



AdaptZero® Precision quick-change interface

For the automated changing of clamping devices or workpieces



AUTOMATED CHANGING OF CLAMPING DEVICES AND WORKPIECES ACROSS THE μ RANGE

Increase productivity, reduce costs!

Modern manufacturing faces growing challenges: smaller batch sizes, more complex machining processes and the growing need for fully automated production solutions to reduce personnel costs.

Highly flexible systems are essential to meet the increasing demands of modern manufacturing. Particularly crucial in this regard is the automated loading and unloading of workpieces. Loading raw parts or workpieces using robots or gantry loaders is nowadays an established standard. However, you can achieve the next level of **efficiency by automating the changing of clamping devices** – a decisive factor for the economical production of a wide variety of parts in different batch sizes. This requires the availability of a high-precision, automatable interface between machine spindle and clamping device.

AdaptZero® offers exactly this solution!

The innovative draw-in chuck enables fully automatic changing of clamping devices and/or workpieces. The precise draw-in mechanism ensures reliable, highly accurate positioning and stable fixation of the pallet. The pneumatic release ensures a smooth and fast change of pallets. These pallets can be loaded in advance with various chucks or workpieces.

Rely on AdaptZero® – for maximum efficiency in your production!

Advantages



- Highest precision $\leq 0.002\text{mm}$
- Reduction in set-up times
- Active sealing air protects against contamination
- Pneumatic system control
- Large passage, enabling additional media lines to be integrated
- Standard pallets available
- Made-to-measure pallets available

Functions



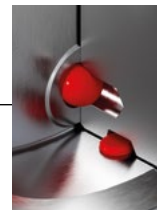
- Unlocking manually or automatically
- Self-locking / pneumatic re-tensioning $\Rightarrow 25\text{ kN}$ draw-in force
- Pneumatic system control
- Integration of up to seven optional lines possible
- Innovative gripper interface
- Smart identification of pallets possible via RFID

YOUR ADVANTAGES AT A GLANCE



Maximum repeat accuracy

- Repeatability of ≤ 0.002 mm thanks to *AdaptZero*® precision interface
- Active sealing air protects against contamination



Set-up time killer

- Clamping tool change < 1 minute
- No alignment required
- No manual tightening of screws required
- Loading of pallets simultaneously with production



Versatile applications

- The universal standard pallet allows you to adapt different clamping devices or workpieces
- Customised pallets available on request



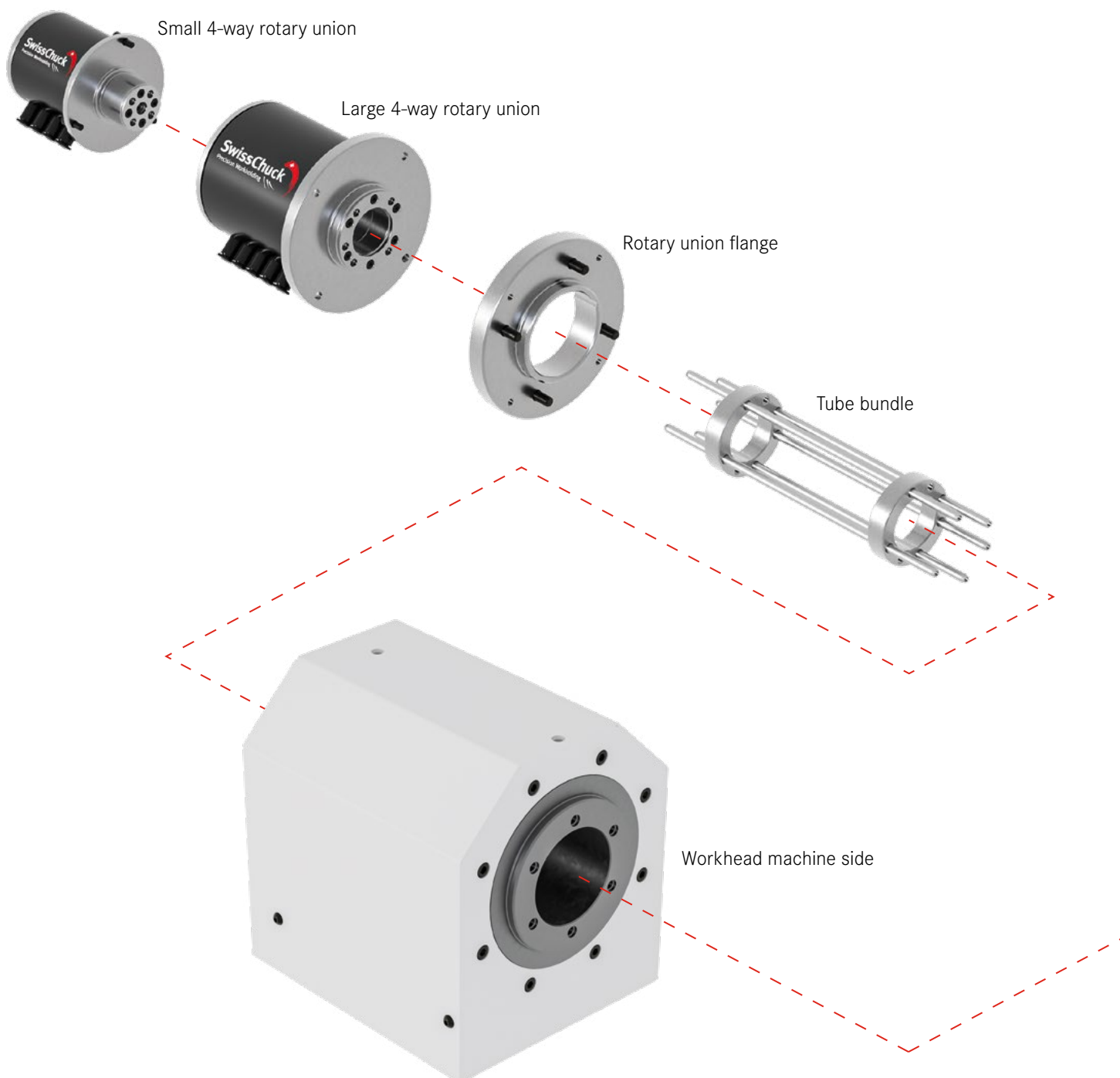
Manual or automated pallet changing

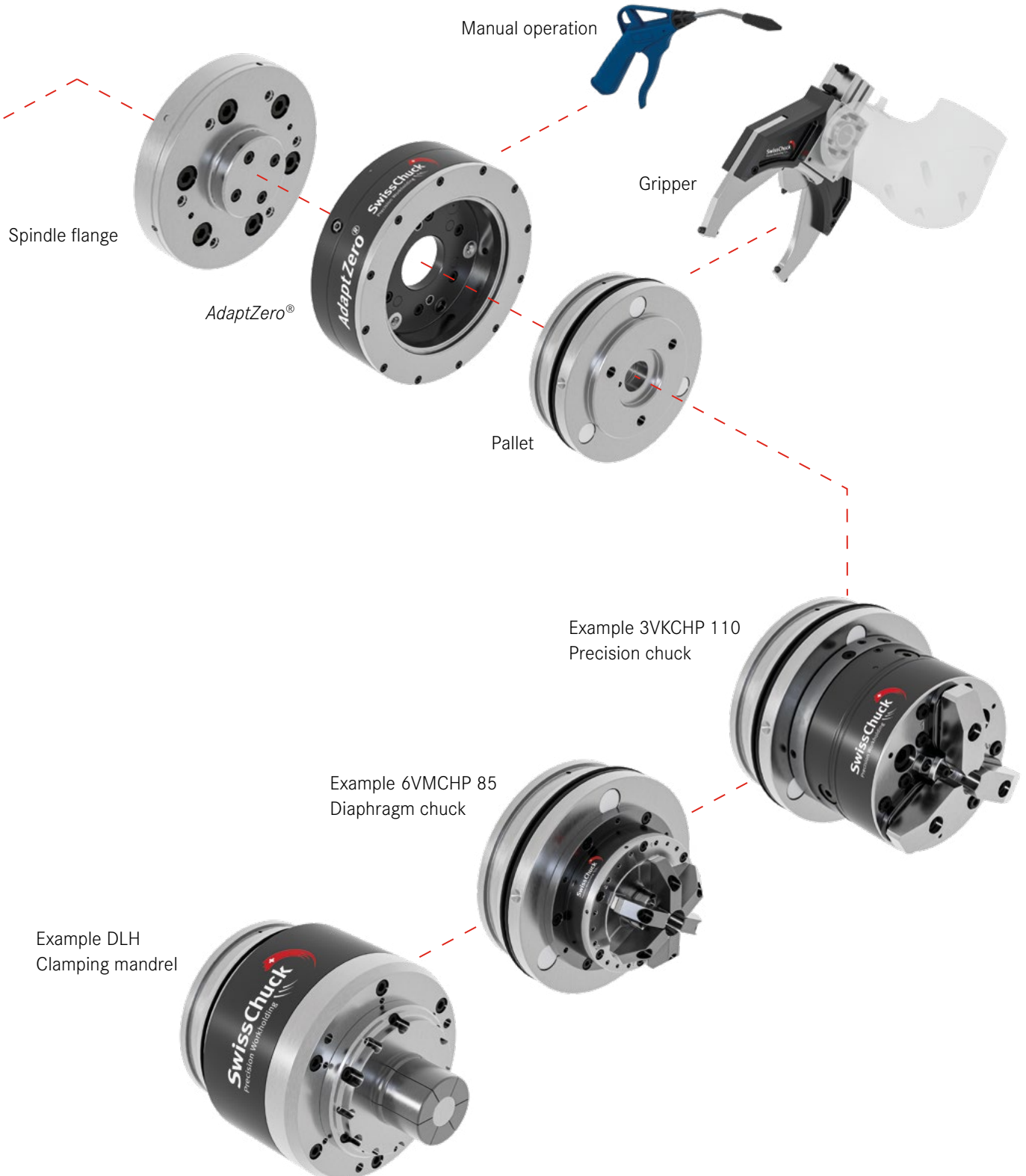
- Pneumatic unlocking of the *AdaptZero*® precision interface can be performed manually using an air gun or automatically via the machine control system



AdaptZero[®] SYSTEM

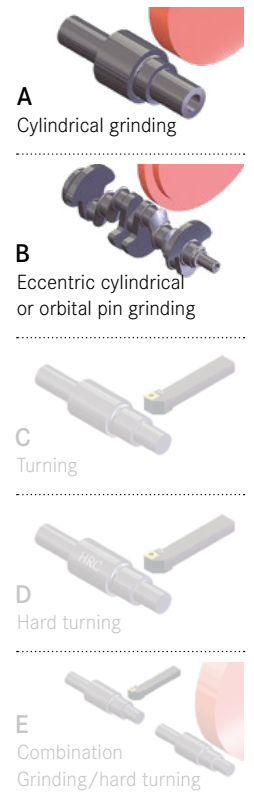
ALL FROM A SINGLE SOURCE!







Suitability according to machining process:

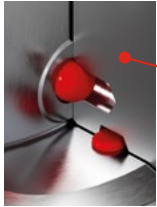


Explanation of symbols:
SwissChuck.com

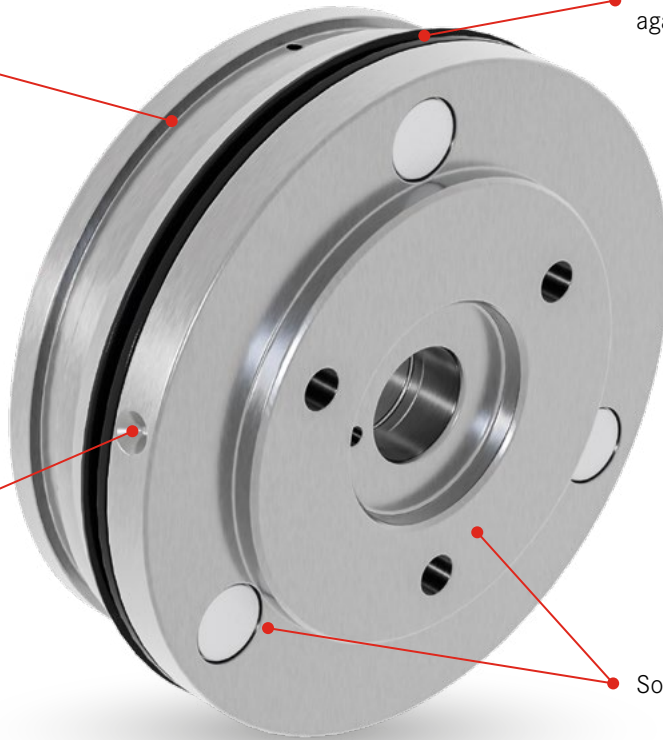
AdaptZero® 200 Precision interface

SX1045320

Outside diameter	200 mm
Height from spindle nose	44 mm
Max. passage	50 mm
Passive draw-in force	10 kN
Active draw-in force	25 kN
Max speed (RPM)	1500 1/min
Bending moment	100 Nm
Weight	7.9 kg



Precision interface
hardened



Sealing lips for protection
against dirt and liquids

Gripper interface

Soft interface at the front



Explanation of symbols:
SwissChuck.com

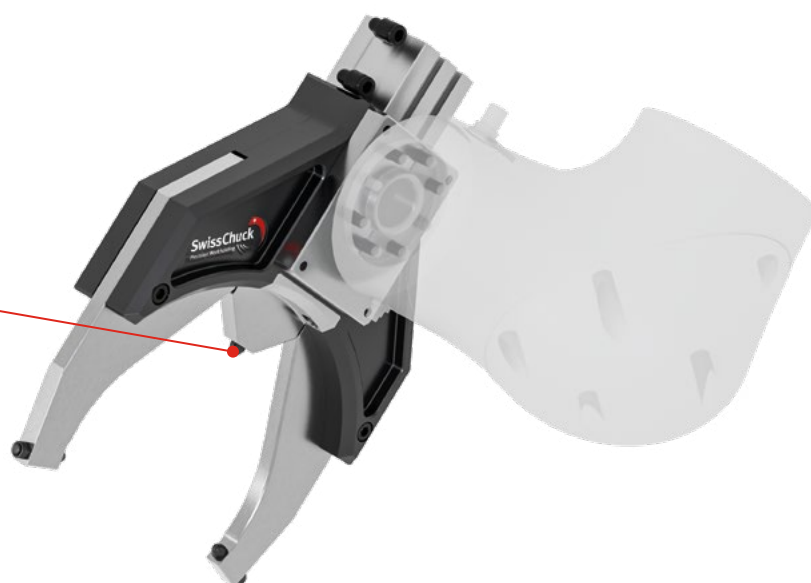
AdaptZero® Pallets

For holding various clamping devices and/or workpieces

Standard pallet	SX1045302	Individual holder, reworking of the interface by the customer
Customised pallet	upon request	Individual holder, tailor-made by SwissChuck
Pallet MK2	upon request	Receiver for holding MK2 standard centres
Pallet MK3	upon request	Receiver for holding MK3 standard centres
Pallet MK4	upon request	Receiver for holding MK4 standard centres

AdaptZero® ACCESSOIRES

Compatible with
AdaptZero® series pallets



Explanation of symbols:
SwissChuck.com

AdaptZero® Gripper | SX1045508

For automated changing of pallets, SwissChuck has developed an innovative, pneumatically operated gripper that reliably holds the pallet even in the event of a pressure drop thanks to a self-locking mechanism. The use of an adapter plate makes the gripper universal and suitable for use on different robot systems.

AdaptZero[®] Master pallet

SX1045302

Master pallet for aligning the angular position on the workpiece spindle stock.



AdaptZero[®] Measuring mandrel

SM1046649

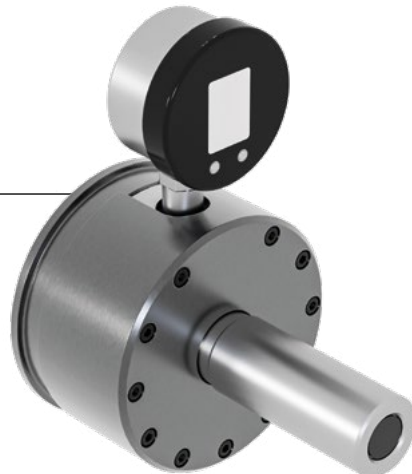
Measuring mandrel for aligning the centre axis of the workpiece spindle head.



AdaptZero[®] Force measuring device

SX1045526

Device for checking and measuring the draw-in force developed by the *AdaptZero*[®] draw-in chuck.



AdaptZero® Rotary Unions

In order to achieve the highest possible degree of automation and reliably operate clamping devices with high functionality, SwissChuck offers a range of different rotary unions to meet the respective areas of application.

Rotary union 2P/K16 / CHX38924

Max. actuating pressure	1.0 MPa
Speed limit	3000 1/min
Max. number of lines possible	3



Rotary union / SX1045380

Max. actuating pressure	0.6 MPa
Speed limit	1500 1/min
Max. number of lines	5



Rotary union with passage / SX1045375

Max. actuating pressure	0.6 MPa
Speed limit	1500 1/min
Max. number of lines	6



AdaptZero® Autonomous Loading Unit

Upon request

Autonomous precision headstock for loading pallets during non-working times or parallel to production. The unit runs on 230V and requires an extra compressed air supply.



APPLICATION EXAMPLES

AdaptZero® & 3VKCHP

Precision Three-jaw Chuck

- Centric clamping within the μ range
- Clamping of different workpieces using customised accessories (clamping jaws, axial stop)
- Standard accessories from the KCHP series (soft jaws, etc.) can be used



AdaptZero® & DLH

Precision Measuring Mandrel

- Highly precise expansion sleeve mandrel
- Slim interference contour of the chuck
- Setup-friendly changeover of accessories (expansion sleeve, axial stop & carbide mandrel)
- Can be loaded automatically / loading clearance: approx. 0.2 to 0.3mm



AdaptZero[®] & Hand Clamping Magnet

Hand Clamping Magnet

- Quick changeover to single-part production or reworking
- Holding of workpieces using a manual clamping magnet



AdaptZero[®] & B32

Collet Chuck

- Clamping workpieces with B32 collets
- Easy changeover of collets
- Existing B32 collets can be used



AdaptZero® & MK4

Centre Point

- Quick changeover to machining between centres
- Existing MK centre points can be used



AdaptZero® & VMCHP

Diaphragm Chuck

- High-precision clamping with axial retraction
- Easy replacement of accessories (clamping jaws, axial stop)
- Ideal for achieving quick cycle times



ATTACHMENT VARIANTS

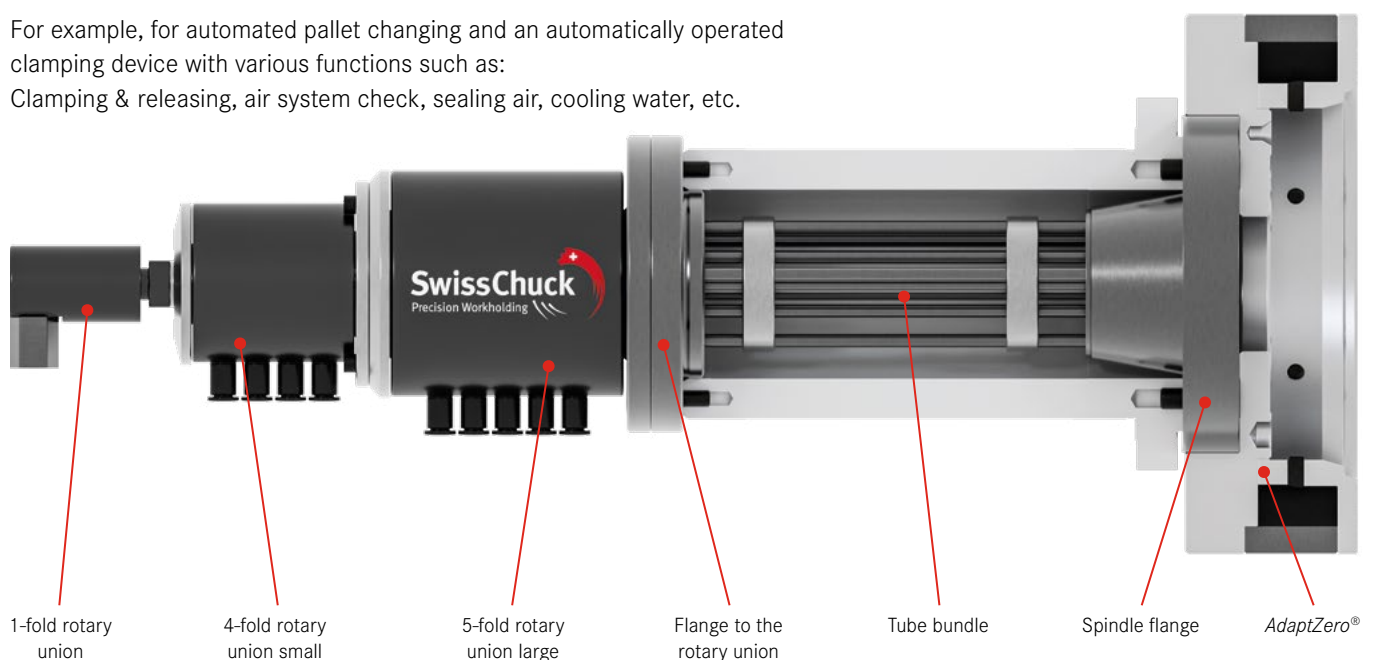
Add-on parts & Assembly of the Clamping System

The mounting of attachments to a clamping system is carried out specifically for each individual machine. SwissChuck designs and manufactures all the necessary components. As a customer, you receive the complete, ready-to-install attachment – **everything from a single source!**

If desired, we can install the system on the machine spindle or assist your employees in commissioning the clamping system. We also provide training for your staff.

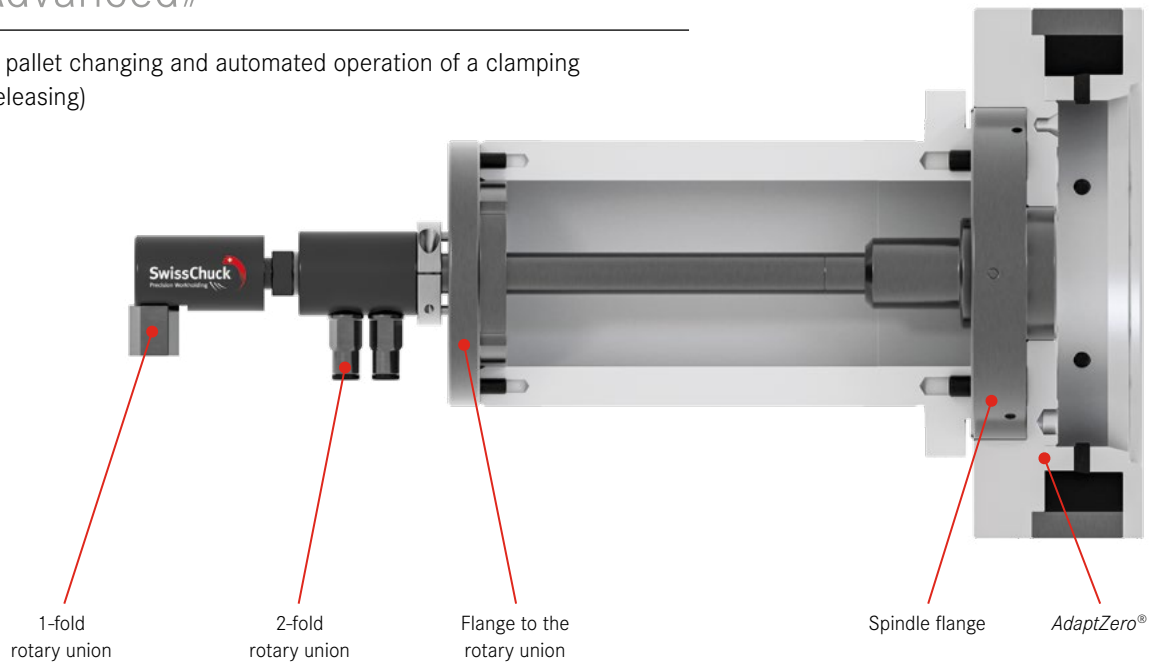
Variant «Ultimate»

For example, for automated pallet changing and an automatically operated clamping device with various functions such as:
Clamping & releasing, air system check, sealing air, cooling water, etc.



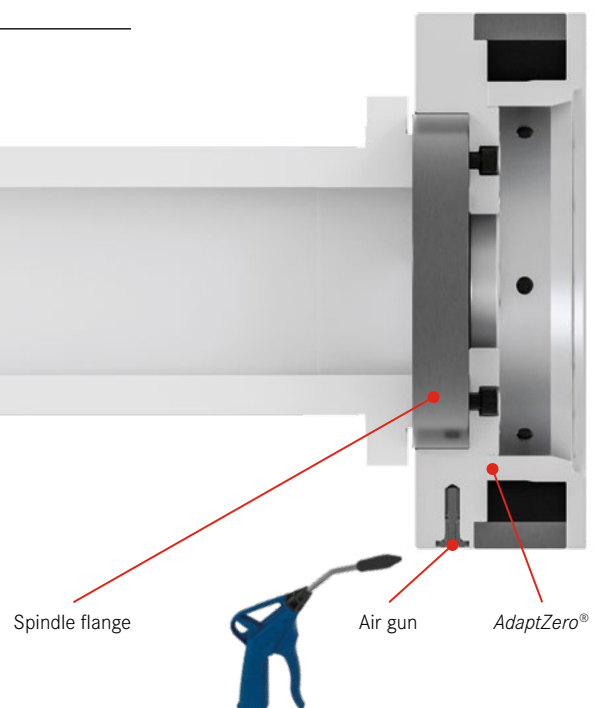
Variant «Advanced»

Suitable for manual pallet changing and automated operation of a clamping device (clamping, releasing)



Variant «Standard»

Such as for manual changing of pallets and manual operation of the clamping device





KCHP/VKHP
High-precision force chuck



SAP to KCHP
Automated drive carrier



KFHP
Precision power chuck



AdaptZero®
Precision quick-change interface



VMCHP
Diaphragm chuck



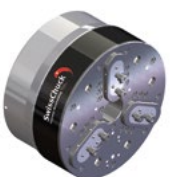
LZK/LSK-S
Collet chuck with clamping lamellas



DL
Collet expanding mandrel



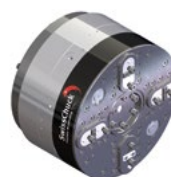
TGC/FTGC
Tool chuck



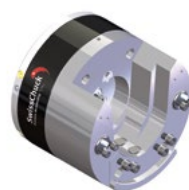
OVEK
High-precision force chuck



OVEKA
Compensating chuck



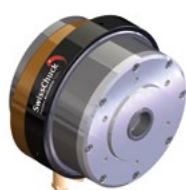
OVEKAV
Moving compensating chucks



FLD/AFLD
Twist finger type console chuck



SPECIAL SOLUTIONS
Tailor made solutions



PZLHM
Pneumatic force clamping cylinder



TRITON
Precision lathe chuck



LZK-S
Collet system

SwissChuck AG
Industriestrasse 3
CH-8307 Effretikon
P +41 52 355 31 31
F +41 52 343 52 40
SwissChuck.com



Service@SwissChuck.com



Sales@SwissChuck.com

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