



Installation manual **EN**

Clamping device

ms dock / hs dock

Table of contents

1	General.....	4
1.1	Information about this manual.....	4
1.2	Explanation of symbols.....	4
1.3	Limitations of liability.....	5
1.4	Max. RPM.....	5
1.5	Copyright.....	5
1.6	Scope of delivery.....	6
1.7	Spare parts.....	6
1.8	Warranty terms.....	6
2	Safety.....	7
2.1	Responsibility of the customer.....	7
2.2	Personnel requirements.....	8
2.3	Intended use.....	9
2.4	Personal protective equipment.....	10
2.5	Special dangers.....	11
2.6	Further warnings.....	14
2.7	Clamping force.....	15
2.8	Screws.....	15
2.9	Functionality.....	16
2.10	Environmental protection.....	16
3	Technical data.....	17
3.1	General information ms dock.....	17
3.2	General information hs dock.....	18
3.3	Operating conditions.....	20
3.4	Power specifications.....	20
3.5	Check.....	20
3.6	Type designation.....	20
4	Structure and function.....	21
4.1	Overview ms dock.....	21
4.2	Overview hs dock.....	22
4.3	Brief description.....	23
4.4	Optional Accessories.....	24
4.4.1	Grease.....	24
4.4.2	Grease gun.....	24
4.4.3	Multiple clamping pallet.....	25
4.4.4	Pallet system.....	25
4.4.5	Adaption clamping device.....	26
4.4.6	Adaption set.....	26
4.4.7	Key.....	26
5	Transporting, packaging and storing.....	27
5.1	Safety instructions for transporting.....	27
5.2	Symbols on the packaging.....	27
5.3	Transport inspection.....	28
5.4	Unpacking and inner-company transportation.....	28
5.5	Packaging.....	29
5.6	Storing.....	30

6	Assembly.....	31
6.1	Pre-consideration.....	31
6.2	Preparations.....	32
6.3	Assembling of the actuating unit.....	32
6.3.1	Installation of the actuating unit ms dock.....	33
6.3.2	Installation of the actuating unit hs dock.....	33
6.3.3	Tandem function of the actuation unit hs dock.....	34
6.3.4	Assemble the adaption clamping device to ms dock.....	35
6.3.5	Assemble the adaption clamping device to ms dock.....	39
6.4	Work piece.....	43
6.5	Inspections.....	44
6.6	Control of the stroke position.....	45
6.7	Activities after production is concluded.....	45
7	Disassembly.....	46
7.1	Safety.....	46
7.2	Disassembling of the actuating unit.....	47
7.2.1	Disassemble the adaption clamping device from ms dock.....	47
7.2.2	Disassemble the adaption clamping device from hs dock.....	50
7.2.3	Disassembly of the actuation unit ms dock.....	54
7.2.4	Disassembly of the actuation unit hs dock.....	55
7.3	Subsequent storage of the clamping device.....	56
7.4	Disposal.....	56
8	Maintenance.....	57
8.1	General.....	57
8.2	Cleaning.....	58
8.3	Preservation.....	59
8.4	Use of lubricant.....	59
8.5	Maintenance schedule.....	60
8.6	Bolt torque.....	61
9	Trouble shooting.....	62
9.1	Safety.....	62
9.2	Trouble shooting table.....	63
9.3	Start-up after corrected fault.....	64
10	Appendix.....	65
10.1	Service Hotline.....	65
10.2	Representatives.....	65
10.2.1	Europe.....	65
10.2.2	America.....	68
10.2.3	Asia.....	68
10.2.4	Australia.....	69
10.2.5	Africa.....	69
	Index.....	69
	EC Declaration of conformity.....	71

1 General

1.1 Information about this manual

This manual enables safe and efficient handling of the clamping device.

The manual is a component of the clamping device and must be kept in the immediate vicinity of the clamping device where it is accessible for personnel at all times. Personnel must have carefully read and understood this manual prior to starting all tasks. The basic prerequisite for safe work is compliance with all the safety instructions and handling instructions in this manual.

Illustrations in this manual are provided for a basic understanding and may deviate from the actual model of the clamping device.

It is assumed that the reader is familiar with standard procedures, such as cleaning the mounting surfaces.

1.2 Explanation of symbols

Safety instructions

Safety instructions are indicated by symbols in this operating manual. The safety instructions are introduced by signal words that express the scope of the hazard.

The safety instructions must be strictly adhered to. You must act prudently to prevent accidents, personal injury, and material damage.



DANGER

... indicates an imminent dangerous situation that can result in death or serious injury if it is not avoided.



WARNING

... indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.



CAUTION

... indicates a possible dangerous situation that can result in minor or light injury if it is not avoided.



NOTE

... indicates a possible dangerous situation that can result in material damage if it is not avoided.

Tips and recommendations



... indicates useful tips and recommendations, as well as information for efficient and trouble-free operation.

1.3 Limitations of liability

All information and instructions in this operating manual have been provided under due consideration of applicable standards and regulations, the current state of technology, as well as our many years of experience.

The manufacturer assumes no liability for damage due to:

- Failure to follow the instructions in the manual
- Non-intended use
- Deployment of untrained personnel
- Unauthorized conversions
- Technical changes
- Use of non-approved spare parts

The actual scope of delivery can vary from the explanations and graphic representations provided in this manual in the case of special versions, if supplemental order options are desired, or on the basis of the latest technical changes.

The agreed obligations in the delivery contract, the general terms and conditions, as well as delivery conditions of the manufacturer, and the statutory regulations valid at the time the contract was concluded, apply.

1.4 Max. RPM



CAUTION!

The product is designed for stationary use and may not be used for rotating machining!

1.5 Copyright

This manual is protected by copyright and is provided exclusively for internal purposes.

Delivery of the operating manual to third parties, duplication in any form – including excerpts – as well as exploitation and/or communication of the content, are not

permitted [except for internal use] without written approval from the manufacturer.

Actions to the contrary make damage compensation mandatory. We reserve the right to enforce additional claims.

1.6 Scope of delivery



All tools and accessories that are not included in the scope of delivery are marked as optional.

In scope of delivery of the clamping device:

- 1 Actuating unit
- Actuating tools

Optionally the scope of delivery:

- Add on clamping elements, e.g.
 - Segmented mandrel MANDO
 - Centric vise
- Pallet system
- Multiple clamping pallet

1.7 Spare parts



WARNING!

Safety risk if the wrong spare parts are used!

Incorrect or defective spare parts can cause damage, malfunction, or total failure; they can also impair safety.

- Only use manufacturer's original spare parts.

Only purchase spare parts from authorized dealers or direct from the manufacturer. Addresses are in the appendix.

1.8 Warranty terms

The warranty terms are included in the manufacturer's terms and conditions.

2 Safety

This section provides an overview of all the important safety aspects for optimal protection of personnel, as well as for safe and trouble-free operation.

2.1 Responsibility of the customer

The device is used in industrial applications. Consequently the owner of the device is subject to legal industrial safety obligations.

In addition to the safety instruction in this manual, generally valid safety and accident protection guidelines, and environmental protection guidelines as well as the machines' manual must be adhered to and complied with for the area of implementation of the device.

Note in particular that the status scans of the machine must be adjusted to the respective clamping device.



DANGER!

Risk of injury due to thrown out parts!

Incorrect machine settings may lead to the throwing out of parts.

- The status scans the machine must be set to the respective clamping device.
- Regularly check the status scans of the machine, see chapter »Maintenance Schedule«.
- If the end position can not be reached the jaw module may no longer be used.
- Observe the operating instructions of the machine.



WARNING!

Risk of injury!

An incorrect media supply [hydraulic, pneumatic], e.g. by damaged or missing seals or pipes, can cause serious personal injury.

- Hydraulic and / or pneumatic tubes must be secured by the machine by check valves and a permanent pressure monitoring!

2.2 Personnel requirements



WARNING!

Danger of injury due to insufficient qualification!

Improper handling of the clamping device can cause serious injury or material damage.

- Only have activities performed by personnel who are qualified to perform these activities.

The following qualifications are cited in the operating manual for the various activity areas.

■ **Specialized personnel**

are personnel who due to their specialized training, skills, and experience, as well as knowledge of the applicable regulations, are capable of executing the tasks assigned to them and of recognizing and avoiding possible hazards on their own.

■ **Hydraulic specialist**

The hydraulic specialist has been trained for the particular task area in which he is active and is familiar with the relevant standards and regulations. Due to his specialized training and experience the hydraulic specialist can perform tasks on hydraulic equipment and recognize and avoid possible dangers on his own.

■ **Electric specialist**

The electric specialist has been trained for the particular task area in which he is active and is familiar with the relevant standards and regulations. Due to his specialized training and experience the electric specialist can perform tasks on electric equipment and recognize and avoid possible dangers on his own.

Only persons from whom it can be expected that they reliably execute their work are considered as personnel. Persons whose capability to react is impaired, for instance through drugs, alcohol, or medication, are not approved.

- Comply with age-specific and job-specific regulations that are applicable at the installation site when selecting personnel.

2.3 Intended use

The clamping device should only be mounted, operated, maintained, and cleaned by instructed, specialized personnel.

Intended use also includes compliance with all the instructions in this manual.

The clamping device is to be used for the case of application contractually agreed between the producer/deliverer and the user, as well as such cases of application described in the product description which are also in accordance with the technical values.

The safe function of the clamping device is, as far as it can be foreseen, guaranteed when it is used for the intended purpose in accordance with the appropriate safety regulations.

Any use that extends beyond the intended use, or any other use of the clamping device is considered to be misuse and can cause dangerous situations.



WARNING!

Danger due to misuse!

Misuse of the clamping device can cause dangerous situations.

Particularly refrain from the following uses of the clamping device:

- Use in machines other than machine tools.
- Use in machine tools with technical data other than that specified on the clamping device.

Claims of any type due to damage arising from non-intended use are excluded.

Unintended and improper use of the Power Chuck is for example

- If workpieces are not clamped properly
- If safety regulations are disregarded and persons are working at the Power Chuck without additional protective devices e.g. for machining.
- If a Power Chuck is used for machines or tools for which it is not intended.

2.4 Personal protective equipment

Wearing of personal protective equipment is required to minimize health hazards when working with the device.

- Always wear the protective equipment necessary for the respective task when working with the device.
- Follow the instructions that have been posted in the work area.

Always wear



For all tasks always wear:

Protective work clothing

is tight-fitting work clothing with low resistance to tearing, with tight sleeves, and without projecting parts. It is primarily used to protect against entanglement by moving machine parts.

Do not wear rings, chains, or other jewelry.



Safety footwear

for protection against heavy falling parts and slipping on slippery substrates.

For special tasks wear



Special protective equipment is required when executing special tasks. Separate reference is made to this equipment in the specific sections of this manual. This special protective equipment is explained below:

Hard hat

to protect against falling and flying parts and materials.



Protective goggles

to protect eyes from flying parts and liquid splashes.



Protective gloves

to protect hands from friction, abrasion, puncture wounds, or deeper injuries, as well as from contact with hot surfaces.

2.5 Special dangers

In the following section residual risks are cited that occur due to installation of the clamping device in a machine tool. In each case the residual risks that have been determined based on a risk analysis of the machine must be specified by the customer.

- Follow the safety instructions listed here and the warnings in the other sections of this manual to reduce health hazards and to avoid dangerous situations.

Horizontal / lying parts



WARNING!

Danger of injury due to horizontal parts!

Before transporting the clamping device in horizontal condition:

- Put the clamping device on a non-slip pad
- Screw in the eye bolts

Suspended loads



WARNING!

Life-threatening danger due to suspended loads!

Some clamping devices must be lifted with a crane. When lifting the clamping device there is a life-threatening hazard due to falling parts or parts swinging out of control.

- Never step under suspended loads.
- Comply with the instructions concerning the intended attachment points. Ensure that the sling gear is securely seated!
- Do not attach lifting gear in projecting components.
- Only use approved hoists and sling gear with sufficient bearing capacity.
- Do not use rope and belts that are torn or frayed.

Moving parts



WARNING!

Danger of injury due to moving parts!

Rotating parts of the clamping device can cause serious injuries.

- Do not reach into moving parts or handle moving parts during operation.
- Note the gap dimensions of moving parts.
- Do not open covers when the device is in operation.
- Be aware of afterrun time:
Prior to opening the covers ensure that all parts have come to a standstill.
- Wear tight-fitting protective work clothing in the danger zone.

Wrong clamping of the work piece



WARNING!

Danger of injury due to incorrect clamping of the work piece!

Incorrect work piece clamping may lead to the ejection of the work piece and result in serious injuries.

Under dimensioned (tolerance) parts can lead to incorrect clamping!

- Check the unmachined work pieces at random on dimensional accuracy.

Too low supply pressure can lead to the reduction of clamping force!

Too high supply pressure can lead to damage of the components of the clamping device!

- Check and adjust, if necessary, the supply pressure regularly.
- Do random checks of the unmachined work pieces on dimensional accuracy.

Missing changing parts



WARNING!

Danger of injury due to missing changing parts!

When operating the clamping device without changing parts [segmented clamping bushing, clamping heads, work piece end-stops] there is a higher danger of crushing injuries due to the stroke of movable components of the clamping device.

- The clamping process may not be initiated without assembled segmented clamping bushing and/or work piece end-stop.

Parts with sharp edges



WARNING!

Risk of injury!

When screwing in individual components such as for example work piece end-stops, threaded adapters and similar devices that are equipped with an external thread or wear caused by burrs, there is risk of cutting.

- The operation must be done only by qualified personnel.
- Wearing of gloves / [PSA] is required!



CAUTION!

Risk of injury!

A special use-dependent or job-based design can result in variations in the clamping strokes and thus the clamping force.

- The notes on the associated clamping situations or product drawing must always be observed

2.6 Further warnings



WARNING!

Risk of injury!

Never reach for the clamping device while the spindle is rotating. Before starting to work on the mandrel, make sure the machine spindle cannot be put in motion.



WARNING!

Risk of injury!

Falling down of the clamping device or its parts can cause severe bruises and fractures.

The dead weight of the clamping device or its parts can lead to high physical stress.



WARNING!

Risk of injury!

By repeated reworking or wear and tear of the clamping surfaces sharp edges and burrs may appear and lead to severe cutting damages.



WARNING!

Risk of injury!

Missing o-rings or seals may cause severe injuries!

Due to missing / fallen out O-rings and seals compressed air or hydraulic fluids which are under high pressure may expel!

- Make sure that all O-rings / seals for the hydraulic / pneumatic connections are available and undamaged!
- If necessary lubricate them before assembly and/or during service.



Risk of injury!

Leaking [sprayed out] hydraulic oil can cause serious injury.

- Make sure that all O-rings / seals for the hydraulic and/or pneumatic connections are available and undamaged

2.7 Clamping force

The achieved clamping force can vary due to the maintenance condition of the clamping device [state of lubrication and degree of contamination] [see chapter »Maintenance«].

The clamping force must be checked at regular intervals. This requires the use of static clamping force measuring devices.



CAUTION!

Damages due to excessive draw and compressive force!

An excessive draw force and/or compressive force may damage the clamping device.

- The max. draw force and compressive force may not be exceeded.

2.8 Screws

Moving parts



WARNING!

Danger of injury due to screws and stud screws being accelerated out of the device!!

Screws and stud screws radially attached to the product can be accelerated out of the device and cause severe injuries.

- At the product radially mounted screws and stud screws which were loosened for assembly and maintenance must be re-tightened with the correct tightening torque!
The tightening torque is given at the product itself, near the screw or threaded pin, and/or given in chapter »Bolt torque«.
- All screws or stud screws that are not marked with a tightening torque specification are tightened with the prescribed tightening torque and locked [medium-strength bonding] in the factory and should only be unscrewed after consultation with the manufacturer. If in doubt you must contact the manufacturer immediately do determine the subsequent procedure.

2.9 Functionality



NOTICE!

With high contamination of the clamping device the functionality is no longer guaranteed.

- The cleaning and maintenance intervals must be observed.

2.10 Environmental protection



NOTE!

Environmental hazard due to incorrect handling!

Incorrect handling of environmentally hazardous substances, particularly improper disposal, can cause significant environmental damage.

- Always comply with the instructions cited below
- If environmentally harmful substances should inadvertently get into the environment, initiate suitable measures immediately. If in doubt notify the responsible municipal authority about the damage.

The following environmentally harmful substances are used:

Lubricants

Lubricants like greases and oils can contain toxic substances. Ensure that they do not get into the environment.

The device must be disposed of by a specialized disposal company.

To achieve trouble-free operational performance of the clamping device only use HAINBUCH lubricants. See the appendix for reference addresses.

3 Technical data

3.1 General information ms dock

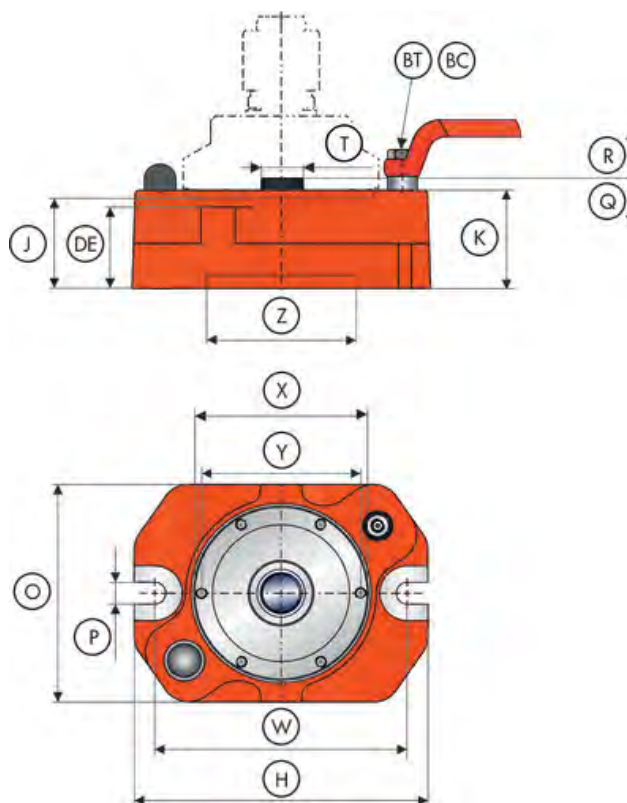


Fig. 1

Size		XXS-4	5-7
Max. axial draw tube force [kN]		35	40
Max. actuating torque [Nm]	BC	55	70
Reserve stroke axial [mm]	Q	4	
Release stroke axial [mm]	R	3	
Interface	X	Ø 131 h&	Ø 219 H6
Interface hole circle	Y	Lk Ø 116 [6Xm8]	LK Ø 192 [6xM10]
Connecting thread outside	T	M30 x 1,5	
Wrench size [SW]	BT	17	
Length [mm]	H	214	310
Height [mm]	J	76	96
Overall [mm]	K	82	109
Width [mm]	O	159	245
Centering edge [mm]	Z	122	179,5
Screw connection width [mm]	P	17	
Clamping edge height [mm]	DE	70	92
Bolt hole distance [mm]	W	184	280
Weight [kg]		12	36

ms dock / hs dock – Technical data

Size	XXS-4	5-7
In stock	✓	✓
Order no.	2084/0001	2084/0002

*) Example: $0.0511/[5/60\text{sec.}] = 0.612 \text{ sec.}$ [Hub 4.5mm]

3.2 General information hs dock

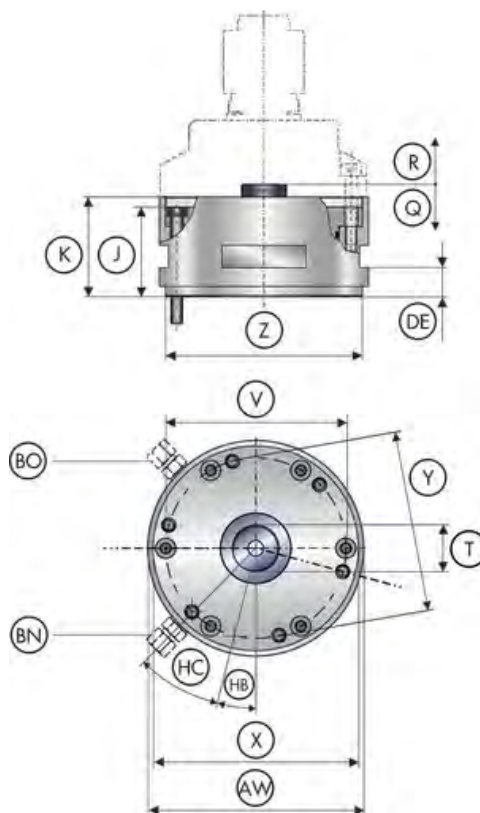


Fig. 2

Size		XXS-4		5-7	
		Without spring	With spring	Without spring	With spring
Max. axial drawtube force [kN]		35		45	
Max. actuating torque [Nm]		56	44	51	47
Max. actuating pressure [bar]		56		51	
Spring draw force axial [kN]			4		4
Spring release pressure [bar]			12		8
Reserve stroke axial [mm]	Q	3,5	1,5	3,5	1,5
Release stroke axial [mm]	R	4	2	4	2
Interface	X	Ø 131 H6		Ø 219 H6	
Interface hole circle	Y	LK Ø 116 [6 x M8]		LK Ø 192 [6 x M10]	
Connecting thread outside	T	M30 x 1,5			
Height [mm]	J	62			
Overall [mm]	K	68,5		76	

ms dock / hs dock – Technical data

Size		XXS-4		5-7	
Variant		Without spring	With spring	Without spring	With spring
Outer -Ø	AW	139		230	
Bolt hole circle	V	LK Ø 116 [6 x M8]		LK Ø 192 [6 x M10]	
Centering edge [mm]	Z	131		219	
Clamping edge height [mm]	DE	20			
Release	BN	[1/8"]			
Clamping	BO	[1/8"]			
Release via base plate [°]	HC	30		33	
Clamping via base plate [°]	HB	15		13,5	
Weight [kg]		9		18	
In stock		✓	-	-	-
Order no.		3023/0001	3023/0002	3023/0003	3023/0004

*) Example: 0.051l/[5l/60sec.] = 0.612 sec. [Hub 4.5mm]



WARNING!

Risk of injury!

Using false technical data can lead to serious personal injury and property damage.

- The technical data [label on the product, assembly drawing] must be observed and may not be modified by the operator!

Draw force diagram

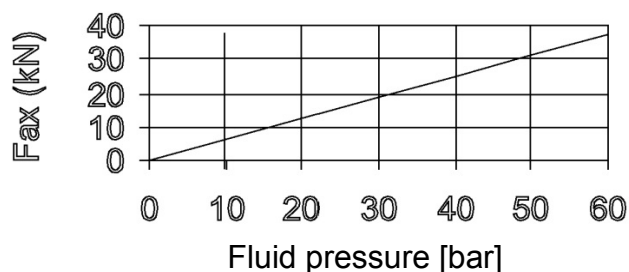


Fig. 3

3.3 Operating conditions

Environment	Specification	Value	Unit
	Temperature range	15 - 65	°C

Mechanical actuating In each possible operating condition the maximum draw force and compressive force may not be exceeded!

3.4 Power specifications



NOTE!

Material damage if the power specifications do not agree!

If the power specifications of clamping device, machine adapter and machine do not agree, severe damage extending to total damage can occur.

- Only operate clamping devices and adapters in machines with the same power specifications.

Information on maximum clamping force and draw tube force is provided on the clamping device and the adapter.

3.5 Check

Static test Used coefficient: **1.25**

3.6 Type designation



The type designation is on the product and includes the following information:

- 1 ID no. [marked with the # symbol]
- 2 Maximum speed [rpm]
- 3 Maximum clamping force [kN]

Fig. 4

4 Structure and function

4.1 Overview ms dock

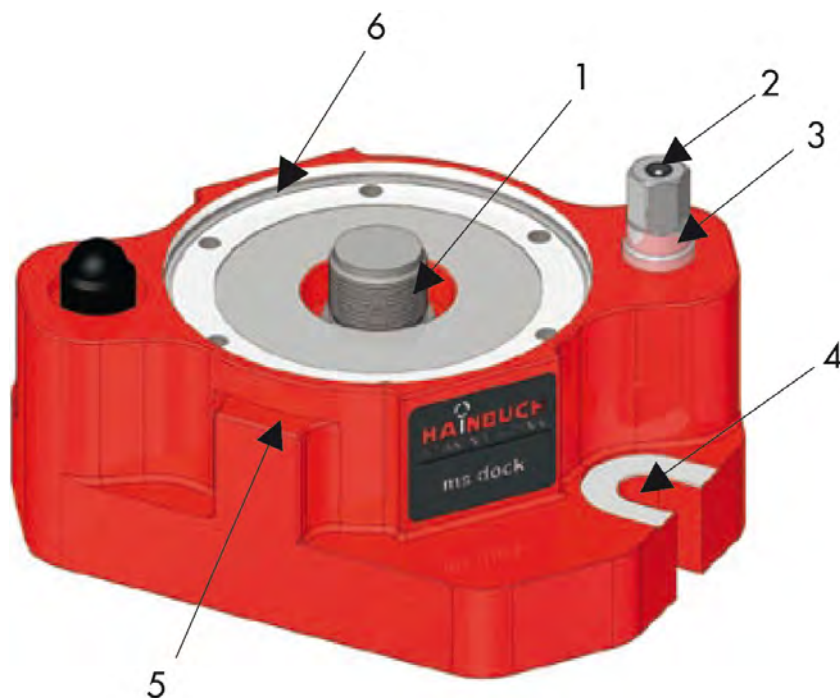


Fig. 5

1. Connecting thread for clamping device actuation
2. Central lubricating nipple, optimal draw-in force due to perfect lubrication
3. Actuating screw
4. Screw slots for mounting
5. Supporting surface for additional holding clamps
6. Interface with cylindrical fit

4.2 Overview hs dock

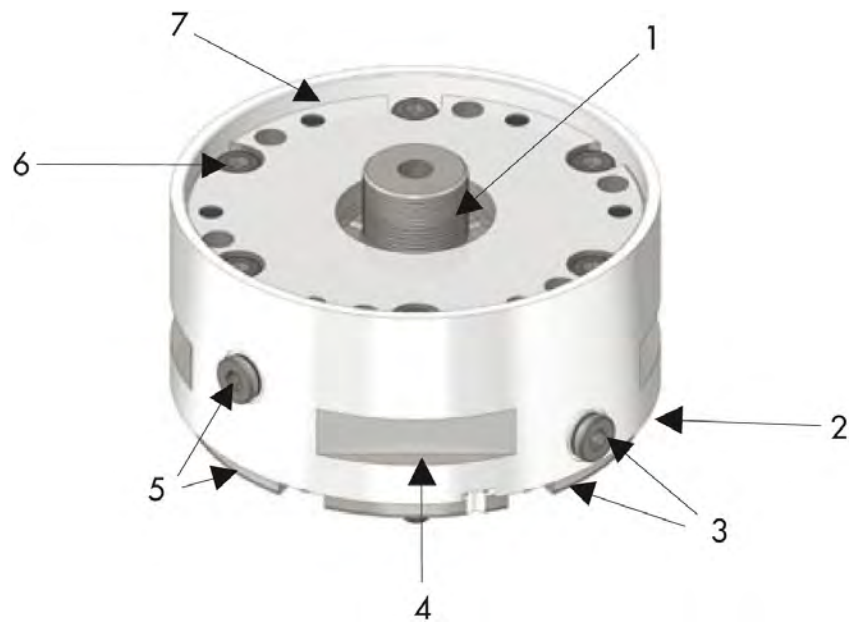


Fig. 6

1. Connection thread for clamping device actuation
2. \varnothing for location in the base plate
3. Connections on the side or base to release the clamping
4. Supporting surface for additional holding clamps
5. Connections on the side or base to actuate the clamping
6. Mounting screws
7. Interface with cylindrical fit

4.3 Brief description

Complete machining made easy:

You can not only use our MANDO segmented mandrels on the lathe, you can also use them in stationary mode. Simply screw the mandrel onto the ms dock [manual actuated] or hs dock [hydraulically actuated] and you can clamp your work piece from the inside, stationary mode.

Precise, without vibration and with minimum set-up effort. The extremely wear-resistant segmented clamping bushing of casehardened chromium-nickel-steel with the rubber between the segments, especially developed by HBAINBUCH, makes it possible. The hand-actuated ms dock in conjunction with the stationary MANDO segmented mandrels is ideal for machining centers, measuring machines, radial drill presses, parallel and angle plate clampings or clamping on dividing heads.

hs dock is an absolute powerhouse that enables hydraulic implementation of MANDO segmented mandrels on machining centers. Media supply can be freely selected. It is actuated either from the side or via a base plate from below. Perfect when automation is involved.

Key advantages.

- Mandrels can be used on the machining center
- Ideal for 5-sided machining
- Clamping range from Ø 8 – 120 mm with only 8 mandrel sizes
- Play-free centering even at bore tolerances up to ± 0.2 mm
- Typical HAINBUCH features, such as user friendly set-up, parallel clamping, optimal power conversion, extreme rigidity and supreme holding power, as well as minimal wear and tear.

4.4 Optional Accessories

The accessories described here are not included in the scope of delivery.

Specially developed accessories are available for each product. Trouble-free and precise function of HAINBUCH products is only ensured when using original HAINBUCH accessories.

Lubricating grease and grease gun are required for cleaning and preservation of the product.

4.4.1 Grease



Fig. 7

The universal grease for chuck and mandrel lubrication is supplied in a 1000g can. The order number for the universal grease is 2085/0003; it can be ordered from HAINBUCH.

4.4.2 Grease gun



Fig. 8

The grease gun is filled with universal grease, which is pressed into the clamping device. The grease gun has a pointed mouthpiece. The order number for the grease gun is 2086/0004; it can be ordered from HAINBUCH.

4.4.3 Multiple clamping pallet



WARNING!

Risk of injury due to uncontrolled movement of the hydraulic connection!

When connecting the hydraulic with a HAINBUCH base plate or a self-constructed base plate and the use of rapid action coupling an automatic movement may occur. This can result in serious injury.

- Connect the rapid action coupling only with extreme vigilance.



Fig. 9

For size 65 a special multiple clamping pallet has been developed.

- Connecting material is in scope of delivery
- Mounting of the hydraulic base plate by clamping edge.

The multiple clamping pallet is available in several models and can be ordered separately:

Multiple clamping pallet for HYDROK size 65	Dimensions (L x W x H)	Order number
2 times	360 x 180 x 35	1205/0001
4 times - serie	720 x 180 x 35	1205/0002
4 times - square	360 x 360 x 35	1205/0003

4.4.4 Pallet system



WARNING!

Risk of injury due to uncontrolled movement of the hydraulic connection!

When connecting the hydraulic with a HAINBUCH base plate or a self-constructed base plate and the use of rapid action coupling an automatic movement may occur. This can result in serious injury.

- Connect the rapid action coupling only with extreme vigilance.

The actuating unit can be mounted on a pallet.

The pallet is available in several models and can be ordered separately.

4.4.5 Adaption clamping device

On the actuation unit several products may be adapted:

- Segmented mandrels
 - MANDO T211
 - MANDO T212
- Centric vise ZS-R

The adaption clamping devices may be ordered at HAINBUCH.

4.4.6 Adaption set



Fig. 10

The adaption set is usable for manual, hydraulic and pneumatic actuation of a ZS-R.

The order number for the adaption set is 2038/0003; it can be ordered from HAINBUCH.

4.4.7 Key

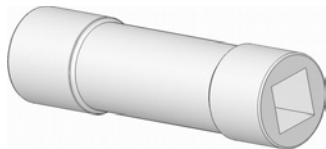


Fig. 11

The key has the order number 40460.02/0003; it can be ordered from HAINBUCH.

5 Transporting, packaging and storing

5.1 Safety instructions for transporting

Unbalanced package



WARNING!

Danger of falling due to an unbalanced package

Packed goods can have an unbalanced package. If attached incorrectly the package can tip and cause life-threatening injuries.

- Note the markings on the packages.
- Attach the crane hook in such a manner that it is located above the center of gravity.
- Carefully lift and see if the load tilts. If necessary change the attachment.



Transport!

- For transport always use a suitable clamping means / crane.
- Make sure that a rolling / falling of the clamping device is not possible.

5.2 Symbols on the packaging



Fragile

Identifies packages with fragile or sensitive contents. Handle the packed goods with care; do not allow them to fall, and do not subject them to impact.



Protect from moisture

Keep packed goods dry and protected against moisture.

5.3 Transport inspection

Check delivery immediately upon receipt to ensure that delivery is complete and to identify any transport damage.

Proceed as follows if there is apparent external damage:

- Do not accept the delivery, or only accept it with reservation.
- Note the extent of transport damage on the transport documents or on the transport company's delivery ticket.
- Submit a complaint.



Report any defect as soon as it is detected. Claims for damage compensation can only be enforced during the applicable periods for giving notice of lack of conformity.

5.4 Unpacking and inner-company transportation



The clamping device is packed vertically and has threaded bores in the end face.

To safely lift the clamping device out of the package it must be hooked into a crane depending on the weight.

For transporting with transport trolley the clamping device must be positioned in standing condition. Make sure that a non-slip pad has been laid.

All tools and optional accessories which are not in scope of delivery, are marked as optional in the installation manual

- Two people are required for this task.
- Special tools required:
 - Crane from weight more than 15 kg
 - Lifting eye bolt



Fig. 12

1. Screw lifting eye bolts into the thread in the end face of the clamping device.
2. Hook the load-handling equipment into the lifting eye bolts.
3. Use a crane to carefully lift the clamping device out of the transport packaging and put it down on a stable, level substrate.

5.5 Packaging

About the packaging

Individual packages are packed according to the expected transport conditions. Environmentally-friendly materials have been used exclusively for the packaging.

Packaging should protect the specific components from transport damage, corrosion, and other damage until installation. Therefore do not destroy the packaging, remove it just before installation.



The packed goods are sealed in foil airtight and packed in cartons. See the »Technical Data« section for the specific weight of the respective sizes.

Handling packaging materials

Dispose of packaging materials in accordance with the respectively valid statutory regulations and local guidelines.



NOTE!

Improper disposal causes environmental damage!

Packaging materials are valuable raw materials and in many cases they can be reused, or they can be effectively treated and recycled.

- Dispose of packaging materials in an environmentally responsible manner.
- Comply with locally applicable disposal guidelines. If necessary commission a specialized company to dispose of packaging.

5.6 Storing



Under certain circumstances instructions for storage and subsequent storage are affixed to the packages that extend beyond the requirements cited here.

Comply with these instructions accordingly.

Storage of packages Only store packages under the following conditions:

- Do not store outdoors.
- Store in a dry and dust-free location
- Do not expose to aggressive media
- Protect from direct sunlight
- Avoid mechanical vibration
- Storage temperature: 15 bis 35 °C
- Relative humidity: max. 60 %
- For storage periods longer than 3 months:
 - Check the general condition of all parts and the packaging at regular intervals.
 - Touch up or re-apply anti-corrosion agents as needed

Subsequent storage of the clamping device

Only re-store the clamping device under the following conditions:

- Thoroughly clean the clamping device prior to subsequent storage [see section »Cleaning«]
- Thoroughly oil and grease the clamping device. [see section »Cleaning«]
- Store the clamping device in airtight foil
- The clamping device must be stored securely in position. If this is not guaranteed, use a suitable container for the clamping device or equip the shelf with a circumferential securing edge.

6 Assembly



WARNING!

During the initial installation of the clamping device severe injuries may occur.

- The initial installation must be done only by qualified personnel.
- All screws remaining in the clamping must be tightened firmly.
- All tools and keys must be removed after installation.

6.1 Pre-consideration

- Screws are tightened according to the size of the screw and the general torque.
To avoid axis-parallel warpage under load and to get stiffness turn in the screws evenly.
- To avoid precision error clean the screw joint surfaces and also the mating surfaces, see »Maintenance«.
The ex works wetting of the plate surfaces and the clamping element is only corrosion protection. It's not functionally lubricated.
- The insertion of lubricant is provided only on the mechanical surfaces. Pay attention to the instructions for lubricants in the chapter »Maintenance«.
- Avoid too much lubricant on the bearing surface, as this can cause face runout.
- Seal rings (e.g. o-ring, quad-ring seal) and sealing surfaces must be lubricated.
Note the information in the chapter »Maintenance«.
- Note that the function surfaces (plate surface, mating surface, cone surface and seal surface) may not be damaged.



CAUTION!

Wear safety shoes during the assembly and maintenance work.

Make sure that the starting of the spindle is impossible.

6.2 Preparations

The total weight of the actuating unit depends on the size and can be as much as 15 kg.

Depending on the weight, to safely lift the actuating unit out of the package and position it in the machine it must be hooked into a crane.



WARNING!

Danger of injury due to falling components!

When mounting components can fall and cause severe injury and material damage.

- Two people are always required for this task.
- Use a crane.

6.3 Assembling of the actuating unit



Risk of injury!

Contamination of the mechanism can influence/reduce the stroke, thus the clamping force is reduced and thus, the work piece is not properly tightened and can be thrown out.

- Clean the product regularly [see chapter »Maintenance and service«].



Risk of injury!

If the clamping pressure is too low clamped work piece may be thrown out.

If the clamping pressure is too high severe damages of the components of the clamping device may occur the throwing out of the work piece.

- Before operation set the operation pressure back to operation level.
- The operating pressure should be checked and adjusted regularly!
- The dimension of the work pieces should be checked regularly [clamping- \emptyset]!



Transport!

- For transport always use a suitable clamping means / crane.
- Make sure that a rolling / falling of the clamping device is not possible.

6.3.1 Installation of the actuating unit ms dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg



Clean the fitting areas at stationary chuck and machine table before each installation!

1. Put the actuation unit ms dock on the machine table / multiple clamping pallet / pallet system.
2. Screw in the mounting screws through the actuation unit into the machine table and tighten them only finger tight.

Check the face run:

3. Adjust the dial indicator at the front side of the actuating unit and check the face run. Find the 0-position
4. Tighten the mounting screws according to the manufacturers order.

6.3.2 Installation of the actuating unit hs dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg

Depending on the model of the actuating unit the hydraulic connection is

- usually by the base plate or
- alternatively at the side of the stationary chuck

The actuating unit can be assembled on a multiple clamping pallet, on a pallet system or into a machine.



Caution!

Property damage due to missing seal rings

By removing the seal rings the clamping device may become leaky.

- When remove the plug the seal ring must remain in the actuating unit.

1. Remove the plug from the rear side of the actuating unit.



Property danger due to not fitting hydraulic connections!

With not fitting of the hydraulic connections of base plate and actuating unit the O-rings can be destroyed!

- When connecting the hydraulic by the base plate, make sure that the connectors for the hydraulic at actuating unit and pipe fit.
- Please use preferably the HAINBUCH pallet system or the HAINBUCH multiple clamping pallet [see optional accessories].

2. Connect the hydraulic preferable at the hydraulic connection at the rear side, alternatively at the hydraulic connection at the side.
3. When using the hydraulic connection at the side, insert an expander into the free lower hydraulic connection.



Clean the fitting areas at stationary chuck and machine table before each installation!

4. Put the actuation unit on the machine table.
5. Screw in the mounting screws through the actuation unit into the machine table and tighten them only finger tight.

Check the face run:

6. Adjust the dial indicator at the front side of the actuation unit and check the face run. Find the 0-position
7. Tighten the mounting screws according to the manufacturers order.

6.3.3 Tandem function of the actuation unit hs dock

With the tandem function, the piston area can be doubled, and that is ideal for pneumatics and hydraulic systems which can achieve only half of the required pressure.



Note that for hydraulic applications that with the the tandem function the clamping time can be doubled!



CAUTION!!

Material damage due to improper clamping forces!

Due to too high clamping forces the actuation unit or the adaptation clamping device can be damaged.

- The maximum clamping force of actuation unit and adaptation clamping devices must not be exceeded.

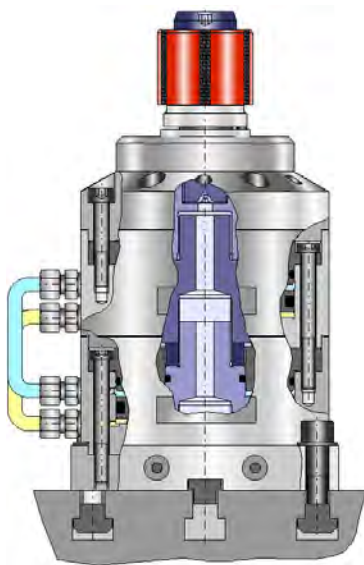


Fig. 13

With each hs dock a tandem function can be implemented by the side connection of the two actuation units.

- The cylinder chambers are to be connected together by hoses or pipes outside of the cylinders.
- The lower part of the tandem cylinder can be actuated via the base plate or on the side ports.

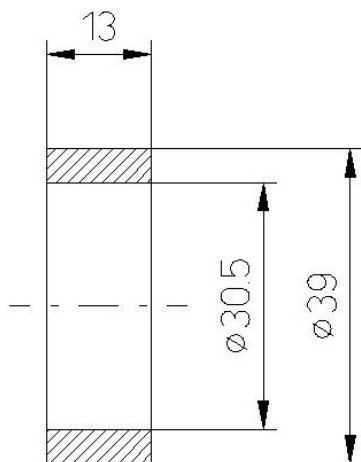


Fig. 14

- Between the connection threads a spacer ring must be placed. The spacer ring must have:
 - an outer diameter of 39 mm
 - an inner diameter of 30.5 mm
 - a height of 13 mm

6.3.4 Assemble the adaption clamping device to ms dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg



Clean the fitting areas at actuation unit and adaption clamping device before each assembly!



Fig. 15

MANDO T211

1. Move the connection threads of the actuating in the front position.
2. Screw the mandrel by its thread on the pre-assembled actuation unit.
3. Screw in the mounting screws and tighten them firmly.



Fig. 16

4. Place the segmented clamping bushing on the mandrel's cone.



Fig. 17

5. Screw in the draw bolt and tighten it firmly.



Fig. 18

6. Assemble the end-stop.



Fig. 19

MANDO T212

1. Move the connection threads of the actuating in the front position.
2. Put the segmented mandrel on the pre-assembled actuation unit.



Fig. 20

3. Place the segmented clamping bushing on the mandrel's body.



Fig. 21

4. Place the coupling ring.



Fig. 22

5. Put on the trimming sleeve / end-stop.



Fig. 23

Centric vise ZS-R-125

1. Move the connection threads of the actuating in the front position.
2. Screw the threaded adapter on the actuation unit.



Fig. 24

3. Assemble the spacer flange.



Fig. 25

4. Put the centric vise ZS-R-125 on the actuation unit.

6.3.5 Assemble the adaption clamping device to ms dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg



Clean the fitting areas at actuation unit and adaption clamping device before each assembly!



Fig. 26

MANDO T211

1. Move the connection threads of the actuating in the front position.
2. Put the mandrel on the pre-assembled actuation unit.
3. Screw in the mounting screws and tighten them firmly.



Fig. 27

4. Place the segmented clamping bushing on the mandrels cone.



Fig. 28

5. Screw in the draw bolt and tighten it firmly.



Fig. 29

6. Assemble the end-stop.



Fig. 30

MANDO T212

1. Move the connection threads of the actuating in the front position.
2. Put the segmented mandrel on the pre-assembled actuation unit.

ms dock / hs dock – Assembly



Fig. 31

3. Place the segmented clamping bushing on the mandrels body.



Fig. 32

4. Place the coupling ring.



Fig. 33

5. Put on the trimming sleeve / end-stop.



Fig. 34

Centric vise ZS-R-125

1. Move the connection threads of the actuating in the front position.
2. Screw the threaded adapter on the actuation unit.



Fig. 35

3. Assemble the spacer flange.



Fig. 36

4. Put the centric vise ZS-R-125 on the actuation unit.



WARNING!

Slipping danger due to escaping hydraulic fluid!

Escaping (sprayed out) hydraulic oil can cause serious injuries.

- Make sure that all o-rings/seals for the hydraulic / pneumatic interfaces are available and in undamaged condition.
- Make sure that the clamping device is empty and leakage of hydraulic fluid is avoided.

6.4 Work piece



WARNING!

Risk of injury due to thrown out parts!

During clamping of the work piece and the processing parts can be thrown and cause severe injuries and property damage.

- Check the clamping diameter of the work piece.
- Tighten only work pieces that meet the dimensional requirements.
- For clamping very long work pieces use in addition a tailstock / a steady rest for support.
- Do not exceed the maximum permissible clamping force.
- Make sure that the applied clamping force is set correctly [neither too high nor too low].



CAUTION

Risk of injury!

When placing the work piece:

- Make sure that the hands / fingers may not be clamped between the flange and the work piece!

6.5 Inspections



NOTE!

Material damage due to damaged clamping devices!

A damaged, incomplete, or unbalanced clamping device can significantly damage or even destroy the machine tool and the work piece.

- Only install undamaged, complete, and precisely balanced clamping devices.
- If in doubt contact the manufacturer.

Ensure the following points prior to each installation and start-up of the clamping device:

- All cylindrical screws of the clamping device must be present and tightened with the proper tightening torque.
- All rubber segments must be intact; this means that they are neither torn, nor are they porous at any point.
- All edges and bearing surfaces are intact; this means that they are neither broken nor do they show any signs of wear.
- The set speed of the machine tool should not exceed the maximum permissible speed of the clamping device [stationary chucks: $n=0!$].
- The maximum draw tube force specified on the perimeter of the clamping device must not be exceeded.
- The clamping pressure of the machine must be sufficiently high.
- All mounting tools must be removed from the interior of the machine.
- Clamping device and work piece must be compatible – Check the clamping diameter regularly.
- The work piece must be clamped into the clamping device with sufficient work piece tension.

6.6 Control of the stroke position



WARNING!

Crushing danger from moving parts!

Crushing danger from moving parts during controlling the stroke position!

Gaps, caused while controlling the stroke position, can cause severe injury.

- Only do the controlling of the stroke position with assembled changing parts.
- Only run the machine in set-up mode or jog mode.
- Do not reach into moving parts or handle moving parts during operation.
- Note the gap dimensions of moving parts.
- Wearing of gloves / [PSA] is required!

6.7 Activities after production is concluded

1. Move the clamping device into unclamped position.
2. Switch off the machine tool and safeguard it from being switched on again.
3. Open the protective door or hood.
4. Clean the clamping device and a possibly mounted adaptation clamping device and adapter of chips and production residues using a soft, lint-free cloth and oil them lightly.
5. Close the protective door or hood.

7 Disassembly

If there is break in production that lasts longer than 3 days, the clamping device must be disassembled and properly stored in accordance with the manufacturer's specifications [see section »Transport, packaging, storage«].

Prior to disassembling:

- Put the machine in set up mode.
- Remove fuels and auxiliary materials, as well as residual processing materials and dispose of these items in an environmentally-responsible manner.

7.1 Safety

Safeguarding against restart



DANGER!

Life-threatening danger if restarted without authorization

When disassembling there is danger of the energy supply being switched on inadvertently. This poses a life-threatening hazard for persons in the danger zone.

- Prior to starting the tasks switch off all energy supplies and safeguard them from being switched on again.



WARNING!

Danger of injury due to falling components!

When mounting components can fall and cause severe injury and material damage.

- Two people are always required for this task.
- Use a crane.
- For assembly on a vertically suspended spindle always use a suitable mounting aid.



Transport!

- For transport always use a suitable clamping means / crane.
- Make sure that a rolling / falling of the clamping device is not possible.

7.2 Disassembling of the actuating unit

7.2.1 Disassemble the adaption clamping device from ms dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg



Clean the fitting areas at actuation unit and adaption clamping device before each disassembly!

MANDO T211

1. Move the connection threads of the actuating in the front position.
2. Disassemble the end-stop.



Fig. 37



Fig. 38

3. Loosen and remove the draw bolt.



Fig. 39

4. Remove the segmented clamping bushing from the mandrels cone.



Fig. 40

5. Loosen and remove the mounting screws.
6. Unscrew the mandrel by its thread from the actuation unit.



Fig. 41

MANDO T212

1. Move the connection threads of the actuating in the front position.
2. Remove the trimming sleeve / end-stop.

ms dock / hs dock – Disassembly



Fig. 42

3. Remove the coupling ring.



Fig. 43

4. Remove the segmented clamping bushing from the mandrel's cone.



Fig. 44

5. Remove the mandrel from the pre-assembled actuation unit.



Fig. 45

Zentrischspanner ZS-R-125

1. Move the connection threads of the actuating in the front position.
2. Remove the centric vice ZS-R-125 from the actuation unit.



Fig. 46

3. Disassemble the spacer flange.



Fig. 47

4. Unscrew the threaded adapter from the actuation unit.

7.2.2 Disassemble the adaption clamping device from hs dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg



Clean the fitting areas at actuation unit and adaption clamping device before each disassembly!

MANDO T211

1. Move the connection threads of the actuating in the front position.
2. Disassemble the end-stop.



Fig. 48



3. Loosen and remove the draw bolt.



Fig. 49



4. Remove the segmented clamping bushing from the mandrel's cone.



Fig. 50

ms dock / hs dock – Disassembly



Fig. 51

5. Loosen and remove the mounting screws.
6. Remove the mandrel from the actuation unit.



Fig. 52

MANDO T212

1. Move the connection threads of the actuating in the front position.
2. Disassemble the trimming sleeve / end-stop.



Fig. 53

3. Remove the coupling ring.



Fig. 54

4. Remove the segmented clamping bushing from the mandrels cone.



Fig. 55

5. Remove the mandrel from the pre-assembled actuation unit.



Fig. 56

Centric vise ZS-R-125

1. Move the connection threads of the actuating in the front position.
2. Disassemble the centric vise ZS-R-125 from the actuation unit.



Fig. 57

3. Disassemble the spacer flange.



Fig. 58

4. Unscrew the threaded adapter from the actuation unit.

7.2.3 Disassembly of the actuation unit ms dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg

1. Loosen and remove the mounting screws.
2. Remove the actuation unit from the machine table.



Clean the fitting areas at actuation unit and adaption clamping device after each disassembly!

7.2.4 Disassembly of the actuation unit hs dock

Two people are required for this task.

Special tools required:

- Allen wrench
- Crane and eye bolts from weight 15 kg



WARNING!

Risk of injury due to unintentional start-up of the tool spindle!

Unexpected start up of the tool spindle can cause severe injury.

- Make sure that the system is pressure-free and that a restart of the machine can be excluded!



CAUTION!

Slipping danger due to leaking hydraulic fluids!

Leaking [sprayed out] hydraulic oil can cause serious injury.

- Make sure that all O-rings / seals for the hydraulic and/or pneumatic connections are available and undamaged.
- With type 2000 move the actuation unit in clamping reserve before opening the hydraulic.
- Make sure that the clamping device is emptied [pressure relief screw] and leakage of hydraulic fluid is avoided!
- Dispose the accumulated fluids.

4. Loosen and remove the mounting screws.
5. Remove the actuation unit from the machine table / the pallet system.



Clean the fitting areas at actuation unit and mounting surfaces after each disassembly!

7.3 Subsequent storage of the clamping device

The clamping device must be cleaned and treated with corrosion protection for subsequent storage [see section »Cleaning«].



NOTE!

The storage conditions are specified in the section »Transport, packaging and storage«.

7.4 Disposal

If a return or disposal agreement has not been concluded, then recycle disassembled components.



CAUTION!

Risk of injury due to leaking fluids!

Hydraulically or pneumatically operated clamping devices may contain residues of liquids. Uncontrolled leakage of fluids can lead to severe injuries.

- Open the pressure relief screw and drain remaining liquid.
- Discard the liquid.



NOTE!

Improper disposal causes environmental damage!

Lubricants and other auxiliary materials are subject to treatment as special waste, and should only be disposed of by approved specialist companies!



NOTE!

Composite materials!

For disposal clamping devices which include composite materials [mineral cast, CFK] must be returned at HAINBUCH!

Local municipal authorities or specialized disposal companies provide information on environmentally-responsible disposal.

8 Maintenance

Environmental protection

Comply with the following instructions for environmental protection when performing maintenance work:

- At all lubricating points where lubricant is applied by hand, remove escaping, used, or excess grease, and dispose of it in accordance with applicable local regulations.
- Collect used oil in suitable containers and dispose of it in accordance with applicable local regulations.

8.1 General

Cleanliness of the appropriate end-stop as well as the guidance diameters are conditions for reaching the concentricity and perpendicularity tolerances. Clean these surfaces with an appropriate cleaner.



CAUTION

Danger of injury due to improper handling of cleaners!

Improper handling of cleaners can cause health impairments.

- Always comply with the safety data sheets and guidelines provided by the manufacturer of the cleaning agent for handling/using the cleaners.



CAUTION

Danger of injury due to loss of clamping force!

Fouling of the clamping device can cause the clamping device to lose considerable clamping force.

- Always comply with the maintenance and cleaning intervals specified in this manual.
- In conjunction with the maintenance intervals, regularly check the maintenance status of the clamping device through clamping force measurements.



Risk of injury!

Slipping while the lubricating with a grease gun can lead to severe cuts!

8.2 Cleaning



NOTE!

Material damage if cleaned with compressed air!

Cleaning the clamping device with compressed air can force metal chips into thread and grooves. This can damage or even destroy the clamping device.

- Never clean the actuation unit with compressed air!

- Auxiliary material required:
 - Ester-free, non-polar cleaning agent
 - Soft, lint-free cloth.
- 1. Disassembly of the actuation unit ms dock from the machine table [see chapter »Disassembly ms dock«].



CAUTION!

Risk of injury by not allowed partly disassembly of the actuation unit!

When partly disassembling of the actuation unit cleaning / service, the actuation unit may be damaged or even destroyed.

- The partly disassembly may only be done by HAINBUCH service personnel.

- 2. Clean all the components listed below with cleaning agents and a cloth; remove all oil and grease residues:
 - Base plate
 - Reception for the clamping device
 - Mounting screws

8.3 Preservation

- Special tools required:
 - Universal grease 2085/0003
 - Grease gun
 - Oil stone
 - Soft, lint-free cloth
1. Hone all the bearing surfaces of the actuating unit with an oil stone.
 2. Lightly grease all cylindrical screws. Remove excess grease with a cloth.
 3. Lightly grease all interior and outer surfaces of the actuating unit. Remove excess grease with a cloth.
 4. Pack the actuation unit airtight in foil. Place it on a level, impact-free storage location and safeguard it from falling.

8.4 Use of lubricant

With the usage of lubricant you may only use grease that corresponds to the requirements concerning bond, pressure-stability and solubility in lubricating coolant. In addition no dirt particles may be in the grease; they cause run errors if they come in in-between two mating surfaces.

We recommend for this the following lubricant:

HAINBUCH grease

See optional Accessories

Alternatives:

Lubricant	Manufacturer	Product
Universal grease	OKS	OKS 265
	MicroGleit	GP 355
	Klüber	QNB 50
	Zeller & Gmelin	DIVINOL SD24440
	Bremer & Leguill	RIVOLTA W.A.P.
Special grease	Klüber	MICROLUBE GL 261

8.5 Maintenance schedule

Maintenance tasks are described in the sections above that are required for optimal and trouble-free operation.

If increased wear is detected during regular inspections, then reduce the required maintenance intervals according to the actual indications of wear.

Contact the manufacturer, [see the service address on the back] if you have questions concerning maintenance tasks and intervals.

Interval	Maintenance task
Daily	Visual inspection and complete cleaning in case of heavy contamination [see section »Cleaning«]
	Remove clamping element. Clean and lubricate cone, coupling and clamping element [clamping head, segmented clamping bushing]
	Clean the coupling area [see section »Cleaning«] daily and additional when needed.
	General visual inspection, especially to the clamping and locating surfaces to detect early any damage at the actuation unit, adaption clamping device and on the rubber at the clamping element.
Weekly	Clean the reception and mounting area [see section »Cleaning«]
Every 6 months	Completely disassemble and clean the actuation unit [see section »Cleaning«]

- Depending on the amount of dirt, a complete cleaning of all moving parts are to be performed.
- Within the maintenance and cleaning intervals, the seals must be checked for damage and replaced if necessary. Only use original spare parts from HAINBUCH.



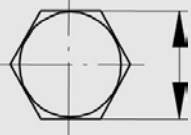
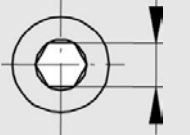
For proper operation of the coolant feed a pre-filtering with duplex filter (mesh size 100 µm, PI 3754) is necessary. The duplex filter is mounted on the coolant cleaning system.

8.6 Bolt torque

Metric ISO thread

The guide values for bolt tightening torque for achieving the highest permissible pre-tension for metric ISO thread are specified in Nm in the table.

- Total friction coefficient $\mu_{\text{tot}} = 0,12$

Diameter	 [mm]	 [mm]	Torque for screw quality 10.9 [Nm]
M 4	7	3	4
M 5	8	4	7
M 6	10	5	12
M 8	13	6	25
M 10	17	8	50
M 12	19	10	100
M 16	24	14	220
M 20	30	17	400
M 24	36	19	600

The table shows the prescribed values.

Knowledge of the applicable guidelines and configuration criteria are the prerequisites.

9 Trouble shooting

Possible fault causes and the tasks to correct these faults are described in the following section.

If faults occur more frequently, the maintenance intervals must be shortened to correspond to the actual system load.

Contact the manufacturer if there are faults that cannot be corrected by following the instructions below; see the service address on the back of this operating instruction.

9.1 Safety

Trouble shooting

The following always applies:

1. For faults that pose a direct danger for personnel and or property immediately execute the emergency-stop function of the machine.
2. Determine the cause of the fault.
3. If correction of the fault requires work in the danger zone, put the machine in set-up mode.
4. Immediately inform the responsible parties at the installation site of the fault.
5. Depending on the type of fault, either have authorized specialized personnel correct the fault, or correct it yourself.



The trouble shooting table provided below lists personnel who are authorized to correct the fault.

6. If there is a fault that was not caused by the clamping device the cause of the fault may be in the machine area. See the operating manual for the machine in this regard.

9.2 Trouble shooting table

Fault	Possible cause	Fault correction	Corrected by
Clamping force is too low	Adaption clamping device has not been screwed on till end stop	Loosen and remount the adaption clamping device [see section »Assembly«].	Specialist
	Adaption clamping device not suitable	Disassemble the not suitable adaption clamping device, assemble a suitable adaption clamping device [see section »Technical data«]	Specialist
	Work piece tears too much	Only use work pieces that are solid enough for machining	Specialist
	Contaminated clamping cone	Clean the clamping cone and lubricate it lightly.	Specialist
	Pressure is too low	Adjust the pressure to the correct value	Specialist
	Contaminated thread	Rinse the chips in the thread only in release position	Specialist
	Thread is damaged	Chips in the thread	HAINBUCH Service
Dimensional deviation on the work piece	Adaption clamping device not suitable or false assembled	Disassemble the adaption clamping device, assemble a suitable adaption clamping device [see section »Technical data«]	Specialist
	Adaption clamping device not suitable	Loosen and remount the adaption clamping device [see section »Assembly«].	Specialist
	Contaminated clamping cone	Clean the clamping cone and lubricate it lightly.	Specialist
	Pressure is not correct	Adjust the pressure to the correct value	Specialist
Rectangular position of the processing is incorrect	Contamination of the bearing surface of actuation unit, adaptation clamping device or machine table	Remove and clean the actuation unit, adaptation clamping devices and machine table.	Specialist

Fault	Possible cause	Fault correction	Corrected by
	Damage to front surface of actuation unit, adaptation clamping device or machine table	Eliminate the damage.	Specialist
Clamping thread sluggish	Thread is not greased	Lubricate at the grease nipple with grease	Specialist
	Thread contaminated	Move into release position and wash the chips in the thread	Specialist
	Thread damaged	Chips in thread	HAINBUCH Service
Chatter marks on the clamping surface	Rough bearing of the actuating unit	Eliminate the roughness	Specialist
	Machining forces too large	Fix the actuation unit with an additional clamping edge. Reduce the machining force to a valid level for clamping device and work piece.	Specialist

9.3 Start-up after corrected fault

After correcting the fault execute the following steps to start up again:

1. Reset the emergency-stop device
2. Acknowledge the fault on the machine tool controller
3. Ensure that no one is in the danger zone
4. Start the machine tool

10 Appendix

10.1 Service Hotline

Order Hotline

Quickly ordered and delivered. A call is all it takes:
+49 7144. 907-333

Schedule Hotline

Current status of your order? Just call:
+49 7144. 907-222

24h emergency call

Has there been a crash or other technical emergency?

Our experts are at your service around the clock:
+49 7144. 907-444

10.2 Representatives

The sales partners and service employees listed below are available for further consultation or support.

10.2.1 Europe

Austria

HAINBUCH in Austria GmbH
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Index

A	optional.....	24
Accessories.....	Pallet system.....	25
Adaption clamping device.....	Adaption set.....	26
Grease.....	Assembly.....	
Grease gun.....		24

Adaption clamping device MANDO T211 to hs dock.....	39	ms dock.....	33
Adaption clamping device MANDO T211 to ms dock.....	36	Intended use.....	9
Adaption clamping device MANDO T212 to hs dock.....	40	K	
Adaption clamping device MANDO T212 to ms dock.....	37	Key.....	26
Adaption clamping device ZS-R-125 to hs dock.....	42	M	
Adaption clamping device ZS-R-125 to ms dock.....	38	Maintenance schedule.....	60
hs dock - Tandem function.....	34	Multiple clamping pallet.....	25
Preparations.....	32	O	
Work piece.....	43	Operating conditions.....	20
B		Overview.....	
Bolt torque.....	61	hs dock.....	22
Brief description.....		ms dock.....	21
ms dock.....	23	P	
C		Packaging.....	29
Check.....	20	Personal protective equipment.....	
Cleaning.....	58	Hard hat.....	10
Control of the stroke position.....	45	Protective gloves.....	10
D		Protective goggles.....	10
Disassembly.....		Protective work clothing.....	10
Adaption clamping device from hs dock.....	50	Safety footwear.....	10
Adaption clamping device MANDO T211 from hs dock.....	51	Personnel requirements.....	8
Adaption clamping device MANDO T211 from ms dock.....	47	Power specifications.....	20
Adaption clamping device MANDO T212 from hs dock.....	52	Preservation.....	59
Adaption clamping device MANDO T212 from ms dock.....	48	R	
Adaption clamping device ZS-R-125 from hs dock.....	53	Representatives.....	
Adaption clamping device ZS-R-125 from ms dock.....	50	Africa.....	69
hs dock.....	55	America.....	68
ms dock.....	54	Asia.....	68
Disposal.....	56	Australia.....	69
E		Europe.....	65
Environmental protection.....	16	S	
I		Scope of delivery.....	6
Installation.....		Spare parts.....	6
hs dock.....	33	Special dangers.....	11
		Storing.....	30
		Structure.....	21
		Symbols on the packaging.....	27
		T	
		Transport inspection.....	28
		Transport, inner company.....	28
		Trouble shooting.....	62
		Trouble shooting table.....	63
		Type designation.....	20
		U	
		Unpacking.....	28

EC Declaration of conformity

EG-Konformitätserklärung im Sinne der EG-Richtlinie 2006/42/EG über Maschinen [Anhang II A] /

EC Declaration of conformity according to EC directive 2006/42/EC on machinery [Annex II A]

Original-Konformitätserklärung / Translation of original declaration of conformity

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Diese Erklärung bezieht sich nur auf die Maschine in dem Zustand, in dem sie in Verkehr gebracht wurde; vom Endnutzer nachträglich angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt. Die Erklärung verliert ihre Gültigkeit, wenn das Produkt ohne Zustimmung umgebaut oder verändert wird.

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user. The declaration is no more valid, if the product is modified without agreement.

Hiermit erklären wir, dass die nachstehend beschriebene Maschine
Herewith we declare, that the machinery described below

Produktbezeichnung / **hs dock / ms dock**
product denomination:

allen einschlägigen Bestimmungen der Maschinenrichtlinie 2006/42/EG entspricht.
is complying with all essential requirements of the Machinery Directive 2006/42/EC.

Angewandte harmonisierte Normen / Harmonised Standards used:

- EN ISO 12100:2011-03 Sicherheit von Maschinen – Allgemeine Gestaltungsgrundsätze
Safety of Machinery – Basic concepts
- DIN EN 1550:1997 Sicherheitsanforderungen für die Gestaltung und Konstruktion von Spannfuttern für die Werkstückaufnahme /
Safety requirements for the design and construction of work holding chucks

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