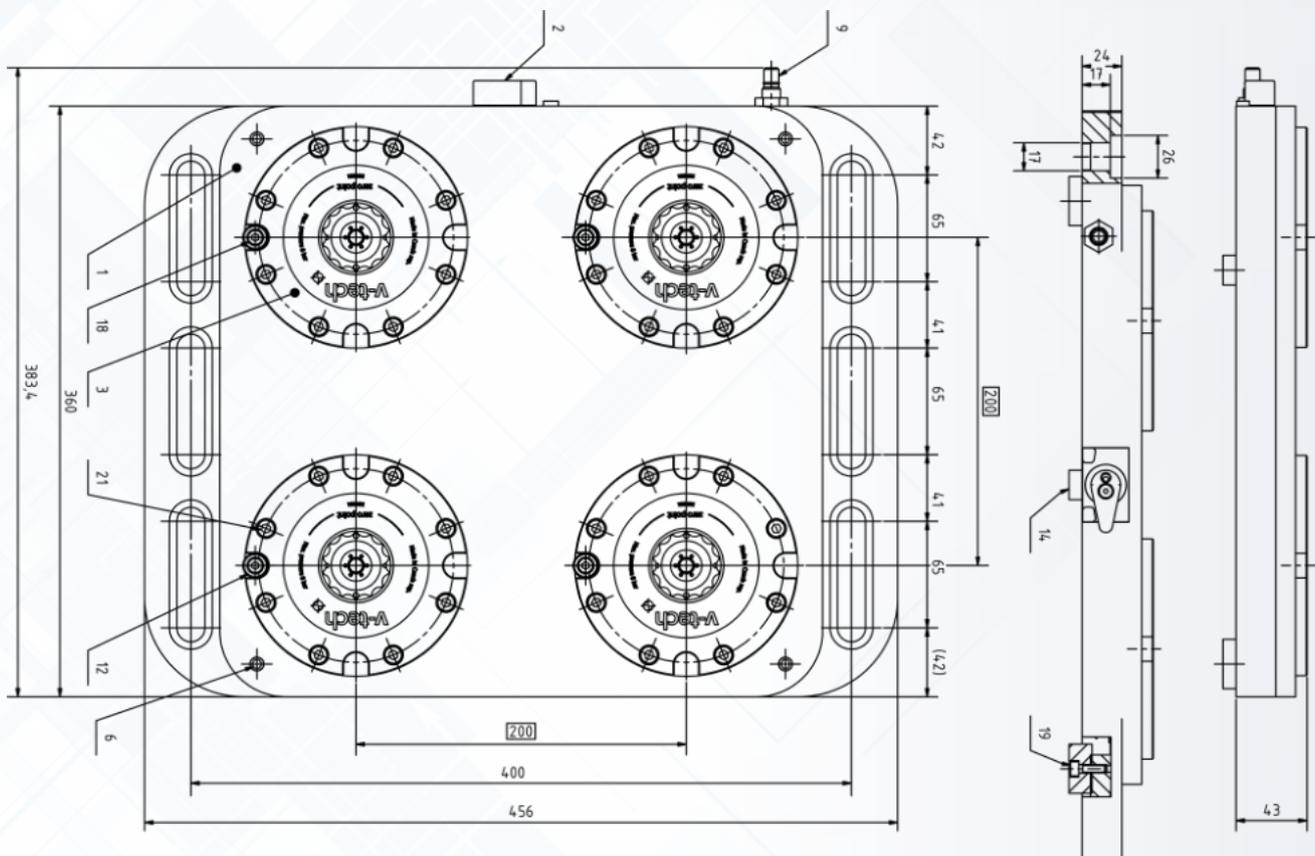
PARAMETER TABLE	NUMBER OF NESTS	CLAMPING FORCE (KN)	NEST SPACING (MM)	PALLET CHANGE TIME (S)	MATERIAL	DIMENSIONS (MM)	WEIGHT (KG)	ORDERING NUMBER
UZV-T 2X300	2	2x24	300	< 10	high-grade steel	500 x 256	19,2	2016010016
UZV-T 2X200	2	2x24	200	< 10	high-grade steel	400 x 256	16,8	2016010018

## 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

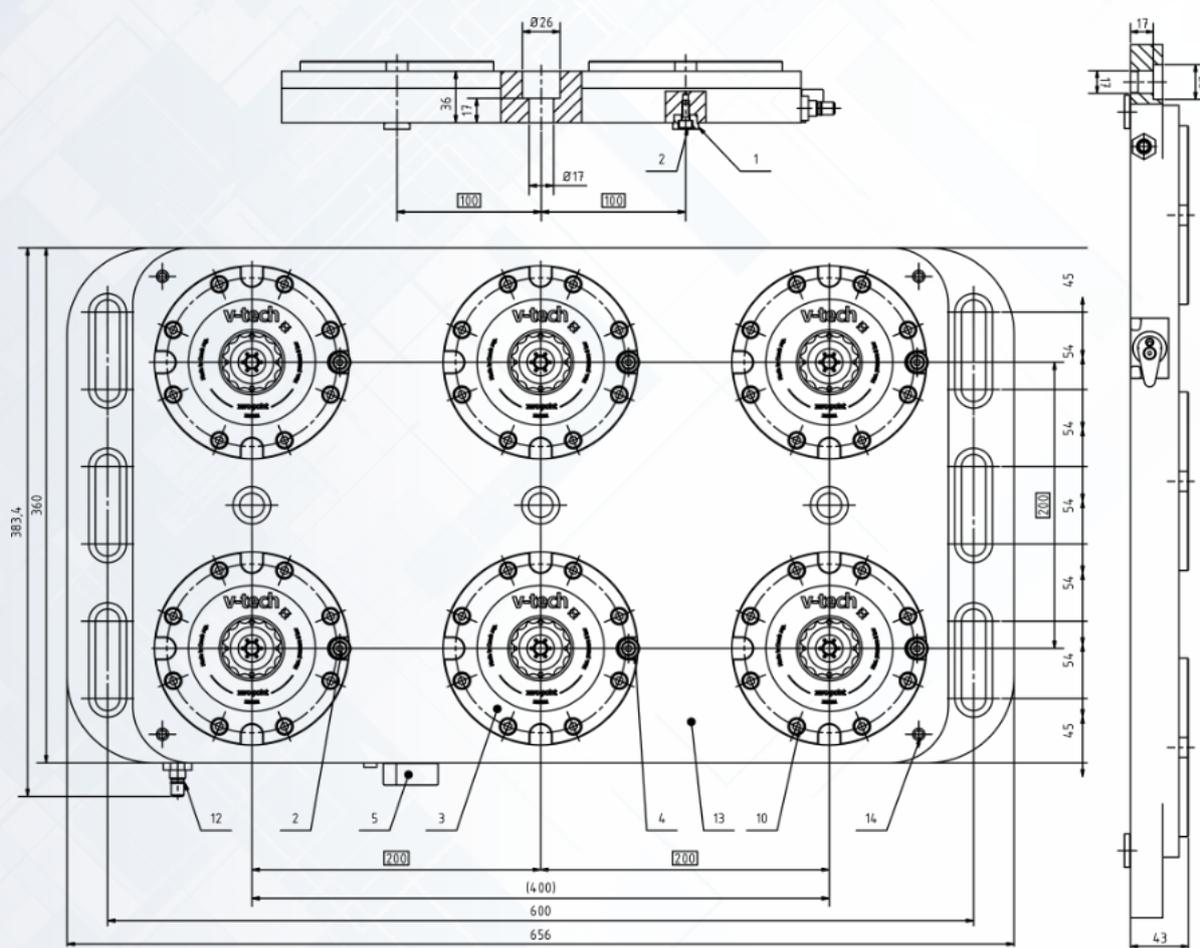
### PARAMETER TABLE

	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.



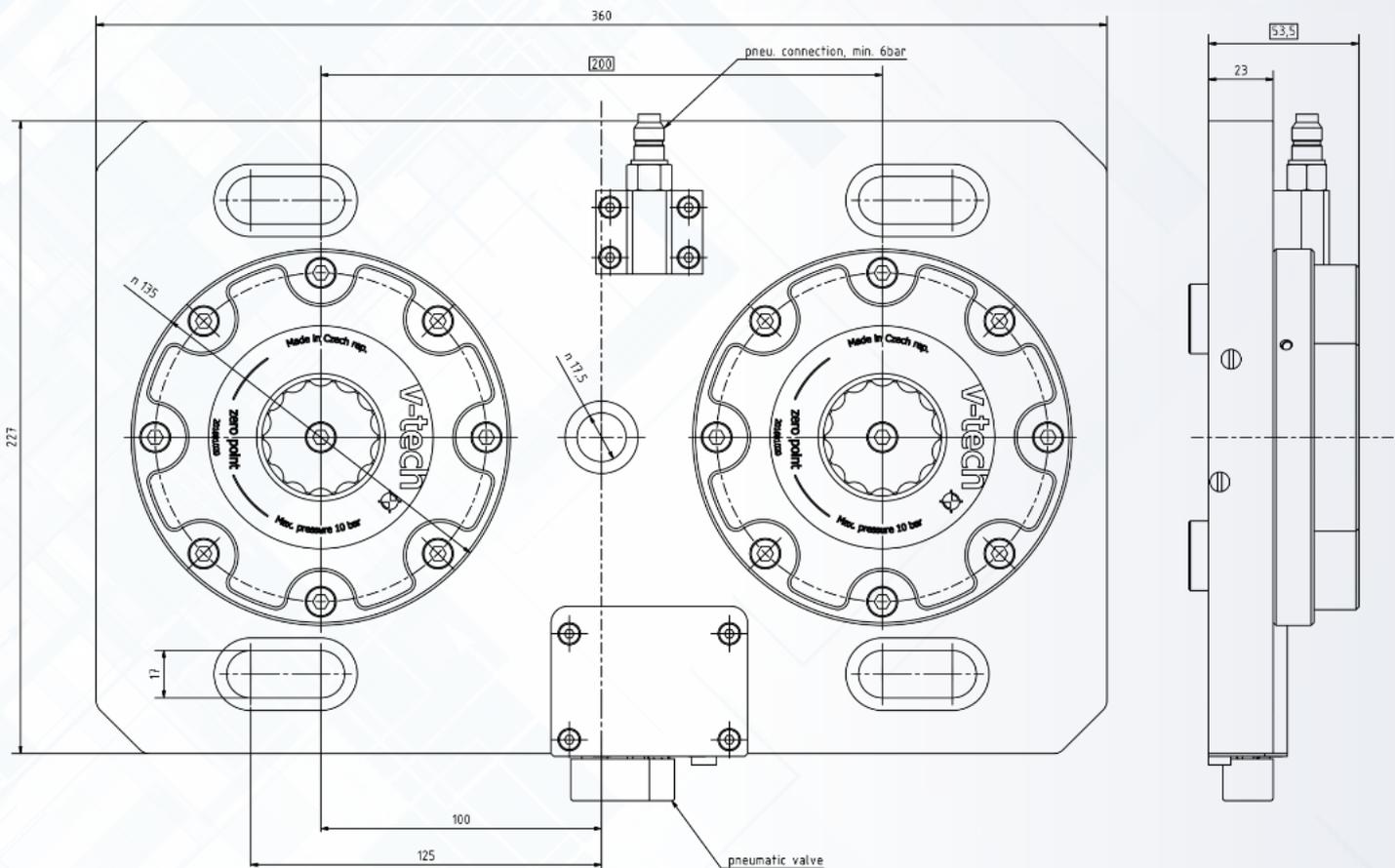
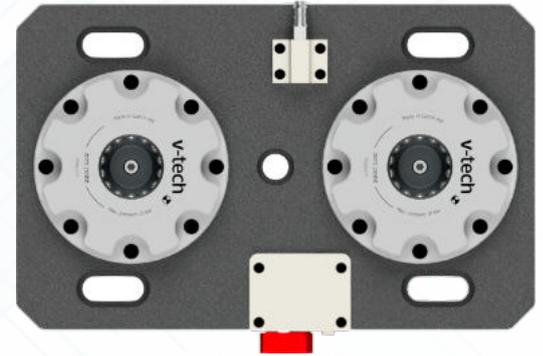
- ✓ Holding force 6x 24kN
- ✓ Refined steel base
- ✓ Pneumatic rotational valve
- ✓ Multiple configuration
- ✓ Plastic plugs included
- ✓ Optional dimensional modification - on demand

PARAMETER TABLE	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 655	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

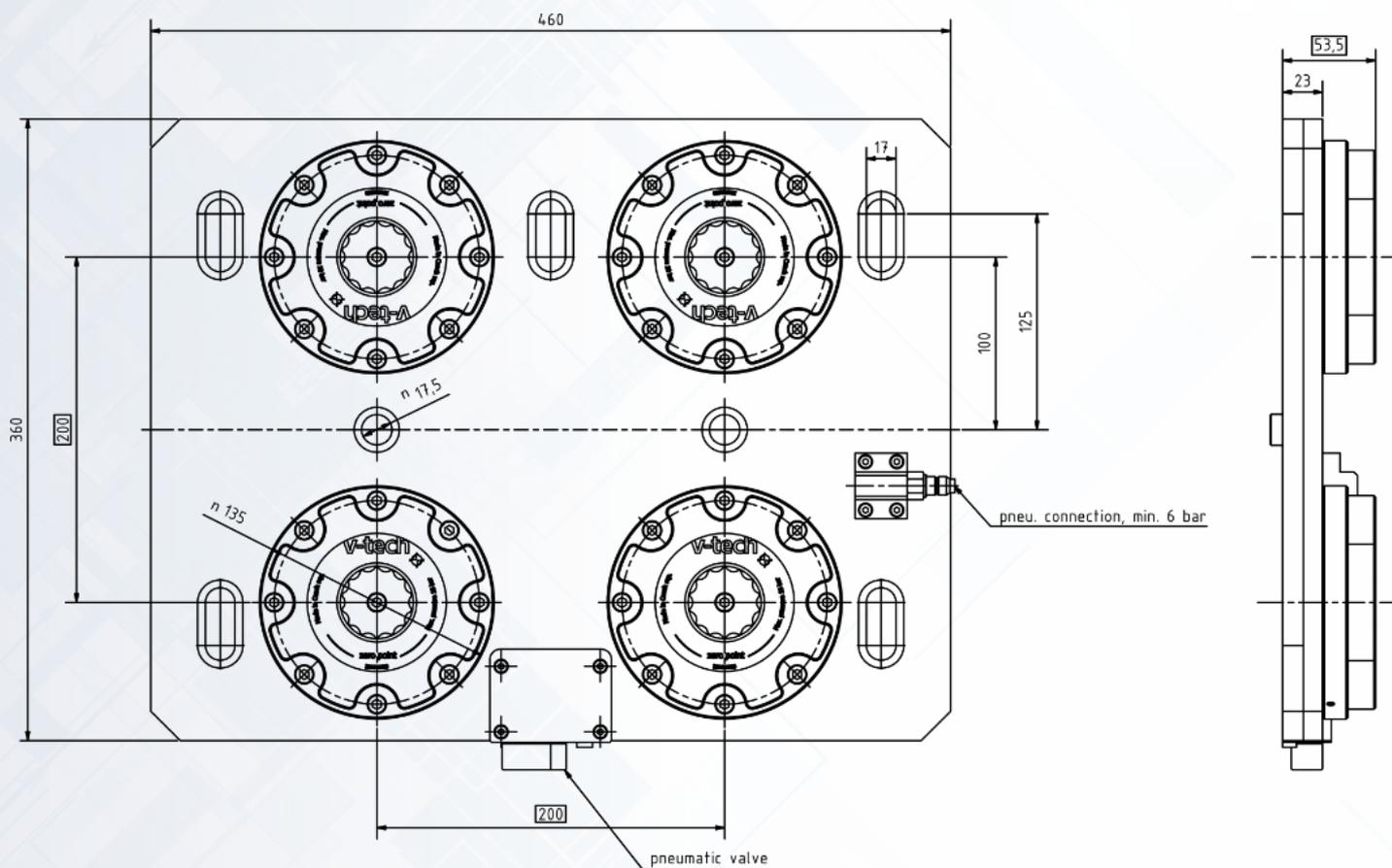
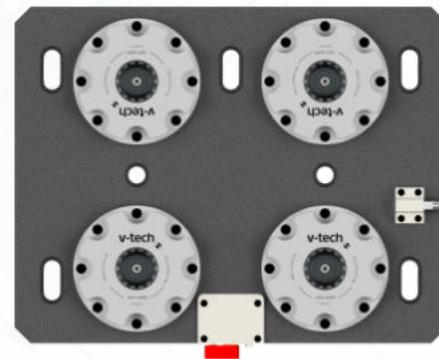
### PARAMETER TABLE

	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 4x200 NES-t 135

Clamping LT station with 4 modules of NES-t 135 mm

The 4 receiver clamping base The solution provides quick clamping and positioning of vices nad clamping fixtures, ideally for vertical CNC milling centers. Elements can be easily combined in perpendicular directons.



✓ Holding force 2x 24kN

✓ Refined steel base

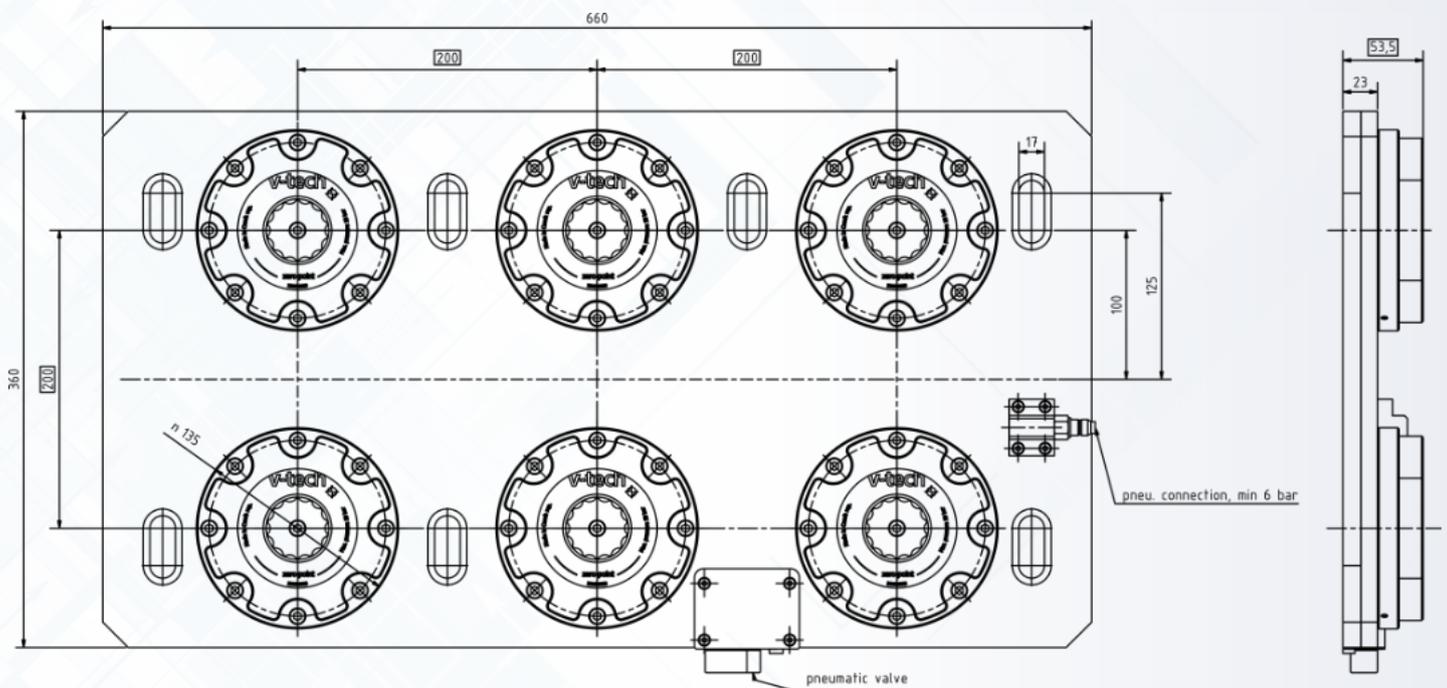
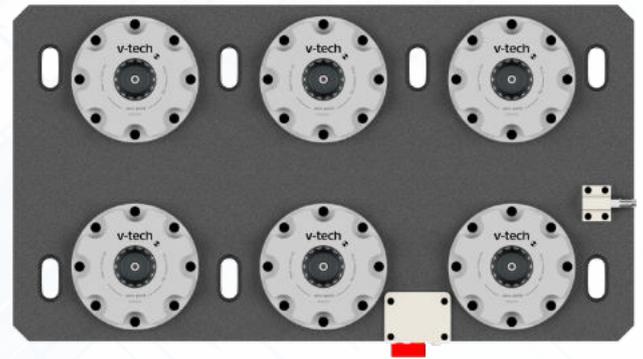
✓ Pneumatic rotational valve

PARAMETER TABLE	CLAMPING FORCE	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE	MIN. PRESSURE	WEIGHT	DIMENSIONS	MATERIAL	CHANGE TIME (S)	ORDERING NUMBER
UZV-TLT 4H 200	4 x 24 kN (NES-TLT 135)	air	8 bar	10 bar	5 bar	28 kg	360 x 460 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
- ✓ Refined steel base

- ✓ Pneumatic rotational valve
- ✓ Multiple configuration

### PARAMETER TABLE

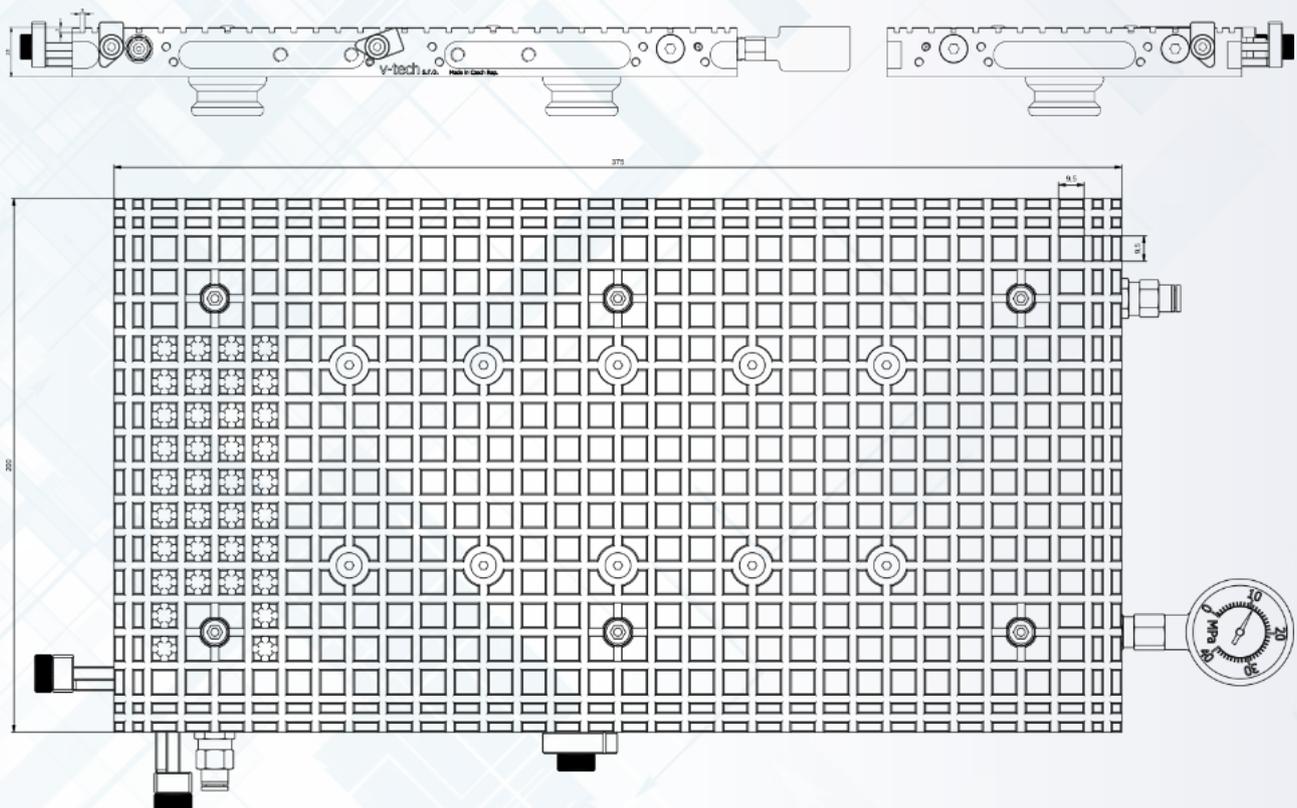
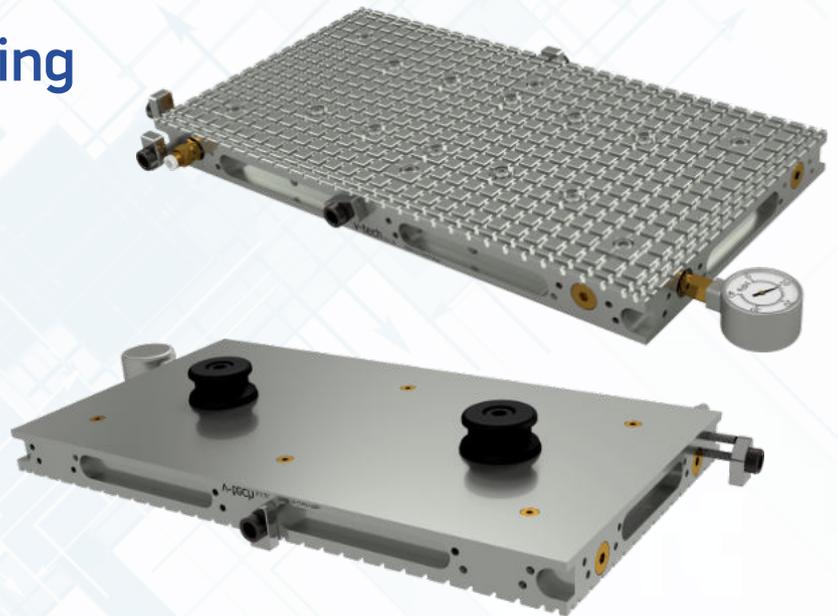
	CLAMPING FORCE	FORCE MEDIUM	NOMINAL PRESSURE	MAX. PRESSURE	MIN. PRESSURE	WEIGHT	DIMENSIONS	MATERIAL	CHANGE TIME (S)	ORDERING NUMBER
UZV-TLT 6H 200	6 x 24 kN (NES-TLT 135)	air	8 bar	10 bar	5 bar	38,6 kg	360 x 655 mm	high-grade steel	<10 s	2021040001



## 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.



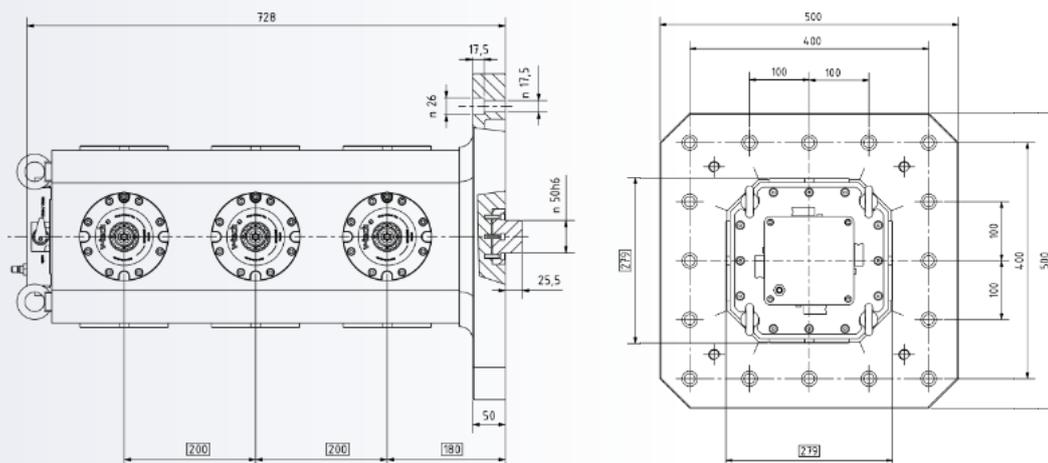
- Gentle technology of clamping
- Integrated vacuum pump
- Fast change
- Clamping of non-ferrous metals
- Modular principle
- High holding force

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

## 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

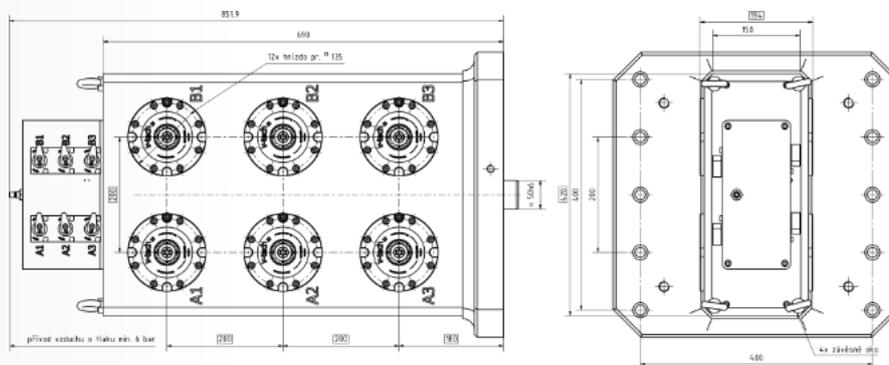


## ZEPo-v Tombstone 12x500x180 NES-t 135

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



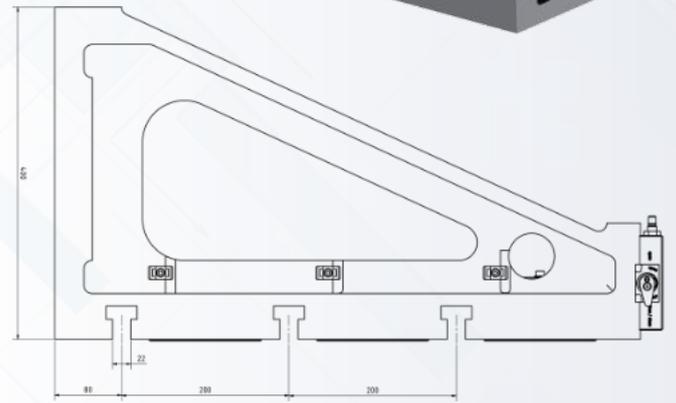
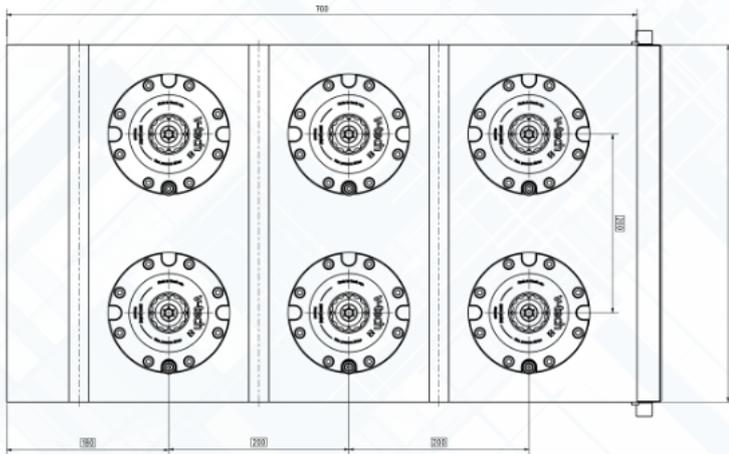
### PARAMETER TABLE

	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

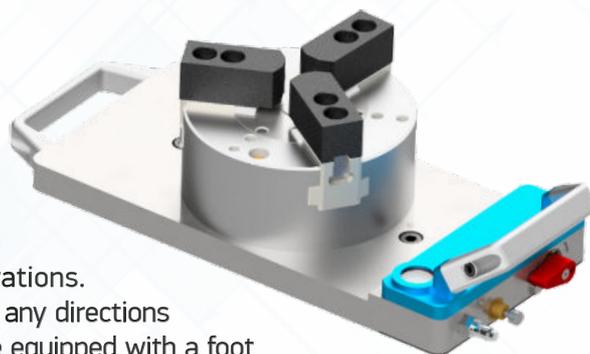
The pneumatically controlled universal chuck with an integrated air piston including an adapter and control valve is a powerful tool for quick replacement of semi-finished products. The clamp can be freely configured on the clamping base and is centred to the outer diameter of the clamping nest. For 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

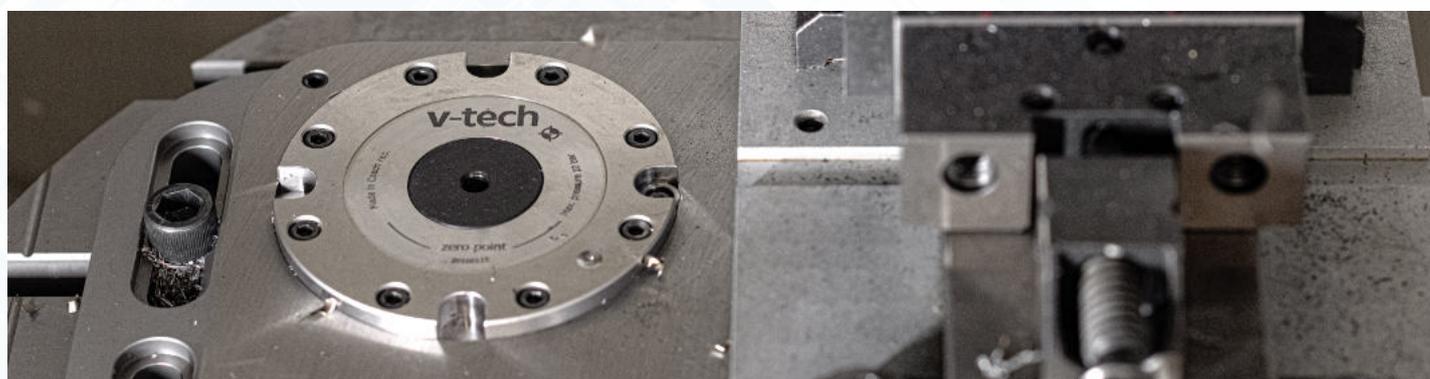
## SKL-V 165

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

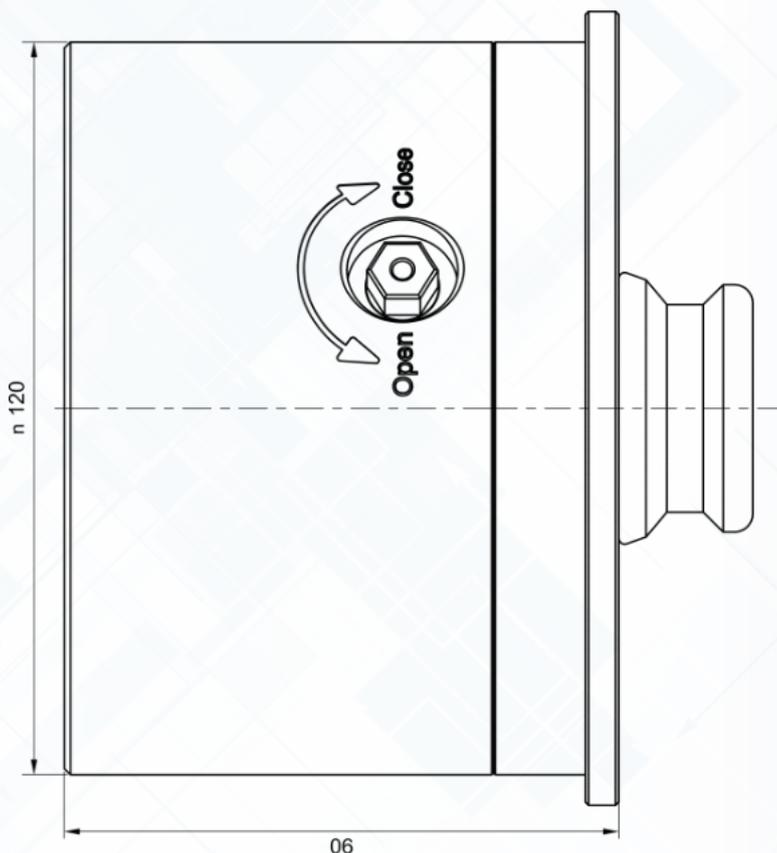
- ✓ Material: steel
- ✓ Ordering number: 2016010010



## 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

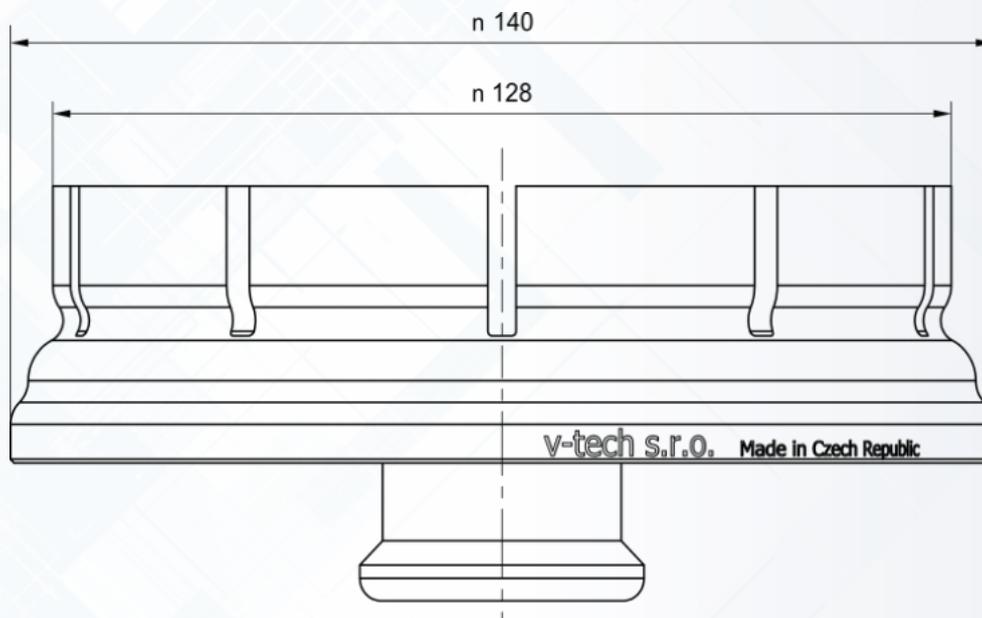
### PARAMETER TABLE

	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

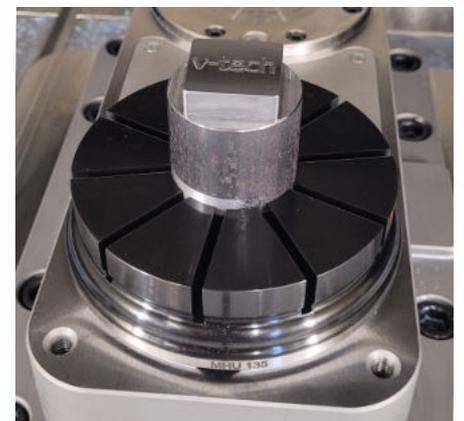
Clamping collet for direct mounting on NES-t 135.

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

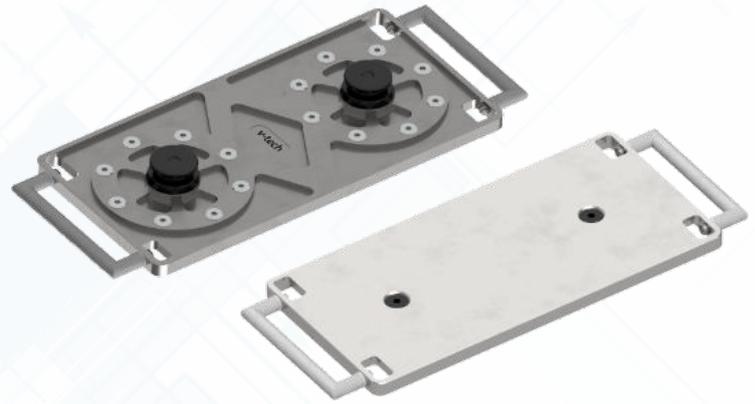


PARAMETER TABLE	COLLET DIAMETER (mm)	COLLET HEIGHT (mm)	CLAMPING STEP ON DIAMETER (mm)	COLLET MATERIAL	NUMBER OF CYCLES	ORDERING NUMBER
MHU 135	120	34	0,4	High-grade steel	> 20000	220040012

## PLT2-Double pallet

Universal Double pallet

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

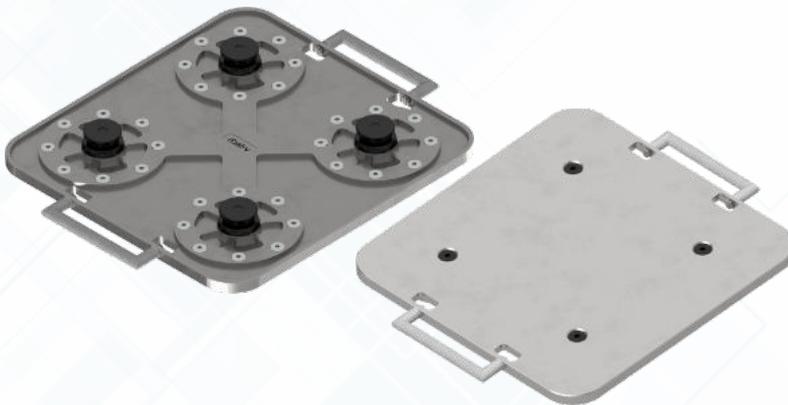


✓ Made of high-strength aluminium or steel

✓ Handles as standard

✓ Possible modification on demand

PARAMETER TABLE	MATERIAL	DIMENSIONS (MM)	PIN SPACING	WEIGHT (KG)	ORDERING NUMBER
PLT2-AL 400	aluminium	400 x 175	200	5.6	2016010003
PLT2-FE 400	high-grade steel	400 x 175	200	14.5	2016010005
PLT2-AL 500	aluminium	500 x 175	300	6.3	2016010002
PLT2-FE 500	high-grade steel	500 x 175	300	17	2016010006
PLT2-FE 400+	high-grade steel	400 x 175	200	6.5	2016010009



## PLT4-Quad pallet

Universal Quad 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

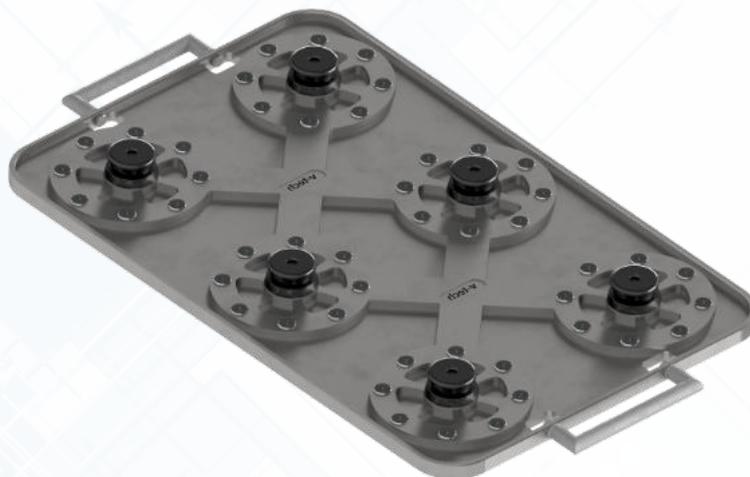
✓ Possible modification on demand

PARAMETER TABLE	MATERIAL	DIMENSIONS (MM)	PIN SPACING	WEIGHT (KG)	ORDERING NUMBER
PLT4-AL 200	aluminium	375 x 360x25	200	9.9	2016010004
PLT4-FE 200	high-grade steel	375 x 360x25	200	25.4	2016010007
PLT4-FE 200+	high-grade steel	375 x 360x25	200	13.3	2016010008

## PLT6-Universall pallet

Universal 6-pins pallet

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



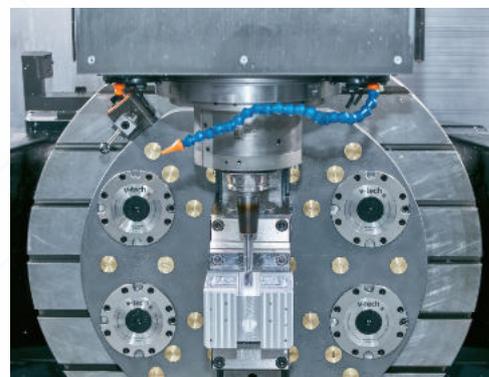
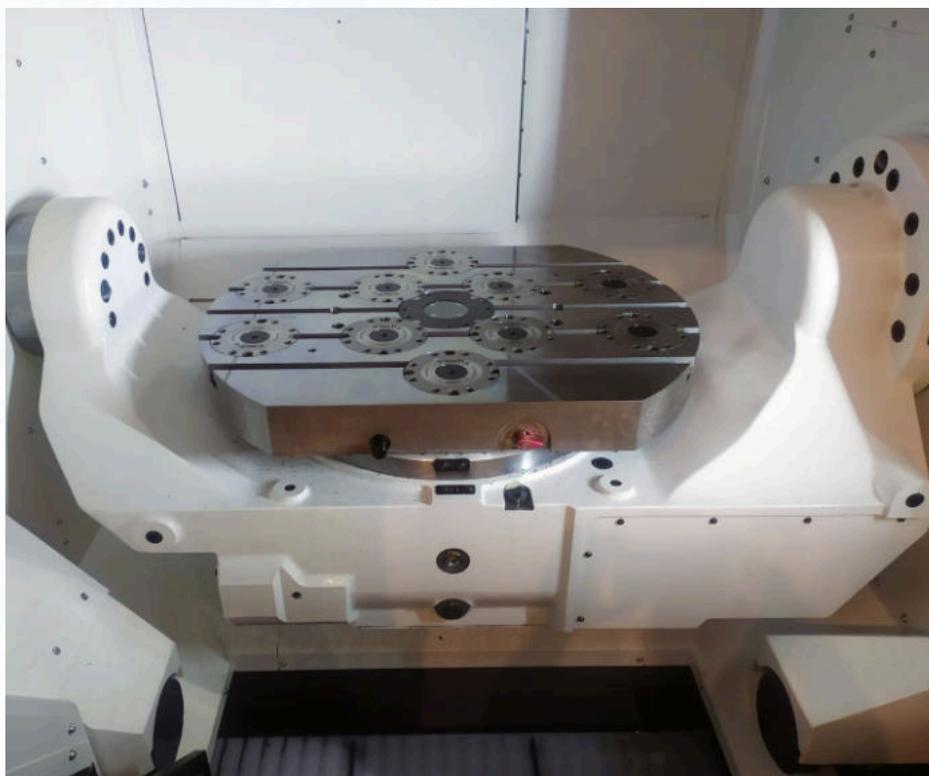
✓ Made of high-strength aluminium or steel

✓ 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



## 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

## 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



## 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

## 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

## 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.



- ✓ Workholding and even directly to workpieces for easy mounting to the V-Tech zero point baseplates. Pull studs are available as a fixed position type for precise location as well as types with either one or two axes of thermal compensation.

# CLAMPING SYSTEM

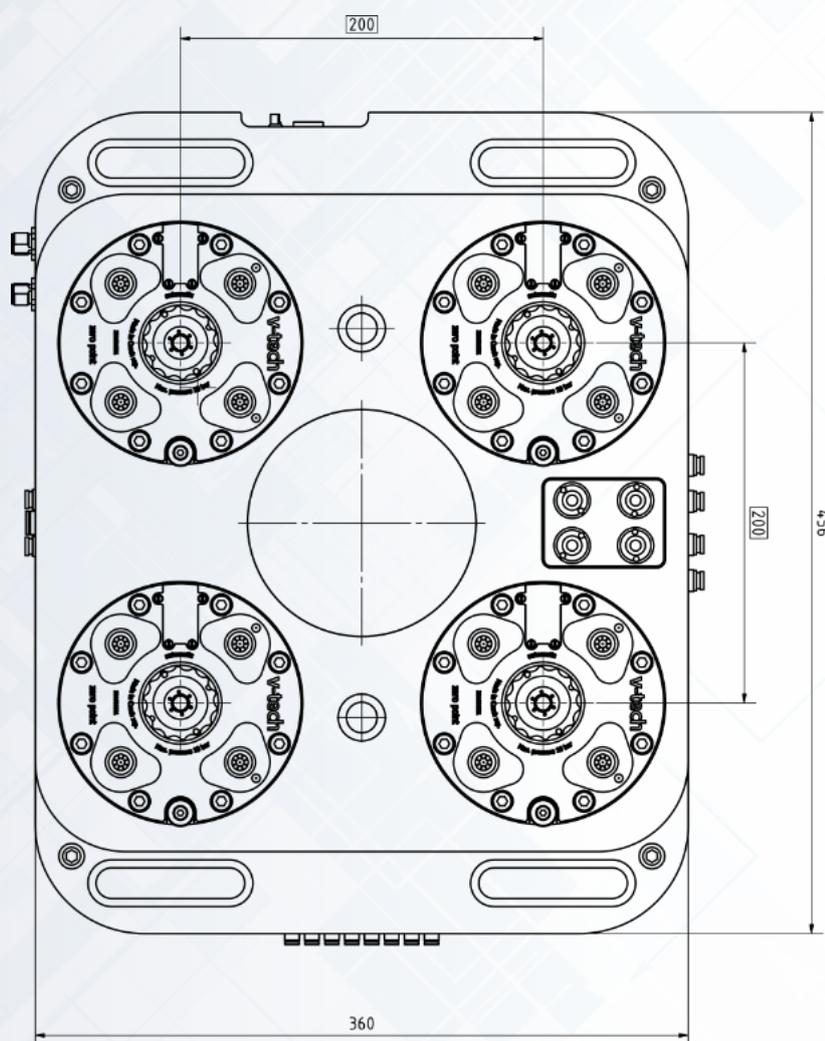
for automatic replacement



## 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

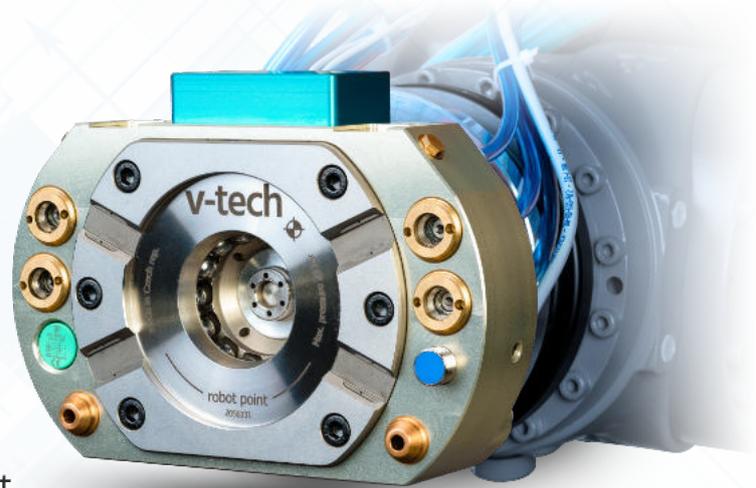
### PARAMETER TABLE

	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)

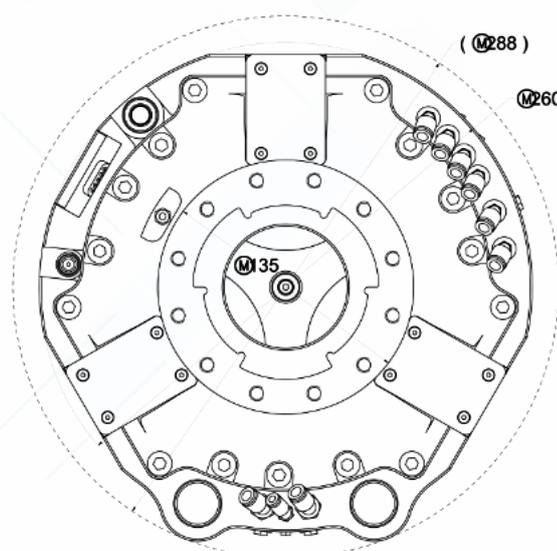
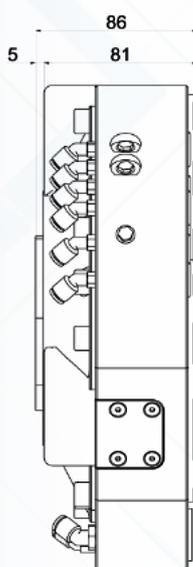
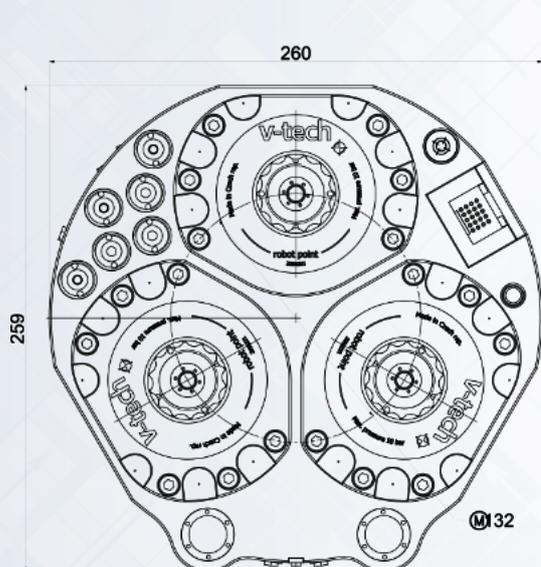
PARAMETER TABLE	CLAMPING FORCE (KN)	REPLACEMENT METHOD	PALLET CHANGE TIME (S)	BLOW CLEANING OF MATING SURFACES	CLEANING NOZZLES	NUMBER OF PNEUMATIC COUPLINGS	NUMBER OF HYDRAULIC COUPLINGS
		24	automatic	< 5	yes	yes	4
ROB-T 135	PALLET IDENTIFICATION	FORCE MEDIUM	MATERIAL	WEIGHT (KG)	DIMENSIONS (MM)	ORDERING 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)

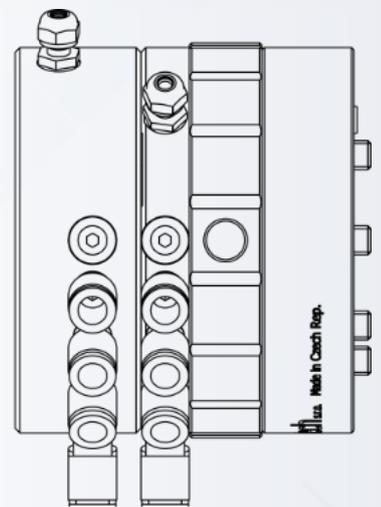
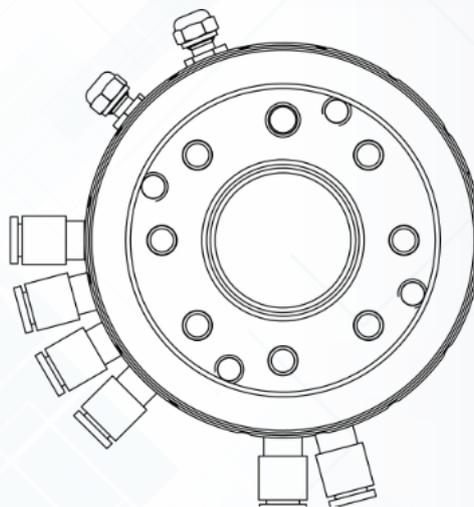
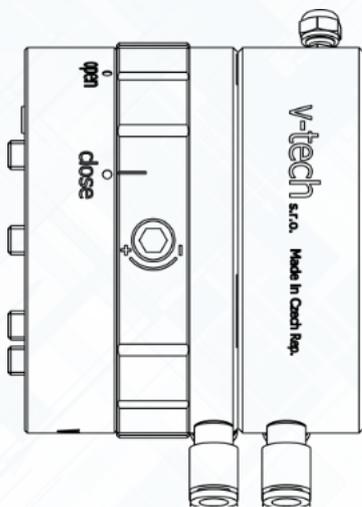
### PARAMETER TABLE

	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

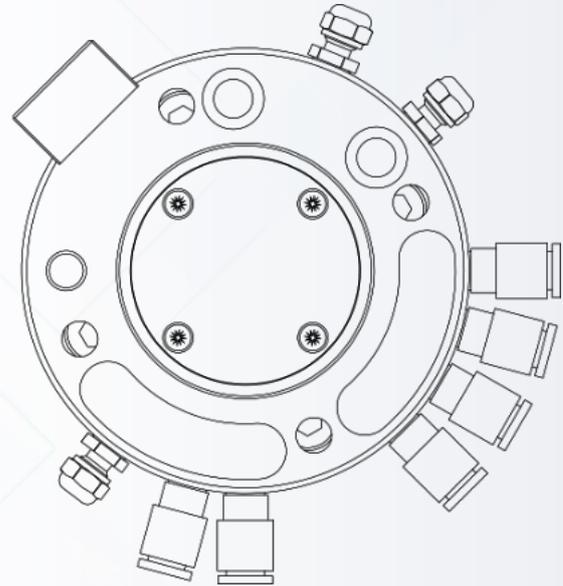
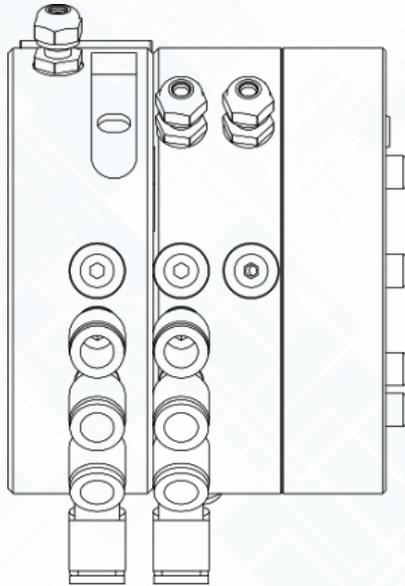
	LENGTH	OUTER DIAMETER	WEIGHT	REPEATED CLAMPING ACCURACY	MAX. TORQUE	ORDERING NUMBER
ROB-CLT 82	70	82	1,1 kg	0,01	120 Nm	2100310000
ROB-CLT 142	73	142	3,7 kg	0,01	255 Nm	

## 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

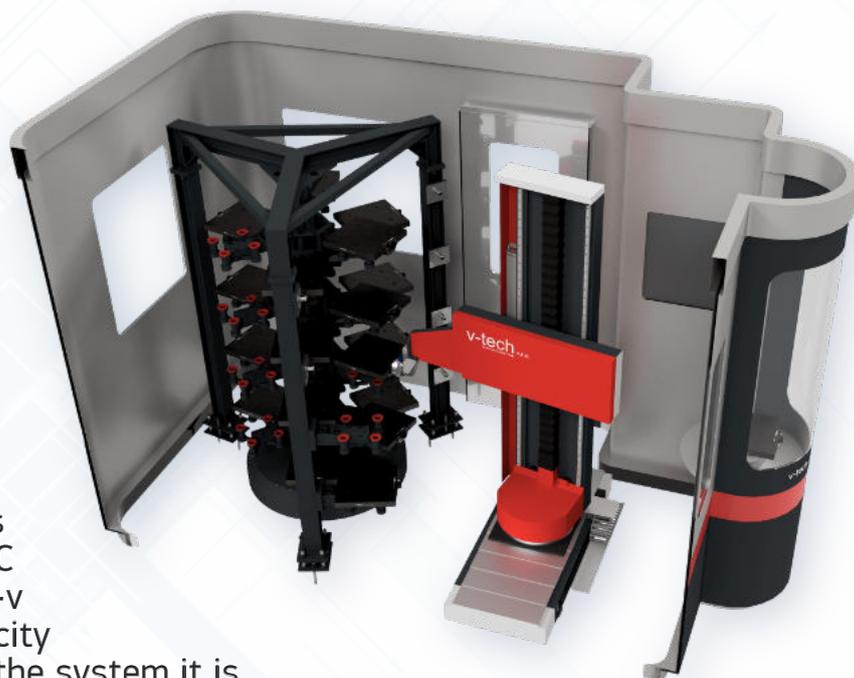
### PARAMETER TABLE

	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

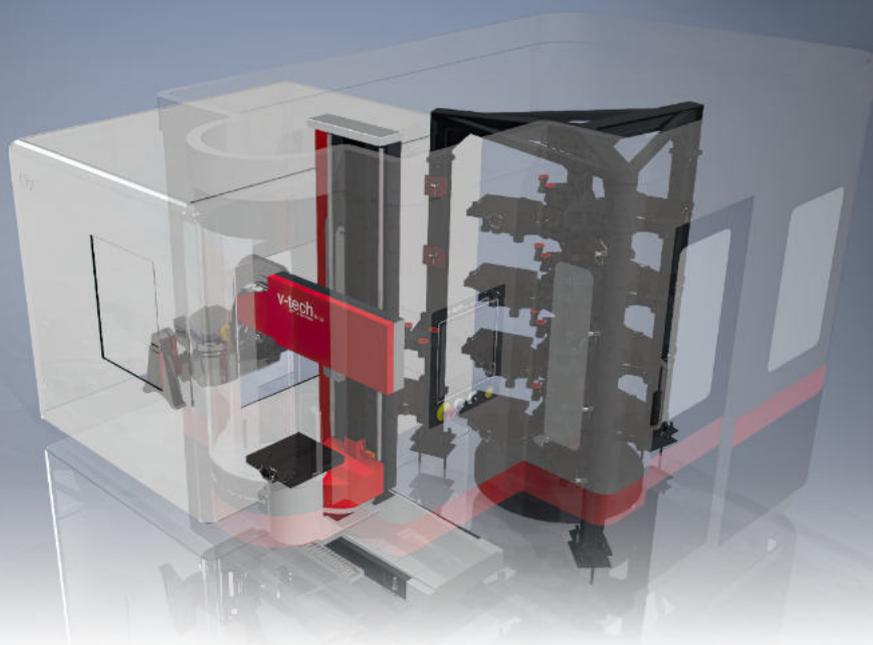
## PAL-24 Pallet Changer

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.

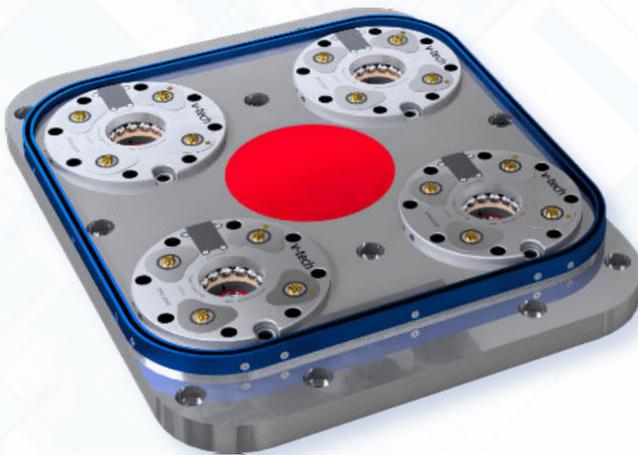


- ✓ Control system compatible with Heidenhain, Fanuc, Siemens and Mazak.
- ✓ The user interface has a visual graphical interface with a touch screen.
- ✓ The transfer table is designed for loading and unloading pallets with workpieces into the stacker system.
- ✓ A safety cover is offered for the system.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



## The Stacker main parts:

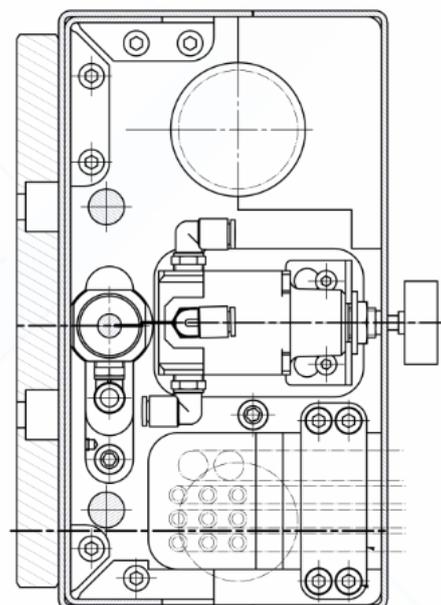
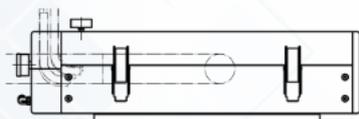
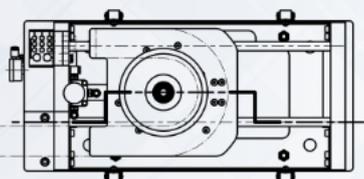
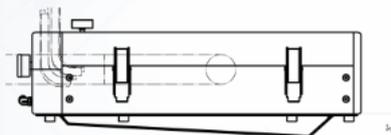
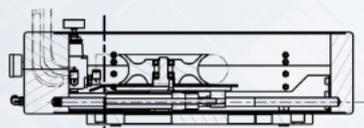
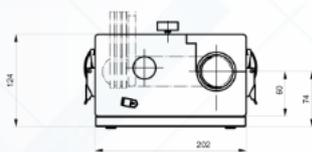
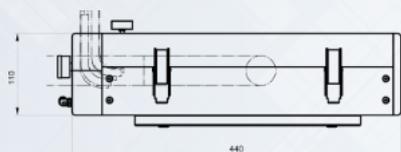
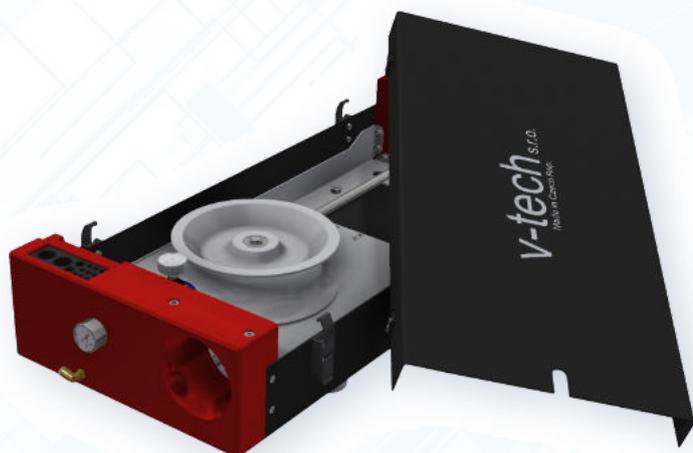
- ⚙ Manipulator – stacker
- ⚙ Large-capacity carousel magazine
- ⚙ Transfer table
- ⚙ Control system Security cover for the entire system



- ✓ 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

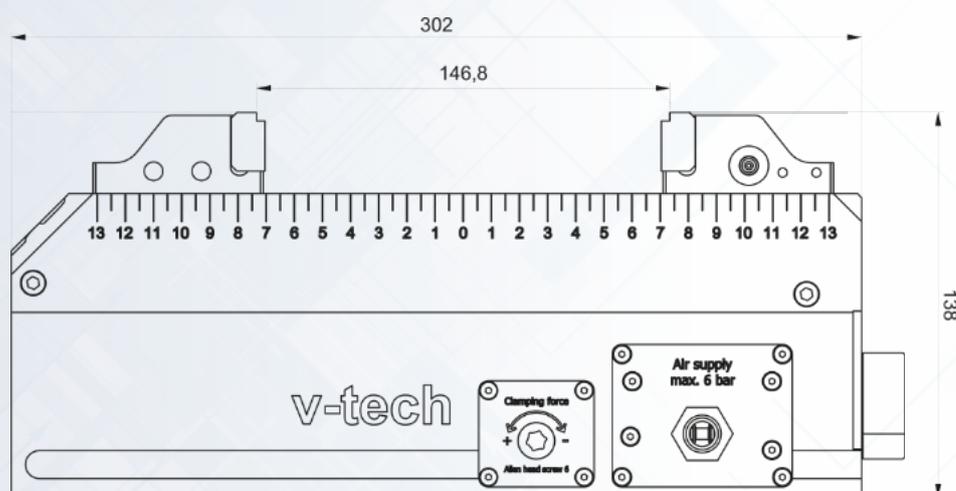
## VIS-A 125 Automatic vise

### 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

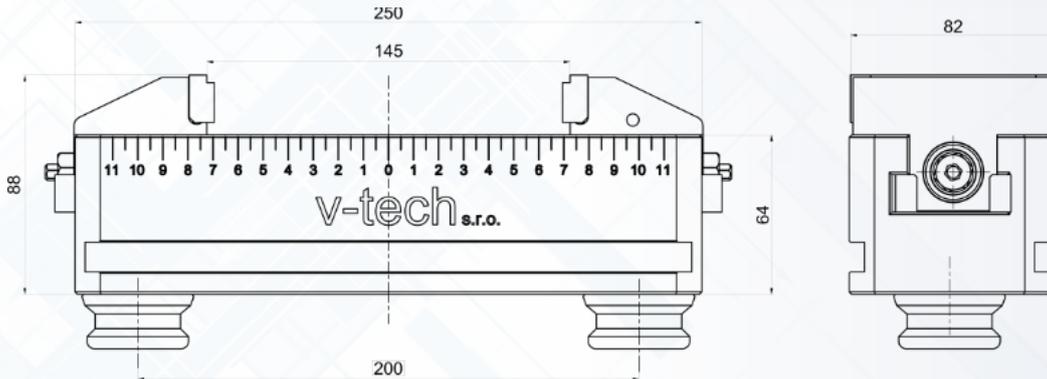


#### PARAMETER TABLE

	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

## VIS-E 80 Centric Vice

Self-centering vice for productive CNC machining with optimal performance while maintaining compact dimensions and weight.



- ✓ Simple, precise and rigid construction

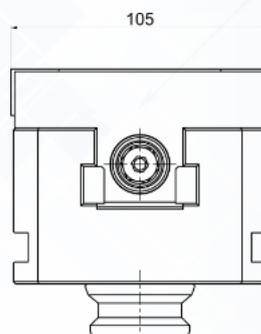
- ✓ Hardened sliding surfaces
- ✓ Interchangeable clamping

PARAMETER TABLE	LENGTH	WIDTH	HEIGHT	WEIGHT	WORKING STROKE	MAX. CLAMPING FORCE	REPEATED CLAMPING ACCURACY	ORDERING NUMBER
VIS-E 80	250 mm	82 mm	88 mm		145 mm	20KN/200Nm	0,02 mm	200052000



## VIS-E 105 Centric Vice

Self-centering vice for productive CNC machining with optimal performance while maintaining compact dimensions and weight.



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

PARAMETER TABLE	LENGTH	WIDTH	HEIGHT	WEIGHT	WORKING STROKE	MAX. CLAMPING FORCE	REPEATED CLAMPING ACCURACY	ORDERING NUMBER
VIS-E 105	250 mm	105 mm	88 mm		145 mm	20KN/200Nm	0,02 mm	200051100

# 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.

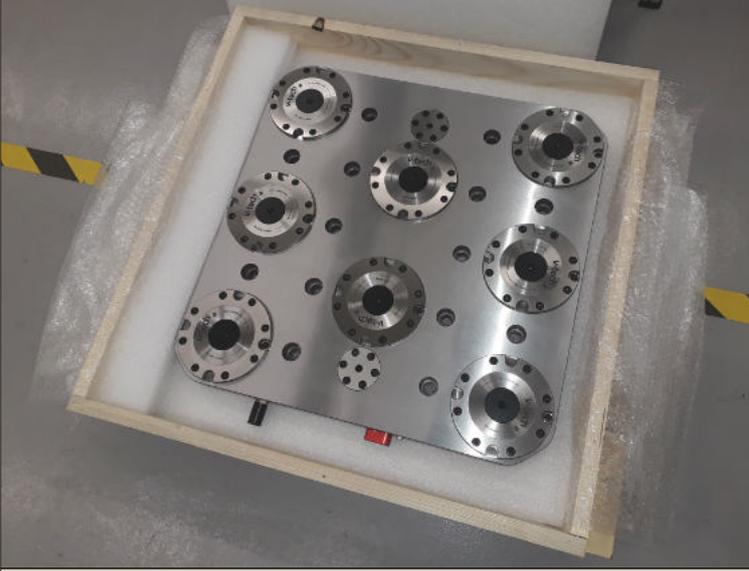
Over time and with increasing experience and investments, v-tech s.r.o. has become a steadily prosperous company with highly qualified personnel. To provide our customers with the best solutions, we not only perform custom production, but also work intensively on launching our own products.

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.

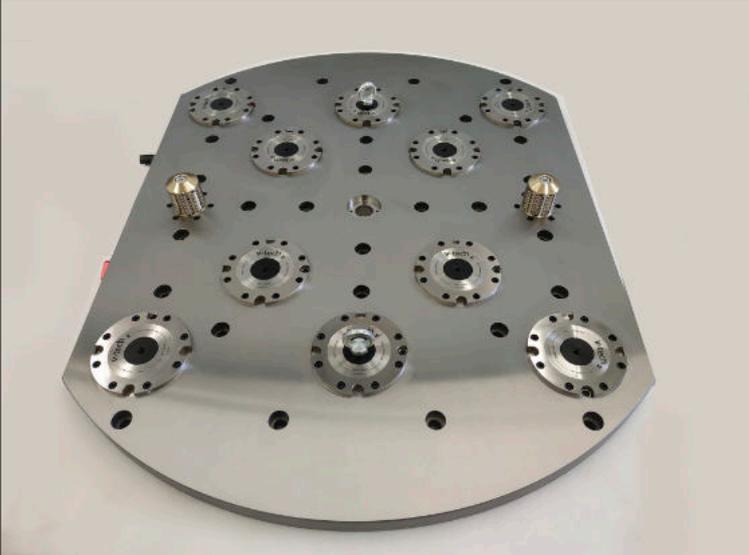


### Example 1 – Grob G551

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.



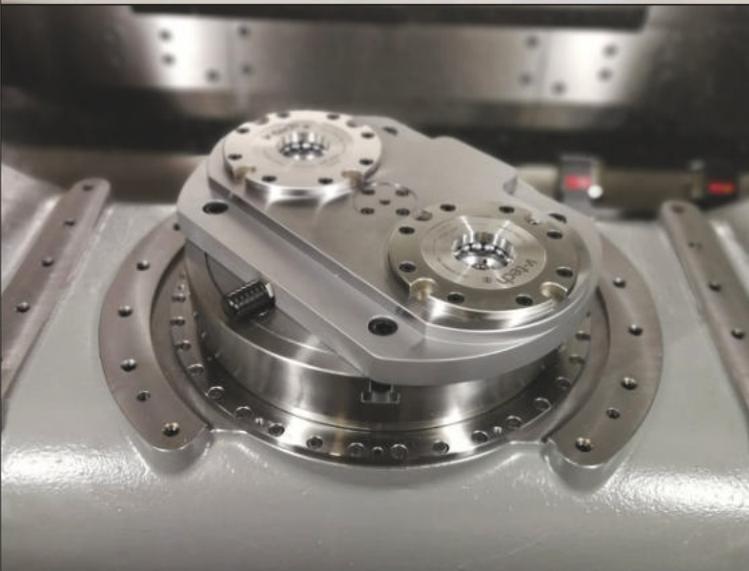
### Example 2 – Hermle C52

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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