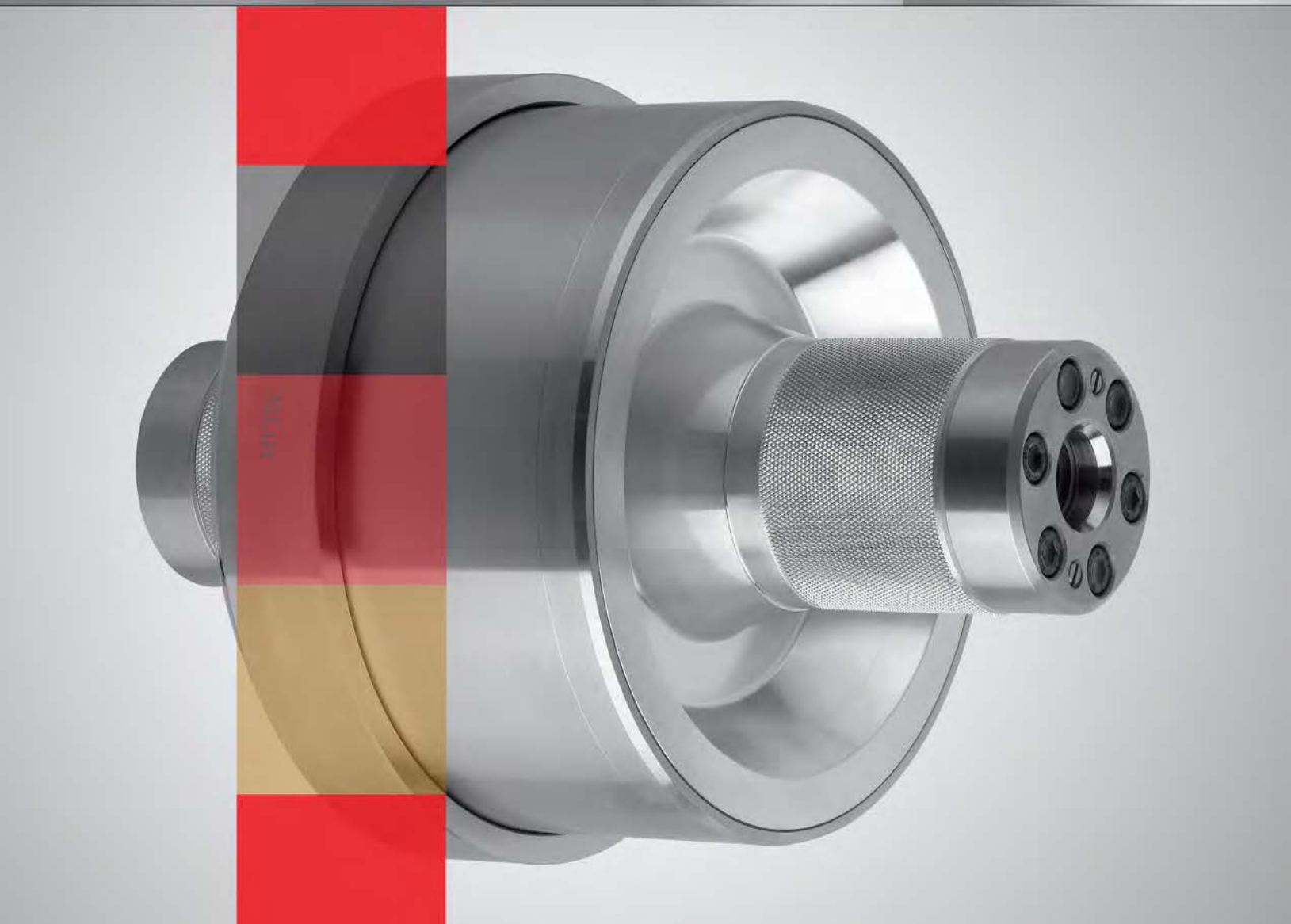
myTEC
HYDRACLAMP

Hydraulic -EXPANDING- Clamping Tools



myTEC
HYDRACLAMP®

DO YOU HAVE
A REQUIREMENT
TO CLAMP THESE
KIND OF
WORKPIECES,
OR SIMILAR
WORKPIECES?

ASK US!

Mytec
-Hydraclamp-
OFFERS YOU
THE OPTIMAL
CHUCK

Table of contents

Corporate

Competent customer care and consultation - from the offer to project completion - is natural for Mytec -Hydraclamp-

Mytec -Hydraclamp- has been dedicated to development and manufacture of high-precision clamping tools for workpiece and tool clamping since the company was founded.

Particularly hydraulic expansion clamping technology.

Mytec -Hydraclamp- has been a known entity for decades in the main sectors of the tool construction and machine building industries.

Our corporate goal is to achieve a high level of customer satisfaction through leading technical solutions and unlimited application orientation.

Constant innovation is an important success factor in this process.

We are the pioneer in seal-less connection technology for hydraulic expansion clamping tools.

Clamping tools from Mytec -Hydraclamp- are in use at well-known companies, particularly in the automotive and aircraft industry, including suppliers, machine tool and machinery building, pump manufacturers, and the electronics industry.

Talk with our engineering department when high-precision workpiece and tool clamping are involved.

Your contacts

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Corporate

Innovative technologies, modern manufacturing techniques and the most highly-qualified employees are the basis of the high-quality precision clamping tools from Mytec -Hydraclamp-

Mytec -Hydraclamp- is an innovative partner of the precision industry, with the core task of satisfying today's increasing quality requirements through development and manufacturing of highly precise tensioning tools for lathing, hobbing, grinding, measuring and testing, and to contribute to our customer's increased competitive ability.

Products: In order to effectively solve the variety of application cases, a broadly diversified product line was developed.

- Hydraulic expansion arbors
  Hydraulic expansion chucks
- Hydraulic expansion arbors
  Hydraulic expansion chucks
  with geared expansion sleeve
- Hydraulic expansion arbors
  Hydraulic expansion chucks
  of light metal
- Complete clamping fixtures
  including peripherals
- Machine spindles with integrated
  hydraulic expansion technology
- Electronic clamping pressure control
  System "Power Control"
- Mechanical sliding sleeve expansion arbors
  and chucks system "Perman"
- Hydraulic lock nut for axial clamping
  system "Hydraclamp"

Thus complete solutions in all areas where workpiece and tool clamping are required.

Introduction

Hydra expansion elements – the optimal connecting link between workpiece and machine

Using special hydraulic expansion elements, a clamping system has been developed by Mytec -Hydraclamp- that far surpasses all traditional clamping in precision, clamping force, and in transferred torque.

Highly-qualified technology, perfect construction and special materials are the basis for extraordinary performance, for high-precision lathing, hobbing, grinding, testing and measuring.

Hydra expansion arbors and Hydra expansion chucks are manufactured by Mytec in two versions:

1. System **- RS -** replaceable sleeve and precise
2. System **- SL -** seal-less and ultra high-precision

Selection of the respective system is based on the project or use.

Hydra expansion arbors and Hydra expansion chucks for manual and powered clamping are always tailored to the individual project. Consequently we are capable of solving the most difficult requirements without compromise.

Special hydraulic expansion technology from Mytec -Hydraclamp-, the superior clamping system for

- **more productivity**
- **more precision**
- **more profitability in testing, measuring, and in stock removal manufacturing**

Introduction

Appealing characteristics and performance - the basis of economic manufacturing

Quality Features

1. Precision
The centricity precision of the Hydraulic expansion elements from Mytec -Hydraclamp- is

≤ 0.005 mm for the - RS - system

≤ 0.003 mm for the - SL - system
(When using the intermediate collets, the respective value may increase)

2. Clamping force
With the Hydra expansion system unusually high clamping forces are achieved through high internal pressures.

3. Torque
Due to the absolute friction grip and centered tension, extremely high torques values are achieved. The torque rating can be up to three times greater with special hard coating at the clamping sleeve.

4. Expansion frequency
Mytec -Hydraclamp- guarantees min. 50,000 expansion cycles for its expansion tools (experience has shown that this number is exceeded by a wide margin in normal use) and 12 months of function.

5. Expansion
Hydra expansion tools

System - RS -

and System - SL -

normally have a max. expansion of 0.3%, starting from the respective clamping dia.

With the - RS - system the expansion can be increased to 1% when using an expansion sleeve made of special material.

6. Hardness
Hydra expansion tools from Mytec - Hydraclamp- have a hardness of 56 HRC and the centers have a hardness of 64 HRC. This ensures a long tool life.

7. Wear
The Hydra expansion tools' closed expansion system, which is absolutely impervious to dirt and chips, combined with high wear resistance, guarantees a long service life.

8. Coating
If the standard hardness of Hydra expansion tools is not sufficient, then a highly wear resistant coating may be applied. The surface hardness of the coating in this case is 80 HRC.

9. Clamping without workpiece
Hydra expansion elements from Mytec - Hydraclamp- can be expanded without a workpiece because the expansion elements are permenantly adjusted within the max. expansion of 0.3%.
Over-expansion is not possible due to an integrated stroke limiter. However, at direct admission the max. actuating pressure is prescribed.

10. Setting
If space permits, Hydra expansion elements from Mytec -Hydraclamp- are generally equipped with an adjustment piston. This makes it possible to set expansion for fine clamping, particularly in the case of thin-walled workpieces. Thus deformation is avoided.

Systems

System

- R S -

“Repl. sleeve”

System – RS – „REPLACEABLE SLEEVE“

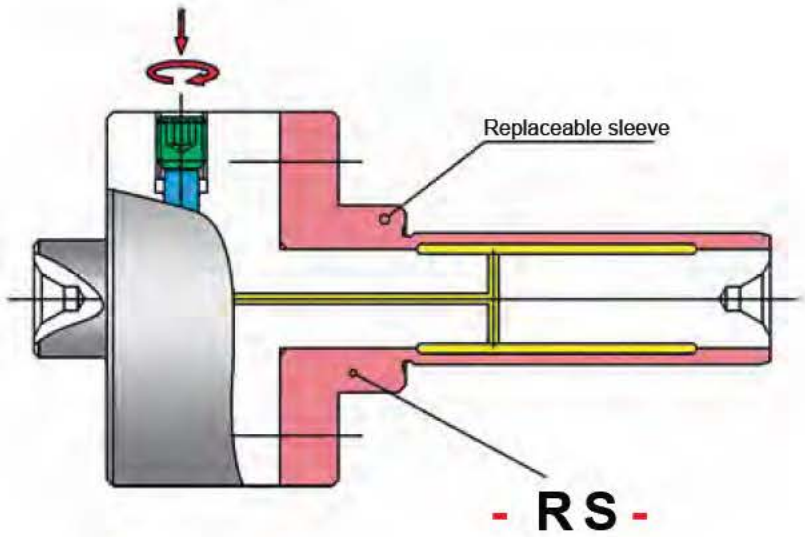
With this **precise** version the expansion sleeve of HSS high speed steel and the base body are connected in such a manner that they can be separated.

In the event of damage wear or dimensional change, the expansion sleeve can be replaced with no problems. The seal is mechanical.

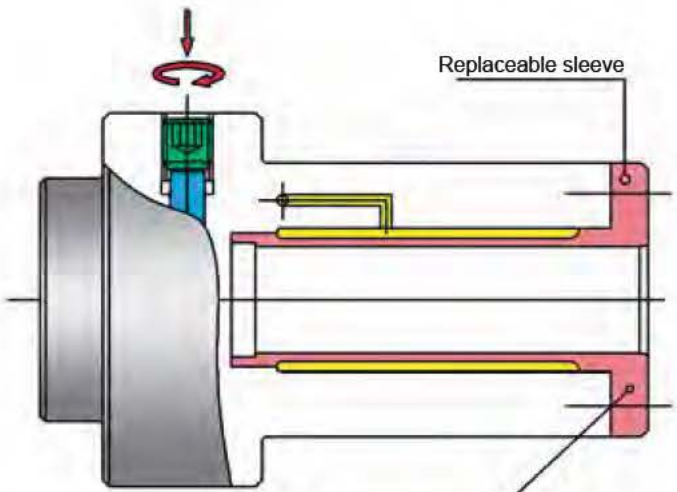
Centricity precision is ≤ 0.005 mm (0.0002”).

The expansion is 0.3% starting from the respective clamping diameter with a clamping length of 2 x D.

Advantage:
When using an replaceable sleeve made of special material (special plastic or titanium alloy) the expansion is up to 1%.



- RS -



- RS -

Systems

System

- S L -

“Seal-less”

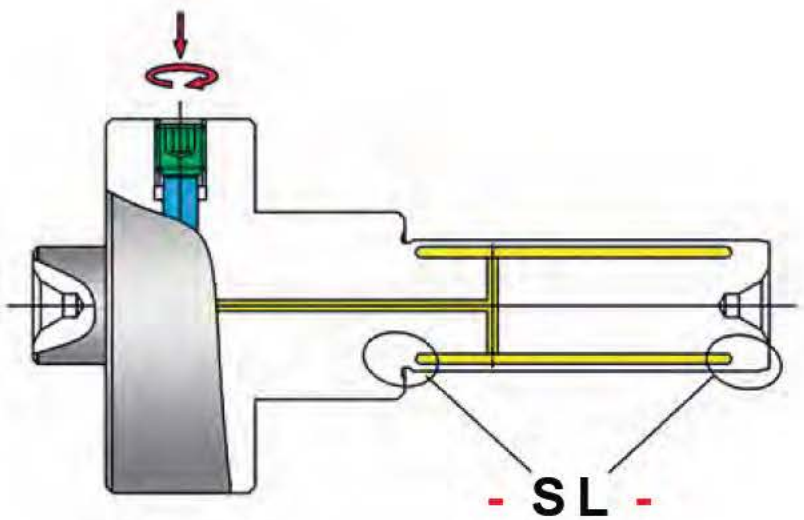
With this **high-precision** design the expansion sleeve of HSS high-speed steel and the base body are inseparably connected in a new Mytec manufacturing process without sealing elements on either end, and are connected to each other in such a manner that they are absolutely sealed. They are leakproof and rupture proof.

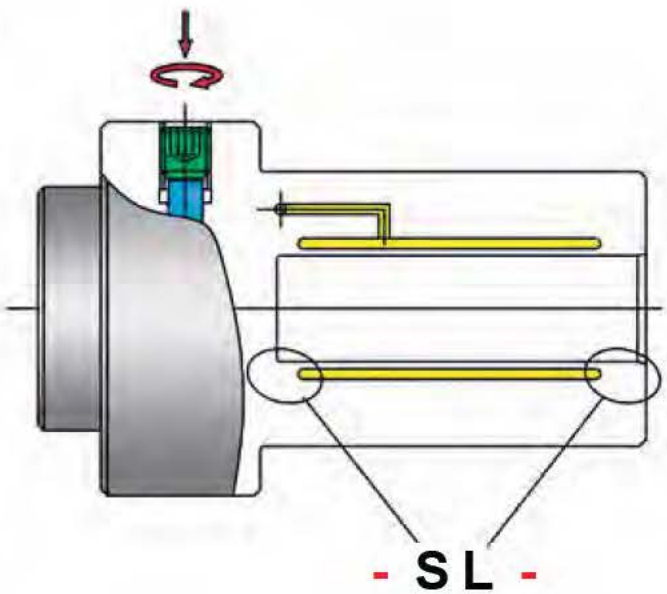
Concentricity precision is ≤ 0.003 mm (0.00012”).

The expansion is 0.3% starting from the respective clamping diameter with a clamping length of 2 x D.

Advantage:
Higher torsion resistance and precision relative to the system **- RS -** replaceable sleeve. Design is leakproof and rupture proof.

System – SL – „SEAL-LESS“

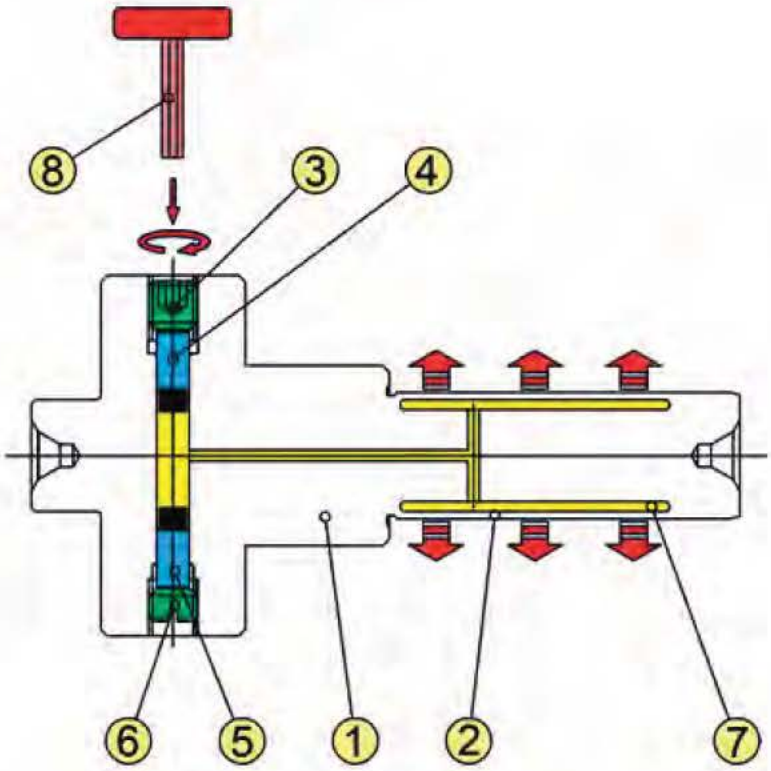




System description

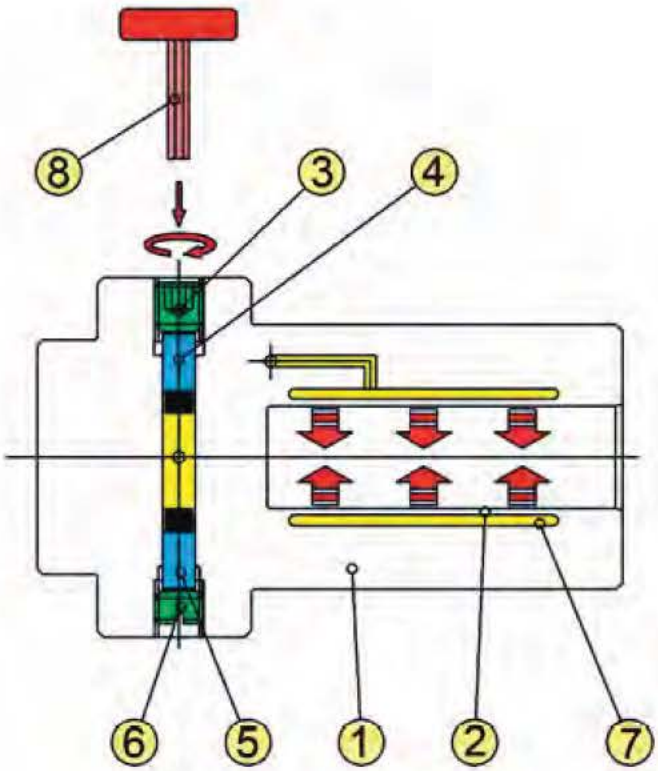
Structure and function

Structure of the Hydra-expansion arbor



1 Base body
2 Expansion sleeve
3 Actuating screw
4 Actuating piston
5 Adjusting piston
6 Adjusting screw
7 Chamber system
8 Clamping wrench

Structure of the Hydra-expansion chuck



1 Base body
2 Expansion sleeve
3 Actuating screw
4 Actuating piston
5 Adjusting piston
6 Adjusting screw
7 Chamber system
8 Clamping wrench

System description

Structure and function

**of the hand-activated
Hydra expansion arbors
and
Hydra expansion chucks
from Mytec -Hydraclamp-**

Clamping:

For this type, a clamping wrench (8) is used with which the clamping bolt (3) is screwed in for maximum expansion, or the full clamping force can be adjusted to the stop.

Safety:

The stop also serves as stroke limiter, so that over-expansion or damage to the expansion sleeve (2) is not possible.

When screwing in the expansion bolt (3) the collet piston (4) is activated.

This causes the hydraulic fluid in the chamber system (7) to be pressed against the thin-walled expansion sleeve (2).

At the same time, the expansion sleeve (2) uniformly expands radially over the entire chucking length both centrically and cylindrically.

Release:

To release, clamping screw (3) is turned back to the starting position with the clamping wrench (8).

This triggers the pressure relief and the release of the expansion sleeve.

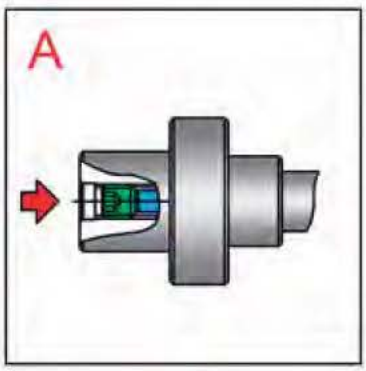
Due to its inherent tension, the expansion sleeve returns precisely to its starting position.

Power-activated:

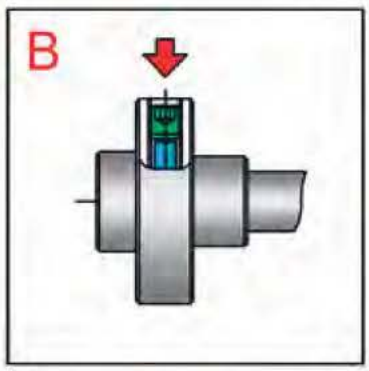
For power-activated hydraulic expansion tools from Mytec -Hydraclamp-, the clamping process is executed via the tensioning fixture of a machine.
(See system specification – activation types, page 12)

System specifications

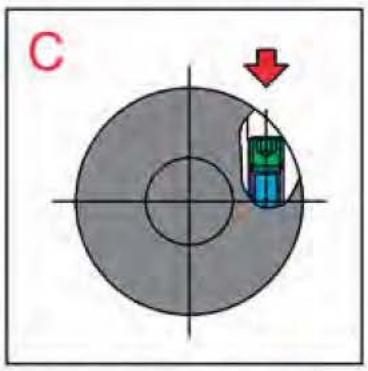
Actuation location possibilities:



Axial

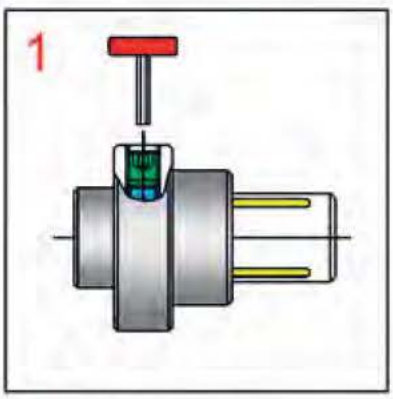


Radial

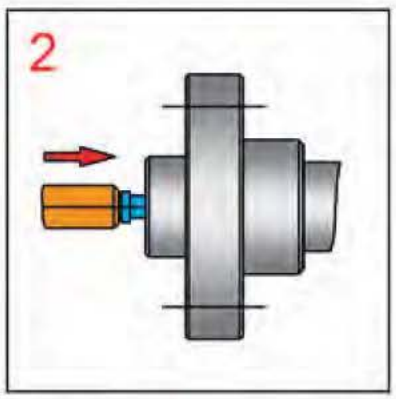


Tangential

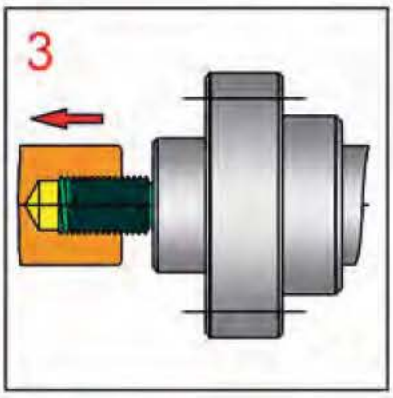
Activation Types:



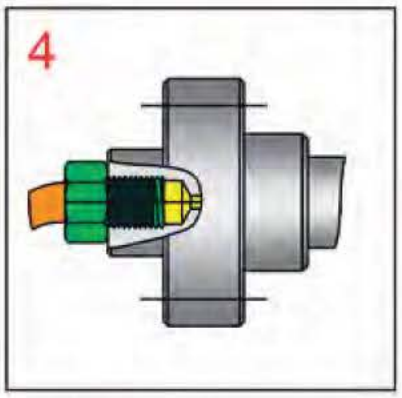
Manual:
with clamping wrench



Automatic:
with clamping cylinder
and push rod



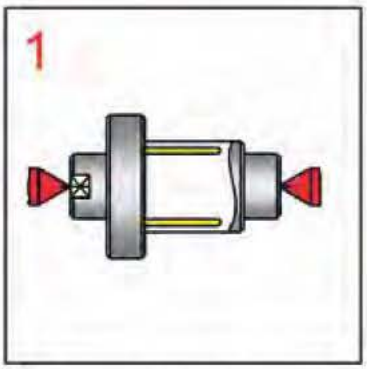
Automatic:
with clamping cylinder
and drawbar



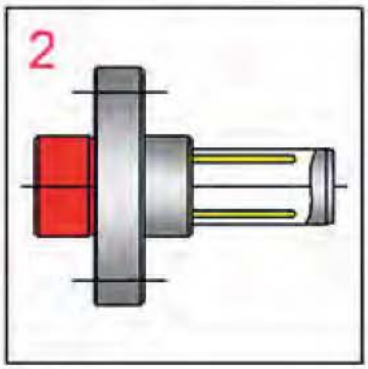
Automatic:
direct pressure from the
machines hydraulic system

System specifications

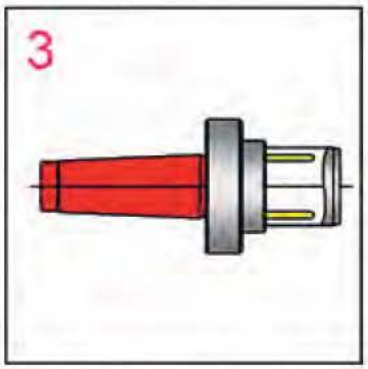
Machine connections:



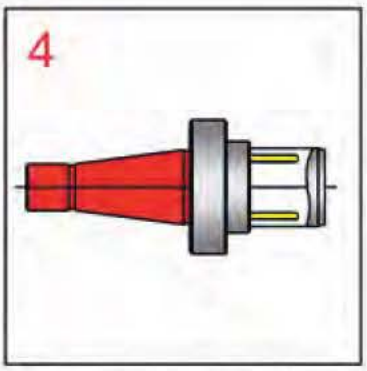
Between centers



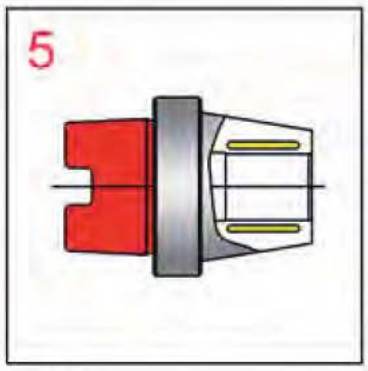
Flange,
cylindrical centering



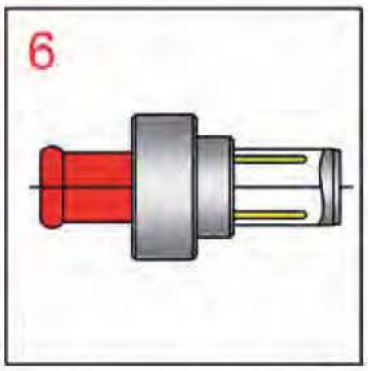
Morse tapers or
metric DIN tapers



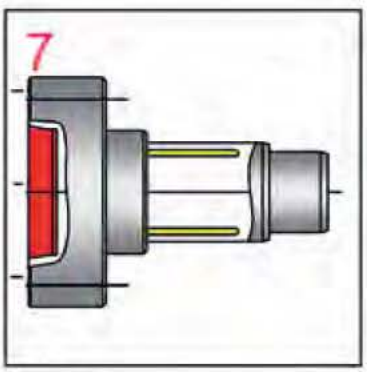
Steep tapers DIN2080
(SK / MAS BT / CAT)



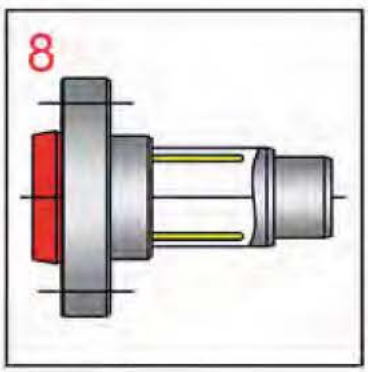
HSK



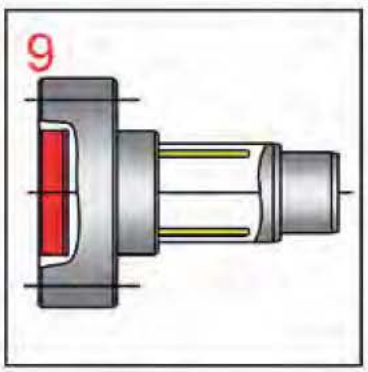
Reishauer connection



Flange,
short taper mount
(DIN / ISO) interior



Flange,
short taper mount
(DIN / ISO) exterior



Flange,
cylindrical centering

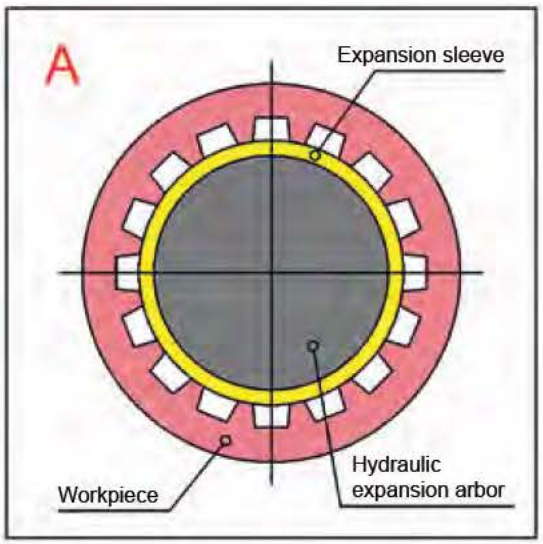
In addition to the illustrated standard tool connections, Hydra-expansion tools from Mytec can also be supplied with any other special connection.

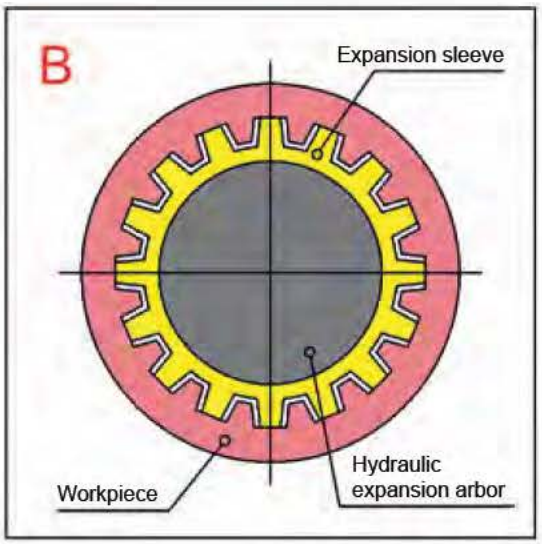
Thus they can be used in any position in the machine or fixture.

Special solutions

Clamping of gears, sliding gears, or drive parts in the internal tooth system with a Hydra expansion arbor

Here the system can clamp in the root circle, on the tip circle, or in the tooth flanks





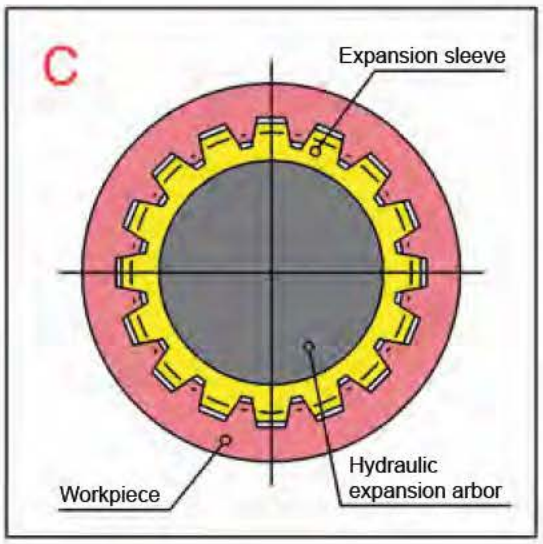


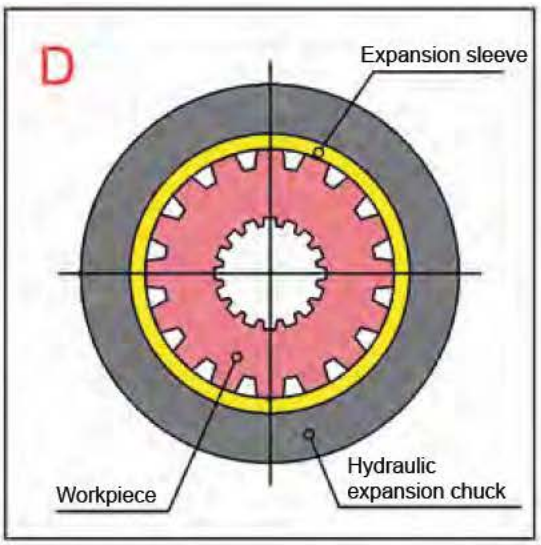
Illustration:

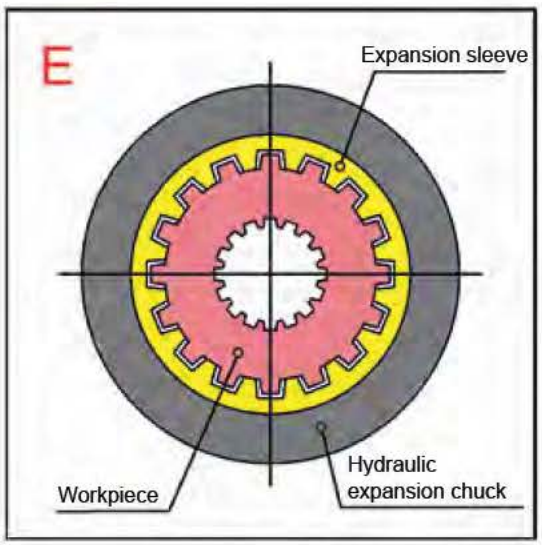
- A **Clamping on the tip circle**
- B **Clamping in the root circle**
- C **Clamping in the tooth flanks**

Special solutions

Clamping of gears, sliding gears, or drive parts in the external tooth system with a Hydra expansion chuck

Here you can clamp in the root circle, on the tip circle or in the tooth flanks





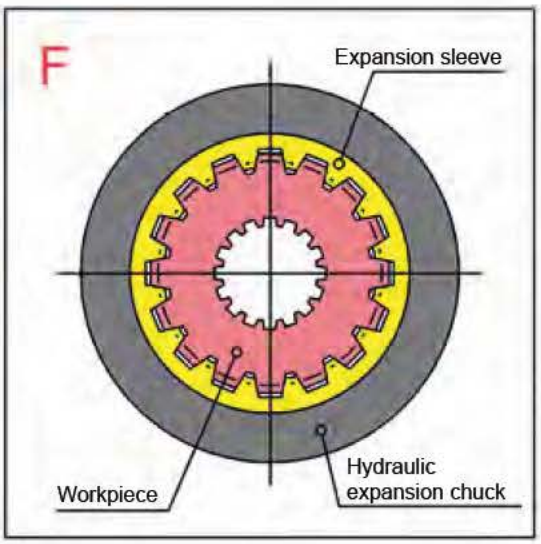
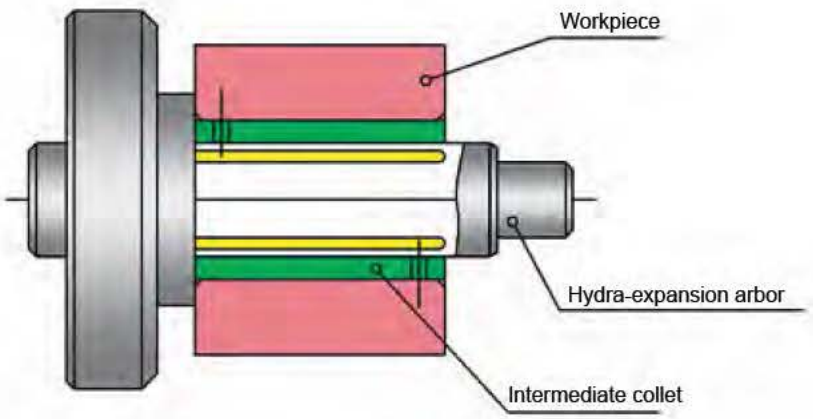


Illustration:

- D **Clamping on the tip circle**
- E **Clamping in the root circle**
- F **Clamping in the tooth flanks**

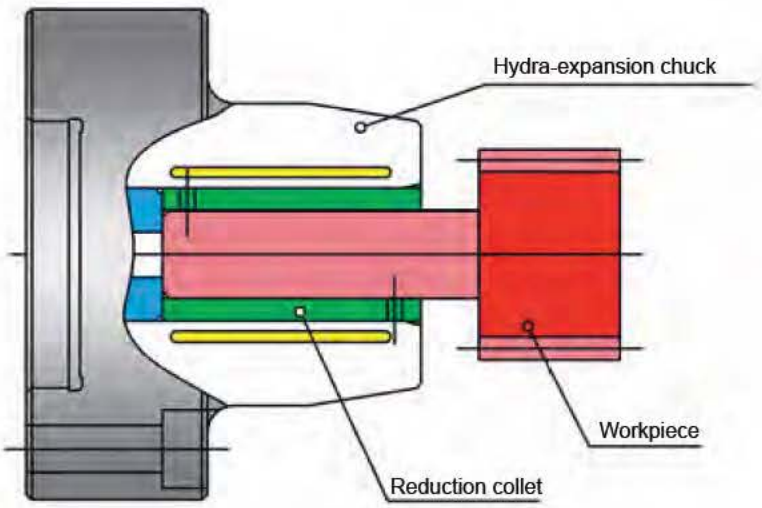
Special Solutions

Clamping workpieces and tools via intermediate collets on a Hydra expansion arbor or in a Hydra expansion chuck



Example 1

**Hydra expansion arbor with open intermediate collet.
By using intermediate collets with different clamping diameters the application area is significantly extended.**

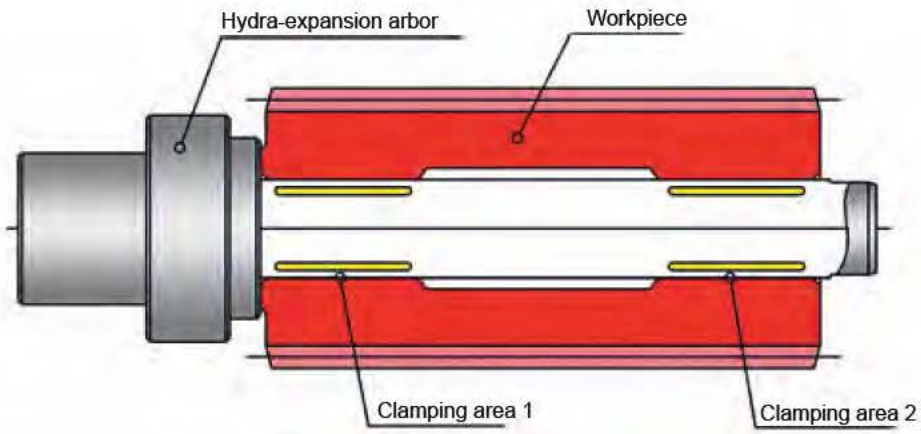


Example 2

**Hydra expansion chuck with built-in reduction collet.
By using reduction collets with different clamping diameters the application area is significantly extended.**

Special solutions

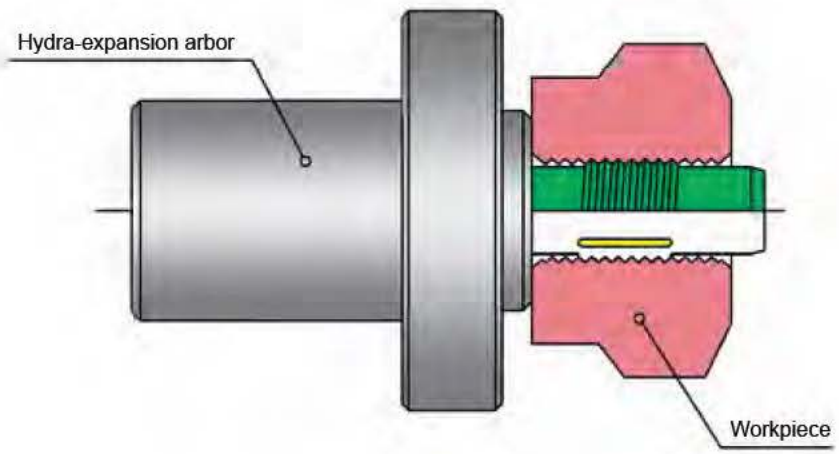
Clamping workpieces and tools with long connection bore or relieved bore such as with hob cutters.



Example 3

Due to a lack of stability with long connection bores and the hazard of breaking the expansion sleeve, multiple clamping areas are used a for relieved bore. The clamping areas can be activated individually or in combination, as desired.

Clamping workpieces with internal thread



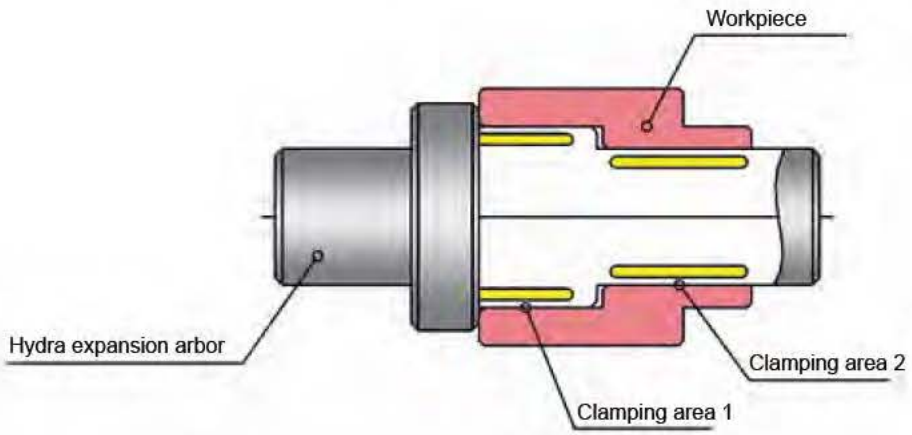
Example 4

Workpieces with internal thread can be clamped using a profile-ground expansion sleeve without play and with high-precision on a Hydra expansion arbor in the thread flanks.

Special Solutions

Clamping workpieces and tools with stepped bores

Direct admission of the workpiece in stepped bores with two clamping areas

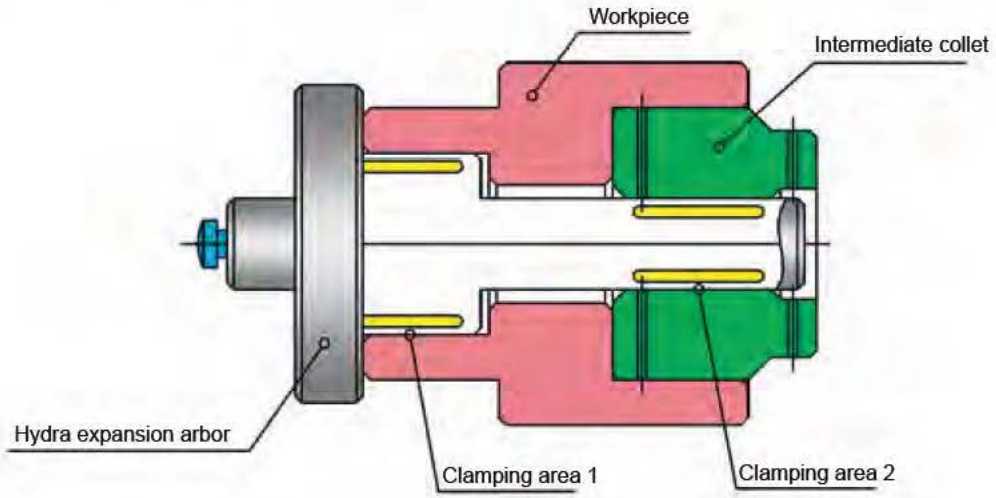


Example 5

Each clamping area is adapted to the respective bore tolerance. The different clamping areas can be designed in such a manner that they can be pressurized individually or at the same time.

Locating the workpiece in stepped bores with two clamping areas

(Clamping area 2 using a intermediate collet)



Example 6

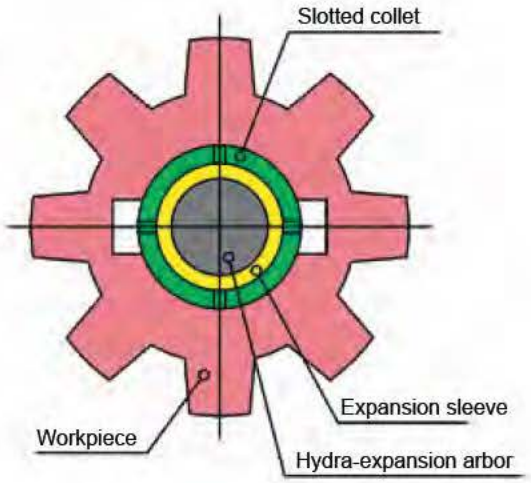
In the left locating bore of the workpiece the system clamps directly with clamping area 1. The front, larger locating bore of the workpiece can only be clamped via a slotted intermediate collet. Even in this case the different clamping areas can be laid out in such a manner that they can be pressurized individually or at the same time.

Special Solutions

Clamping workpieces and tools with interrupted clamping surface or special contour in the locating bore

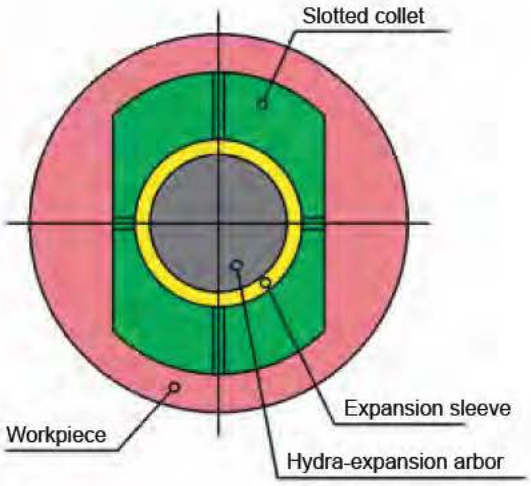
Example 7

Interior clamping of a gear in the locating bore through a Hydra expansion arbor or via a intermediate collet.



Example 8

Interior clamping of a workpiece with polygon contour by a Hydra expansion arbor or via a profiled intermediate collet.



Normally clamping on a surface that is not rotationally symmetric, or in a bore that is not rotationally symmetric is impossible due the risk of breakage.
However this process can be ensured by using a profiled intermediate collet.
In this regard it makes no difference whether a Hydra expansion arbor is used for interior clamping or a Hydra expansion chuck is used for exterior clamping.

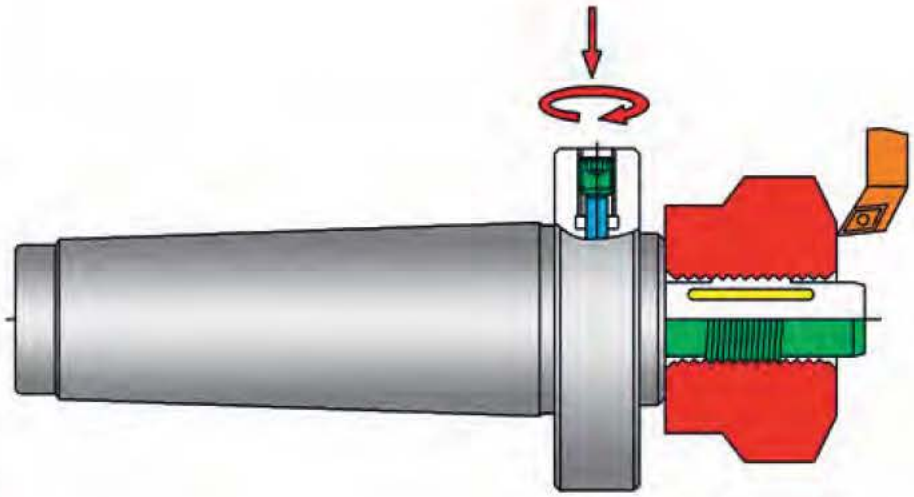
Workpiece clamping

Field of application: *Turning*

Example 9

Hydra-Clamping-Arbor

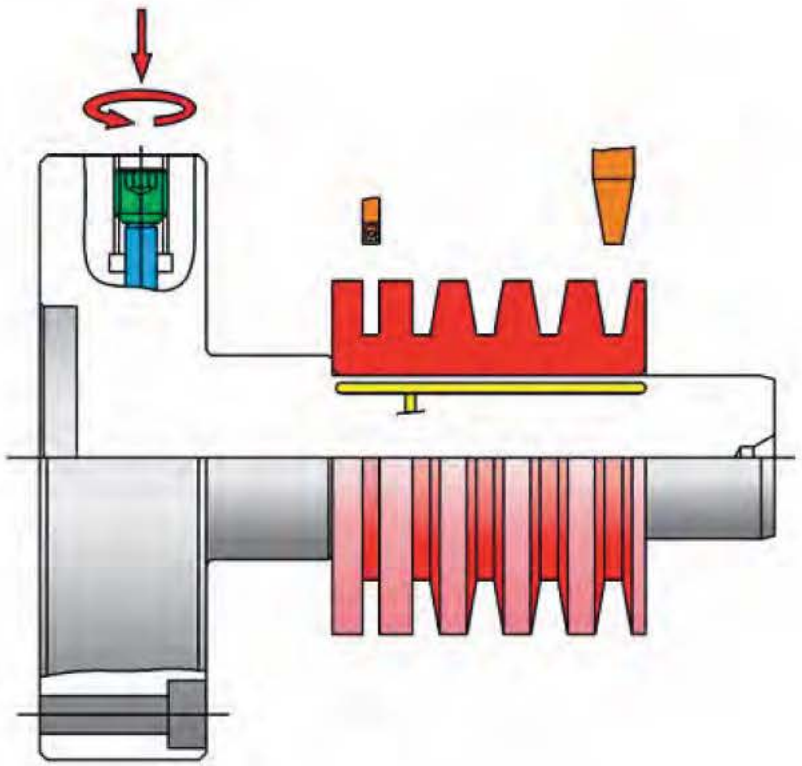
Actuation: Hand actuated Radially
Mounting: Morse taper 5
Workpiece: Adjusting nut
Machine: Lathe
Application: Turning of the outer contour
Advantage: High run-out accuracy ≤ 0,006 mm (0.00024") of the internal thread to the outer contour; clamping on the grinded thread profile of a sleeve



Example 10

Hydra-Clamping-Arbor

Actuation: Hand actuated Radially
Mounting: Flange; cyl. centering
Workpiece: Pulley
Machine: CNC-lathe
Application: Turning of the outer contour and the turned grooves
Advantage: High run-out accuracy ≤ 0,006 mm (0.00024") of the outer contour to the location hole; adjustable clamping force without work-piece deformation



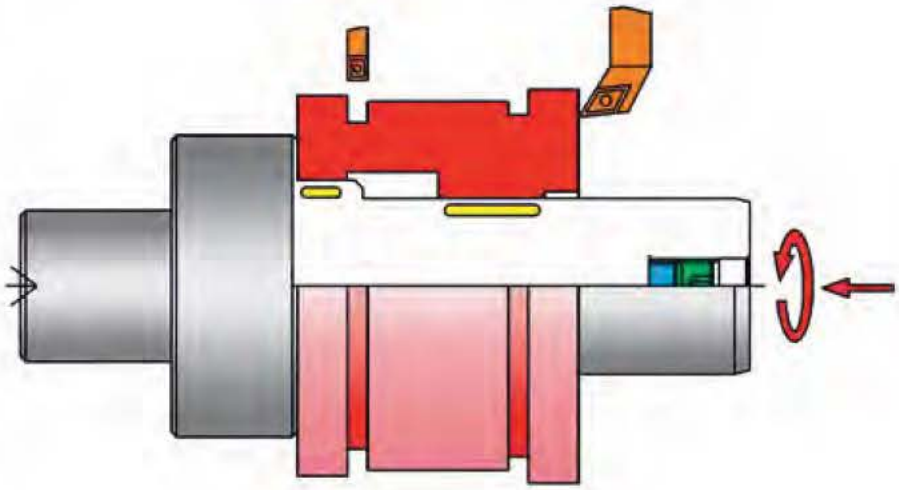
Workpiece clamping

Field of application: *Turning*

Example 11

Hydra-Clamping-Arbor

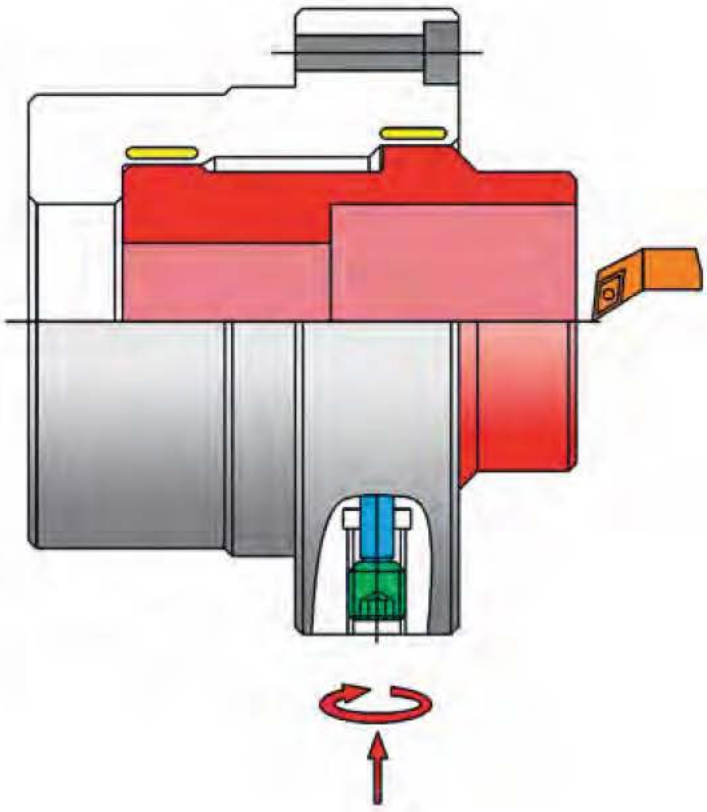
Actuation: Hand actuated
Axially
Mounting: Cyl. shaft; support by tailstock
Workpiece: Adapter bush
Machine: CNC-lathe
Application: Turning of the outer contour and the turning grooves
Advantage: High run-out accuracy ≤ 0,005 mm (0.0002") of the inside dia. to the outer contour; clamping with 2 clamping areas on the bearing seats



Example 12

Hydra-Clamping-Chuck

Actuation: Hand actuated
Radially
Mounting: Flange, cyl. centering
Workpiece: Bushing
Machine: CNC-lathe
Application: Turning of the inner contour
Advantage: High run-out accuracy ≤ 0,006 mm (0.00024") from the inner contour to the outer diameter; clamping with 2 clamping areas makes optimal centering and run-out accuarcy possible



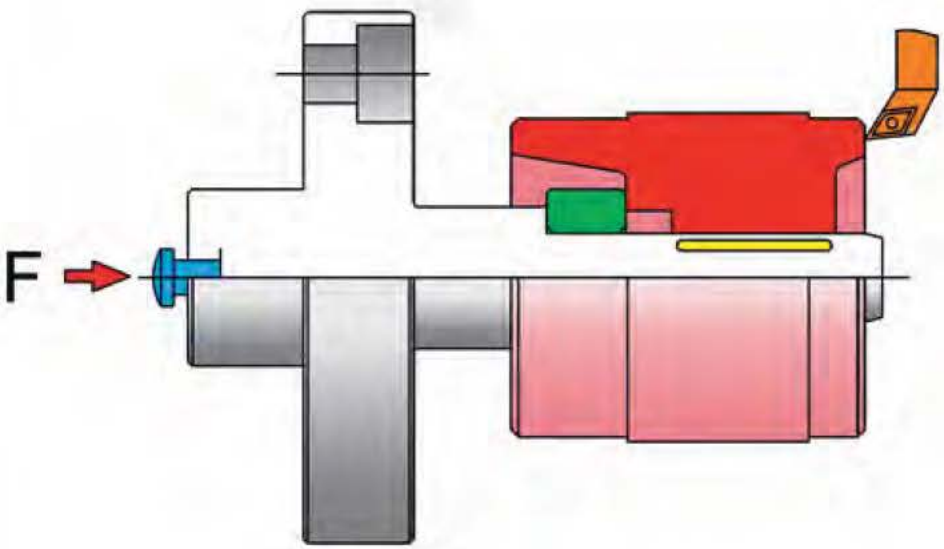
Workpiece clamping

Field of application: *Turning*

Example 13

Hydra-Clamping-Arbor

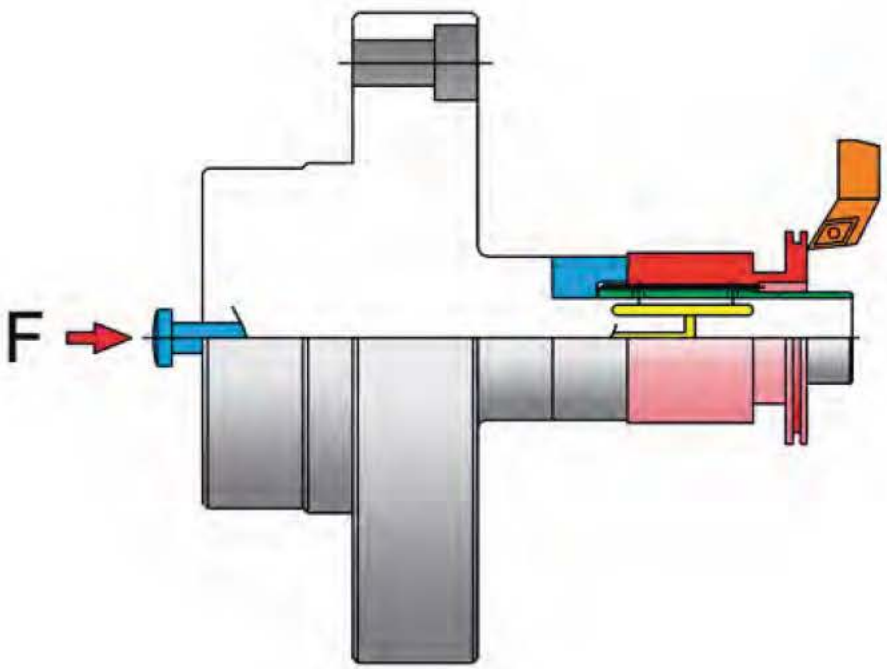
Actuation:	Power actuated Axially
Mounting:	Flange; cyl. centering
Workpiece:	Motor anker
Machine:	CNC-lathe
Application:	Turning of the outer contour
Advantage:	High run-out accuracy ≤ 0,006 mm (0.0002"); autom. loading; support by tailstock



Example 14

Hydra-Clamping-Arbor

Actuation:	Power actuated Axially
Mounting:	Flange; cyl. centering
Workpiece:	Transmission part with internal spline
Machine:	CNC-lathe
Application:	Turning of the outer contour
Advantage:	High run-out accuracy ≤ 0,006 mm (0.0002") of the inner gearing to the outer contour; high precise clamping on form-grinded sleeve in the gearing; autom. loading; support by tailstock

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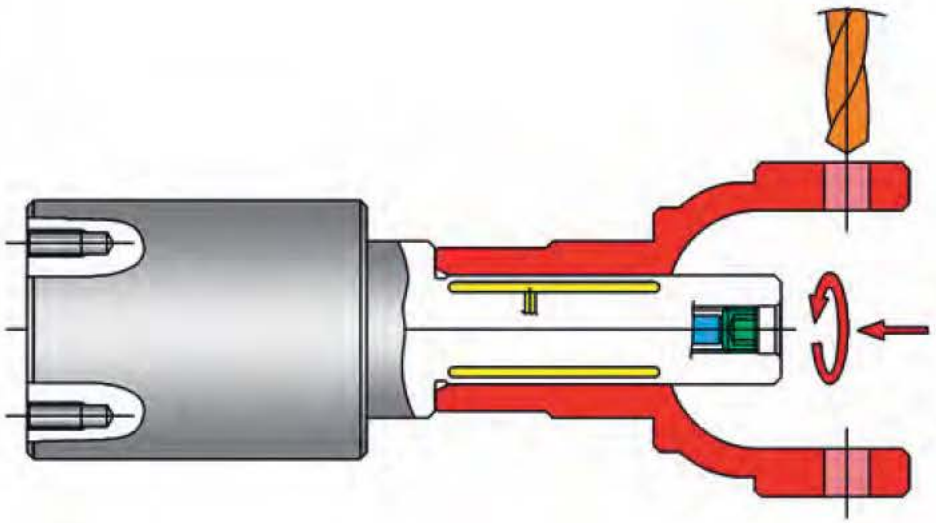
Workpiece clamping

Field of application: *Drilling*

Example 15

Hydra-Clamping-Arbor

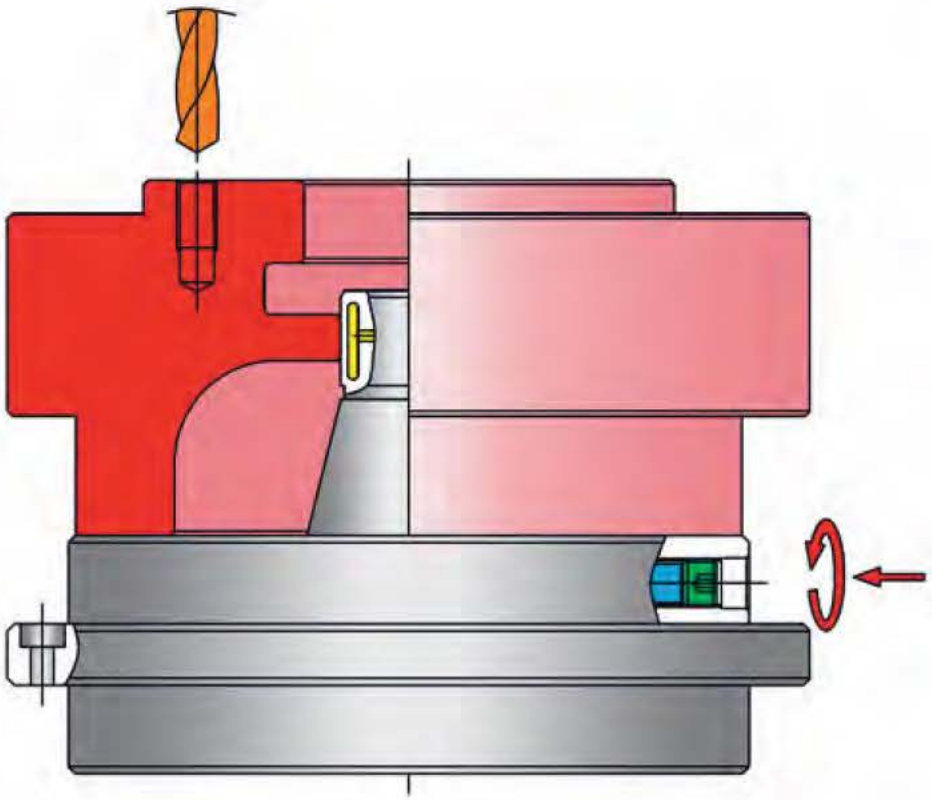
Actuation: Hand actuated Axially
Mounting: Cyl. shaft
Workpiece: Axle-Part
Machine: Drilling machine
Application: Drilling and reaming
Advantage: Precise squared and positioned clamping; clamping high precise and reproduceable



Example 16

Hydra-Clamping-Arbor

Actuation: Hand actuated Radially
Mounting: Flange; cyl. centering
Workpiece: Pump case
Machine: CNC-drilling machine
Application: Drilling, reaming and tapping
Advantage: Precise squared and positioned clamping; clamping high precise and reproduceable

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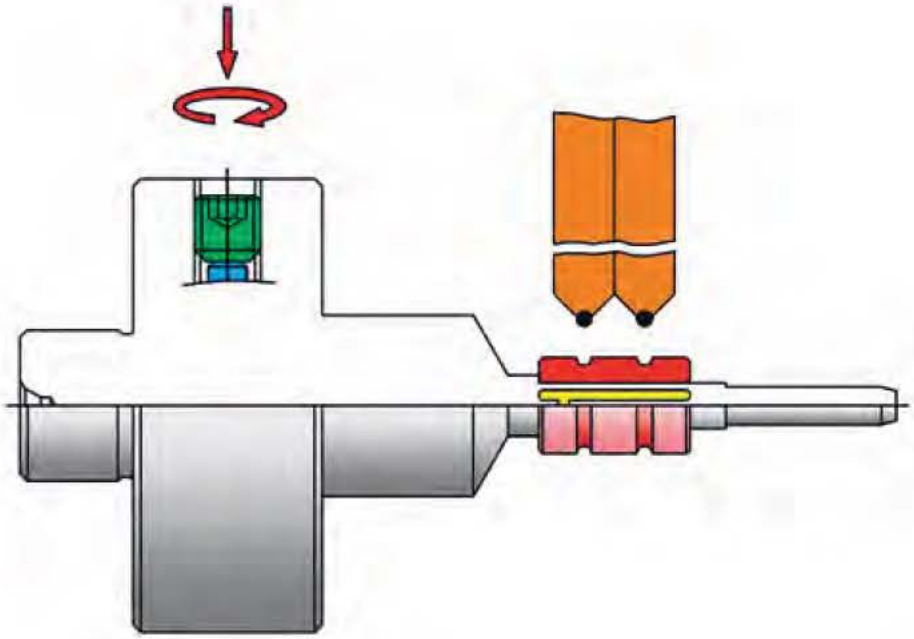
Workpiece clamping

Field of application: ***Cylindrical grinding „external“***

Example 17

Hydra-Clamping-Arbor

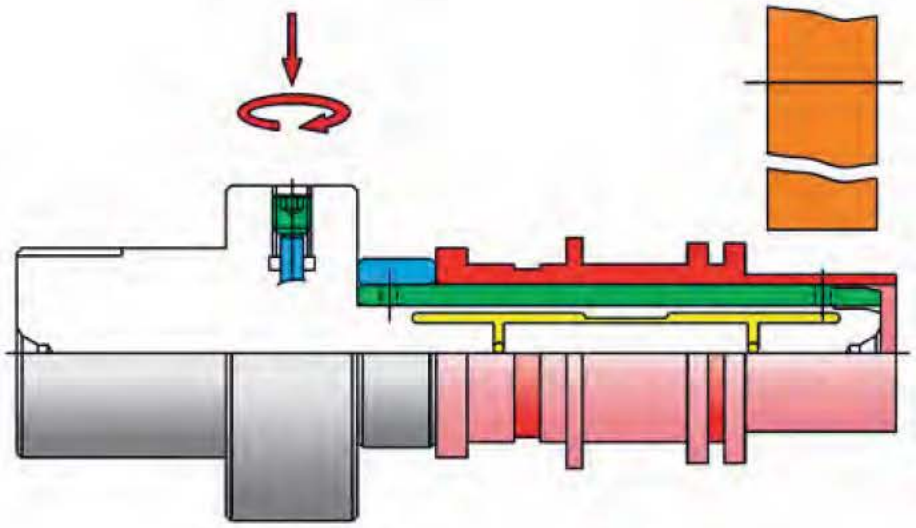
Actuation:	Hand actuated Radially
Mounting:	Flange; cyl. centering
Workpiece:	Bearing bush
Machine:	Profile-grinding machine
Application:	Profile-grinding of the race-groove
Advantage:	High run-out accuracy ≤ 0,002 mm (0.00008") of the bore to the race-groove; clamping dia. till 6 mm are possible



Example 18

Hydra-Clamping-Arbor

Actuation:	Hand actuated Radially
Mounting:	Between centers
Workpiece:	Pin bushing
Machine:	Cyl.-grinding machine
Application:	Cyl.-grinding of the outside dia.
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012"); with interchangeable intermediate sleeve for different work-piece diameters; no deformation at the workpiece



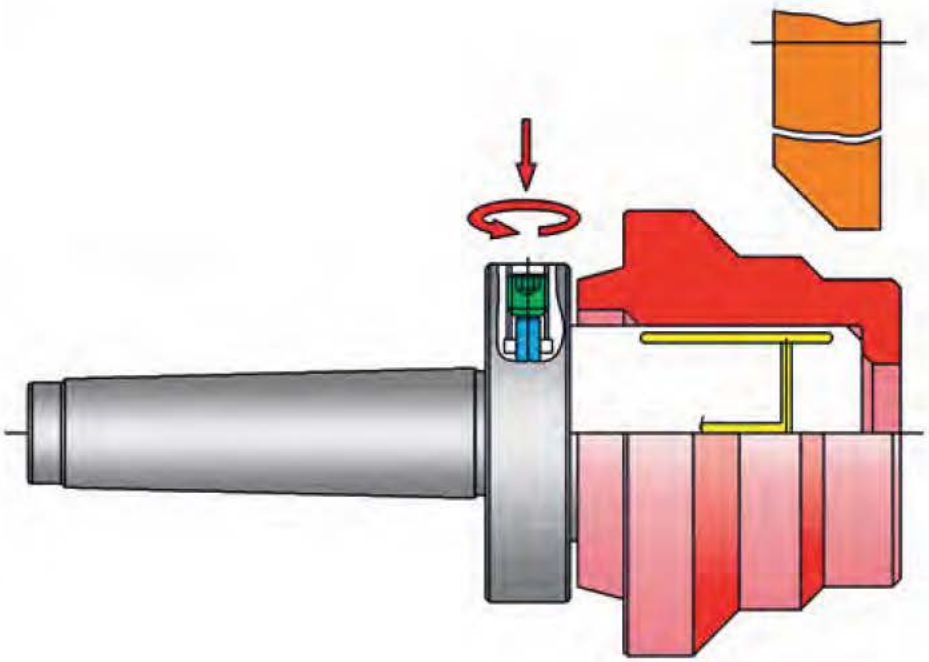
Workpiece clamping

Field of application: ***Cylindrical grinding „external“***

Example 19

Hydra-Clamping-Arbor

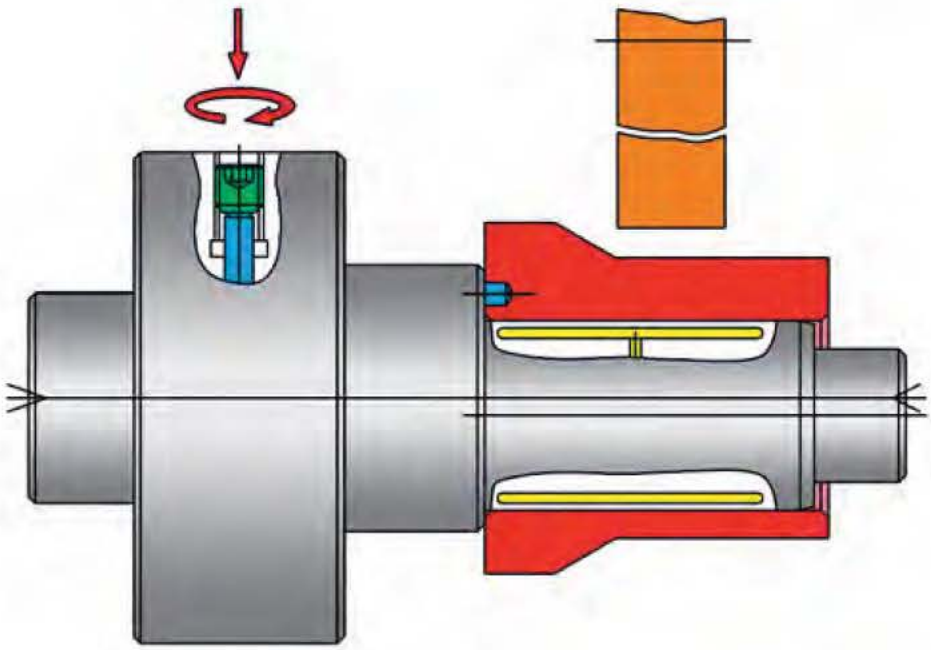
Actuation: Hand actuated Radially
Mounting: Morse taper 4
Workpiece: Run sleeve
Machine: CNC-cyl.-grinding machine
Application: Cyl.-grinding of the outer contour
Advantage: High run-out accuracy ≤ 0,002 mm (0.00008“); clamping of the workpiece internal in the ball-bearing seat; high accuracy from the ball-bearing seat to the outer diameter.



Example 20

Hydra-Clamping-Arbor

Actuation: Hand actuated Radially
Mounting: Between centers
Workpiece: Eccentric bush
Machine: CNC-cyl.-grinding machine
Application: Cyl.-grinding of the outer contour
Advantage: High run-out accuracy ≤ 0,002 mm (0.00008“) and dimensional accuracy at the eccentric; precise transference of the required eccentricity of the Clamping-Arbor to the workpiece



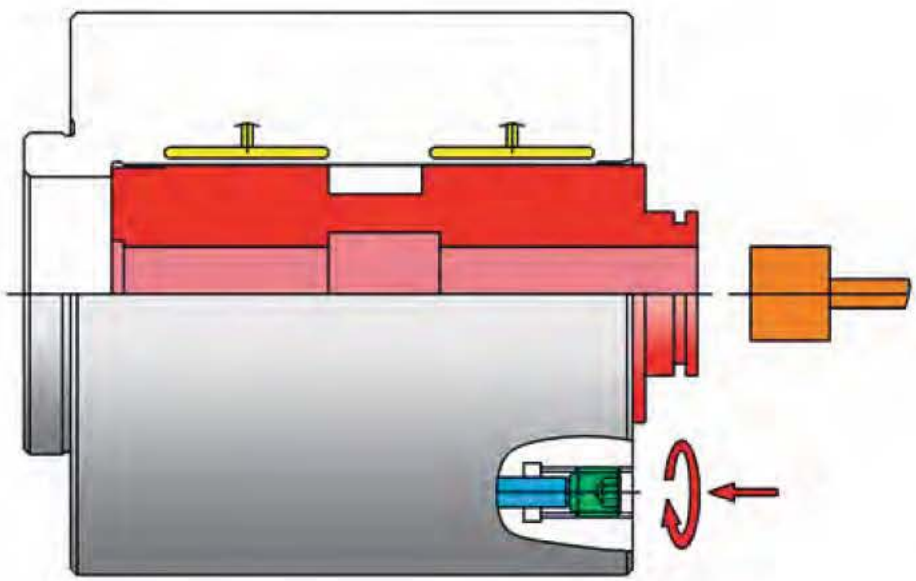
Workpiece clamping

Field of application: ***Cylindrical grinding „internal“***

Example 21

Hydra-Clamping-Chuck

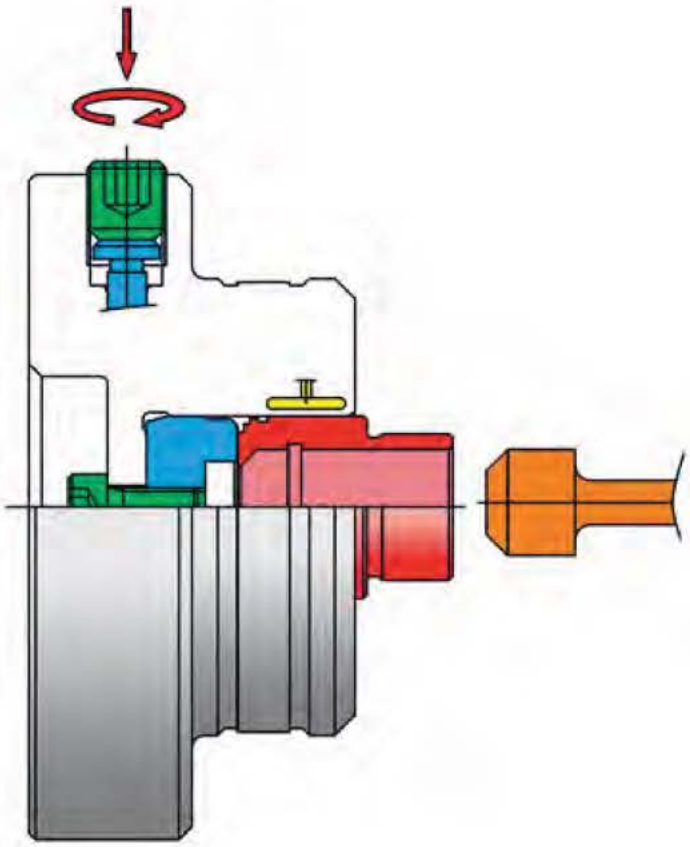
Actuation:	Hand actuated Axially
Mounting:	Flange, cyl. centering
Workpiece:	Spindle case
Machine:	CNC-internal grinding machine
Application:	Ground-hole grinding
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012"); clamping with 2 clamping areas on the bearing-seats makes a high run-out accuracy of the ground bore possible



Example 22

Hydra-Clamping-Chuck

Actuation:	Hand actuated Radially
Mounting:	Flange; cyl. centering
Workpiece:	Valve bush
Machine:	CNC-internal grinding machine
Application:	Grinding of the valve seat
Advantage:	High run-out accuracy ≤ 0,002 mm (0.00008"); improvement of the running qualities of the valve piston



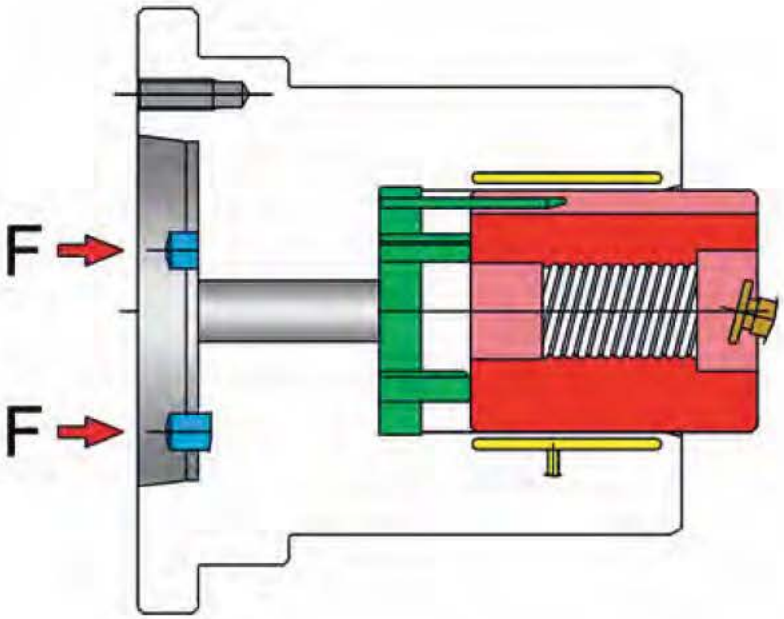
Workpiece clamping

Field of application: ***Cylindrical grinding „internal“ - „external“***

Example 23

Hydra-Clamping-Chuck

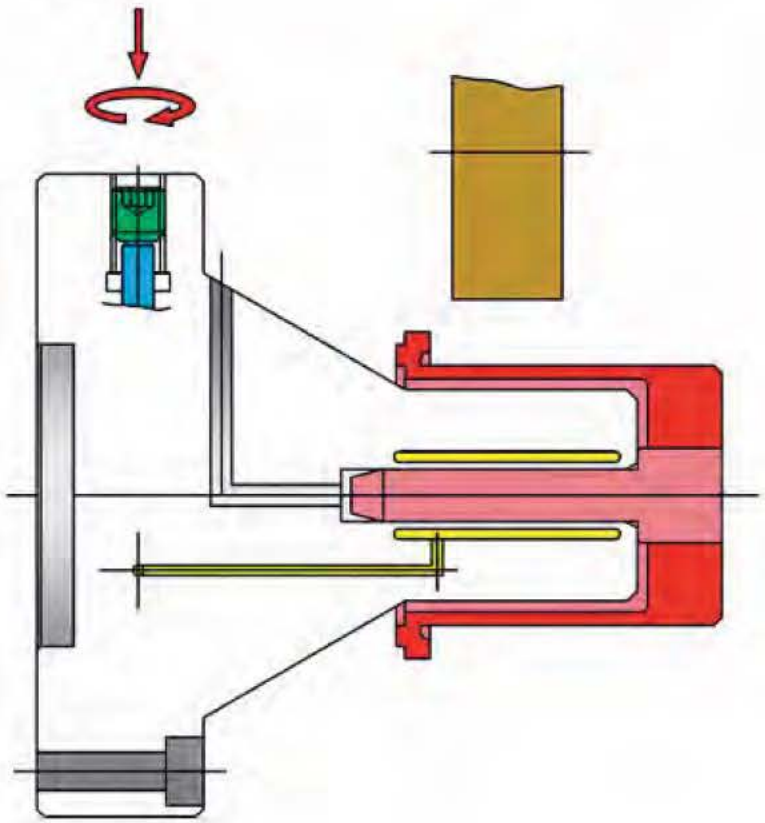
Actuation:	Power actuated Axially
Mounting:	Flange; short taper centering
Workpiece:	Steering nut
Machine:	CNC-internal profile grinding machine
Application:	Grinding of the race-groove
Advantage:	High run-out accuracy and face run-out accuracy ≤ 0,003 mm (0.00012“); clamping on the built-in dia. with position fastening, therefore better running qualities of the race-groove after the mounting



Example 24

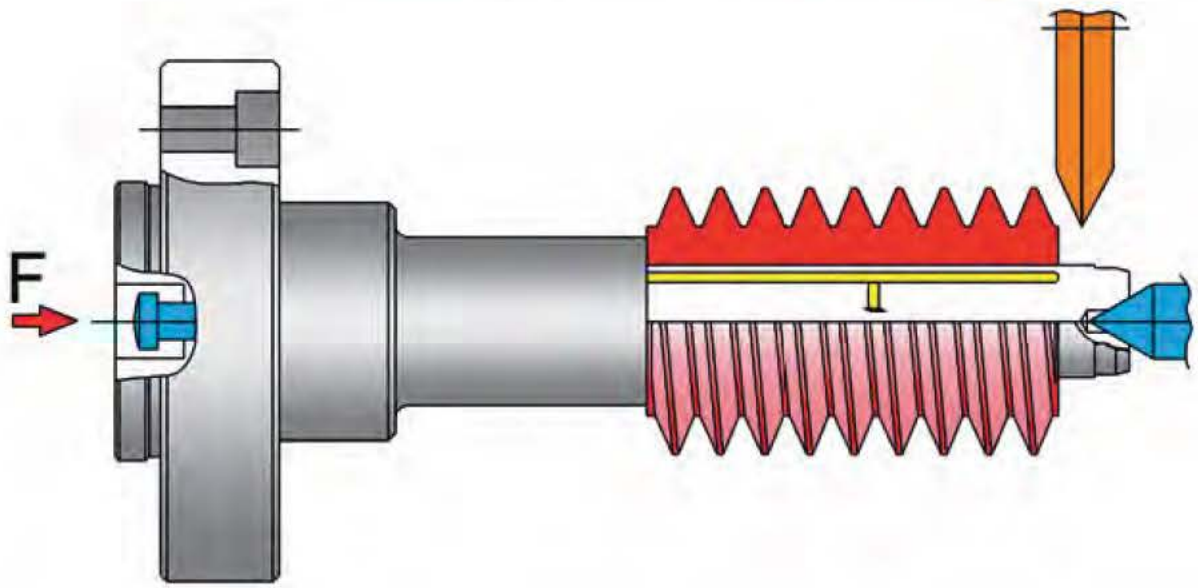
Hydra-Clamping-Chuck

Actuation:	Hand actuated Radially
Mounting:	Flange; cyl. centering
Workpiece:	Stator case
Machine:	Cyl. grinding machine
Application:	Grinding of the outer contour
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012“); clamping on centering pivot, therefore paralism to the axis of the outside dia.



Workpiece clamping

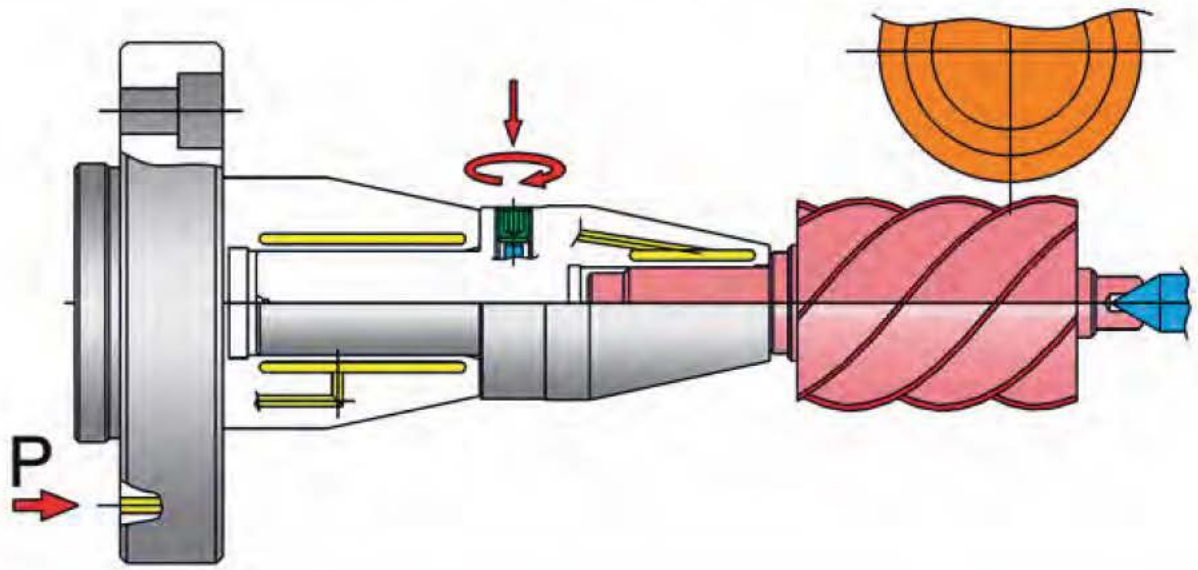
Field of application: *Profile-grinding*



Example 25

Hydra-Clamping-Arbor

Actuation:	Power actuated, axially
Mounting:	Flange; cyl. centering; support by tailstock
Workpiece:	Worm
Machine:	CNC-profile-grinding machine
Application:	Profile-grinding
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012") of the worm profile to the ground hole



Example 26

Hydra-Clamping-Chuck

Actuation:	Hand actuated, radially
Mounting:	Flange; cyl. centering and Hydra-Clamping-Chuck; support by tailstock
Workpiece:	Rotor
Machine:	CNC-profile-grinding machine
Application:	Profile-grinding
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012") of the rotor profile to the shaft of the rotor; Hydra-Clamping-Chuck will be fitted with the rotor outside of the machine. Following the Hydra-Clamping-Chuck with the rotor will be fitted into the machine location, which is designed as a Hydra-Clamping-Chuck, will be inserted and clamped autom. by the machine hydraulic.

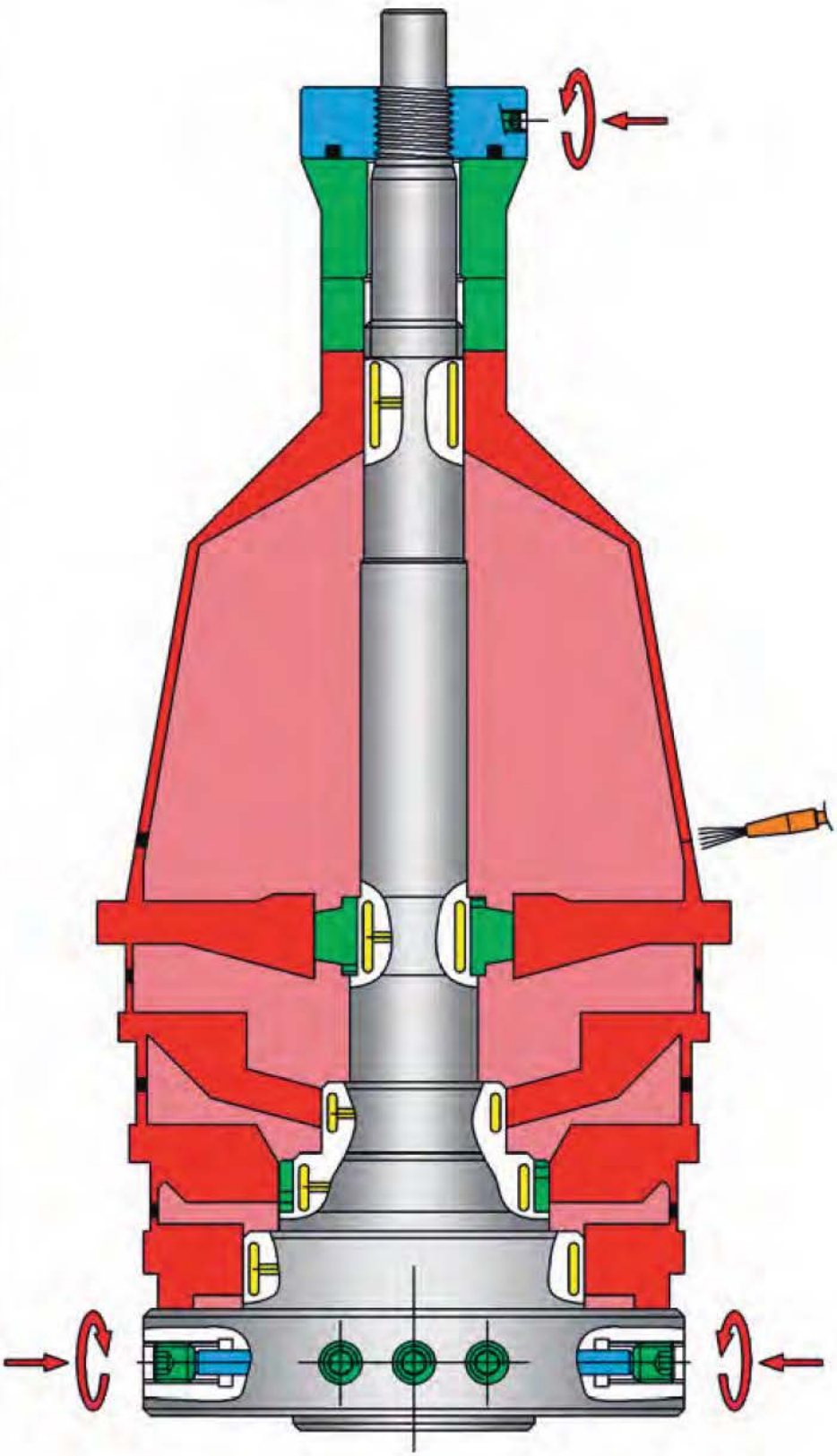
Workpiece clamping

Field of application: ***Mounting***

Example 27

Hydra-Clamping-Arbor

Actuation:	Hand actuated Radially
Mounting:	Flange; cyl. centering
Workpiece:	Turbine case
Machine:	Vacuum-laser-welding machine
Application:	Laser-welding
Advantage:	High precise centering and clamping of the single turbine casing parts by 5 clamping areas; all 5 clamping areas will be actuated single; different location dia. will be covered with a interchangeable intermediate sleeve; axial clamping of the single parts with hydraulic axial clamping nut from Mytec-Hydraclamp-; after welding the single parts, the arrangement of the single location holes are in true alignment



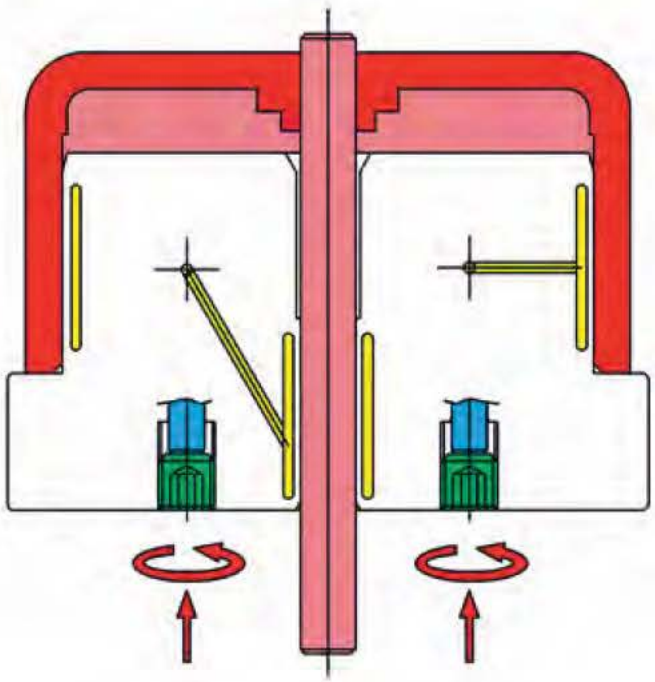
Workpiece clamping

Field of application: ***Mounting***

Example 28

Hydra-Clamping-Arbor and Chuck

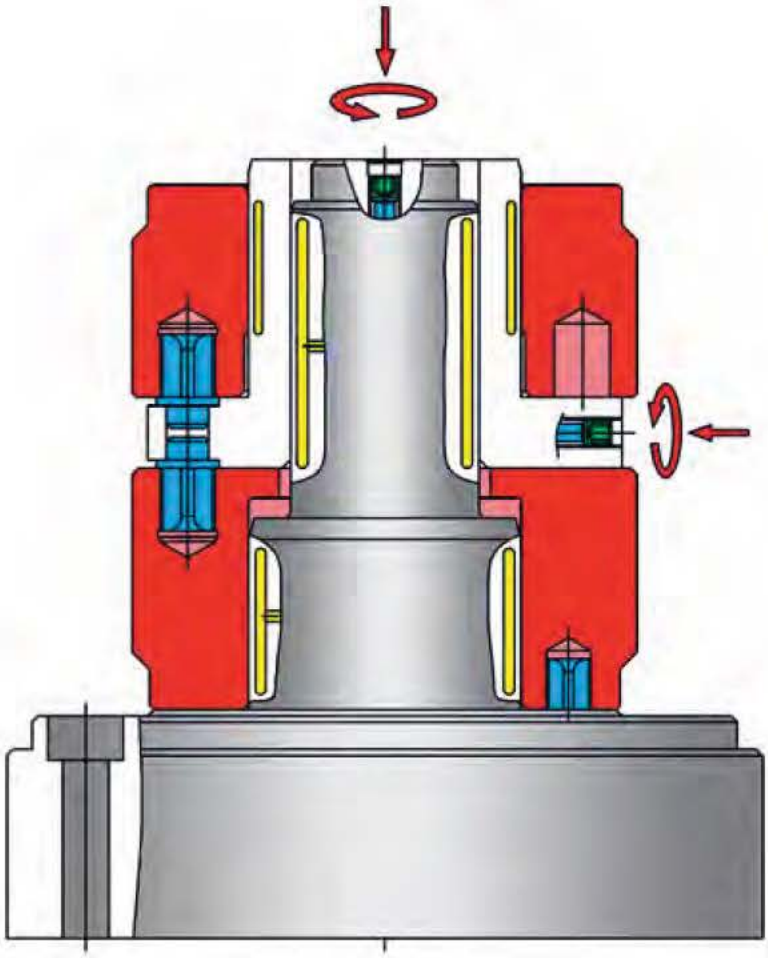
Actuation: Hand actuated Axially
Location : Mounting device
Workpiece: Stator case with location spindle
Machine: Drier
Application: Bonding of the location spindle into the stator case
Advantage: High precise positioning of the stator case and the location spindle; after the bonding precisely located position of the location spindle in the stator case



Example 29

Hydra-Clamping-Arbor

Actuation: Hand actuated Axially + radially
Location: Flange
Workpiece: Pump case
Machine: Drilling machine
Application: Pin 2 parts together
Advantage: High precision positioning of 2 parts; localizing of the top part by additional, on the basic arbor with a 2nd Hydra-Clamping-Arbor



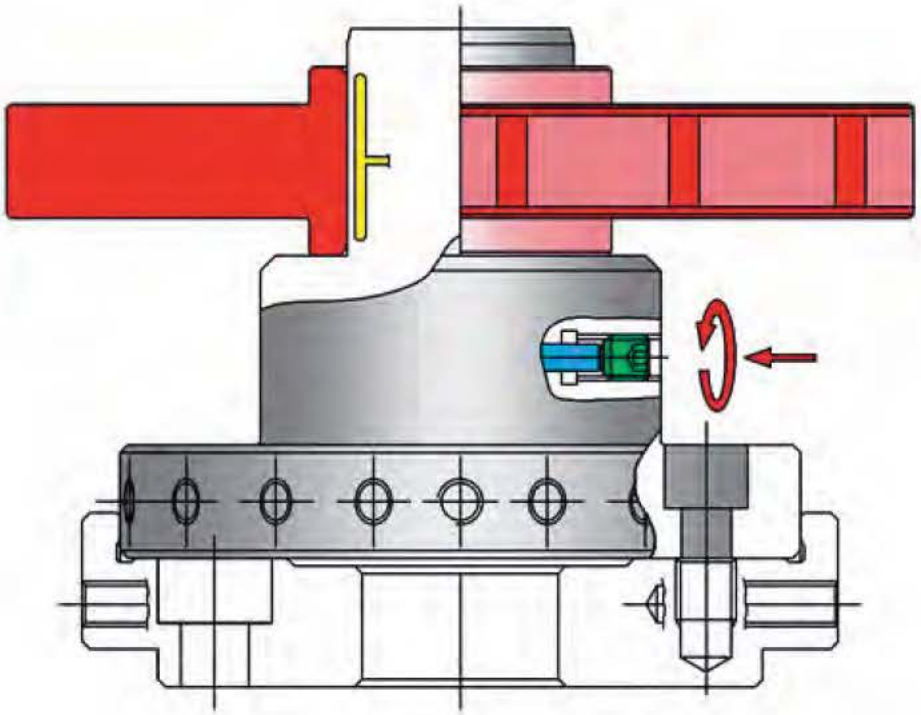
Workpiece clamping

Field of application: *Balancing*

Example 30

Hydra-Clamping-Arbor

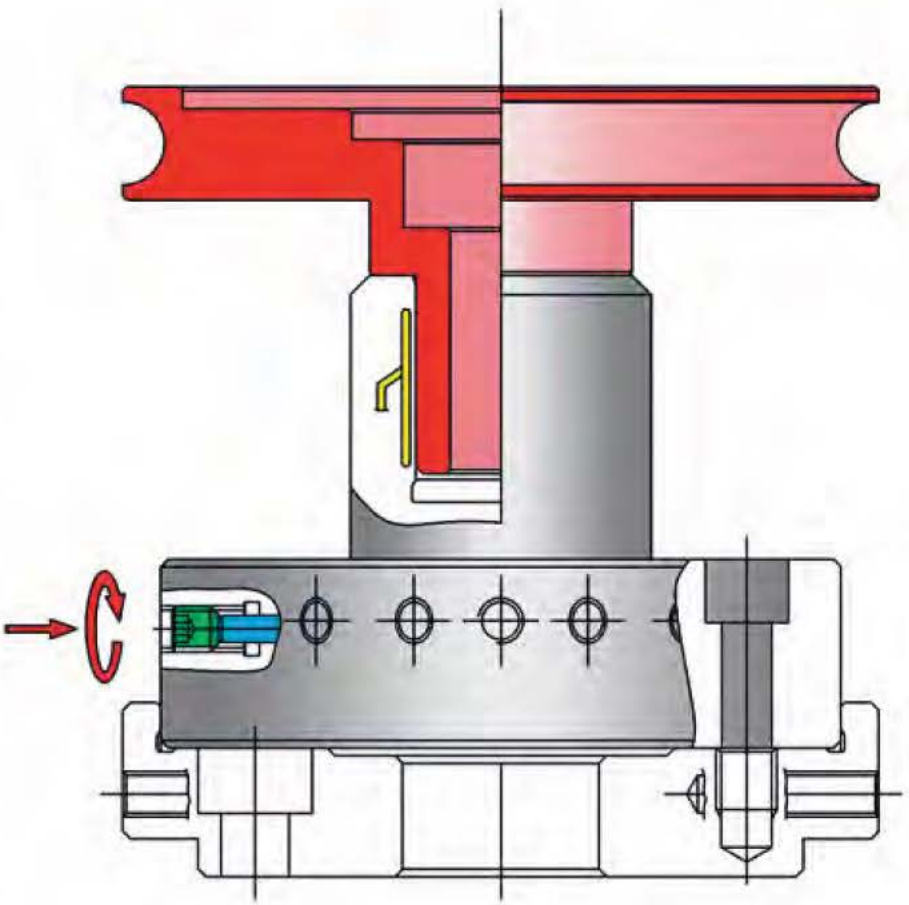
Actuation: Hand actuated Radially
Mounting: Flange
Workpiece: Brake disk
Machine: Balancing machine
Application: Balancing
Advantage: High run-out accuracy ≤ 0,003 mm (0.0002") of the clamping-tool makes the improvement of balancing accuracy possible. By using different intermediate sleeves, you can work with different workpieces with one arbor. It is possible to actuate the Hydra-arbor also by a drawbar.



Example 31

Hydra-Clamping-Chuck

Actuation: Hand actuated
Mounting: Flange
Workpiece: Driving flange
Machine: Balancing machine
Application: Balancing
Advantage: High run-out accuracy ≤ 0,003 mm (0.0002"). High active force quality by centering without play at the workpiece connection. It is possible to actuate the Hydra-chuck also by a drawbar.



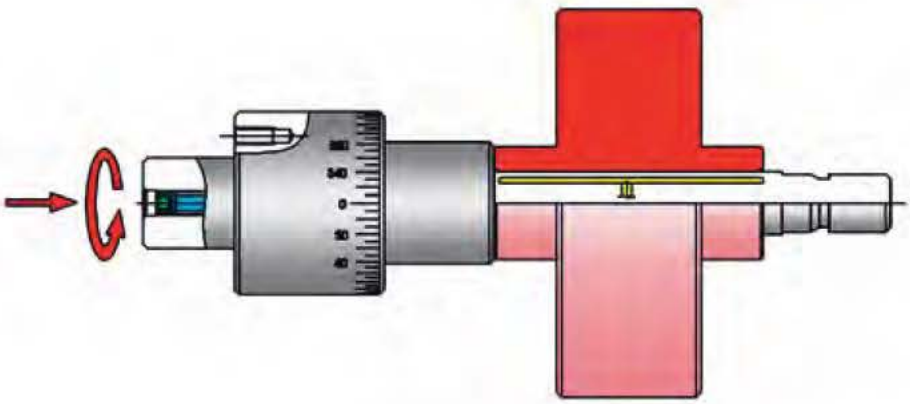
Workpiece clamping

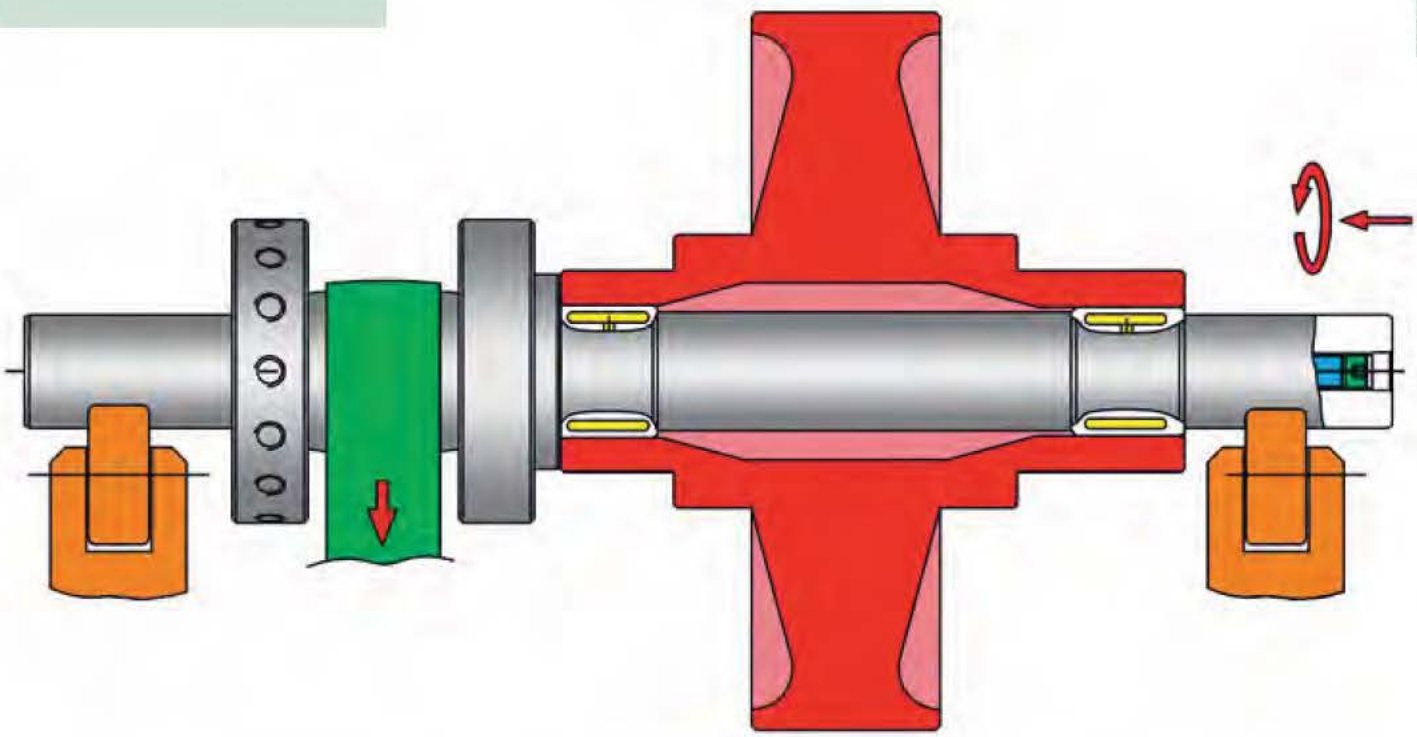
Field of application: *Balancing*

Example 32

Hydra-Clamping-Arbor

Actuation: Hand actuated Radially
Mounting: On rolls
Workpiece: Ventilation wheel
Machine: Balancing machine
Application: Balancing
Advantage: High precise clamping; run-out accuracy ≤ 0,005 mm (0.0002") at the balancing action; fast retrofit at the workpiece changing





Example 33

Hydra-Clamping-Arbor

Actuation: Hand actuated, axially
Mounting: On rolls
Workpiece: Turbine wheel
Machine: Balancing machine
Application: Balancing
Advantage: High precise clamping; run-out accuracy ≤ 0,005 mm (0.0002") at the balancing action; clamping with 2 clamping areas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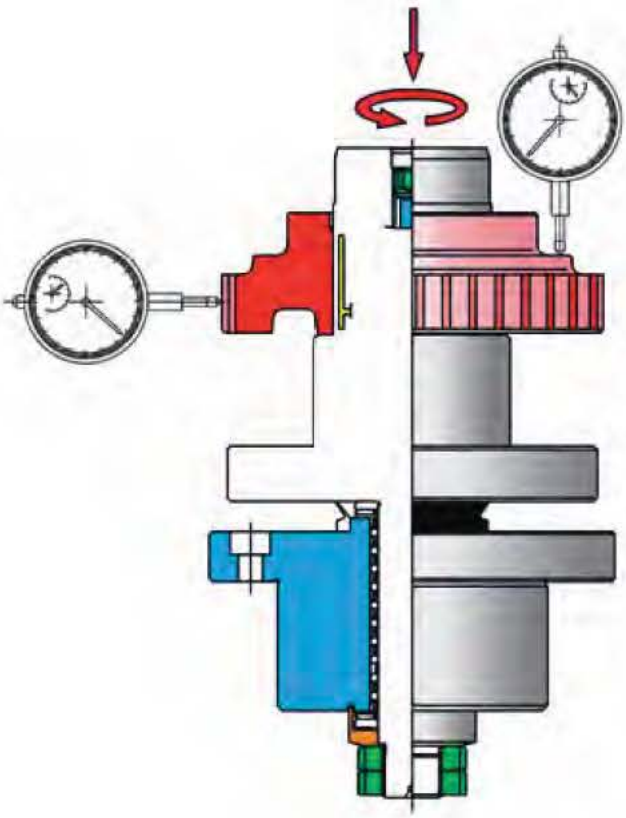
Workpiece clamping

Field of application: ***Checking and measuring***

Example 34

Hydra-Clamping-Arbor

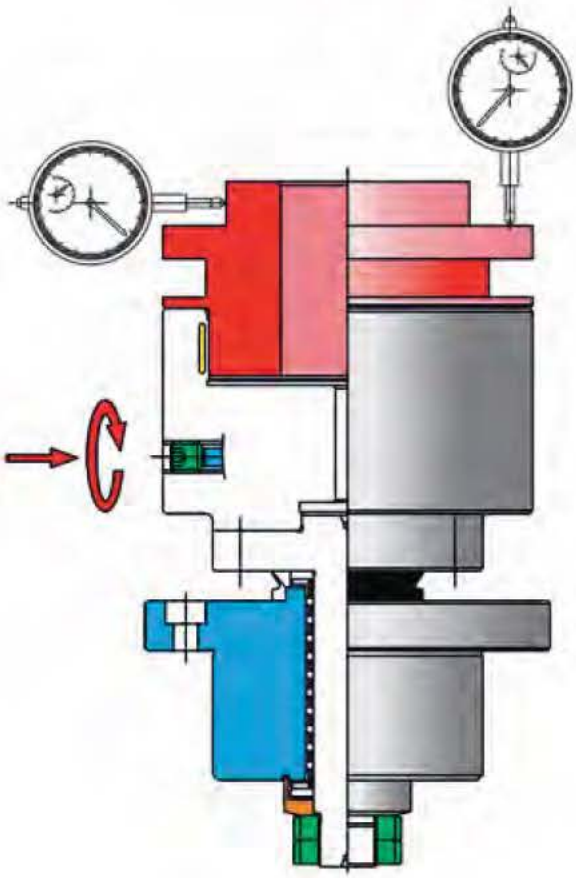
Actuation: Hand actuated Axially
Mounting: Flange; cyl. centering
Workpiece: Measuring fixture
Machine: Gearwheel
Application: Checking of run-out accuracy and face run-out accuracy
Advantage: Run-out accuracy ≤ 0,003 mm (0.00012"); the Hydra-Clamping-Arbor is 0,002 mm (0,00012") accurately seated by using a pre-clamped bearing bushing and an axial bearing



Example 35

Hydra-Clamping-Arbor

Actuation: Hand actuated Radially
Mounting: Flange; cyl. centering
Workpiece: Hub
Machine: Measuring fixture
Application: Checking of run-out accuracy and face run-out accuracy
Advantage: Run-out accuracy ≤ 0,003 mm (0,00008"); the Hydra-Clamping-Chuck is 0,002 mm (0.00008") accurately seated by using a preclamped bearing bushing and an axial bearing



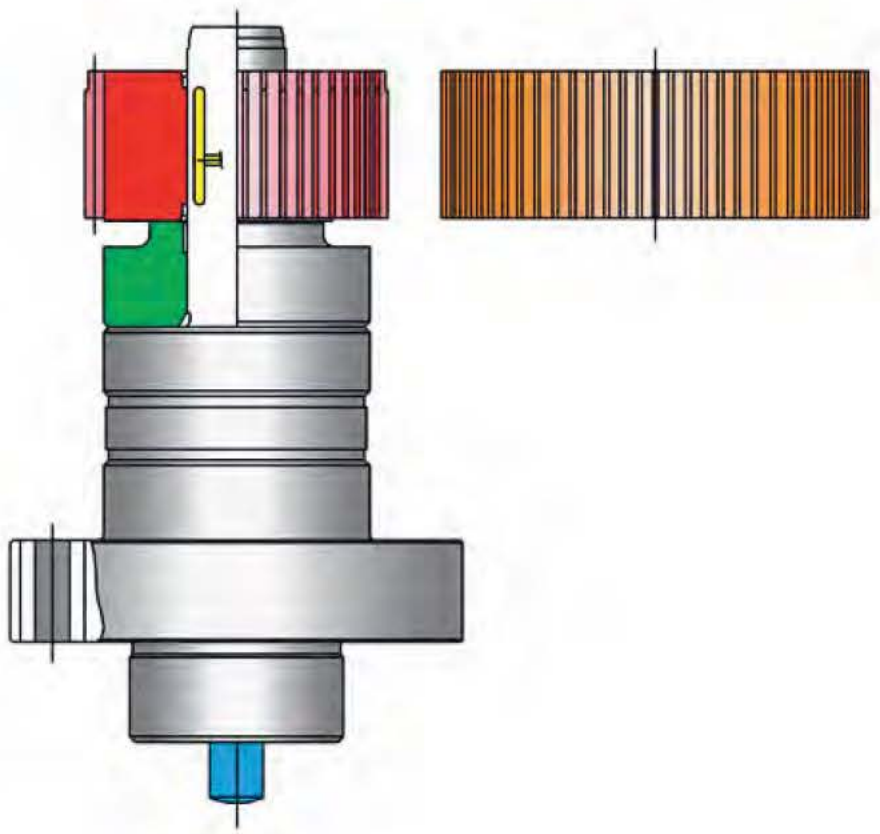
Workpiece clamping

Field of application: ***Checking and measuring***

Example 36

Hydra-Clamping-Arbor

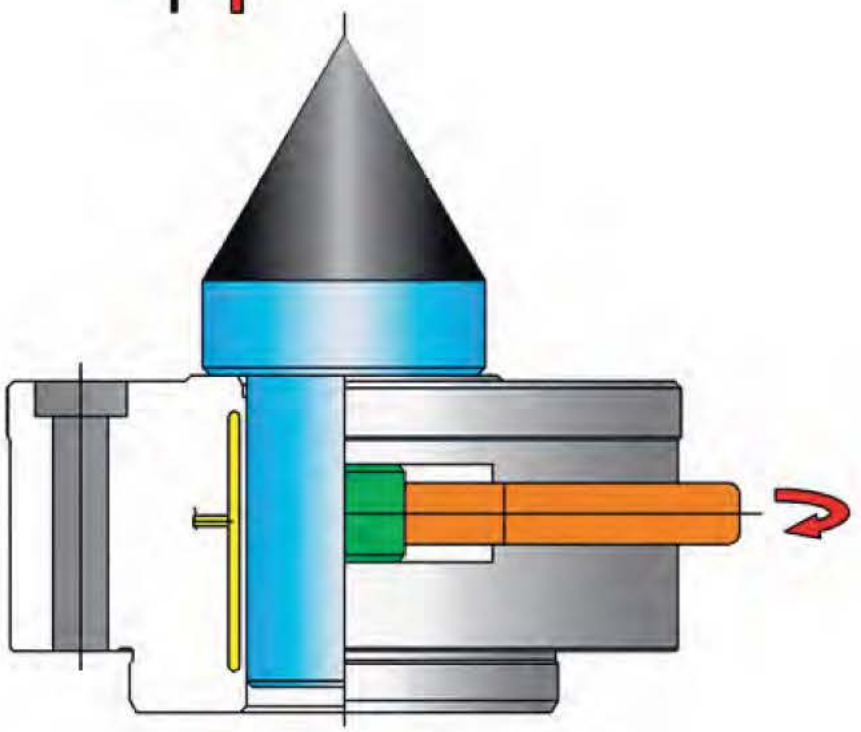
Actuation: Power actuated
Mounting: Flange; cyl. centering
Workpiece: Gearwheel
Machine: Measuring machine
Application: Gear checking
Advantage: High run-out accuracy ≤ 0,002 mm (0.00008"); high capacity of resistance to wear at automatic loading by hard coating of the clamp. dia. with a surface hardness of the coating of 80 HRC



Example 37

Hydra-Clamping-Chuck

Actuation: Hand actuated Radially (rocker, lever)
Mounting: Flange; cyl. centering
Workpiece: Locating centers
Machine: Measuring machine
Application: Measuring and checking
Advantage: Run-out accuracy ≤ 0,002 mm (0.00008"); clamping with rocker-mechanism, therefore very fast retrofitting possible



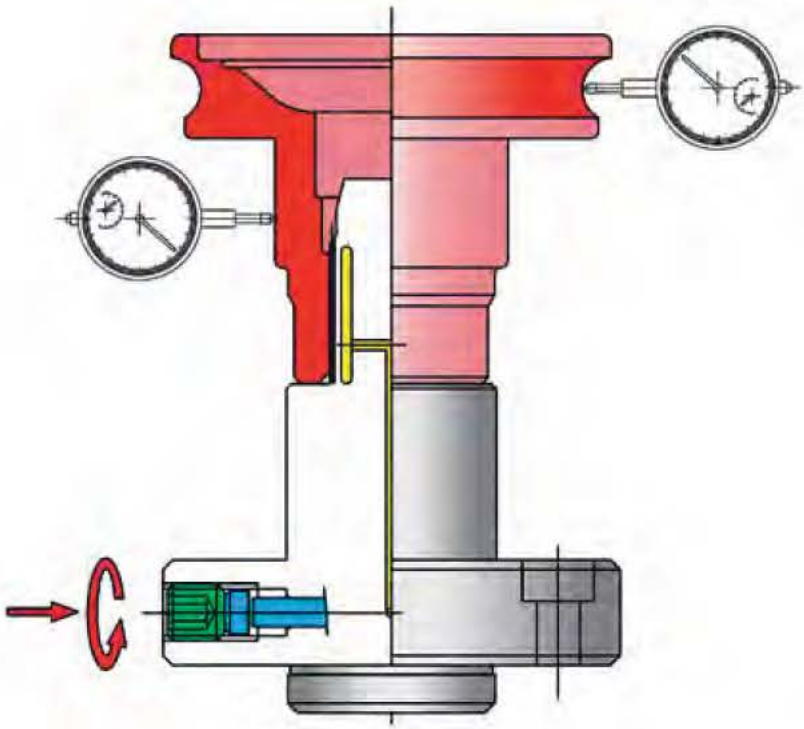
Workpiece clamping

Field of application: ***Checking and measuring***

Example 38

Hydra-Clamping-Arbor

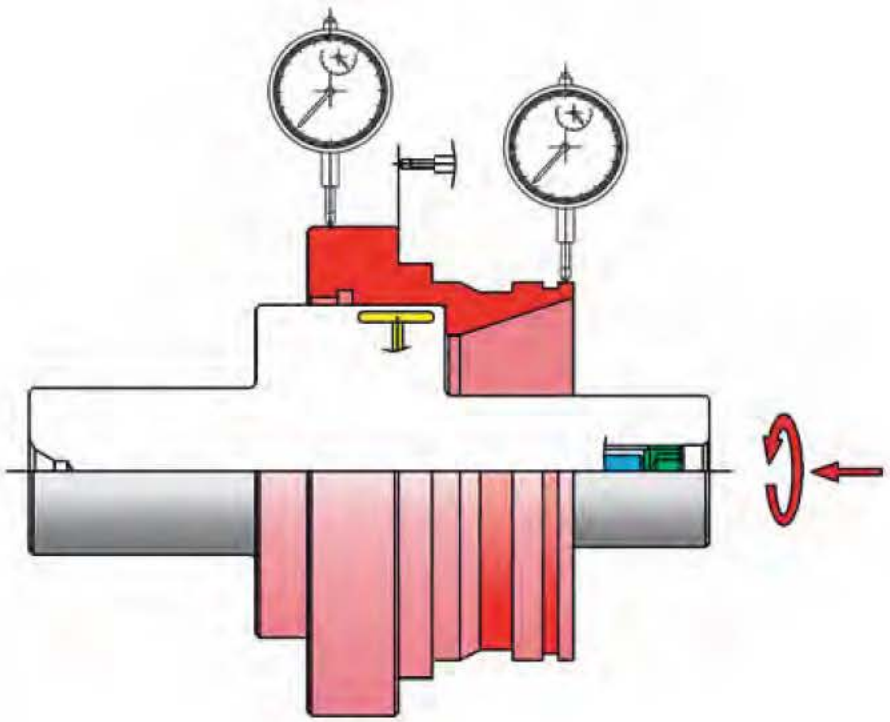
Actuation: Hand actuated Radially
Mounting: Flange; cyl. centering
Workpiece: Driving flange
Machine: Measuring machine
Application: Measuring and checking of the outer contour
Advantage: Run-out accuracy ≤ 0,002 mm (0.00008“); clamping of a sleeve with external gearing in the tooth profile



Example 39

Hydra-Clamping-Arbor

Actuation: Hand actuated Axially
Mounting: Between centers
Workpiece: Adapter bushing
Machine: Measuring fixture
Application: Checking of run-out accuracy and face run-out accuracy
Advantage: Run-out accuracy ≤ 0,002 mm (0.00008“); no deformation of the workpiece because of a sensitive actuation

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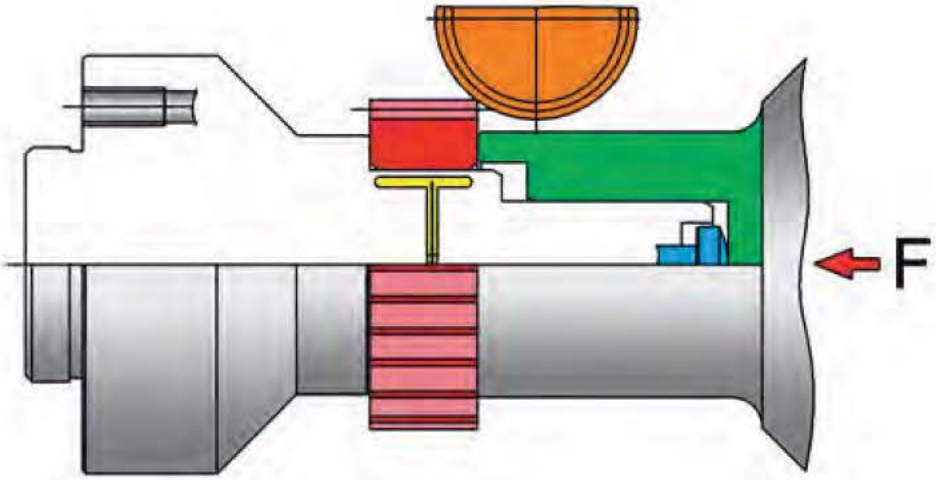
Gearwheel production

Field of application: ***Gear Hobbing***

Example 40

Hydra-Clamping-Arbor

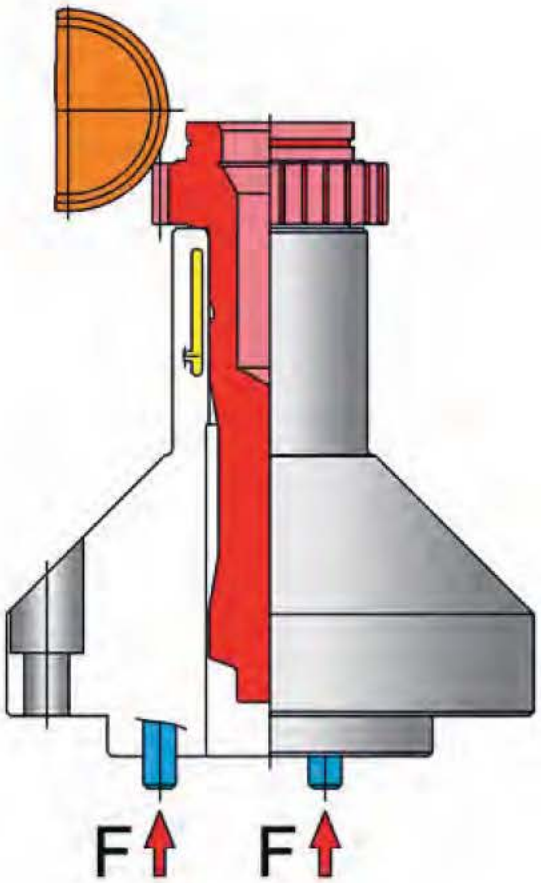
Actuation: Power actuated Axially
Mounting: Flange; cyl. centering
Workpiece: Gearwheel
Machine: CNC-Gear-hobbing machine
Application: Gear Hobbing
Advantage: High run-out accuracy ≤ 0,003 mm (0.00012"); tailstock center actuation through holder. Additionally the workpiece is being positioned axially by a holder; automatic loading



Example 41

Hydra-Clamping-Chuck

Actuation: Power actuated Axially
Mounting: Flange; cyl. centering
Workpiece: Main shaft
Machine: CNC-Gear-hobbing machine
Application: Gear Hobbing
Advantage: High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"), because of high stiffness and stability of the Hydra-Clamping-Chuck, there is no axial support necessary



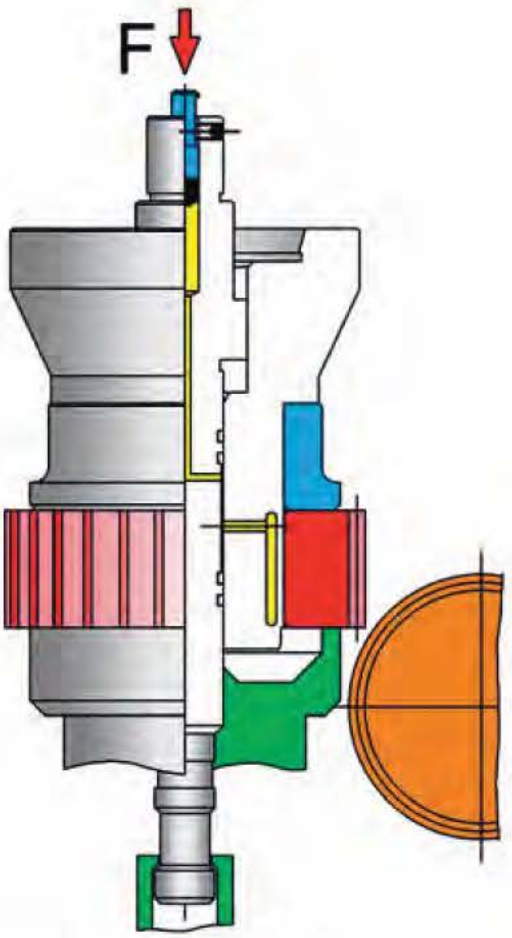
Gearwheel production

Field of application: *Gear Hobbing*

Example 42

Hydra-Clamping-Arbor

Actuation: Power actuated Axially
Mounting: Flange; short taper
Workpiece: Gearwheel
Machine: CNC-Gear-hobbing machine
Application: Gear Hobbing
Advantage: High precision centering of the gear; run-out accuracy ≤ 0,003 mm (0.00012"); Thus quieter running in the assembled stage is achieved. Additionally the workpiece is being clamped axially by a holder.

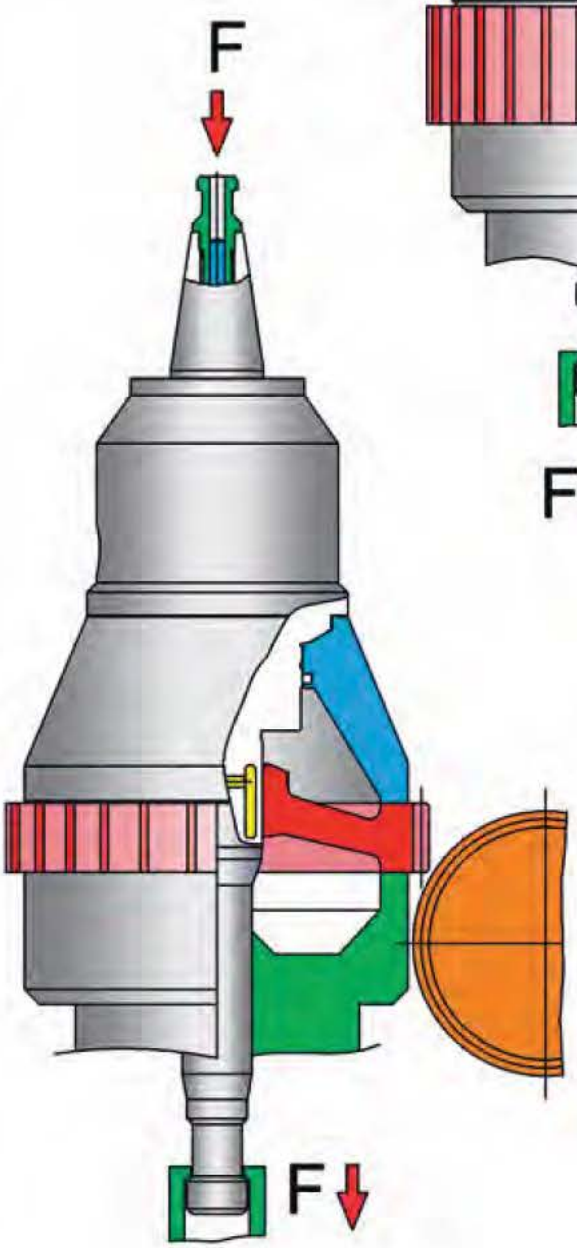


42

Example 43

Hydra-Clamping-Arbor

Actuation: Power actuated Axially
Mounting: Steep taper 40
Workpiece: Gearwheel
Machine: CNC-Gear-hobbing machine
Application: Gear Hobbing
Advantage: High precise centering of the gear; run-out acccuracy ≤ 0,003 mm (0.00012"); Additionally the workpiece is being clamped by a holder; compen-sation of the run-out mistakes at the workpiece by a pendulum holder



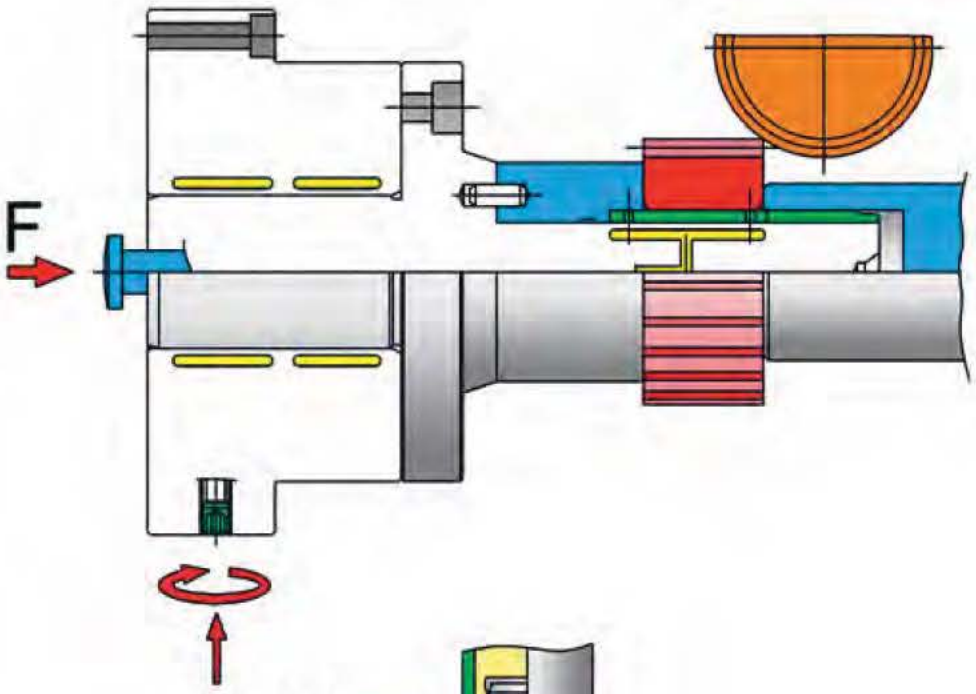
Gearwheel production

Field of application: *Gear Hobbing*

Example 44

Hydra-Clamping-Arbor

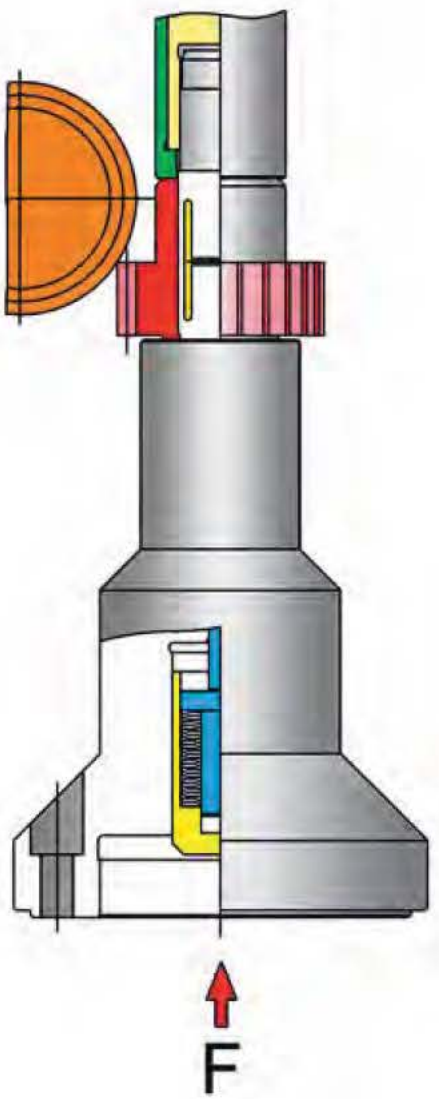
Actuation: Power actuated Axially
Mounting: Flange, cyl. centering
Workpiece: Gearwheel
Machine: CNC-Gear-hobbing machine
Application: Gear Hobbing
Advantage: High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"); clamping on a sleeve; sleeve highly wear resistant hard-coated to 80 HRC; Additionally the workpiece is being positioned axially by a holder; automatic loading; because of the use of a Hydra-Clamping-Chuck as a quick change base-chuck there is a precise and quick tool-change possible



Example 45

Hydra-Clamping-Arbor

Actuation: Power actuated Axially
Mounting: Flange, short taper
Workpiece: Gearwheel
Machine: CNC-Gear-hobbing machine
Application: Gear Hobbing
Advantage: High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"); Additionally the workpiece is being positioned axially by a holder; automatic loading



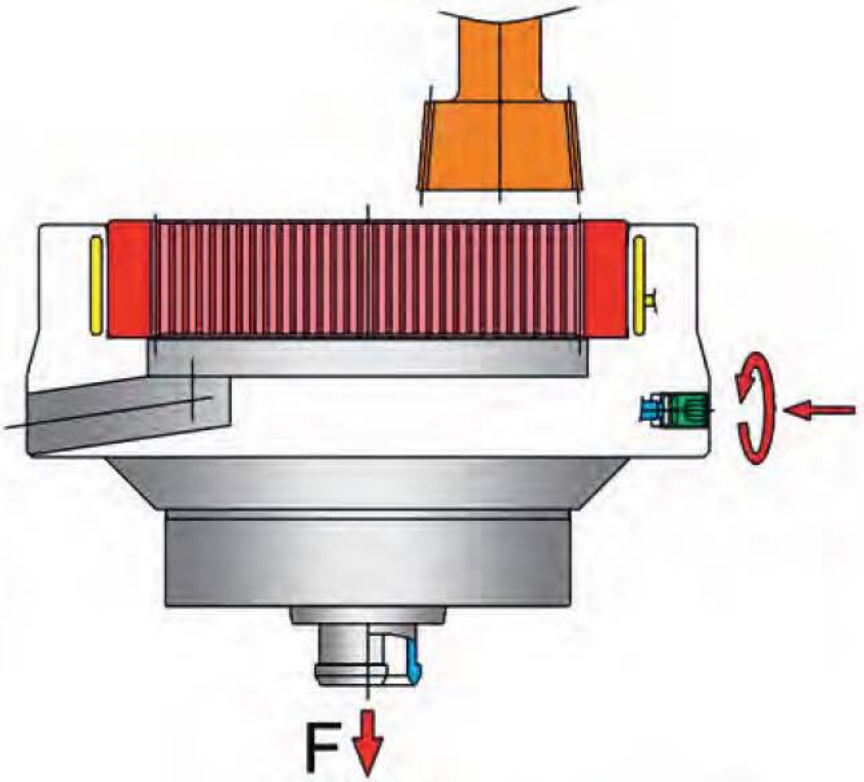
Gearwheel production

Field of application: ***Gear Shaping***

Example 46

Hydra-Clamping-Chuck

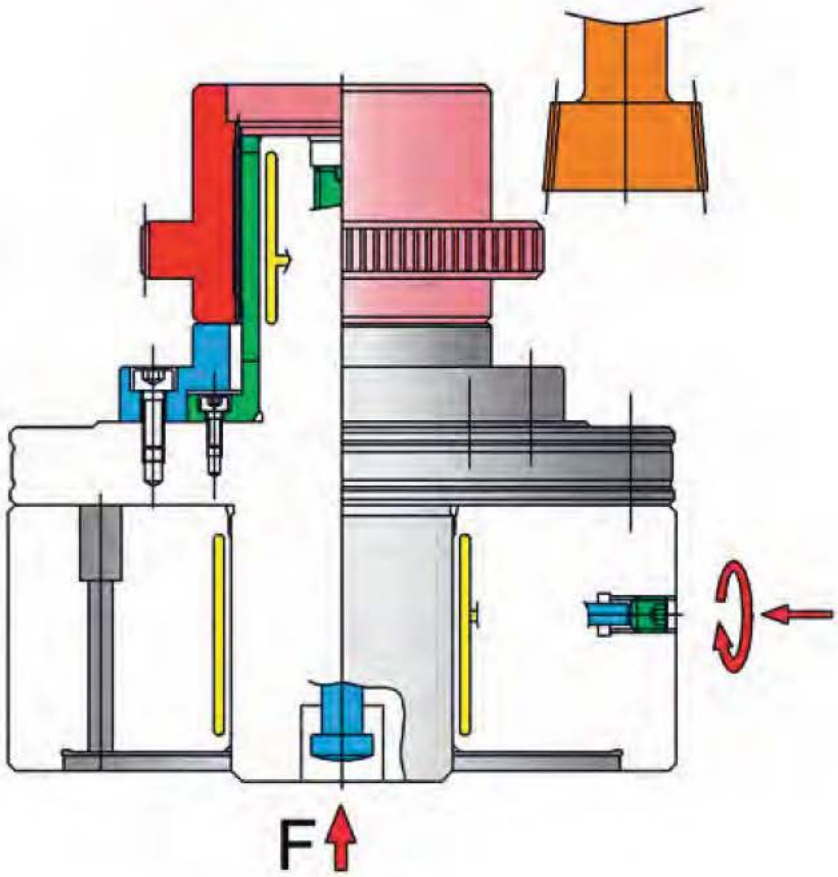
Actuation:	Hand actuated Radially
Mounting:	By straight pin
Workpiece:	Internal geared wheel
Machine:	Gear shaping machine
Application:	Shaping of the internal gearing
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012"); various workpiec mountings with intermediate sleeve possible



Example 47

Hydra-Clamping-Arbor

Actuation:	Power actuated Axially
Mounting:	Flange, cyl. centering in Hydra-Clamping-Base-Chuck
Workpiece:	Gear transmission
Machine:	Gear shaping machine
Application:	Gear Shaping
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"); clamping in the internal gearing of the workpiece by form-ground intermediate sleeve



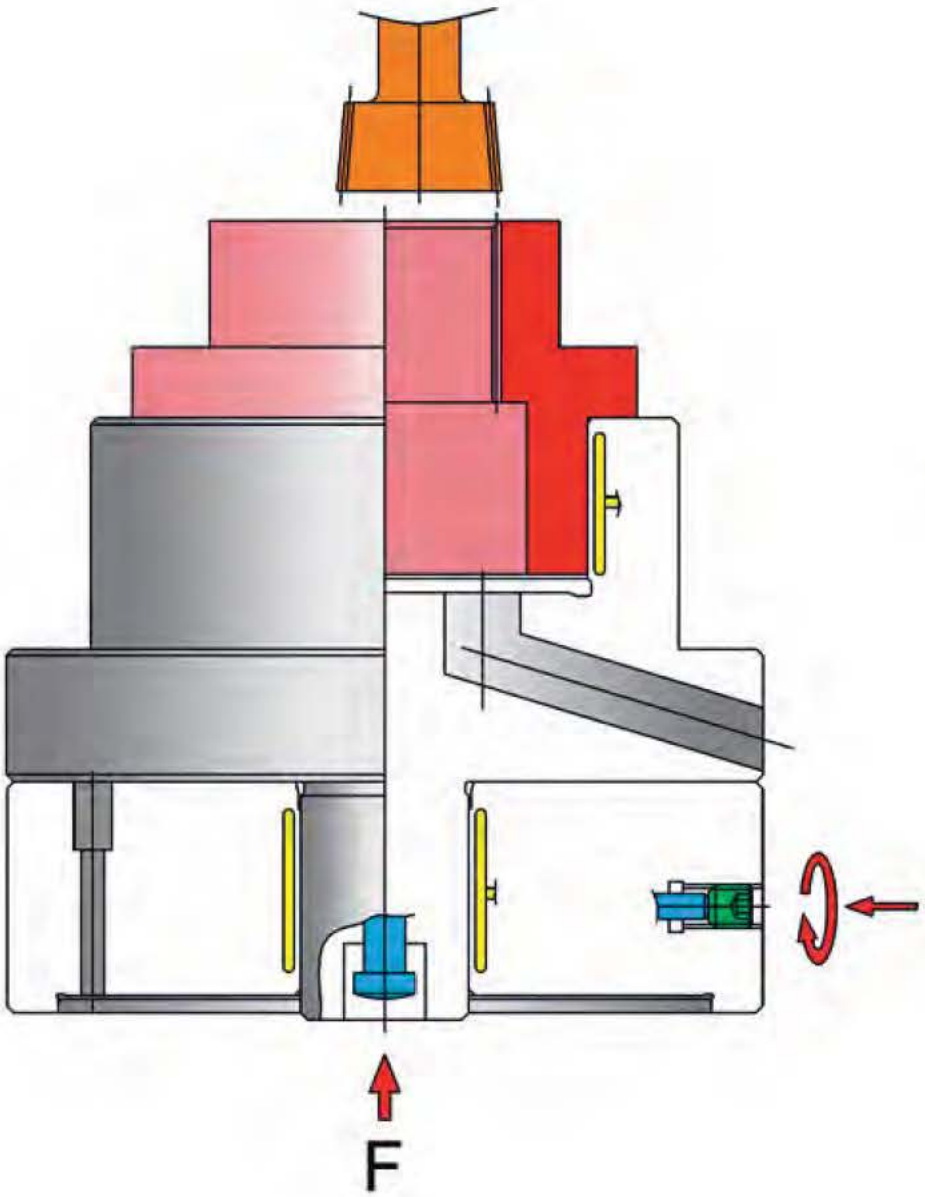
Gearwheel production

Field of application: ***Gear Shaping***

Example 48

Hydra-Clamping-Chuck

Actuation:	Power actuated Axially
Mounting:	Flange; cly. centering in Hydra-Clamping-Base-Chuck
Workpiece:	Driving flange
Machine:	Gear shaping machine
Application:	Shaping of the internal gearing
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,005 mm (0.0002"); because of the use of a Hydra-Clamping-Chuck as quick change base-chuck, there is a precise and quick tool-change possible



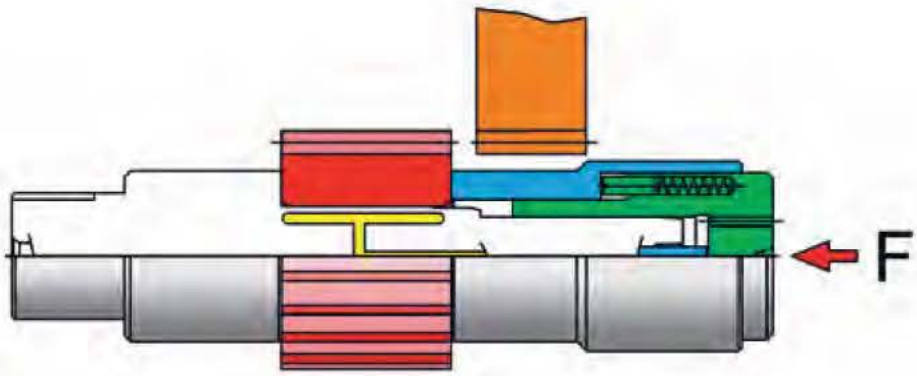
Gearwheel production

Field of application: *Gear Shaving*

Example 49

Hydra-Clamping-Arbor

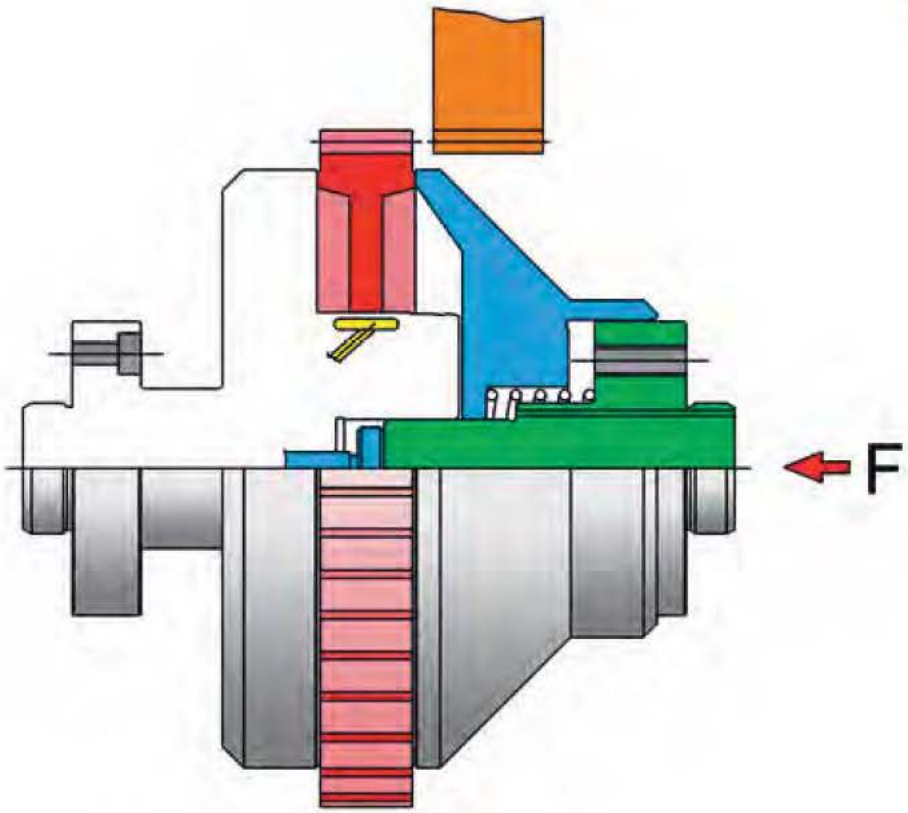
Actuation: Power actuated Axially by push cap attached to the tailstock
Mounting: Between centers
Workpiece: Gearwheel
Machine: Gear shaving machine
Application: Gear Shaving
Advantage: High run-out accuracy ≤ 0,003 mm (0.00012“); quick change of workpiece possible



Example 50

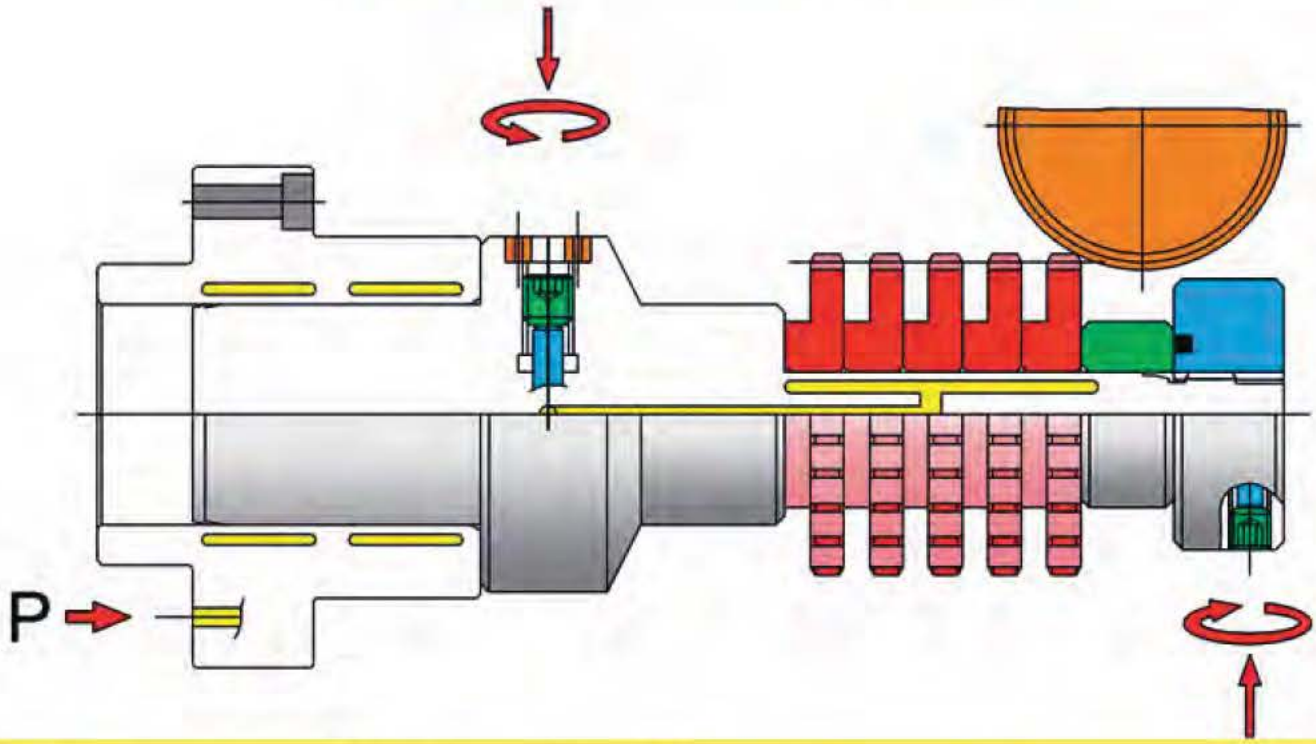
Hydra-Clamping-Arbor

Actuation: Power actuated Axially by push cap attached to the tailstock
Mounting: Flange; cyl. centering
Workpiece: Gearwheel
Machine: Gear shaving machine
Application: Gear Shaving
Advantage: High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012“); axially postitioned by a holder, therefore elimination of the vibration of the workpiece; automatic workpiece loading



Gearwheel production

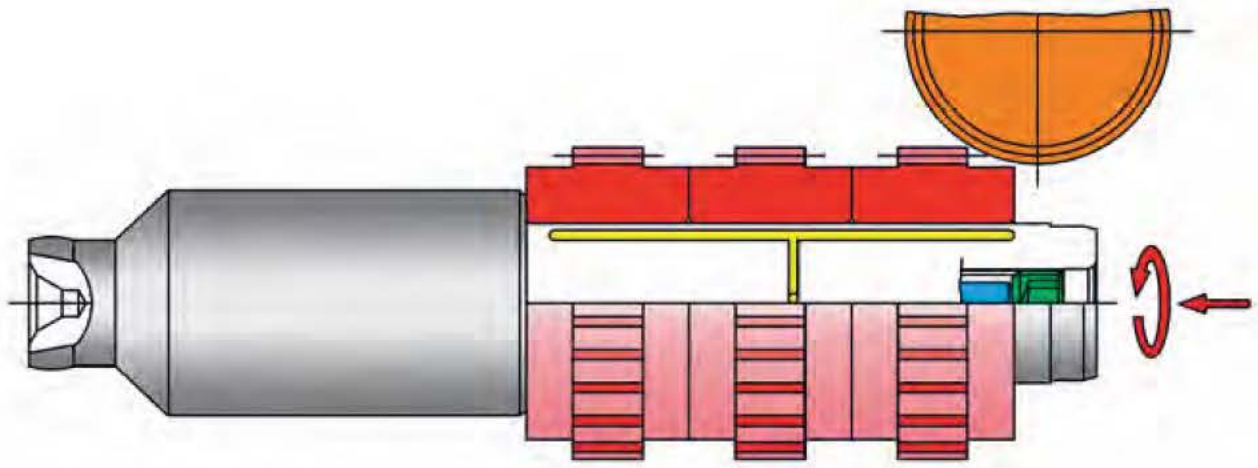
Field of application: *Gear Grinding*



Example 51

Hydra-Clamping-Arbor

Actuation:	Hand actuated, radially
Mounting:	Flange; cyl. centering in Hydra-Clamping-Base-Chuck
Workpiece:	Gearwheel
Machine:	Tooth profile grinding machine
Application:	Grinding of the tooth profile
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"); because of the use of a power actuated Hydra-Clamping-Chuck as a quick change base-chuck, precise and quick retrofitting possible



Example 52

Hydra-Clamping-Arbor

Actuation:	Hand actuated, axially
Mounting:	Between centers (Reishauer)
Workpiece:	Gearwheel
Machine:	Tooth profile grinding machine
Application:	Grinding of the tooth profile
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"); several workpieces with different bore tolerances are being ground simultaniously

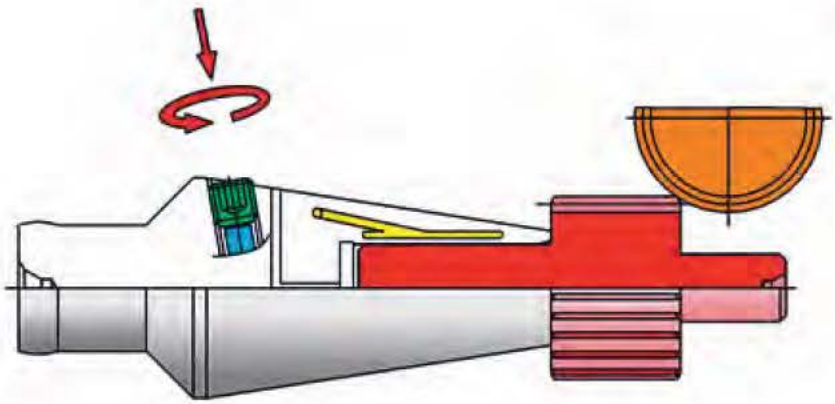
Gearwheel production

Field of application: *Gear Grinding*

Example 53

Hydra-Clamping-Chuck

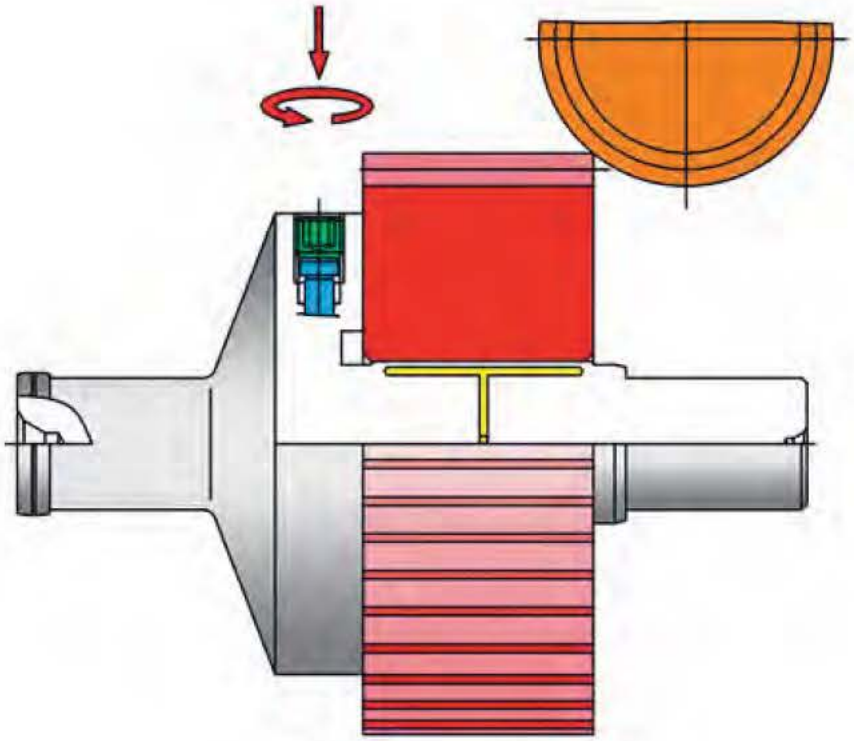
Actuation: Hand actuated
Radially
Mounting: Between centers (Reishauer)
Workpiece: Pinion Gear
Machine: Tooth profile grinding machine
Application: Grinding of the tooth profile
Advantage: High run-out accuracy ≤ 0,003 mm (0.00012") from the bearing seat to the splines



Example 54

Hydra-Clamping-Arbor

Actuation: Hand actuated
Radially
Mounting: Between centers (Reishauer)
Workpiece: Gearwheel
Machine: Tooth profile grinding machine
Application: Grinding of the tooth profile
Advantage: High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012") from the splines to the ground hole



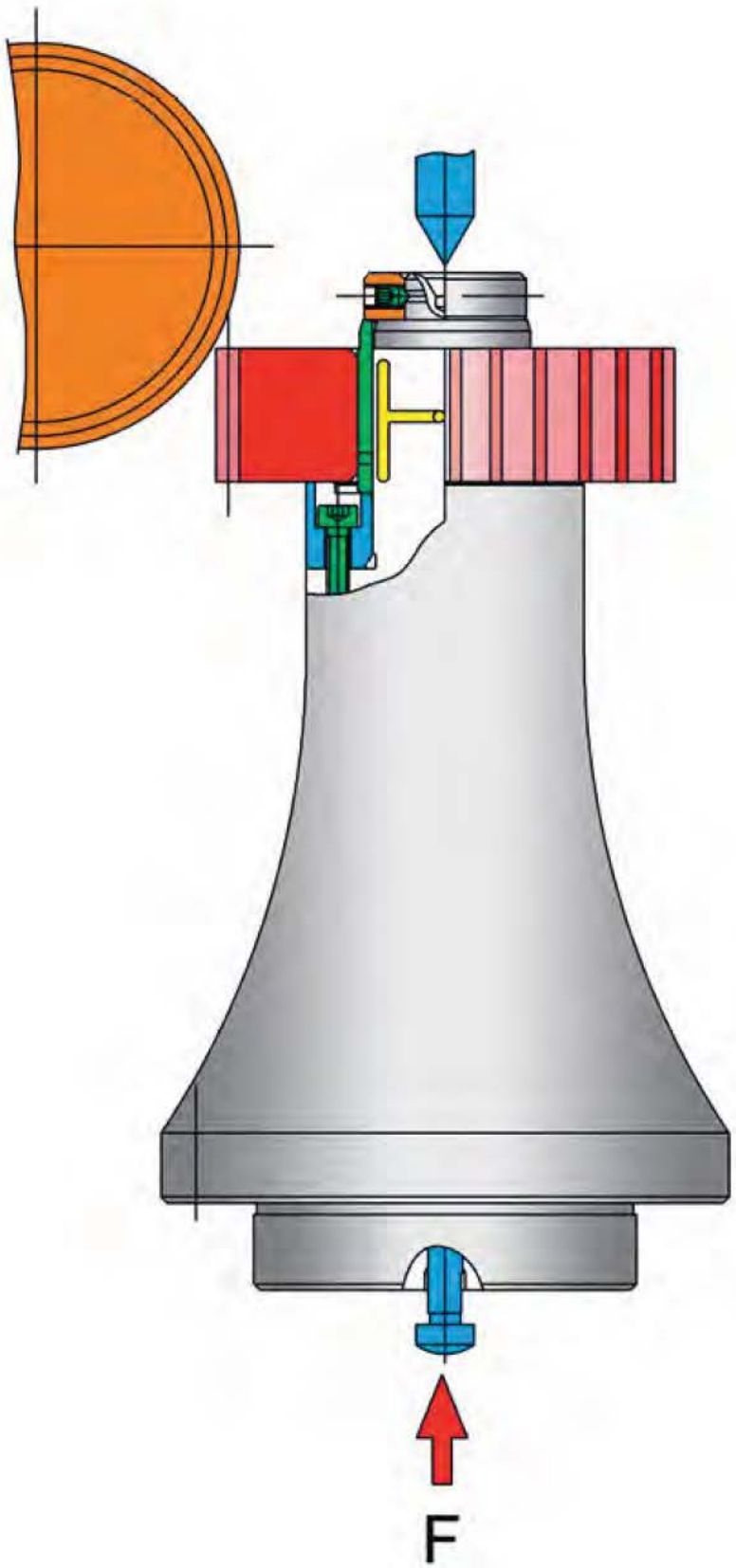
Gearwheel production

Field of application: ***Gear Grinding***

Example 55

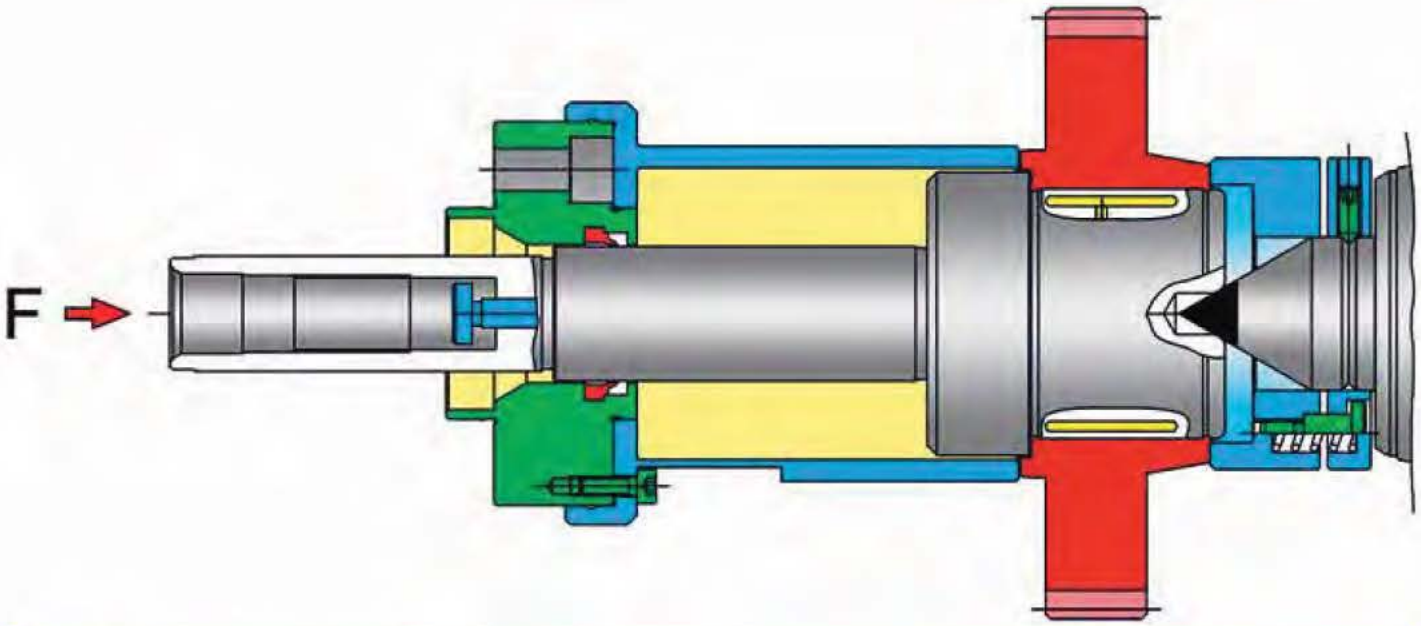
Hydra-Clamping-Arbor

Actuation: Power actuated Axially
Mounting: Flange; cyl. centering
Workpiece: Gearwheel
Machine: Tooth profile grinding machine
Application: Grinding of the tooth profile
Advantage: High run-out accuracy ≤ 0,003 mm (0.00012") with interchangeable intermediate sleeve for different workpiece diameters. High resistance to wear at automatic loading by hard-coating of the sleeve with a surface hardness of the coating of 80 HRC.



Gearwheel production

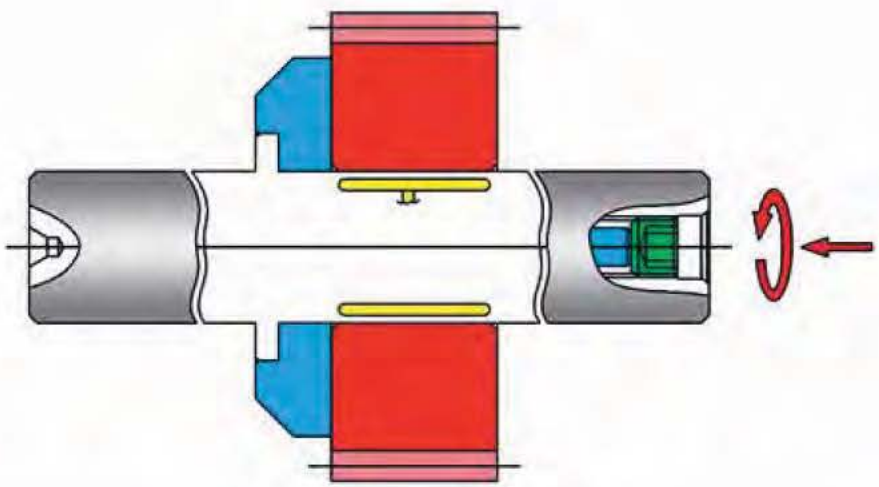
Field of application: *Gear Honing*



Example 56

Hydra-Clamping-Arbor

Actuation:	Power actuated, axially
Mounting:	Flange; cyl. centering
Workpiece:	Gearwheel
Machine:	„Fässler" honing machine
Application:	Gear honing
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,002 mm (0.00008"); axial support by tailstock; axially positioned by a holder



Example 57

Hydra-Clamping-Arbor

Actuation:	Hand actuated, axially
Mounting:	Between centers
Workpiece:	Gearwheel or dressing-tools
Machine:	"Power"- honing machine
Application:	Gear honing or dressing of the hone-ring
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,002 mm (0.00008")

Gearwheel production

Field of application: *Gear Honing*

Example 58

Hydra-Clamping-Chuck

Actuation: Hand actuated Radially
Mounting: Flange; cyl. centering
Workpiece: Driving flange
Machine: Gear honing machine
Application: Honing of the internal gearing
Advantage: High run-out accuracy and face run-out accuracy ≤ 0,005 mm (0.0002").

Hydra-Clamping-Chuck mounted into the hone-ring casting.

To eliminate the deformation of the driving flange, the pressure of the Hydra-Clamping-Chuck will be monitored by a pressure sensor and will be controlled by „Power Control"– electronic pressure control- from Mytec -Hydraclamp- with interchangeable intermediate sleeve for different workpiece diameters

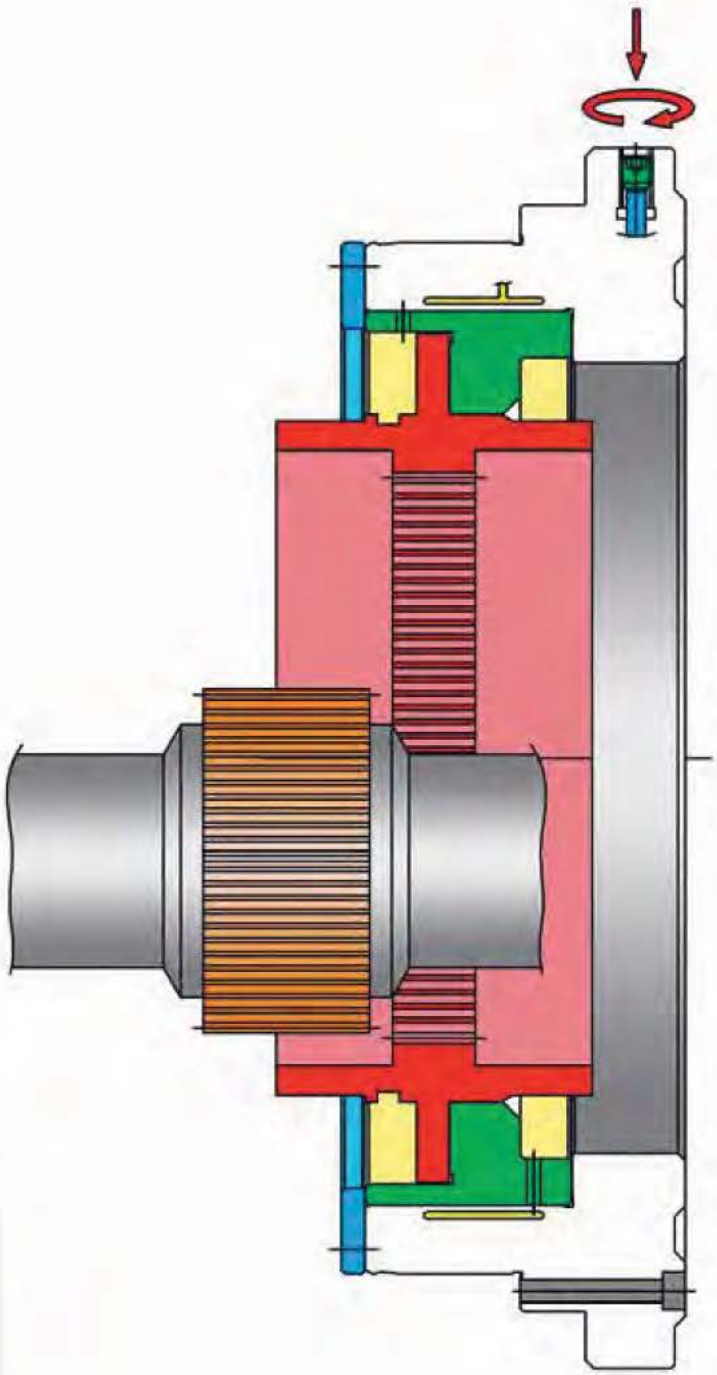


Photo: In the "Präwema" high performance gear honing machine mounted Hydra-Clamping-Chuck, where ceramic honing rings will be lightly clamped for high efficient finishing of hardened gears producing excellent results.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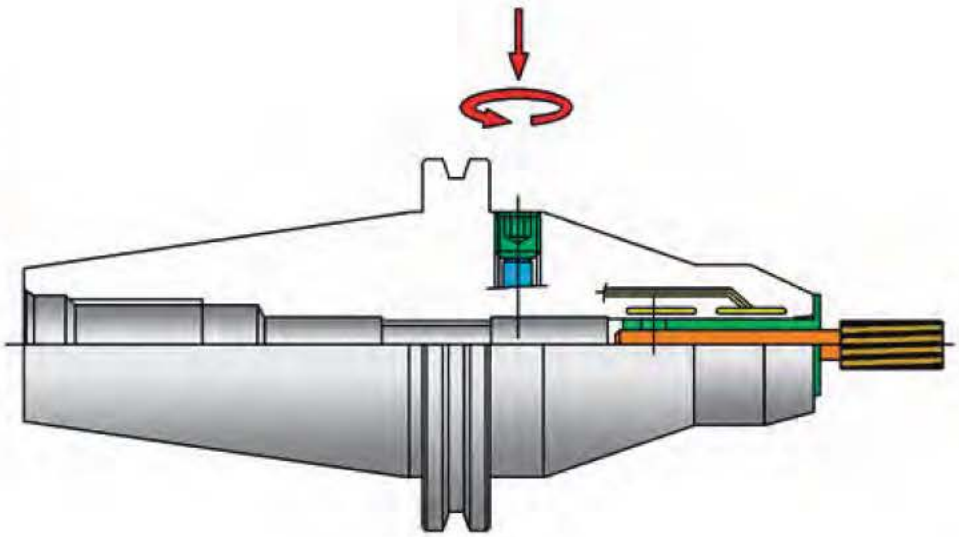
Tool clamping

Field of application: ***Drilling - milling - reaming - tool-grinding***

Example 59

Hydra-Clamping-Chuck

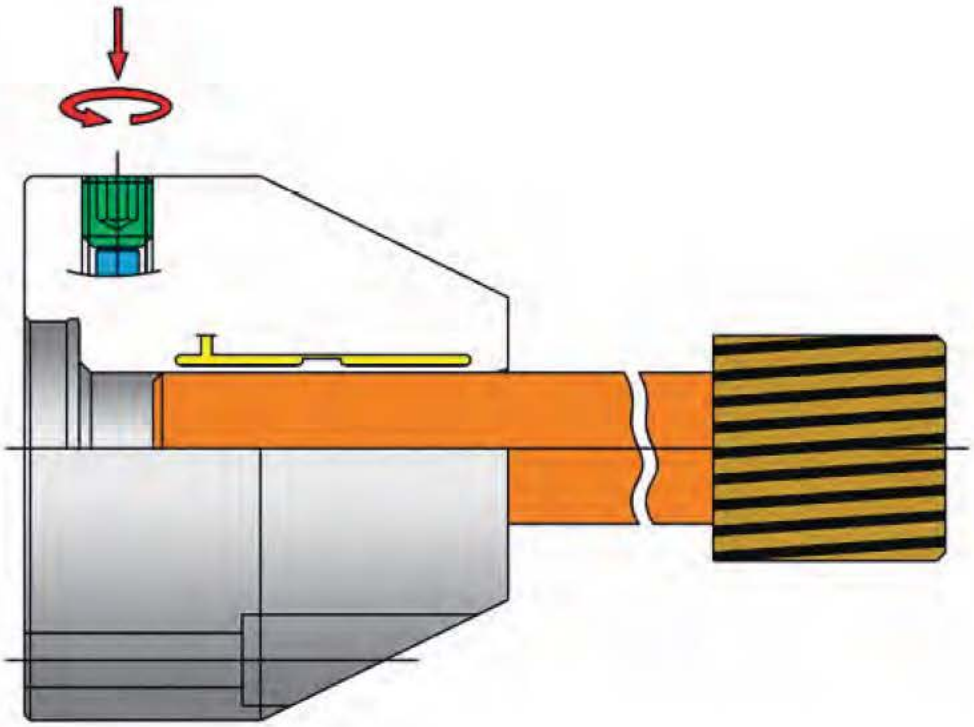
Actuation: Hand actuated Radially
Mounting: SK50
Workpiece: Endmill
Machine: Tool grinding machine
Application: Tool-grinding
Advantage: High run-out accuracy ≤ 0,003 mm (0.00012"); slim chuck contour for grinding wheel clearance. With interchangeable intermediate sleeves for different workpiece dia. This Hydra-Clamping-Chuck could also be delivered for various tool sizes and also with power actuation.



Example 60

Hydra-Clamping-Chuck

Actuation: Hand actuated Radially
Mounting: Flange; cyl. centering
Workpiece: Reamer
Machine: Machining center
Application: Reaming
Advantage: High run-out accuracy ≤ 0,003 mm (0.00012"); therefore longer life of the reamer and highest round-ness of the bore

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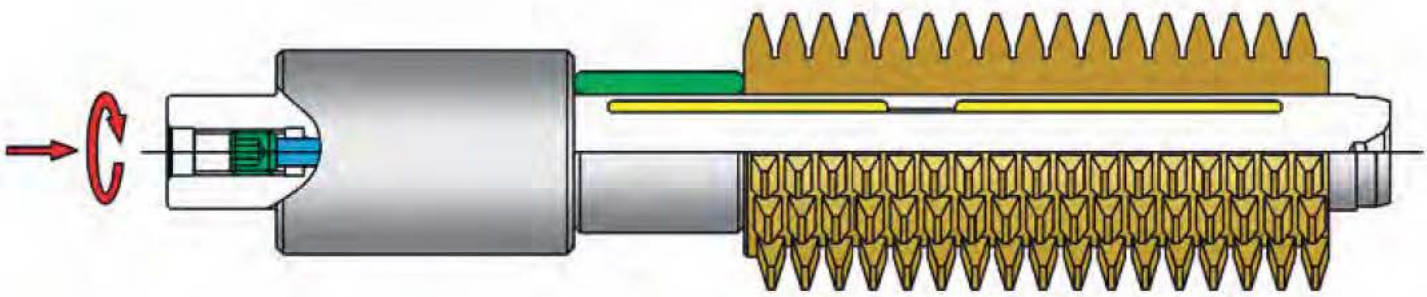
No.: 10

Tool clamping

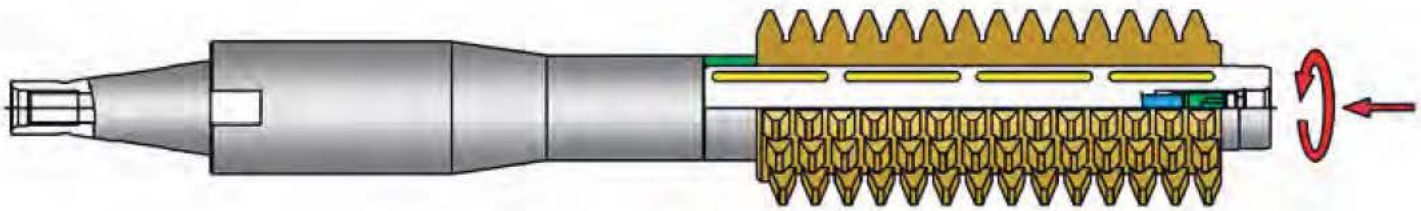
Field of application: *Hob Production*



Example 61

Hydra-Clamping-Arbor

Actuation:	Hand actuated, axially
Mounting:	Between centers
Workpiece:	Hobs
Machine:	Measuring machine / grinding machine
Application:	Measuring, checking and grinding
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"). Ground spacer makes the clamping of different hob lengths possible and extends the operating range.



Example 62

Hydra-Clamping-Arbor

Actuation:	Hand actuated, axially
Mounting:	Steep taper 40
Workpiece:	Hobs
Machine:	CNC-form-grinding machine
Application:	Form-grinding
Advantage:	High run-out accuracy and face run-out accuracy ≤ 0,003 mm (0.00012"). Ground spacer makes the clamping of different hob lengths possible and extends the operating range.

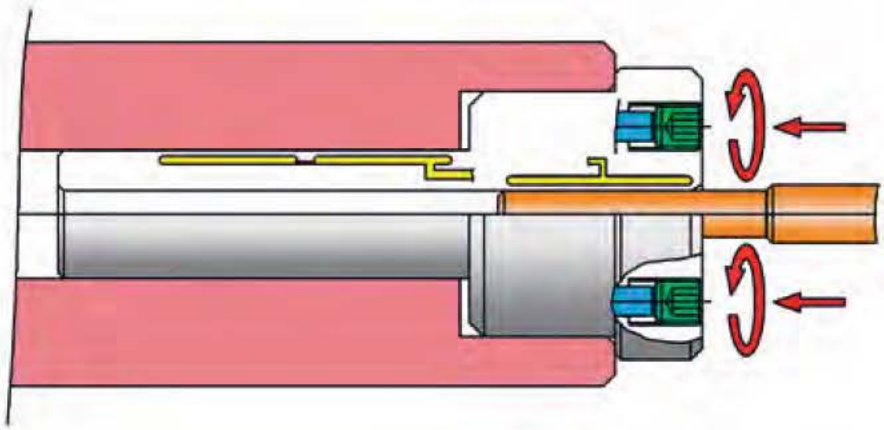
Tool clamping

Field of application: ***Drilling - reaming - adjusting***

Example 63

Hydra-Claming-Arbor

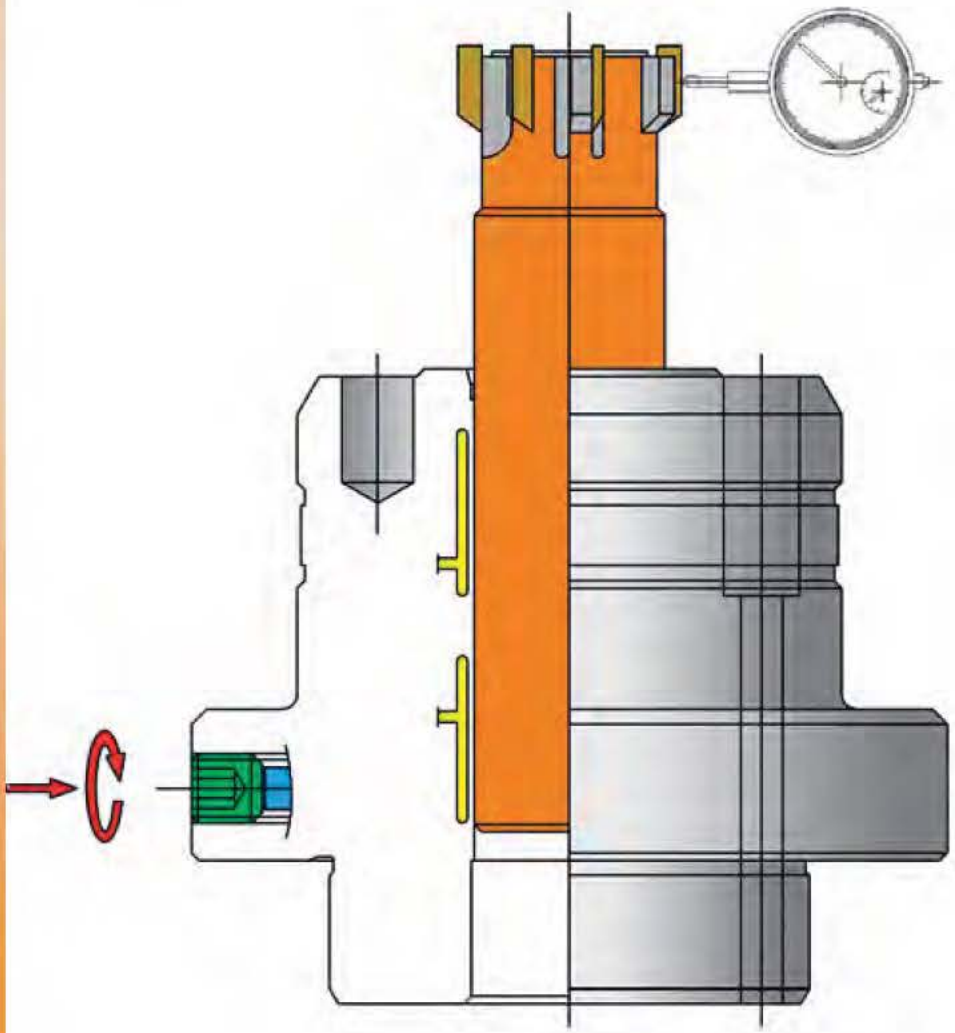
Actuation: Hand actuated Axially
Location: Cyl. shaft with integrated clamping
Workpiece: Reamer
Machine: Transfer machine
Application: Reaming
Advantage: High run-out accuracy ≤ 0,003 mm (0.00012"); Through an additional expanding sleeve in the mounting shaft, centering free of play in the motor-spindle. Expanding areas being seperatly actuated.

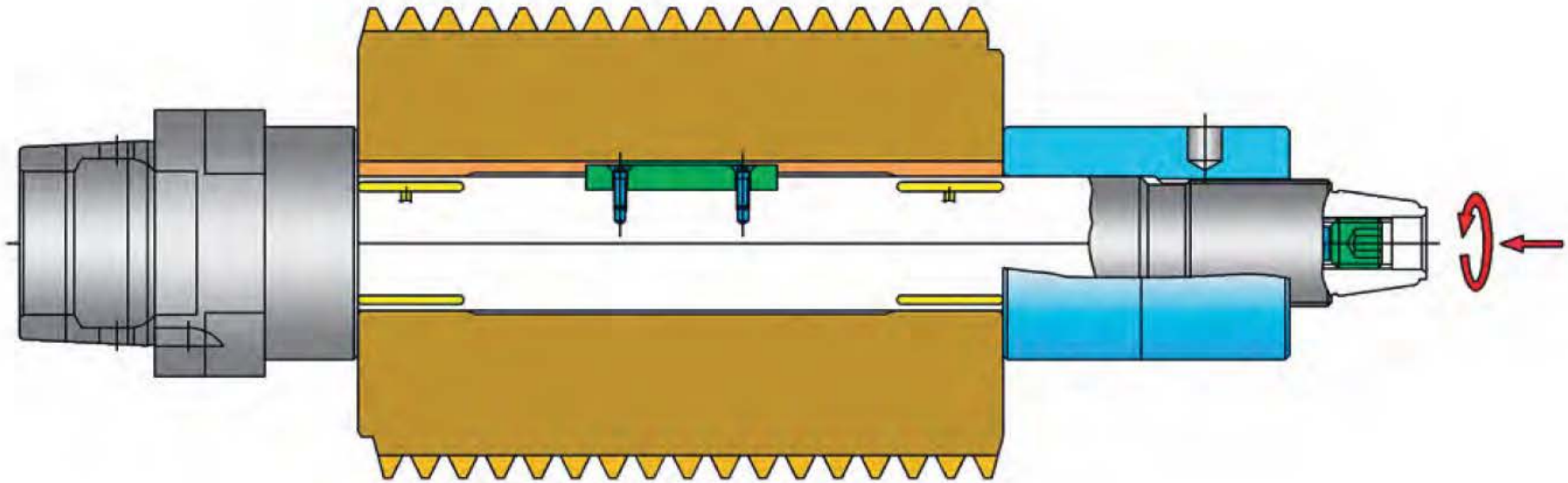


Example 64

Hydra-Clamping-Chuck

Actuation: Hand actuated Radially
Location: Flange
Workpiece: Adjustable reamer
Machine: Preset device
Application: Adjusting
Advantage: High run-out accuracy ≤ 0,002 mm (0.00008"); therefore even height of cutting edges = reducing of wear. High surface quality and highest roundness of the bore.





Field of application: *Hobbing*

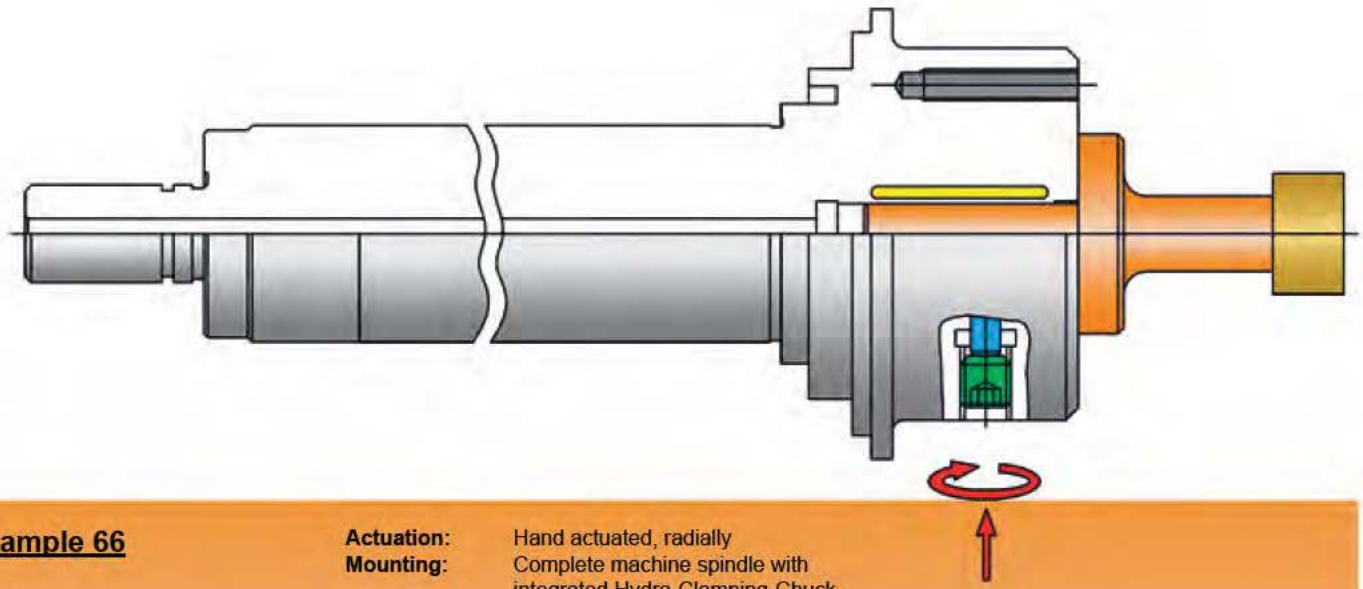
Example 65

Hydra-Clamping-Arbor

Actuation:	Hand actuated, axially
Mounting:	HSK
Workpiece:	Hobs
Machine:	CNC-hobbing machine
Application:	Hobbing
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,003 mm (0.00012"); 2 clamping areas; transmission of torgue by feather key. Axial locating by high precision axial-nut. Because of extremely high run-out accuracy the tool life was 5 times greater than with previous tooling.

Tool clamping

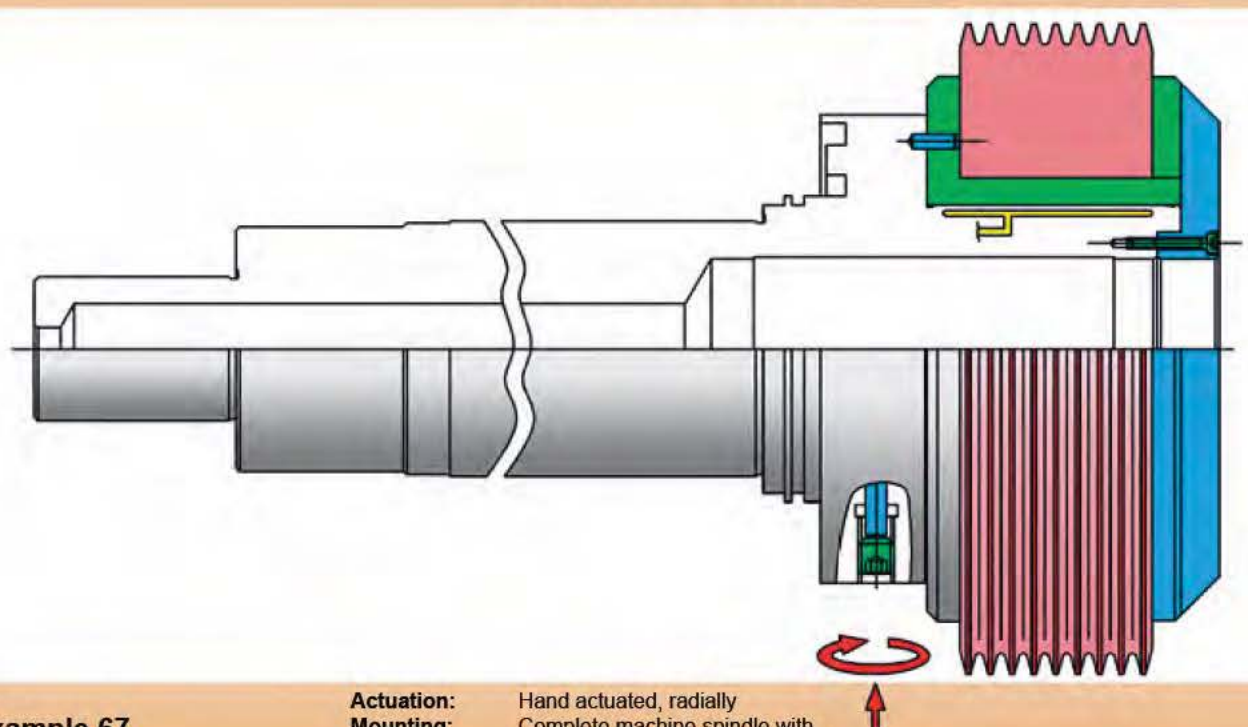
Field of application: *CNC - grinding*



Example 66

Hydra-Clamping-Chuck

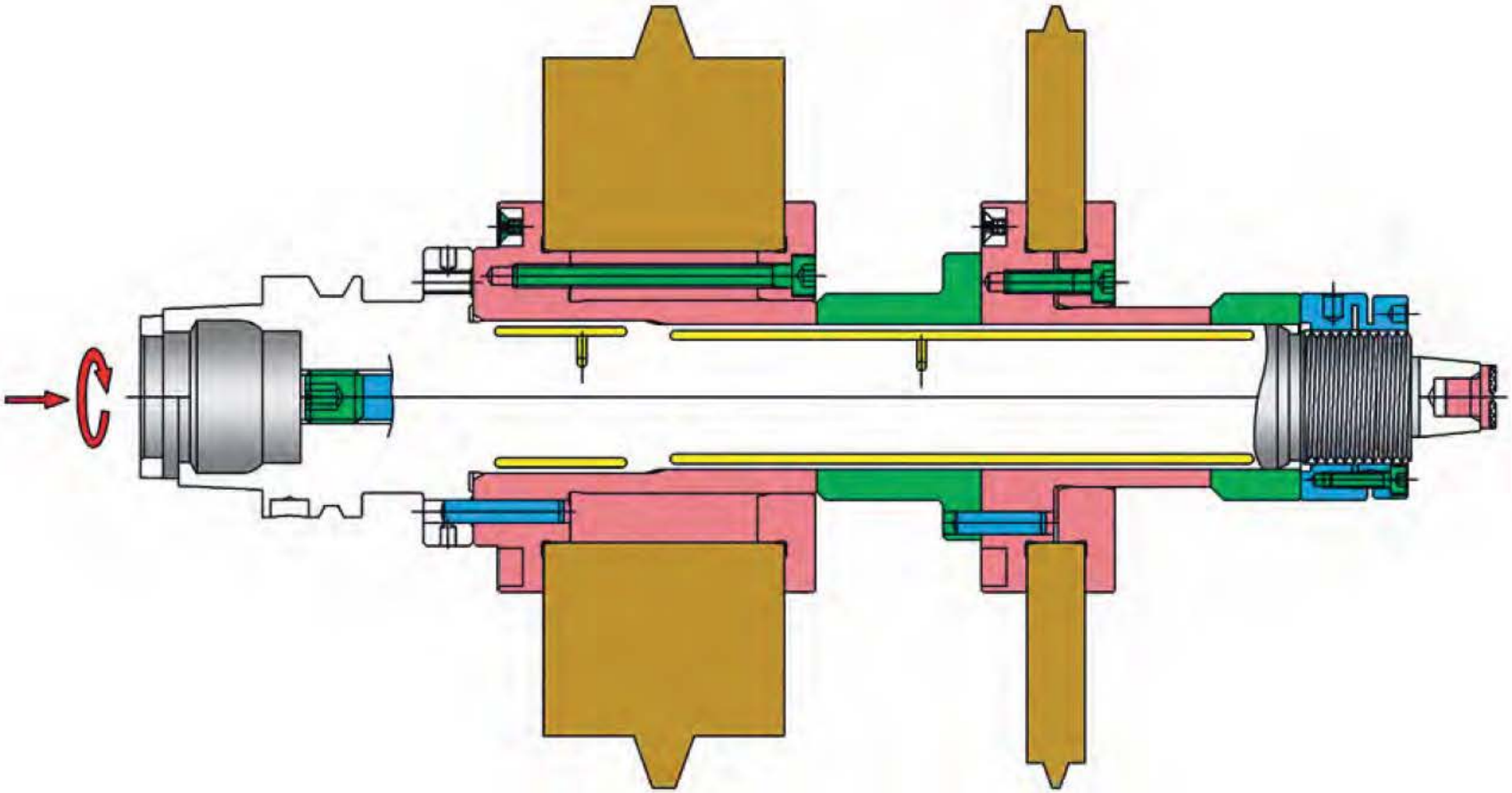
Actuation:	Hand actuated, radially
Mounting:	Complete machine spindle with integrated Hydra-Clamping-Chuck
Workpiece:	Grinding tool
Machine:	CNC-grinding machine
Application:	CNC-grinding
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012"). Improved tool life. High RPM´s are possible because of high gripping pressure and torgues, as well as internal coolant supply in the Hydra-Clamping-Chuck. Complete machine spindle precisely balanced.



Example 67

Hydra-Clamping-Arbor

Actuation:	Hand actuated, radially
Mounting:	Complete machine spindle with integrated Hydra-Clamping-Arbor
Workpiece:	Grinding wheel flange with mounted form-grinding wheel or dressing rolls
Machine:	CNC-grinding machine
Application:	CNC-grinding or grinding wheel dressing
Advantage:	High run-out accuracy ≤ 0,003 mm (0.00012"); quick and high precise changing of the grinding wheels or dressing rolls; no vibrations by frictional engaged clamping; complete machine spindle precisely balanced



Field of application: ***CNC - grinding***

Example 68

Hydra-Clamping-Arbor

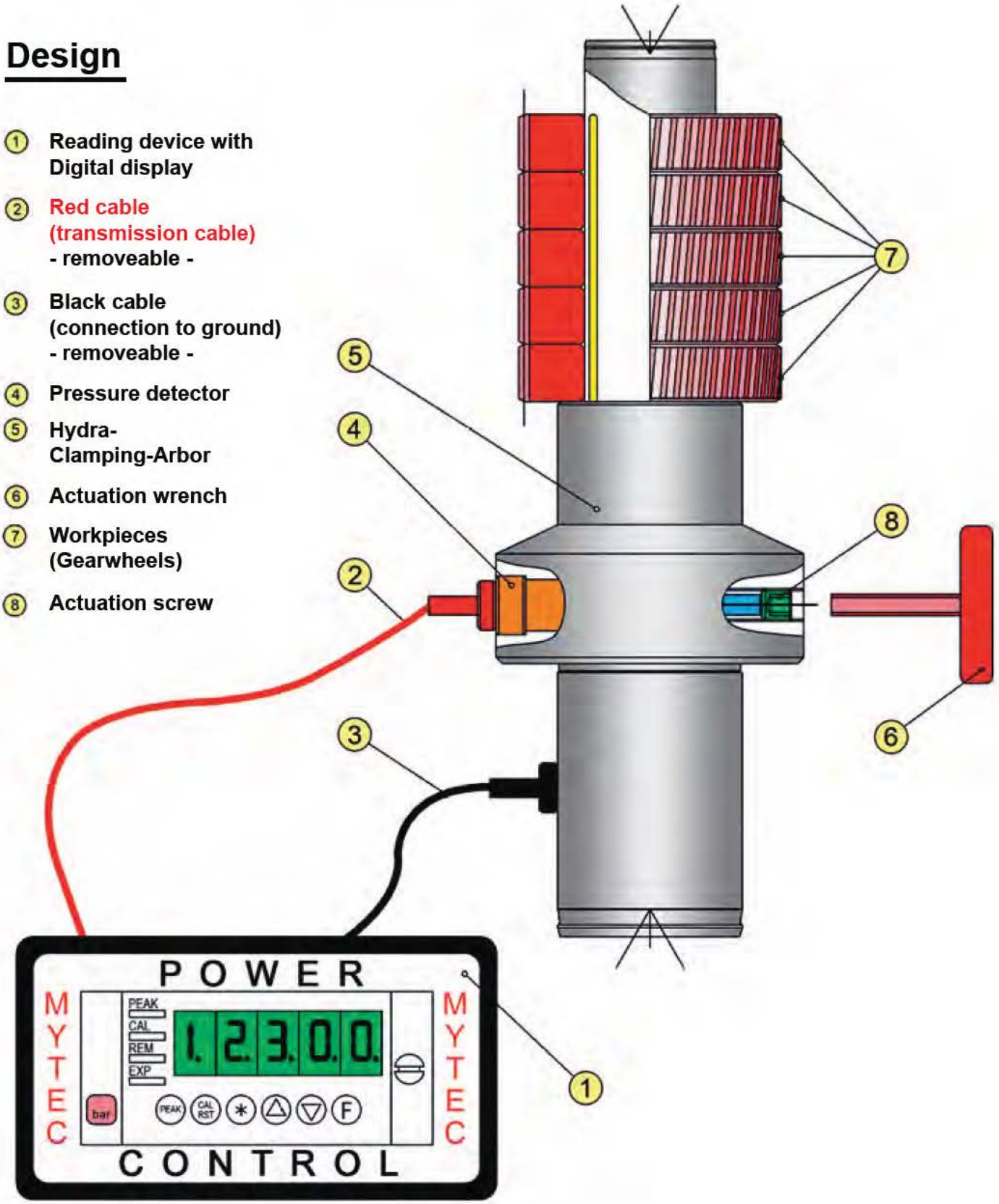
Actuation:	Hand actuated, axially
Mounting:	Complete grinding spindle with HSK-adapter
Workpiece:	Grinding wheel flanges with mounted form-grinding wheels
Machine:	CNC-gear-grinding machine
Application:	CNC-form-grinding
Advantage:	High run-out accuracy and high face run-out accuracy ≤ 0,003 mm; quick and high precision changing of the grinding wheels; no vibrations by frictional engaged clamping; complete grinding spindles precisely balanced; axial clamping by high precision axial adjusting nut

Electronic Power Control

„Power Control“

Design

1. Reading device with Digital display
2. Red cable (transmission cable) - removeable -
3. Black cable (connection to ground) - removeable -
4. Pressure detector
5. Hydra-Clamping-Arbor
6. Actuation wrench
7. Workpieces (Gearwheels)
8. Actuation screw



Electronic Power Control

Function

A pressure sensor (4) is installed in the Hydra Expansion Arbor (5) from Mytec -Hydraclamp-

To measure clamping pressure, the digital pressure measurement device "Power Control" (1) from Mytec -Hydraclamp- is connected to Hydra Expansion Arbor (5) via magnetic contacts (2) + (3)

For hand-activated clamping via clamping screw (8) the clamping pressure in the Hydra Expansion Arbor (5) is displayed digitally in bar on the display of the "Power Control" measuring device.

The clamping pressure, and thus the expansion of the Hydra Expansion Arbor, can always be precisely controlled and reproduced via this clamping or measuring process.

The "Power Control" system can also be used with automatic clamping. It is then directly connected to the machine controller.

„Power Control“

High-precision – controlled and fine-dosed clamping force for friction-free manufacturing

The expansion range of Hydra expansion arbors and Hydra expansion chucks in normal design is max. 0.3% of the respective clamping diameter.

This maximal expansion can lead to deformation and damage with thin-walled and sensitive workpieces.

To eliminate this possibility, an electronic clamping pressure control, the "Power Control" system, was developed.

With this system the user can finally dose the clamping pressure and thus the expansion and adapt to the respective tolerances to be clamped.

This ensures that the required manufacturing quality will be achieved and maintained for the same workpieces and same processing. This is due to the fact that the same clamping pressure, and thus the same expansion can always be reproduced.

"Power Control" can be used in all hydraulic clamping systems from Mytec -Hydraclamp-.

Talk to us when electronic clamping force control is involved.

Our engineers would be happy to support you.

myTEC® HYDRACLAMP®

Questionnaire for processing inquiries

Company: _____
_____
Address: _____
Postal code/City: _____
Contakt: _____

Telephone: _____
Fax: _____
E-mail: _____
Date: _____

Please copy and fill out this page and include it with every inquiry.

Clamping of workpiece or tool

Clamping diameter _____ mm / "
Active clamping length LS _____ mm / "
Axial eccentricity of the locating surface for
Clamping diameter 0.0 _____ mm / "

Tolerance: _____
Material: _____
Workpiece / tool loading:
☐ Manual ☐ Automatic

Please include always a drawing of the workpiece or tool to be clamped along with the enquiry.

Use for

☐ Turning
☐ Milling
☐ Drilling / reaming
☐ Grinding
☐ Honing / lapping
☐ Measuring / testing
☐ Balancing
☐ Centering

Please mark in the workpiece drawing
Clamping area : RED
Backstop area : GREEN
to be machined / measured : BLUE

Receptacle of the expansion tool

☐ Between centers ☐ Cantilever
☐ Taper shank: MK _____ SK _____ HSK _____ DIN / ASA _____
☐ Reishauer ball Ø 30 ☐ Reishauer ball Ø 65

☐ Short taper size _____ DIN _____

Please include spindle head drawing or sketch of the flange with dimension information.

Clamp activation

☐ Hand-actuation ☐ Power-activated ☐ Tension clamping ☐ Pressure clamping
☐ Direct clamping Pressure from _____ bar to _____ bar

Clamping direction

☐ Axial ☐ Radial ☐ Tangential ☐ Centric

Is balancing of expansion tool necessary ?

☐ Without workpiece ☐ With workpiece
Balancing quality Q _____ Nominal speed _____ 1 / min
Required residual unbalance _____ g / mm

☐ Hard coating of the expansion sleeve ☐ Wear protection ☐ Torque increase

Requirement

Quantity _____ Desired delivery time _____ (weeks)

Use conditions

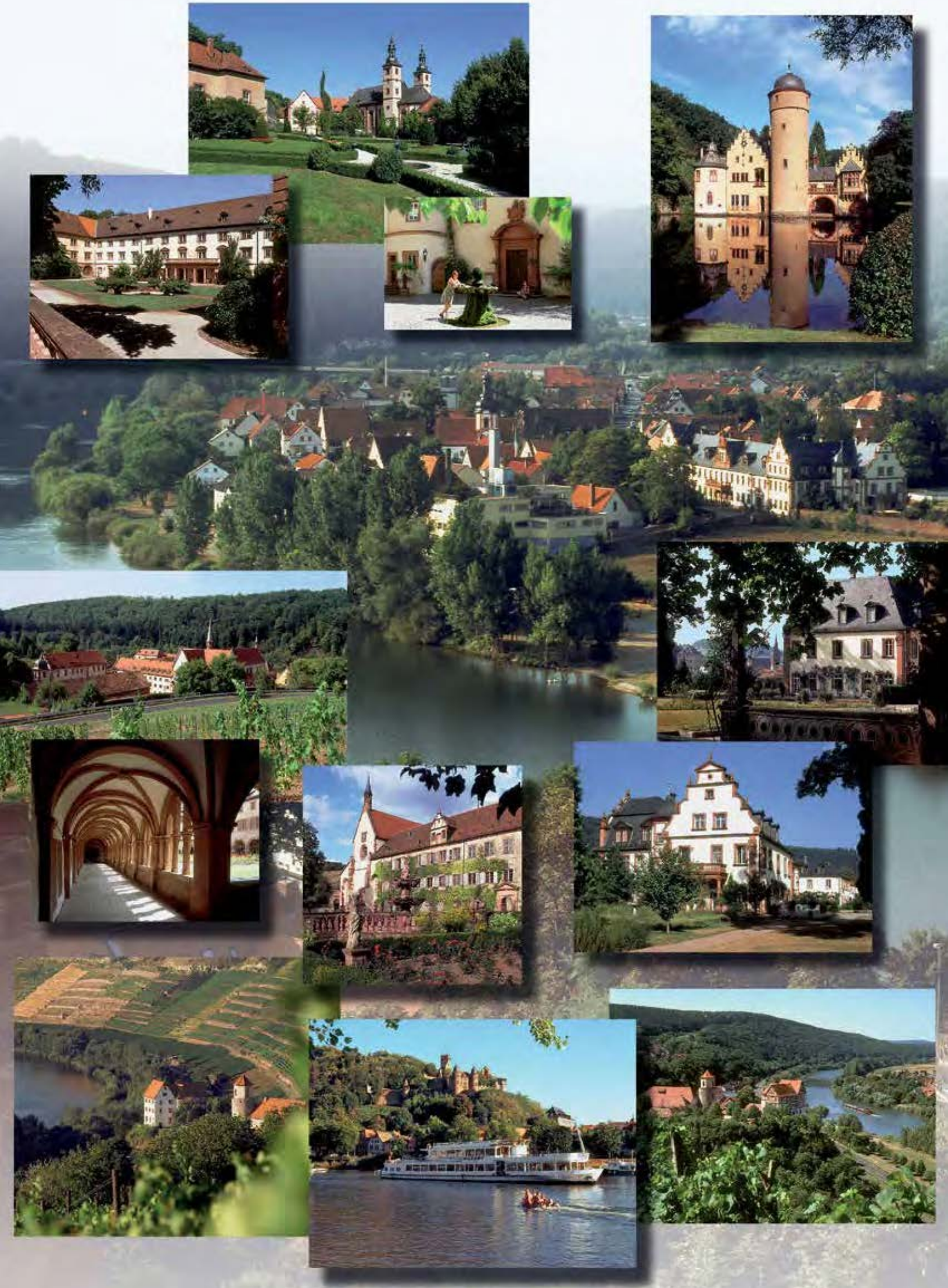
(for example thermal influence, coolant etc.)

_____
_____

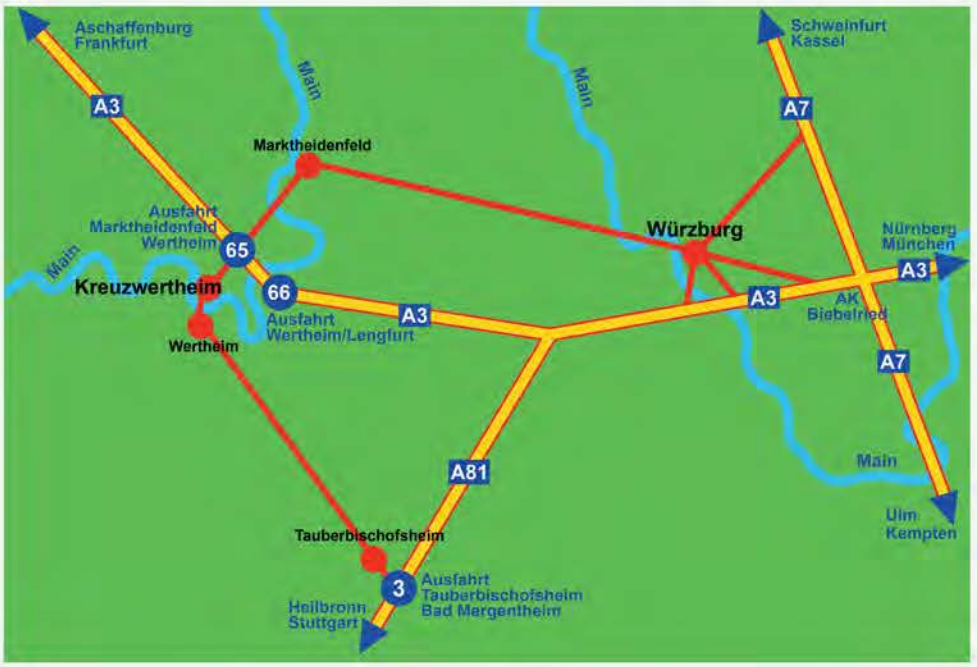
Appendices

☐ Drawing of the piece to be clamped (workpiece-/ tool drawing)
☐ Spindle head drawing
☐ Drawing of the mounting flange
☐ Drawing / data sheet of the stroke and axial pressure

Notes



Our company is situated in one of the most picturesque landscapes of Germany, where the river Tauber flows into the river Main, where the „Romantic Route" crosses the „Franconian Wine Route" and where you can enjoy the pleasures of the Spessart Forest. Come and visit us, experience the magic of the Franconian landscape, culture and cuisine – and don't forget to try our wonderful wines which are often bottled in the typical Franconian „Bocksbeutel".



How to find us:

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HYDRACLAMP®

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Germany

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Workholding and Toolholding solutions

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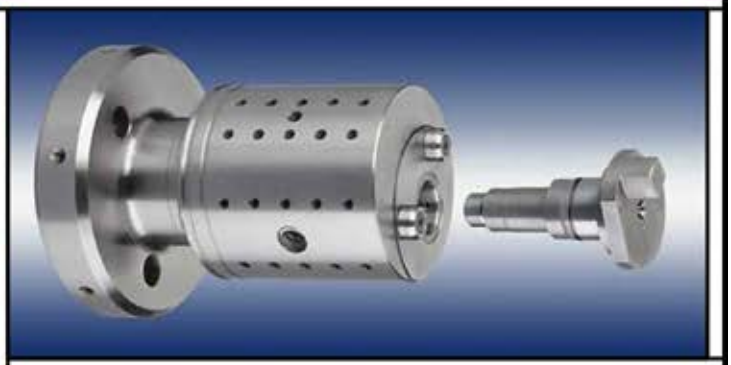
MECHANICAL and HYDRA-MECHANICAL
> CLAMPING TOOLS <



>> NEW Perman System® <<

WORKHOLDING

>> NEW Perman System® <<

About Mytec Workholding

Mytec -Hydraclamp- has been dedicated to development and manufacture of high-precision clamping tools for workpiece and tool clamping since the company was founded.

Particularly mechanical and Hydra-mechanical clamping technology.

Mytec - Hydraclamp- has been a known entity for decades in the main sectors of the tool construction and machine building industries.

Our corporate goal is to achieve a high level of customer satisfaction through leading technical solutions and unlimited application orientation.

Constant innovation is an important success factor in this process.

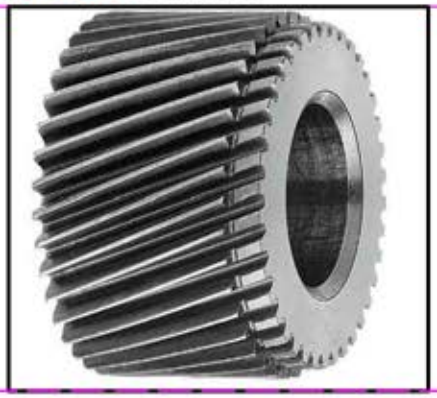
Clamping tools from Mytec -Hydraclamp- are in use at well-known companies, particularly in the automotive and aircraft industry, including suppliers, machine tool and machinery building, pump manufacturers, and the electronics industry.

SPECIAL-APPLICATION

myTEC® HYDRACLAMP®

HYDRA-MECHANICAL-EXPANDING-ARBOR
clamping dia. 72 mm

WORKPIECE: Gear wheel



OPERATION:

- Grinding the external toothing
- Milling the external toothing

DESCRIPTION:

- Direct operating (hydraulic system machine)
- Runout accuracy < 0.005 mm
- High loading clearances
- Part present control (air sensing)
- Modular design, collet interchangeable
- Collet vulcanised, with hard coating

MECHANICAL >EXPANDING< CLAMPING TOOLS

- NEW - PERMAN-SYSTEM®

MECHANICAL-EXPANDING-ARBOR clamp. dia. 24 mm

WORKPIECE:

DESCRIPTION:

- Powered by a pile of springs (integrated)
- Runout accuracy < 0.005 mm
- High loading clearances (automatic loading)
- Modular design, collet interchangeable
- Collet vulcanised, with hard coating

OPERATION:

- Grinding the external contour between center

MECHANICAL-EXPANDING-ARBOR clamp. dia. 70 mm

WORKPIECE: Ring gear

DESCRIPTION:

- Power operated (drawbar)
- Runout accuracy < 0.005 mm
- High loading clearances
- Modular design, collet interchangeable
- Collet vulcanised, with hard coating

OPERATION:

- Milling the external toothing

HYDRA-MECHANICAL >EXPANDING< CLAMPING TOOLS

- NEW - PERMAN-SYSTEM®

MECHANICAL-FLANGED-CHUCK clamp. dia. 185 mm

WORKPIECE: Disc carrier

DESCRIPTION:

- Power operated (drawbar)
- High loading clearances
- 0.01 mm clamping repeatability
- Retractable workpiece stop
- Modular design, collet interchangeable

OPERATION:

- Turning the internal contour

HYDRA-MECHANICAL-EXPANDING-ARBOR clamp. dia. 120 mm

WORKPIECE: Gear wheel

DESCRIPTION:

- Direct operating (hydraulic system machine)
- 0.005 mm clamping repeatability
- Part present control (air sensing)
- Conical taper mechanism
- Short clamping length

OPERATION:

- Grinding the external contour

myTEC HYDRACLAMP

SPECIAL-APPLICATION

HYDRA-MECHANICAL-COLLET-CHUCK
clamping dia. 72 mm

WORKPIECE: Gear wheel

OPERATION:

- Milling the external contour
- Drilling the front-holes

DESCRIPTION:

- Power operated by the pull rod at the machine
- High loading clearances
- High gripping force
- Pull-back design
- Modular design, collet interchangeable

high μ precision clamping

Mytec - Hydraclamp- is an innovative
partner of the precision industry, with the core task
of satisfying today's increasing quality requirements
through development and manufacturing of highly precise
tensioning tools for lathing, hobbing, grinding, measuring
and testing, and to contribute to our customer's increased
competitive ability.

Talk with our engineering department when high-precision
workpiece and tool clamping are involved.

PRODUCTS

Mechanical expansion arbors
"System Perman"

Mechanical expansion chucks
"System Perman"

Hydraulic expansion arbors
Hydraulic expansion chucks

Hydraulic expansion arbors
Hydraulic expansion chucks
with geared expansion sleeve

Complete clamping fixtures
including peripherals

Machine spindles with integrated
hydraulic expansion technology

Electronic clamping pressure
control System "Power Control"

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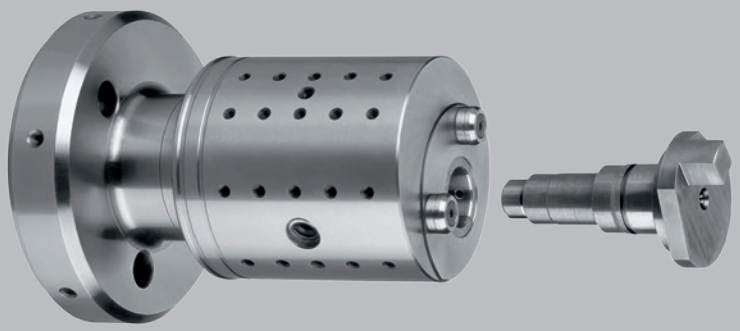
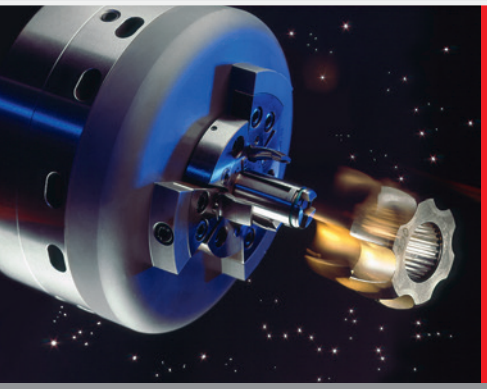


- NEW -

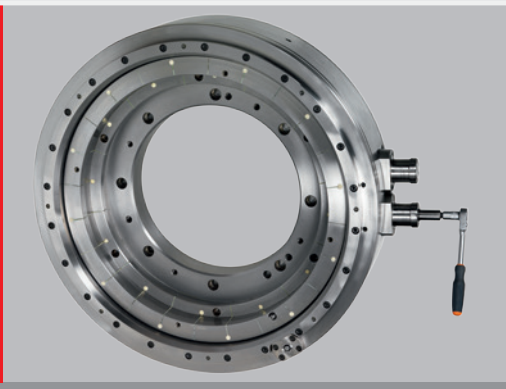
> PERMAN-SYSTEM ® <

WORKHOLDING

- NEW -
> PERMAN-SYSTEM ® <



About Mytec Workholding



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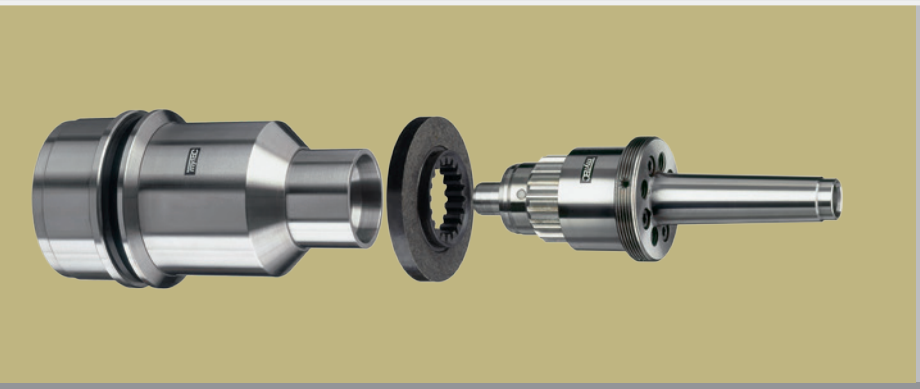
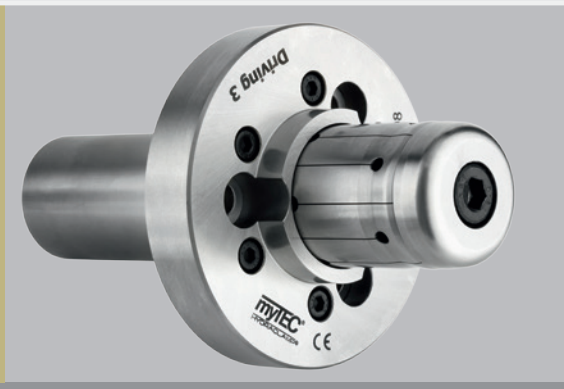
high precision clamping





Corporate

Mytec -Hydraclamp- is an innovative
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SPECIAL-APPLICATION

HYDRA-MECHANICAL-EXPANDING-ARBOR
clamping dia. 72 mm

WORKPIECE:
Gear wheel

OPERATION:

- Grinding the external toothing
- Milling the external toothing

DESCRIPTION:

- Direct operating
  (hydraulic system machine)
- Runout accuracy < 0.005 mm
- High loading clearances
- Part present control (air sensing)
- Modular design, collet interchangeable
- Collet vulcanized, with hard coating

MECHANICAL >EXPANDING< CLAMPING TOOLS

- NEW - > PERMAN-SYSTEM ® <

WORKPIECE: Cam lobe

MECHANICAL-EXPANDING-ARBOR **clamp. dia. 24 mm**

DESCRIPTION:

- Powered by a stack up of springs (integrated)
- Runout accuracy < 0.005 mm
- High loading clearances (automatic loading)
- Modular design, collet interchangeable
- Collet vulcanized, with hard coating

OPERATION:

- Grinding the external contour between centers

WORKPIECE: Ring gear

MECHANICAL-EXPANDING-ARBOR **clamp. dia. 70 mm**

DESCRIPTION:

- Power operated (drawbar)
- Runout accuracy < 0.005 mm
- High loading clearances
- Modular design, collet interchangeable
- Collet vulcanized, with hard coating

OPERATION:

- Milling the external toothing

HYDRA-MECHANICAL >EXPANDING< CLAMPING TOOLS

- NEW - > PERMAN-SYSTEM ® <

WORKPIECE: Disc carrier

MECHANICAL-FLANGED-CHUCK clamp. dia. 185 mm

DESCRIPTION:

- Power operated (drawbar)
- High loading clearances
- 0.01 mm clamping repeatability
- Retractable workpiece stop
- Modular design, collet interchangeable

OPERATION:

- Turning the internal contour

WORKPIECE: Gear wheel

HYDRA-MECHANICAL-EXPANDING-ARBOR clamp. dia. 120 mm

DESCRIPTION:

- Direct operating (hydraulic system machine)
- 0.005 mm clamping repeatability
- Part present control (air sensing)
- Conical taper mechanism
- Short clamping length

OPERATION:

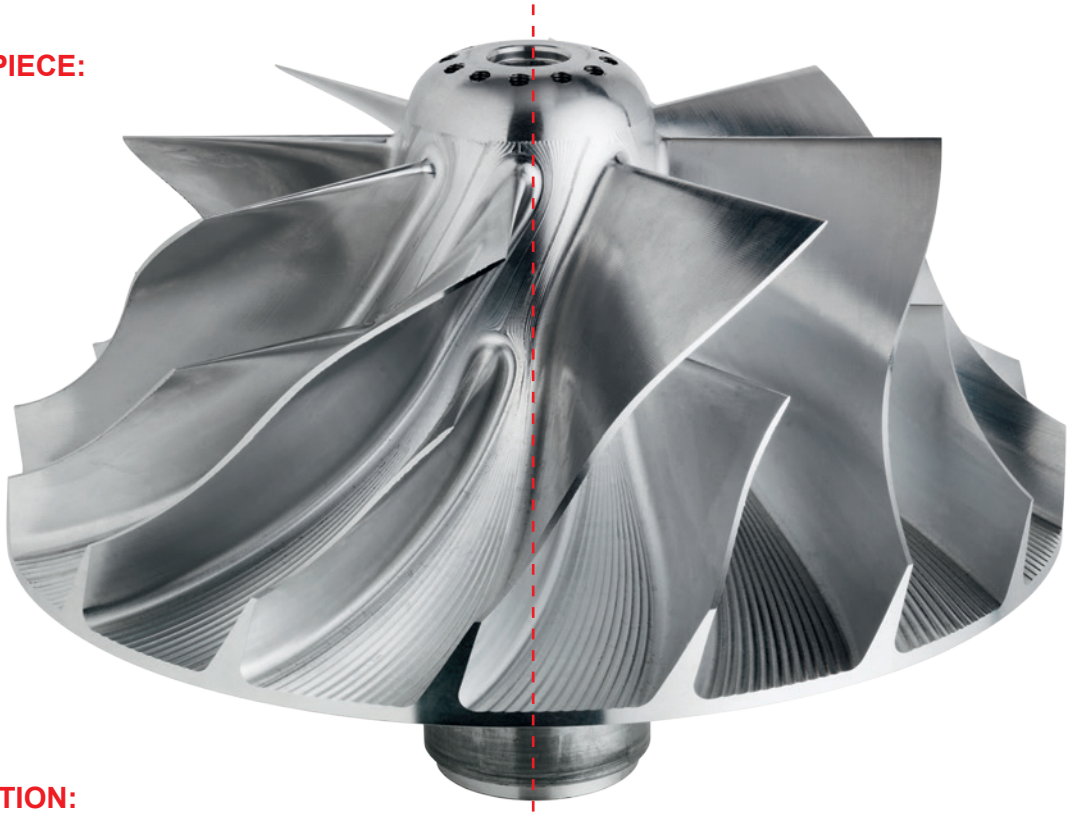
- Grinding the external contour

myTEC® HYDRACLAMP®

SPECIAL-APPLICATION

HYDRA-MECHANICAL-COLLET-CHUCK
clamping dia. 72 mm

WORKPIECE:
Impeller



OPERATION:

- Milling the external contour
- Drilling the front-holes

DESCRIPTION:

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- High loading clearances
- High gripping force
- Pull-back design
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