

NEW



POWER-GRIP ZERO POINT CLAMPING SYSTEM

Palletising and Clamping Devices from a Single Source

RÖHM
driven by technology

POWER-GRIP ZERO POINT CLAMPING SYSTEM

Clamping the workpiece can be a time-consuming and cost-intensive factor especially when manufacturing individual parts and small series. This requires effective strategies to increase productivity through reduced set-up times.

Palletising systems such as the Power-Grip zero point clamping system from RÖHM achieve a considerable productivity increase. This modular system meets the requirements of customer-specific solutions with the best-possible utilisation of machine capacity. Although the machine tool had to stop for the setting up time until now, the workpiece can now be clamped and positioned on the pallet outside the machine tool. The setting up time is now only limited to loading and unloading the pallet, which

happens in seconds. If multiple manufacturing processes are necessary for machining, then the pallet including the workpiece can be used without zero point loss. Due to the robust and rust-resistant construction, Power-Grip zero point clamping can be used throughout, starting with machining, continuing with eroding up to the measuring machines.

ONE SYSTEM VARIOUS APPLICATIONS MAXIMAL PRODUCTIVITY

Single process



The workpiece is set-up outside the machine tool while the machine is running.

Process chain



Due to standardised interfaces, the pallet with a clamped-in workpiece can be used for all manufacturing processes without any zero point loss.

THE BENEFITS AT A GLANCE

INCREASED PRODUCTIVITY

- ③ Free machine capacity through reduction of setting up time by up to 90%
- ③ Minimum cleaning and maintenance work without zero point loss due to clamping mechanism on the outside

HIGHEST PRECISION

- ③ Repeatability of 0.002 mm over 750,000 clamping processes through cushioned, conical centring with levelling system
- ③ No zero point shifting due to compensation for thermal expansion

INCREASED PROCESS RELIABILITY

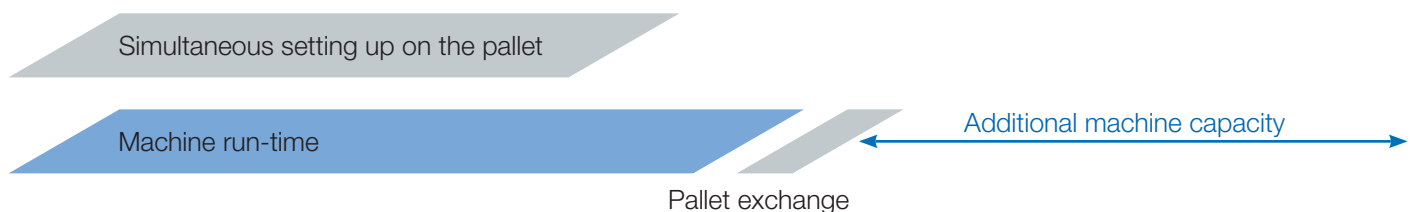
- ③ Large pre-centring for reliable feeding of the pallets - also with automatic loading
- ③ Air-flow system for cleaning and checking the levelling system

REDUCED SETTING UP TIMES BY UP TO 90%

Without palletising system



With Power-Grip zero point clamping system



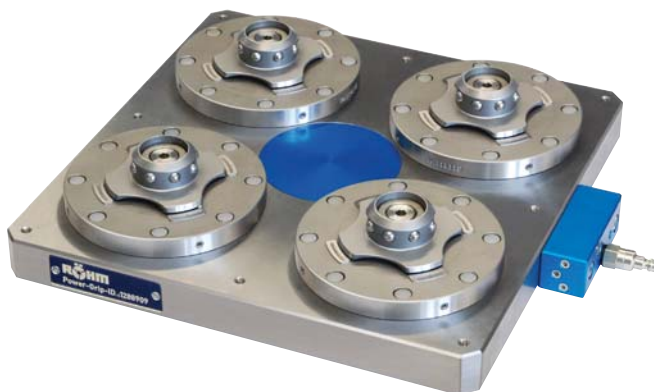
PALLETISING AND CLAMPING DEVICES FROM A SINGLE SOURCE

THE SYSTEM SOLUTION

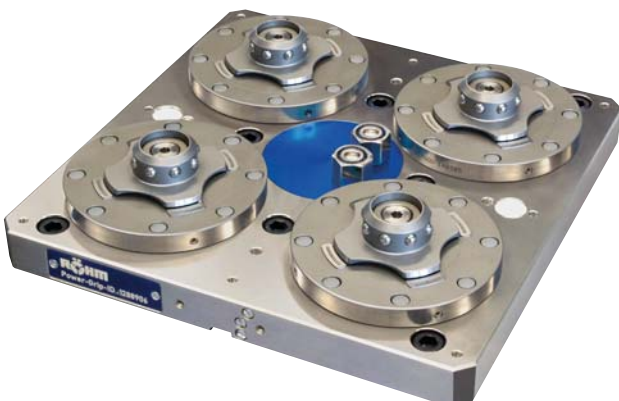
As a system supplier, RÖHM doesn't just offer high-quality clamping devices, but also the matching palletising with zero point clamping. Matched to each other, the base carrier and prefabricated pallets facilitate a great variety of combination possibilities with RÖHM vices, lathe and collet chucks as well as pneumatically operated collet

chucks and centric vices. Through the specifically placed tap holes, numerous RÖHM clamping devices can be mounted on the prefabricated pallets without additional reworking. Other settings can be realised with the help of unmachined universal pallets.

BASE CARRIERS



Base carrier suitable for "pallet vices", "pallet chucks", and "universal pallets".



Base carrier suitable for "pallet pneumatic chucks" and "pallet pneumatic centric vices". Also suitable for pallets without medium transfer.

THE RIGHT PALLET MAKES THE DIFFERENCE

PALLET VICES

suitable for NC compact vices RKE, RKE-LV, RKD-M, RZM, RKZ-M



PALLET MANUAL CHUCK

suitable for DURO-T / DURO-TA chucks, CAPTIS-MS collet chucks



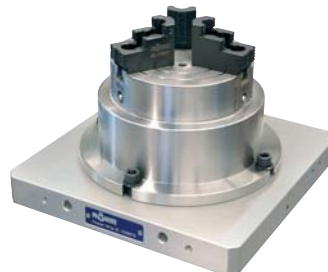
PALLET PNEUMATIC CENTRIC VICE

suitable for centric vice KZS-P / KZS-PG



PALLET PNEUMATIC CHUCK

suitable for chuck SSP



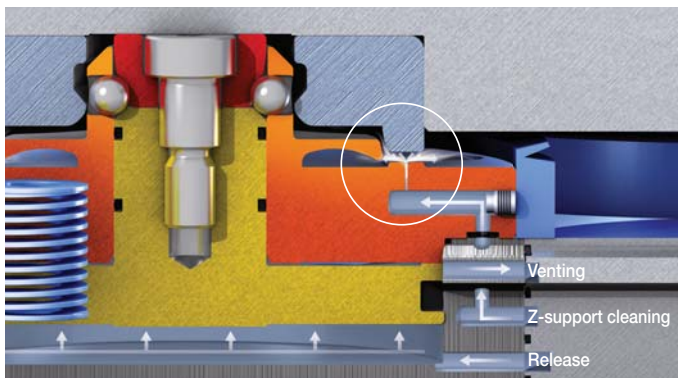
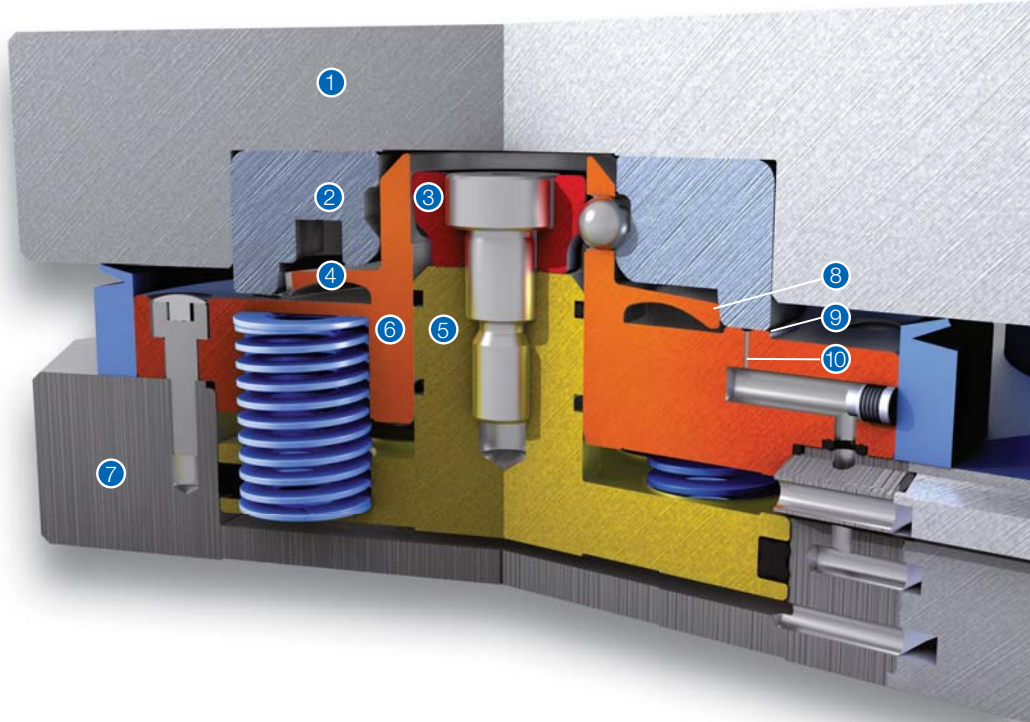
UNIVERSAL PALLET

for the direct set-up of a workpiece or for individual modification



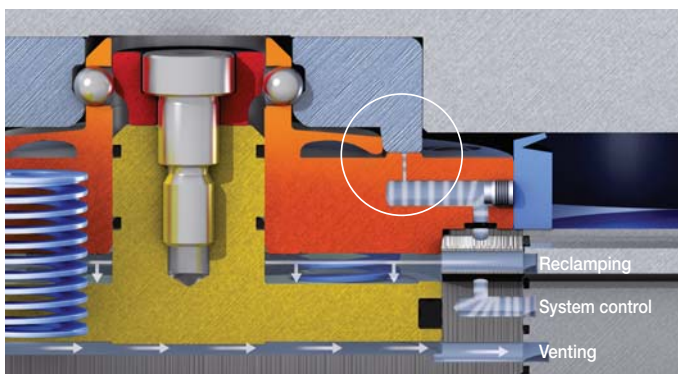
PRECISION CLAMPING WITHOUT COLLETS

- ① Exchangeable plate
- ② Centring/locking bushing
- ③ Clamping cone
- ④ Axially cushioning centring lip
- ⑤ Pistons
- ⑥ Centring unit
- ⑦ Base carrier
- ⑧ XY reference surface
- ⑨ Z reference surface
- ⑩ Nozzles for Z support rest cleaning



POWER-GRIP RELEASED

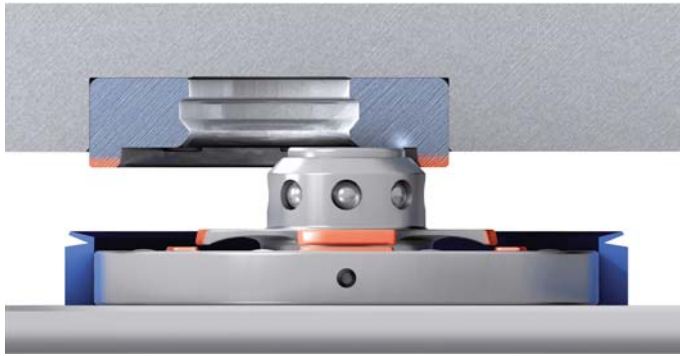
When released, the Z-supports are protected against dirtying and cleaned by a permanent air flow.



POWER-GRIP ENGAGED

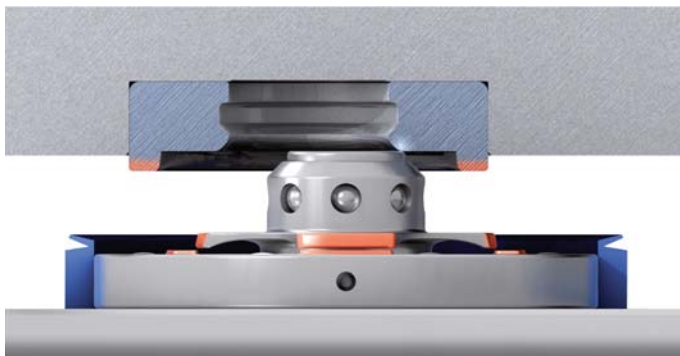
When engaged, the air flow is interrupted, which is the signal for the system that the pallet is clamped. Production can begin.

RELIABLE FEEDING OF THE PALLET



MISS

Large offset to the side. Feeding the pallet is possible without damaging the reference surface.



NEAR MISS

The pallet will find its place though the positioning aid.



HIT - THE PALLET IS SEATED

The pallet is pre-positioned. Due to the lifting function, no reference surfaces are in contact yet.

NO COLLET

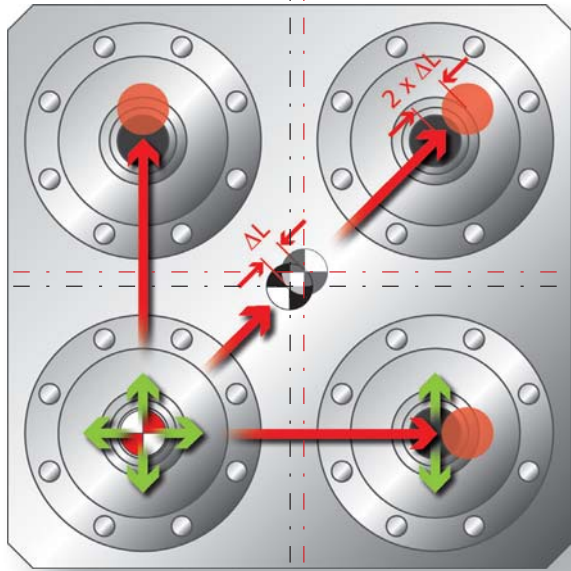
➡ Damage to all reference surfaces is prevented with large pre-centring via the outside ball cage.

LIFTING FUNCTION

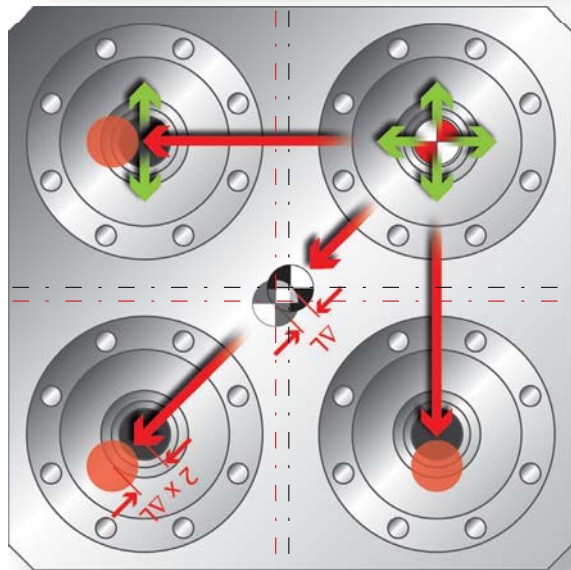
➡ The pallets are raised by ca. 2 mm by the lifting function. That way, the reference surfaces only come into contact during the clamping process.

NO ZERO POINT SHIFT DESPITE THERMAL EXPANSION

Classical clamping system



Positioned to 0°

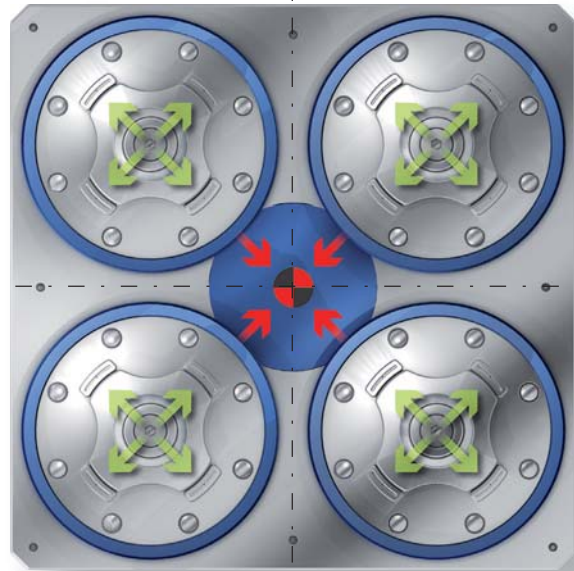


Machine table rotated by 180°

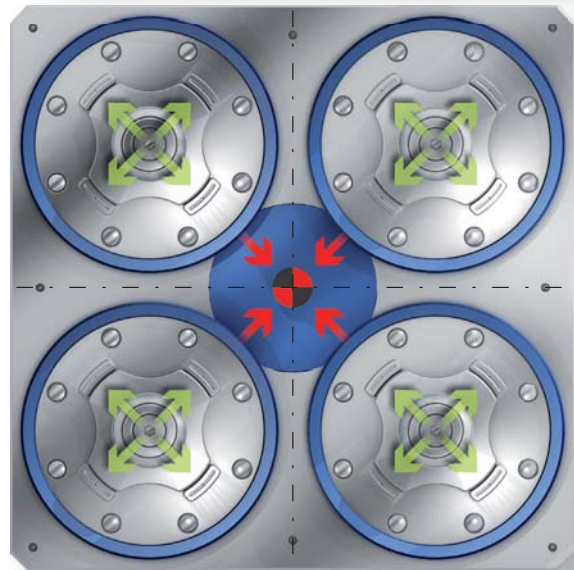
System zero point

Workpiece zero point

Power-Grip system



Positioned to 0°



Machine table rotated by 180°

System and workpiece zero point

CLASSICAL SYSTEMS

The workpiece zero point shifts away from the system zero point through thermal changes. This shift is doubled when the machine table is rotated by 180°.

Loss of the zero point through thermal expansion

POWER-GRIP

Power-Grip always clamps on the system zero point in the event of thermal changes. The system zero point is maintained even when the machine table is rotated.

Retention of the zero point despite thermal expansion.

POWER-GRIP BASE CARRIER

Pallet carrier, 4-series, without medium transfer

for manually operated clamping tools



Pallet carrier, 4-series, without medium transfer	488716
Repeatability	0.002 mm (over 300 mm length)
System accuracy	0.005 mm (over 300 mm length)
Possible to automate	Yes
Clamping force without reclamping	4 x 17,000 N = 68,000 N
Clamping force with reclamping, 6 bar	4 x 28,000 N = 112,000 N
Release	Pneumatic with 6 bar, also hydraulic up to 30 bar if required
Clamping	Spring assembly with self-retaining ball valve
Connections	On side, or bottom, adapted to the rotary unions
Reference surface cleaning	Pneumatic with ca. 3.5 bar
System control	Pneumatic with ca. 4.5 bar
Material	Centring unit INOX steel, hardened, polished Framework rust- and acid-resistant
Lifting of pallet upon release	ca. 2 mm
Applications	milling, eroding, measuring, grinding, turning, lasering
Inside micrometer R mm	160
Length L mm	316
Width B mm	316
Height H (on Z supports) mm	46
Standard pallet sizes mm	318x318x42

An individual adaptation to your machine table is naturally possible on request.

Pallet carrier, 4-series, with medium transfer

for pneumatically and manually operated clamping tools

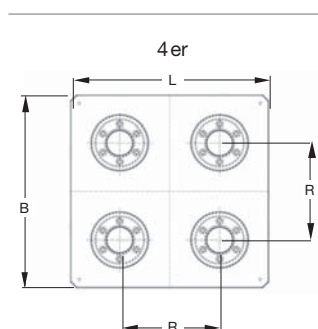
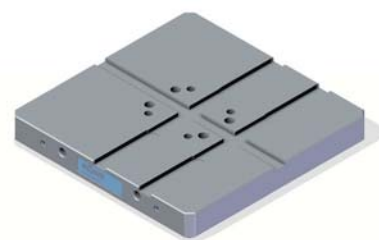


Pallet carrier, 4-series, with medium transfer	On request
Medium forwarding	up to 6 lines, pneumatic
Pneumatic connection	Adapted to the machine
Repeatability	0.002 mm (over 300 mm length)
System accuracy	0.005 mm (over 300 mm length)
Possible to automate	Yes
Clamping force without reclamping	4 x 17,000 N = 68,000 N
Clamping force with reclamping, 6 bar	4 x 28,000 N = 112,000 N
Release	Pneumatic with 6 bar, also hydraulic up to 30 bar if required
Clamping	Spring assembly with self-retaining ball valve
Connections	On side, or bottom, adapted to the rotary unions
Reference surface cleaning	Pneumatic with ca. 3.5 bar
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Inside micrometer R mm	160
Length L mm	316
Width B mm	316
Height H (on Z supports) mm	46
Standard pallet sizes mm	318x318x42

PALLET VICES

Pallet for vices

Pallet including threaded post for all vice types given below including mounting bolts and T-slides.



Pallets, 4-series	1276664
Material	High-strength aluminium
Reference elements	4x Power-Grip centring and locking bushing, standard
Reference surfaces	Hardened and rustproof
Possible to automate	Yes
Applications	milling, eroding, measuring, grinding, turning, lasering
Gripper interface for automation	On request
Inside micrometer R mm	160
Length L mm	318
Width B mm	318
Height H (on Z supports) mm	42

Suitable for the following vices



NC centric vice RZM

RZM	178910	178911
Size	125	125
Design	long design	short design
Clamping force kN	25	25



NC compact vice RKE

RKE	178411	178412
Size	92	125
Design	Stepped jaws	Stepped jaws
Clamping force kN	25	40



NC compact vice RKE-LV

RKE 125 LV	180464	180465
Size	125	125
Design	Stepped jaws	carrier jaws
Clamping force kN	40	40



NC compact centric vice RKZ-M

RKZ-M	180192	180193
Size	92	125
Design	Stepped jaws	Stepped jaws
Clamping force kN	20	25



NC compact double vice RKD-M

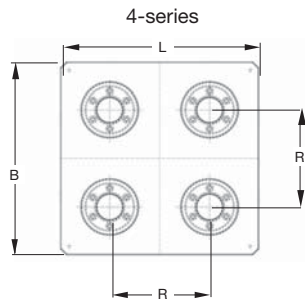
RKD-M	180468
Size	92
Design	Reversible stepped jaws and centre jaw
Clamping force kN	25

You can find more product dimensions in our catalogue.

PALLET CHUCK

Pallet for manual chucks

Pallet including threaded post for all chuck types given below.
The matching attachment kit is necessary for mounting the chuck on the pallet.



Pallets, 4-series	179900
Material	High-strength aluminium
Reference elements	4x Power-Grip centring and locking bushing, standard
Reference surfaces	Hardened and rustproof
Possible to automate	Yes
Applications	milling, eroding, measuring, grinding, turning, lasering
Gripper interface for automation	On request
Inside micrometer R mm	160
Length L mm	318
Width B mm	318
Height H (on Z supports) mm	42



Attachment kit	180044	180045	180046	180047
For	DURO-T 160 DURO-TA 160	DURO-T 200 DURO-TA 200	DURO-T 250 DURO-TA 250	DURO-T 315 DURO-TA 315
Included in delivery	Centring plate Mounting bolts	Centring plate Mounting bolts	Centring plate Mounting bolts	Centring plate Mounting bolts

Attachment kit	180048	180049	180050
For	CAPTIS-MS 32	CAPTIS-MS 42 / 52	CAPTIS-MS 65
Included in delivery	Centring plate Mounting bolts	Centring plate Mounting bolts	Centring plate Mounting bolts

Suitable for the following manual chucks



DURO-T with one-part reversible jaws	437476	437477	437478	437479
DURO-T master and reversible attachable jaws	437490	437491	437492	437493
Size	160	200	250	315



DURO-TA with master jaw	439606	439608	439610
DURO-TA master and reversible attachable jaws	439605	439607	439609
Size	160	200	250



CAPTIS-MS	1284189	1284190	1284191	1284192
Size	32	42	52	65

The matching accessories as well as more product dimensions can be found in our catalogue.

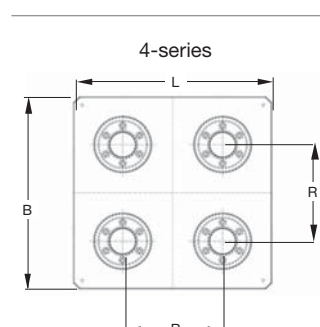
PALLET PNEUMATIC CENTRIC VICE



Pallet for pneumatic centric vice

Pallet including threaded post for all vice types given below.

Including screw-in plug-in nozzle for air transfer, releasable check valve for ensuring clamping force and seal.



Pallets, 4-series	
Material	High-strength aluminium
Reference elements	4x Power-Grip centring and locking bushing, standard
Reference surfaces	Hardened and rustproof
Possible to automate	Yes
Applications	milling, eroding, measuring, grinding, turning, lasering
Gripper interface for automation	On request

Pallets, 4-series	1278229	1278733	1278230	1278231
For	KZS-P 160 KZS-PG 160	KZS-P 200 KZS-PG 200	KZS-P 250 KZS-PG 250	KZS-P 315
Inside micrometer R mm	160	160	160	160
Length L mm	318	318	318	318
Width B mm	318	318	318	318
Height H (on Z supports) mm	42	42	42	42

Suitable for the following pneumatic centric vices



KZS-P	165094	165455	165095
Size	160	200	250
Design	Standard configuration	Standard configuration	Standard configuration
Stroke per jaw mm	3.2	3.5	4.0
Max. total clamping force kN	35	35	50



KZS-PG	165341	165456	165343
Size	160	200	250
Design	Large jaw movement	Large jaw movement	Large jaw movement
Stroke per jaw mm	7.8	8.5	15.0
Max. total clamping force kN	10.5	14	15

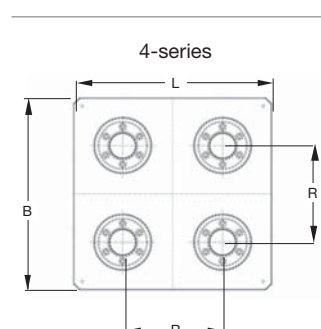
You can find more product dimensions in our catalogue.

PALLET PNEUMATIC CHUCK



Pallet for pneumatic chucks

Pallet including mounting kit, including centering plate, mounting bolts, screw-in plug-in nozzle for air transfer, releasable check valve for ensuring clamping force and seal.



Pallets, 4-series	
Material	High-strength aluminium
Reference elements	4x Power-Grip centring and locking bushing, standard
Reference surfaces	Hardened and rustproof
Possible to automate	Yes
Applications	milling, eroding, measuring, grinding, turning, lasering
Gripper interface for automation	On request

Pallets, 4-series	1278873	1278228
For	SSP 160/3	SSP 200/3
Inside micrometer R mm	160	160
Length L mm	318	318
Width B mm	318	318
Height H (on Z supports) mm	42	42

Suitable for pneumatic chucks



SSP	161505	161506
Size	160	200
Design	3 jaws	3 jaws
Max. total clamping force for working pressure - internal clamping kN	38 (at 6 bar)	60 (at 6 bar)
Max. total clamping force for working pressure - external clamping kN	36 (at 6 bar)	55 (at 6 bar)

UNIVERSAL PALLET



Universal pallet for individual adaptation

for the direct set-up of a workpiece or for individual modification

 <p>4-series</p>	<table> <tr> <th>Pallets 4-series - polished design</th><th>488748</th></tr> <tr> <td>Material</td><td>High-strength aluminium</td></tr> <tr> <td>Reference elements</td><td>4x Power-Grip centring and locking bushing, standard</td></tr> <tr> <td>Reference surfaces</td><td>Hardened and rustproof</td></tr> <tr> <td>Possible to automate</td><td>Yes</td></tr> <tr> <td>Applications</td><td>milling, eroding, measuring, grinding, turning, lasering</td></tr> <tr> <td>Gripper interface for automation</td><td>On request</td></tr> <tr> <td>Inside micrometer R mm</td><td>160</td></tr> <tr> <td>Length L mm</td><td>318</td></tr> <tr> <td>Width B mm</td><td>318</td></tr> <tr> <td>Height H (on Z supports) mm</td><td>42</td></tr> </table>	Pallets 4-series - polished design	488748	Material	High-strength aluminium	Reference elements	4x Power-Grip centring and locking bushing, standard	Reference surfaces	Hardened and rustproof	Possible to automate	Yes	Applications	milling, eroding, measuring, grinding, turning, lasering	Gripper interface for automation	On request	Inside micrometer R mm	160	Length L mm	318	Width B mm	318	Height H (on Z supports) mm	42
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We would be happy to adapt your pallet to other clamping devices or zero point clamping systems of other manufacturers. Please contact us!

ACCESSORIES



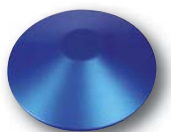
Transport handle	1208551
Included in delivery	1 piece
Design	Removable, suitable for all POWER-GRIP pallets



Control unit	488738
Included in delivery	1 piece
Design	Pneumatic, for operating the base carrier



Gasket	488700
Included in delivery	1 piece
Design	As protection against chips and dirtying



Chip guard	488701
Included in delivery	1 piece
Design	For covering no longer needed centring units



Centring and locking bushing	488742
Included in delivery	1 piece
Design	Spare bushing for pallets

AVAILABLE ON REQUEST

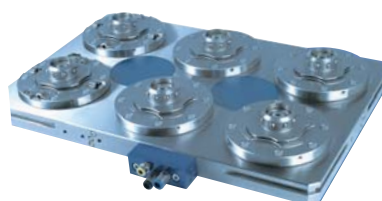
Pallet carrier:



POWER-GRIP
Pallet carrier 1-series



POWER-GRIP
Pallet carrier 2-series



POWER-GRIP
Pallet carrier 6-series



RÖHM GmbH

Heinrich-Röhm-Straße 50
89567 Sontheim/Brenz
Germany
Tel +49 7325 16 0
Fax +49 7325 16 510
info@roehm.biz
www.roehm.biz



Id.-no. 1242370 / 1215