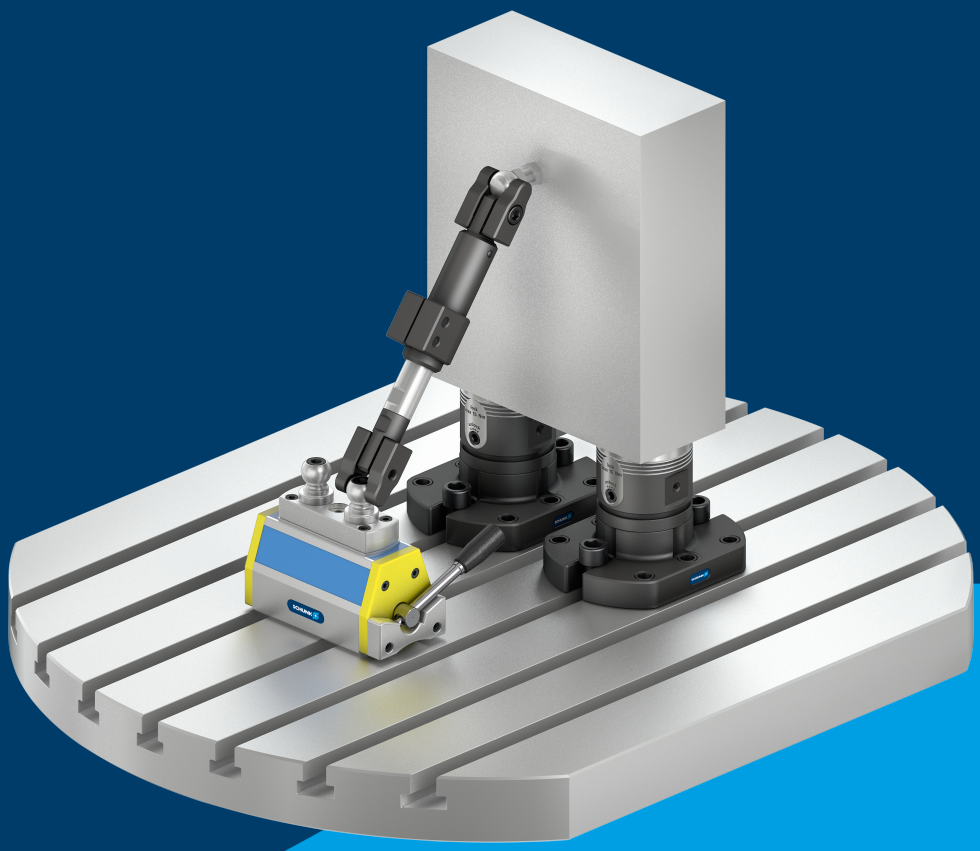


Modular system for manual workpiece direct clamping

VERO-S WDM-5X

Assembly and Operating Manual

Hand in hand for tomorrow

Imprint

Technical changes:
We reserve the right to make alterations for the purpose of technical improvement.

Document number: 1504808

Version: 02.00 | 19/01/2026 | en

Dear Customer,

Thank you for trusting our products and our family-owned company, the leading technology supplier of robots and production machines.

Our team is always available to answer any questions on this product and other solutions. Ask us questions and challenge us. We will find a solution!

Best regards,

Your SCHUNK team

Customer Management

Tel. +49-7572-7614-1300
Fax +49-7572-7614-1039

cmm@de.schunk.com

Please read the operating manual in full and keep it close to the product.

Table of Contents

1 General

1.1 About this manual

This manual contains important information for the safe, correct use of the product.

It is an integral part of the product and must be kept accessible for personnel at all times.

Personnel must have read and understood this manual before beginning any work. The observance of all safety notes in this manual is a prerequisite to ensure safe work processes.

The illustrations are intended to provide a basic understanding and may deviate from the actual version.

Besides this manual, other documents which apply are those listed under ▸ 1.1.2 [🗋 6]

1.1.1 Illustration of safety notes

To make risks clear, the following signal words and symbols are used for safety notes.

⚠ DANGER

Denotes a hazard with a high degree of risk that, if not avoided, will result in death or serious injury.

⚠ WARNING

Denotes a hazard with a medium degree of risk that, if not avoided, could result in death or serious injury.

⚠ CAUTION

Denotes a hazard with a low degree of risk that, if not avoided, could result in a minor or moderate injury.

NOTICE

Information about avoiding material damage.

1.1.2 Applicable documents

- General terms of business *
- Catalog data sheet of the purchased product *

The documents labeled with an asterisk (*) can be downloaded from **schunk.com/downloads**.

1.2 Warranty

The warranty is 12 months from the date of delivery from the factory, assuming appropriate use in accordance with the following conditions:

- Observe the applicable documents, ▸ 1.1.2 [🗋 6]
- Observance of the ambient conditions and operating conditions
- Observe the care and maintenance instructions

Parts touching the workpiece and wearing parts are not covered by the warranty.

* One cycle comprises one complete clamping procedure ("opening" and "closing").

1.3 Scope of delivery

- Direct workpiece clamping modules in the version ordered
- Assembly and Operating Manual

1.3.1 Accessories

(see catalog or data sheets when ordering separately)

Clamping pin type SPA 40, SPB 40, SPC 40, SPG 40
swing bolt PDSC M16
fitting screw PSC Ø 12 and PSC Ø 16
positioning arbor
Allen wrench
torque wrench

2 Basic safety notes

2.1 Intended use

The clamping systems VERO-S WDM-5X are intended for clamping workpieces and devices on machine tools and other suitable technical devices. This is implemented via modular components that can be combined for workpiece direct clamping, taking into account the defined technical data.

- The clamping systems may only be used on the basis of their technical data, ▶ 3 [🗋 13].
- The clamping systems are intended for industrial applications.
- Appropriate use of the product includes compliance with all instructions in this manual.

2.2 Not intended use

The VERO-S WDM-5X clamping system is not being used as intended if, for example:

- it is used as a pressing tool, a toolholder, a load-handling device or as lifting equipment.
- It is used for turning applications without consulting SCHUNK.
- It is used in working environments that are not permissible.
- People work on machines or technical equipment that do not comply with the EC Machinery Directive 2006/42/EC, disregarding the applicable safety regulations.
- The technical data specified by the manufacturer are exceeded during usage.

2.3 Constructional changes

Implementation of structural changes

Modifications, changes or reworking, e.g. additional threads, holes, or safety devices, can damage the product or impair its functionality or safety.

- Structural changes should only be made with the written approval of SCHUNK.

2.4 Spare parts

Use of unauthorized spare parts

Using unauthorized spare parts can endanger personnel and damage the product or cause it to malfunction.

- Use only original spare parts or spares authorized by SCHUNK.

2.5 Environmental and operating conditions

Required ambient conditions and operating conditions

Incorrect ambient and operating conditions can make the product unsafe, leading to the risk of serious injuries, considerable material damage and/or a significant reduction to the product's life span.

- Make sure that the product is used only in the context of its defined application parameters, ▸ 3 [🗋 13].
- Make sure that the product is a sufficient size for the application.
- Make sure that the contact surfaces of the interface are always clean.
- Make absolutely sure that no chips of any kind can enter the interface and that the interface does not fill with cooling emulsion, which is particularly possible with vertical positioning of the clamping pin axis. If the interface should fill with cooling emulsion, unlock and dry out the interface.
- Only use high-quality cooling emulsions with anti-corrosive additives during processing.

2.6 Personnel qualification

Inadequate qualifications of the personnel

If the personnel working with the product is not sufficiently qualified, the result may be serious injuries and significant property damage.

- All work may only be performed by qualified personnel.
- Before working with the product, the personnel must have read and understood the complete assembly and operating manual.
- Observe the national safety regulations and rules and general safety instructions.

The following personal qualifications are necessary for the various activities related to the product:

Trained electrician	Due to their technical training, knowledge and experience, trained electricians are able to work on electrical systems, recognize and avoid possible dangers and know the relevant standards and regulations.
Qualified personnel	Due to its technical training, knowledge and experience, qualified personnel is able to perform the delegated tasks, recognize and avoid possible dangers and knows the relevant standards and regulations.
Instructed person	Instructed persons were instructed by the operator about the delegated tasks and possible dangers due to improper behaviour.
Service personnel of the manufacturer	Due to its technical training, knowledge and experience, service personnel of the manufacturer is able to perform the delegated tasks and to recognize and avoid possible dangers.

2.7 Personal protective equipment

Use of personal protective equipment

Personal protective equipment serves to protect staff against danger which may interfere with their health or safety at work.

- When working on and with the product, observe the occupational health and safety regulations and wear the required personal protective equipment.
- Observe the valid safety and accident prevention regulations.
- Wear protective gloves to guard against sharp edges and corners or rough surfaces.
- Wear heat-resistant protective gloves when handling hot surfaces.
- Wear protective gloves and safety goggles when handling hazardous substances.
- Wear close-fitting protective clothing and also wear long hair in a hairnet when dealing with moving components.

2.8 Notes on safe operation

Incorrect handling of the personnel

Incorrect handling and assembly may impair the product's safety and cause serious injuries and considerable material damage.

- Avoid any manner of working that may interfere with the function and operational safety of the product.
- Use the product as intended.
- Observe the safety notes and assembly instructions.
- Do not expose the product to any corrosive media. This does not apply to products that are designed for special environments.
- Eliminate any malfunction immediately.
- Observe the care and maintenance instructions.
- Observe the current safety, accident prevention and environmental protection regulations regarding the product's application field.

Maintenance specifications

Follow the maintenance and care instructions. These instructions are based on a normal working environment. If the product is to be operated in an environment with abrasive dusts or corrosive or aggressive fumes or fluids, prior approval must be obtained from SCHUNK.

2.8.1 Holding force and screw strength

The holding force of the System is essentially limited by the strength of the screwed connections with which the clamping pin is connected to the pallet or device. On this basis fastening screws of the property class 12.9 are to be used only.

Only original SCHUNK Clamping-Pins are to be used.

When the clamping pin is used in the customer's own assembly device, the customer is to provide for a sufficiently dimensioned tap and satisfactory strength of the fastening material.

2.9 Transport

Handling during transport

Incorrect handling during transport may impair the product's safety and cause serious injuries and considerable material damage.

- When handling heavy weights, use lifting equipment to lift the product and transport it by appropriate means.
- Secure the product against falling during transportation and handling.
- Stand clear of suspended loads.

2.10 Malfunctions

Behavior in case of malfunctions

- Immediately remove the product from operation and report the malfunction to the responsible departments/persons.
- Order appropriately trained personnel to rectify the malfunction.
- Do not recommission the product until the malfunction has been rectified.
- Test the product after a malfunction to establish whether it still functions properly and no increased risks have arisen.

2.11 Disposal

Handling of disposal

The incorrect handling of disposal may impair the product's safety and cause serious injuries as well as considerable material and environmental harm.

- Follow local regulations on dispatching product components for recycling or proper disposal.

2.12 Fundamental dangers

General

- Observe safety distances.
- Never deactivate safety devices.
- Before commissioning the product, take appropriate protective measures to secure the danger zone.
- Disconnect power sources before installation, modification, maintenance, or calibration. Ensure that no residual energy remains in the system.
- If the energy supply is connected, do not move any parts by hand.
- Do not reach into the open mechanism or movement area of the product during operation.

2.12.1 Protection during handling and assembly

Incorrect handling and assembly

Incorrect handling and assembly may impair the product's safety and cause serious injuries and considerable material damage.

- Have all work carried out by appropriately qualified personnel.
- For all work, secure the product against accidental operation.
- Observe the relevant accident prevention rules.
- Use suitable assembly and transport equipment and take precautions to prevent jamming and crushing.

Incorrect lifting of loads

Falling loads may cause serious injuries and even death.

- Stand clear of suspended loads and do not step into their swiveling range.
- Never move loads without supervision.
- Do not leave suspended loads unattended.

2.12.2 Protection during commissioning and operation

Falling or violently ejected components

Falling and violently ejected components can cause serious injuries and even death.

- Take appropriate protective measures to secure the danger zone.
- Never step into the danger zone during operation.

2.12.3 Protection against dangerous movements

Unexpected movements

Residual energy in the system may cause serious injuries while working with the product.

- Perform maintenance, conversion and attachment work outside of the danger zone defined by the movement range.
- To avoid accidents and/or material damage, human access to the movement range of the machine must be restricted. Limit/prevent accidental access for people in this area due through technical safety measures. The protective cover and protective fence must be rigid enough to withstand the maximum possible movement energy. EMERGENCY STOP switches must be easily and quickly accessible. Before starting up the machine or automated system, check that the EMERGENCY STOP system is working. Prevent operation of the machine if this protective equipment does not function correctly.

2.12.4 Notes on particular risks

⚠ WARNING

Risk of injury due to falling parts when setting up, fitting and transporting workpiece/workpiece exchange modules.

Parts that have not been properly secured can come loose and fall off.

- Use suitable lifting equipment and means of transport.
- When fitting the clamping structure, do not enter the danger zone.
- Wear personal protective equipment.

⚠ WARNING

Risk of injury due to falling device, pallet or workpiece if the clamping pin or the change interfaces on the workpiece direct clamping modules are loosened erroneously or as a result of negligence.

- During operation, incorrect or negligent loosening of the clamping pin must be prevented using suitable countermeasures (disconnecting the power supply after locking, use of check valves or safety switches).
- The machines and equipment must fulfill the minimum requirements of the EC Machinery Directive 2006/42/EC; specifically, they must have effective technical measures to protect against potential mechanical hazards.
- Wear personal protective equipment.

⚠ WARNING

Risk of injury to the operating personnel when transporting the workpiece tool changing modules or if the clamping structure, the device or the workpiece falls down.

- Use a crane or a transport truck when transporting.
- During horizontal or overhead applications, the device or pallet must be secured before loosening to prevent it from falling.

⚠ CAUTION

There is a risk of limbs being crushed by moving parts during manual loading and unloading and the clamping procedure.

- Do not reach into the clamping pin holder.
- Use loading devices.
- Wear protective gloves.

3 Technical data

Installation position	any
Operating temperature [°C]	+15 to +60
Required level of cleanliness in accordance with DIN EN 60529	IP 30
Pull down force [kN]	15
Actuation torque [Nm]	15
Holding force * (M10 / M12 / M16) [kN]	35 / 50 / 75
Repeat accuracy [mm]	< 0.005

* The holding force of the respective clamping modules depends on the screw used in the clamping pin. Only screws of grade 12.9 are permitted.

Designation	ID number	Weight [kg]	Height [mm]	Number of clamping pin interfaces
WDM-5X-BM 80-75	1398160	3.6	75	1
WDM-5X-BM 80-100	1398161	4.5	100	1
WDM-5X-BM 80-125	1398162	6.7	125	1
WDM-5X-BM 80-150	1398163	7.6	150	1
WDM-5X-BM 80-175	1398164	8.5	175	1
WDM-5X-BDM 80-125	1398171	5.0	125	2
WDM-5X-SM 80-75	1398181	2.9	75	1
WDM-5X-SM 80-100	1398182	3.7	100	1
WDM-5X-SM 80-125	1398183	4.7	125	1
WDM-5X-SDM 80-125	1398184	4.5	125	2
WDM-5X-DUO 150-100-75	1436463	6.7	75	3
WDM-5X-DUO 163-100-100	1436464	7.6	100	3
WDM-5X-DUO 163-100-150	1436465	15.4	150	3
WDM-5X-BMF 125-85-40	1436485	3.0	40	1
WDM-5X-BMF 125-85-50	1436486	3.4	50	1
WDM-5X-VARIO 135-98-100	1436480	7.0	100	1
WDM-5X-VARIO 135-98-125	1436481	9.0	125	1
WDM-5X-FLEX 80-75	1609942	2.7	75	1

4 Assembly

4.1 Screw tightening torques

Screw tightening torques to mount the base modules on the machine table (screw quality 10.9)

Screw size	M10	M12	M16
Maximum admissible torques M_A (Nm)	52	92	224

Tightening torques for mounting VERO-S clamping pins type SPA / SPB / SPC (screw quality 12.9)

Screw size	M10	M12	M14	M16
Maximum admissible torques M_A (Nm)	62	108	170	262

4.2 Pre-assembly measures

⚠ CAUTION

Danger of injury due to sharp edges and rough or slippery surfaces

- Wear personal protective equipment, particularly protective gloves.

Check that the delivery is complete and that there is no transport damage.

Assembly, dismantling and modification work on the workpiece direct clamping module may only be carried out by specialist personnel.

Disconnect the power supply lines and ensure that there is no residual energy in the system before performing assembly, modification, maintenance, or adjustment work.

Until the workpiece direct clamping module is assembled, access to the side attachment screw of the clamping units must be ensured, particularly when the clamping pallets are clamped.

Before installing, check whether the drive pistons and the attachment screw can be easily reached for opening and for clamping and loosening the interface connection on the workpiece direct clamping systems respectively.

⚠ WARNING

Risk of injury due to falling when transporting the workpiece tool changing modules.

- Transport with care.

⚠ CAUTION

Risk of injury due to crushing.

- Carefully install the workpiece direct clamping systems.
- Ensure that limbs do not enter into the gaps between the adaptable workpiece direct clamping modules or the base module and machine.
- Wear protective gloves.

4.3 General assembly notes

If several VERO-S WDM-5X mounting pillars are mounted linked together, ensure that the interface position deviation does not exceed ±0.015 mm.

Due to redundancy between several quick-change pallet systems VERO-S WDM-5X, the clamping pins or the clamping pin extensions with positioning accuracy in one direction (SPB 40 / SPB-VLK50) are recommended to be used for clamping systems that are more than 160 mm apart or that do not show a positioning tolerance of ± 0.01 mm. For all other clamping areas, clamping pins or clamping pin extensions with centering clearance (SPC 40 / SPC-VLK50) can be used, ▶ 4.4 [🗋 15].

4.4 Clamping pins SPA 40, SPB 40, SPC 40, SPG 40

The VERO-S clamping pins SPA 40, SPB 40, SPC 40 and SPG 40 are compatible with the direct clamping module.

These clamping pins are suitable for use on clamping structures with precisely aligned height supports on the workpiece or the clamping pallet.

If you want to compensate for variable height distances on the workpiece or the clamping pallet, you can use the height-adjustable adapter SPA-HE 50-75 with manual clamping device.

NOTICE

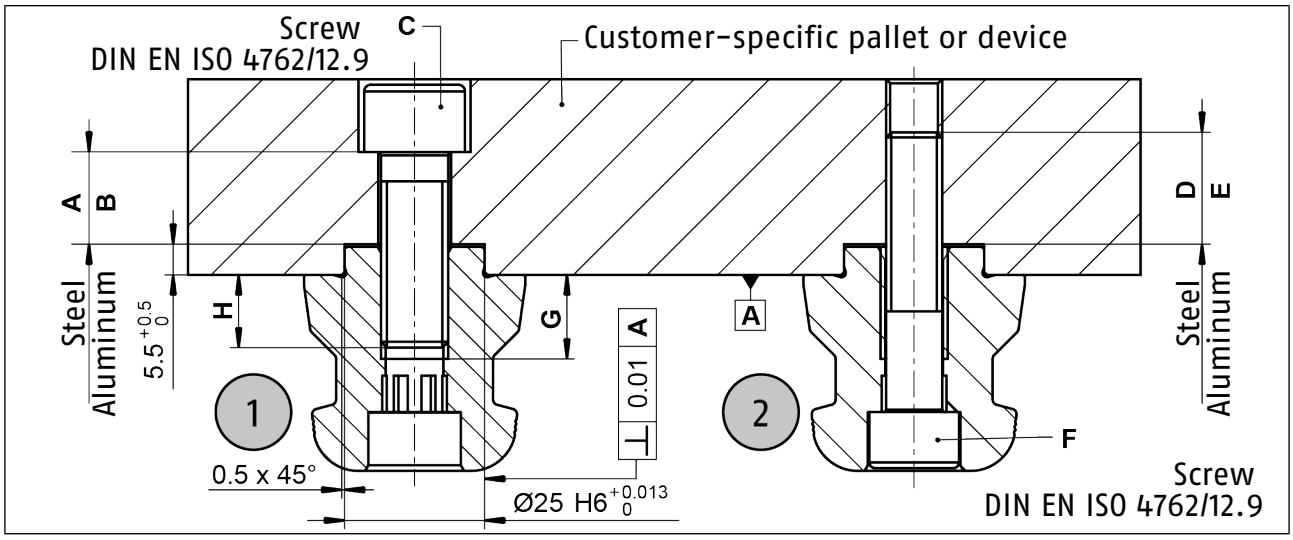
Notes on clamping pins and mounting screws

The holding force of the quick-change pallet system is limited essentially by the tightness of the screw connection which connects the clamping pin to the pallet or the device.

- This is why only screws of strength class 12.9 may be used.
- Only original SCHUNK clamping pins may be used.
- If the clamping pins are to be used in customer-owned devices, the customer must provide sufficiently dimensioned threaded holes or a sufficiently thick mounting material.

4.4.1 Standard clamping pins

The clamping pins can be attached to the workpiece or pallet in two different ways.



Clamping pin installation

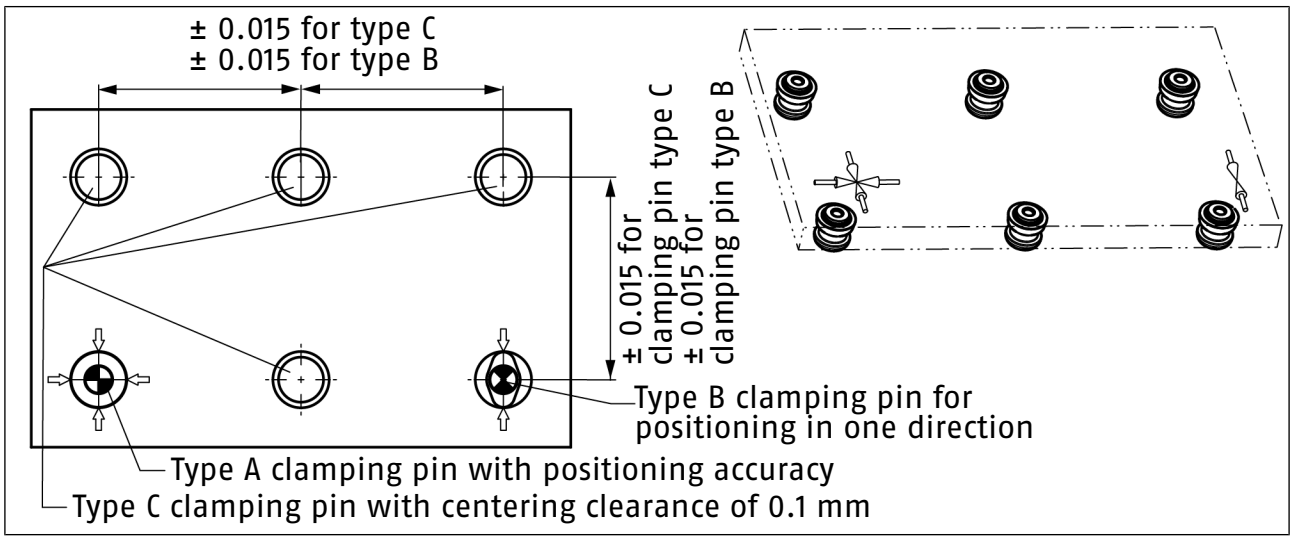
Tolerances and installation conditions

Type	ID	A	B	C	D	E	F	G*	H
SPA 40	0471151	> 12	> 17	M12	> 15	> 20	M10	15	> 12
SPB 40	0471152	> 12	> 17	M12	> 15	> 20	M10	15	> 12
SPC 40	0471153	> 12	> 17	M12	> 15	> 20	M10	15	> 12
SPG 40	0471154	> 12	> 17	M12	> 15	> 20	M10	25	> 22
SPA 40-16	0471064	> 13	> 18	M16	> 18	> 24	M12	20	> 16
SPB 40-16	0471065	> 13	> 18	M16	> 18	> 24	M12	20	> 16
SPC 40-16	0471066	> 13	> 18	M16	> 18	> 24	M12	20	> 16

* The length of the screwed-in thread must not exceed the dimension "G" under any circumstances!

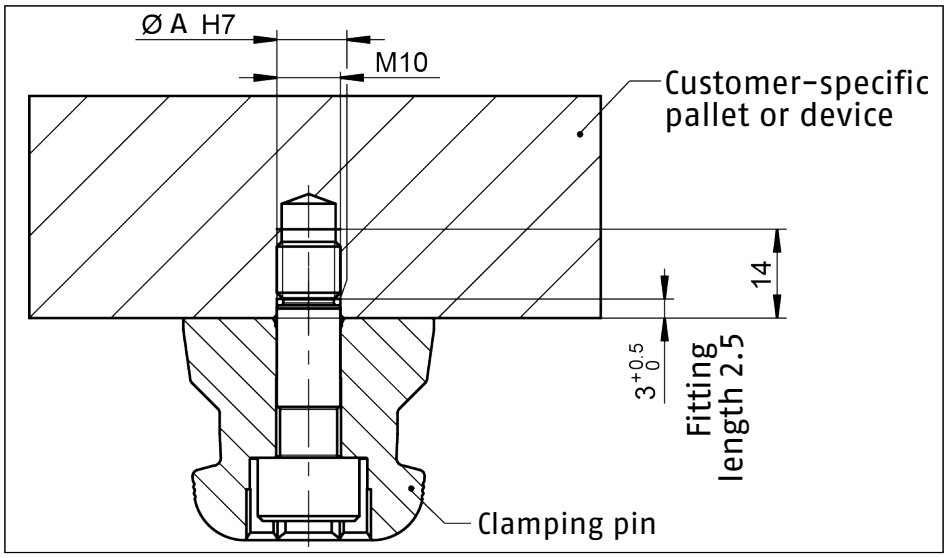
Usage/arrangement of the different types of clamping pins

(Workpiece: pallet with 6 clamping areas)



4.4.2 Clamping pin without collar SPA 40-0B, SPB 40-0B

The clamping pins without collar only require a slim fitting bore Ø A H7 in the installation space.



Clamping pin installation SPA 40-0B

These clamping pins are designed for reduced machining forces due to their shortened thread length.

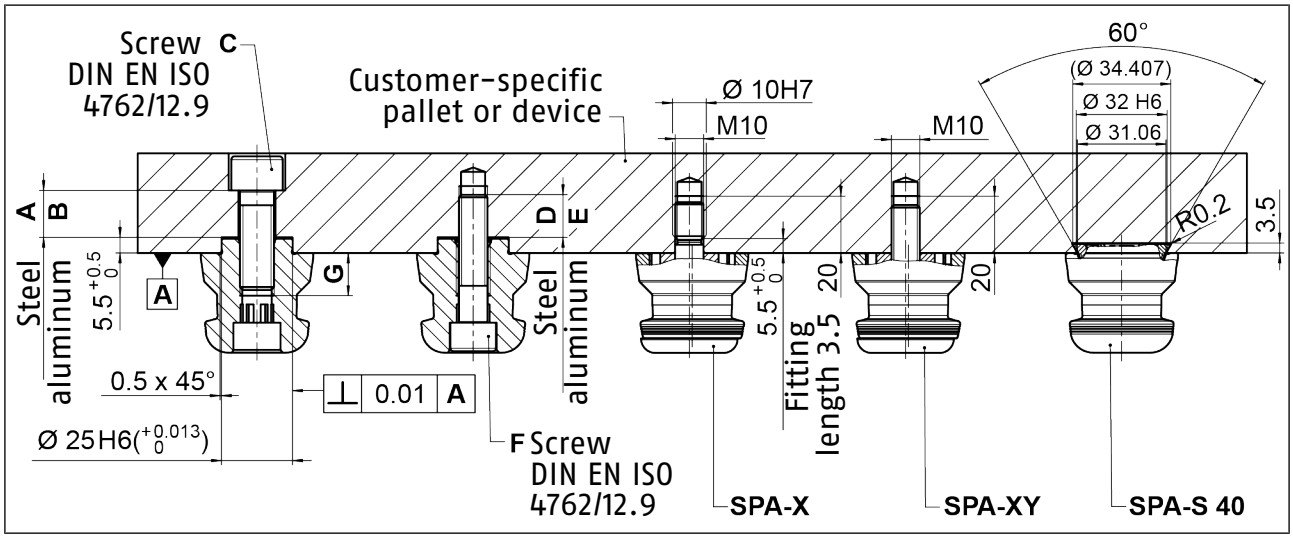
Type	Ø A	ID
SPA 40-0B	10	0471631
SPB 40-0B	10	1316935
SPA-0B 40-12G6	12	1398355
SPB-0B 40-12G6	12	1398356
SPC-0B 40-12G6	12	1398357
SPA-0B 40-16G6	16	1398359
SPB-0B 40-16G6	16	1398360
SPC-0B 40-16G6	16	1398361

4.4.3 Clamping pins with position balancing SPD-B, SPD-C

The clamping pins have a movable clamping element, which can be used to compensate for flexible bore hole fluctuations.

Clamping pin SPA-X performs the function of a sword bolt and allows a position balancing in the longitudinal direction of ±1 mm. For use of the SPA-X, a fitting seating in the installation space is required.

The clamping pin SPA-XY can be used to compensate for non-concentric positioning tolerances. These clamping pins can be combined with all other VERO-S clamping pins in a workpiece interface. Using these clamping pins ensures smooth operation of workpiece clamping.



Type	ID
SPA-X	0471155
SPA-XY	0471156

5 Functional description

The clamping systems of the modular system WDM-5X can be combined to form individual clamping pillars. This enables a clamping device setup for 5-sided machining of a workpiece to be joined together on several clamping pillars.

The basic and add-on modules are available in different heights. This enables them to be mounted with appropriate system combinations in increments of 25 mm.

The modules can be tightened and loosened by turning the hexagon socket interface in the clamping slides. The direction of rotation for loosening the clamping modules is indicated directly on the products. The tightening torque of 15 Nm for tightening the clamping modules must be applied with a torque wrench.

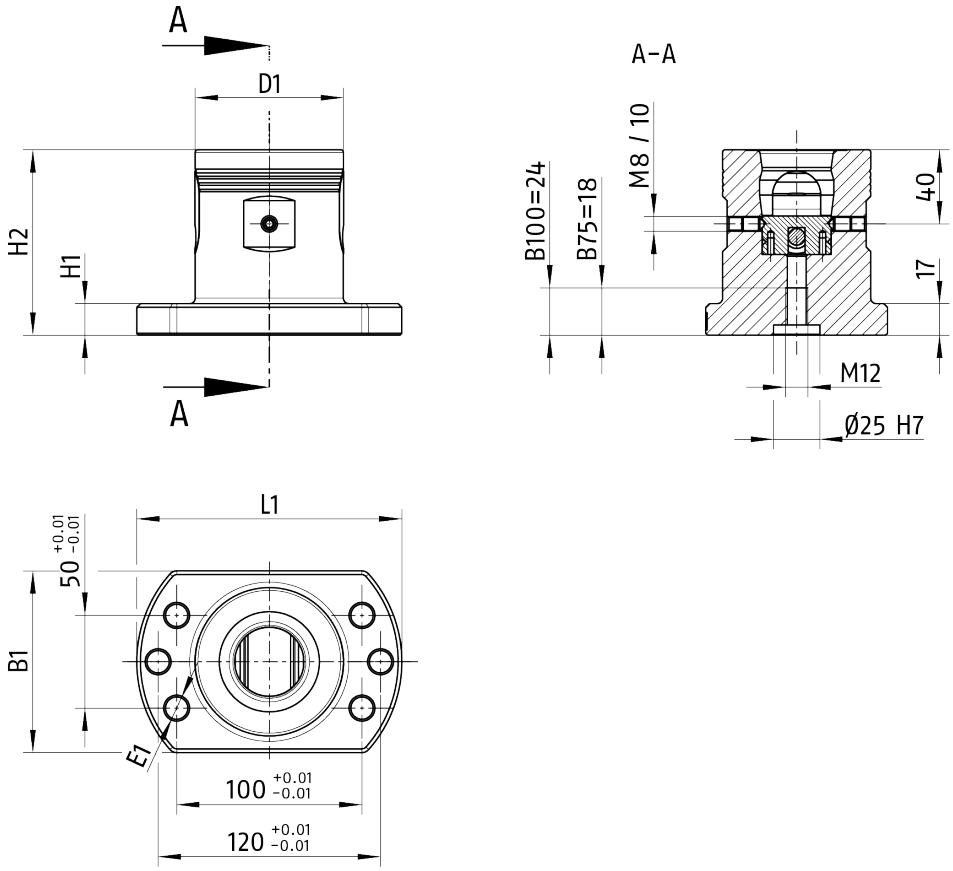
When loosening the clamping modules, care must be taken to loosen them only to the extent that the clamping bolt can be removed from the interface. When the end position of the clamping slides is reached, mechanical resistance can be felt.

5.1 WDM-5X basic module

The WDM-5X basic module is first mounted onto the machine table, the grid plate or a clamping station and either serves directly as a clamping system for workpiece direct clamping, or as a base for other elements of the modular system.

5.1.1 WDM-5X-BM 80-75 and WDM-5X-BM 80-100 (Basic module type A)

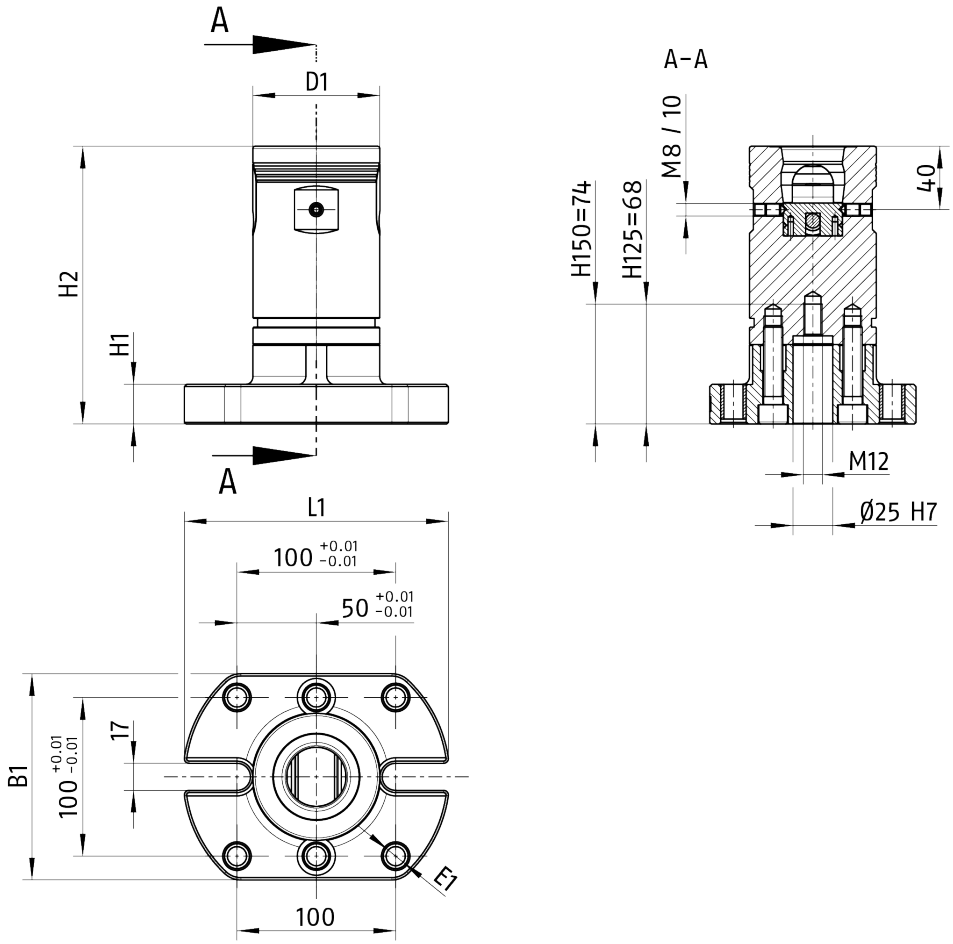
These modules can be mounted on 50 / 40 / M12 grids as well as on VERO-S quick-change pallet modules using size 40 clamping pins. On request, units with a special torque pin are also available.



ID number	L1 [mm]	B1 [mm]	H1 [mm]	H2 [mm]	D1 [mm]	E1	Weight [kg]
1398160	Ø 143	98	17	75	80	6 x 12 H7	3.55
1398161	Ø 143	98	17	100	80	6 x 12 H7	4.45

5.1.2 WDM-5X-BM 80-125, WDM-5X-BM 80-150, WDM-5X-BM 80-175 (Basic module type B)

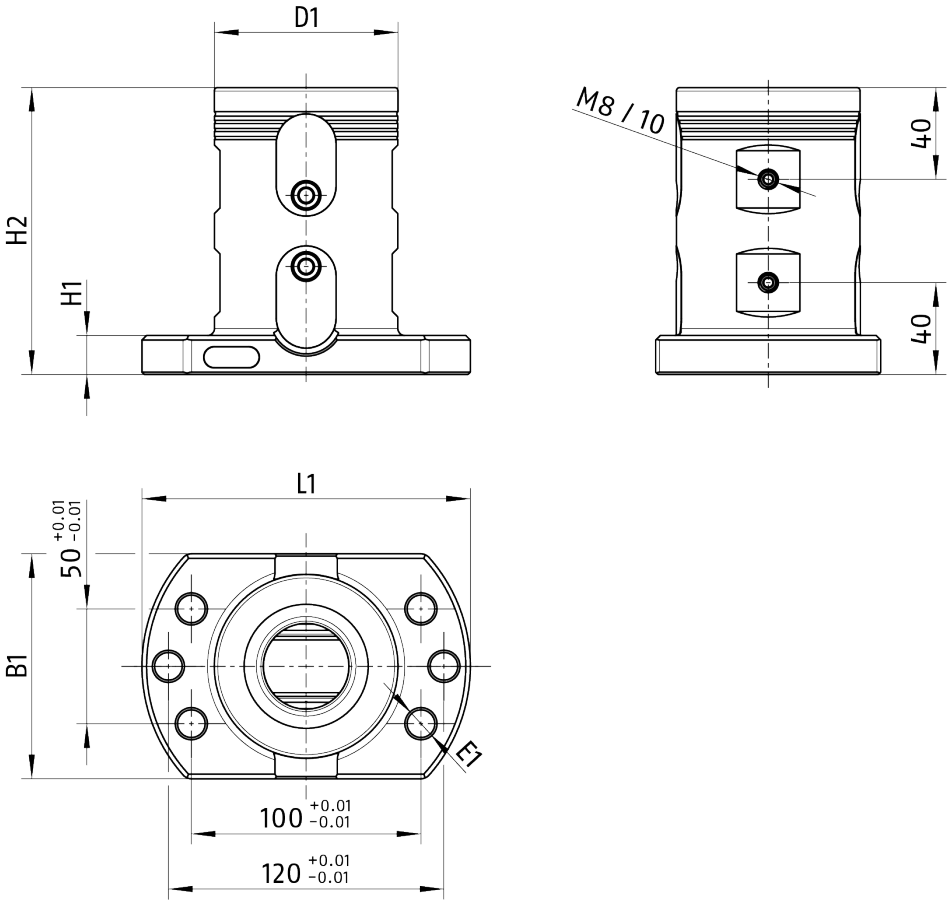
These modules can be assembled on 50 / 100 / M12 grids, as well as on T-slot tables. The large base feet support flexible assembly.



ID number	L1 [mm]	B1 [mm]	H1 [mm]	H2 [mm]	D1 [mm]	E1	Weight [kg]
1398162	Ø 168	130	26	125	80	6 x 12 H7	6.65
1398163	Ø 168	130	26	150	80	6 x 12 H7	7.60
1398164	Ø 168	130	26	175	80	6 x 12 H7	7.45

5.1.3 WDM-5X-BDM 80-125

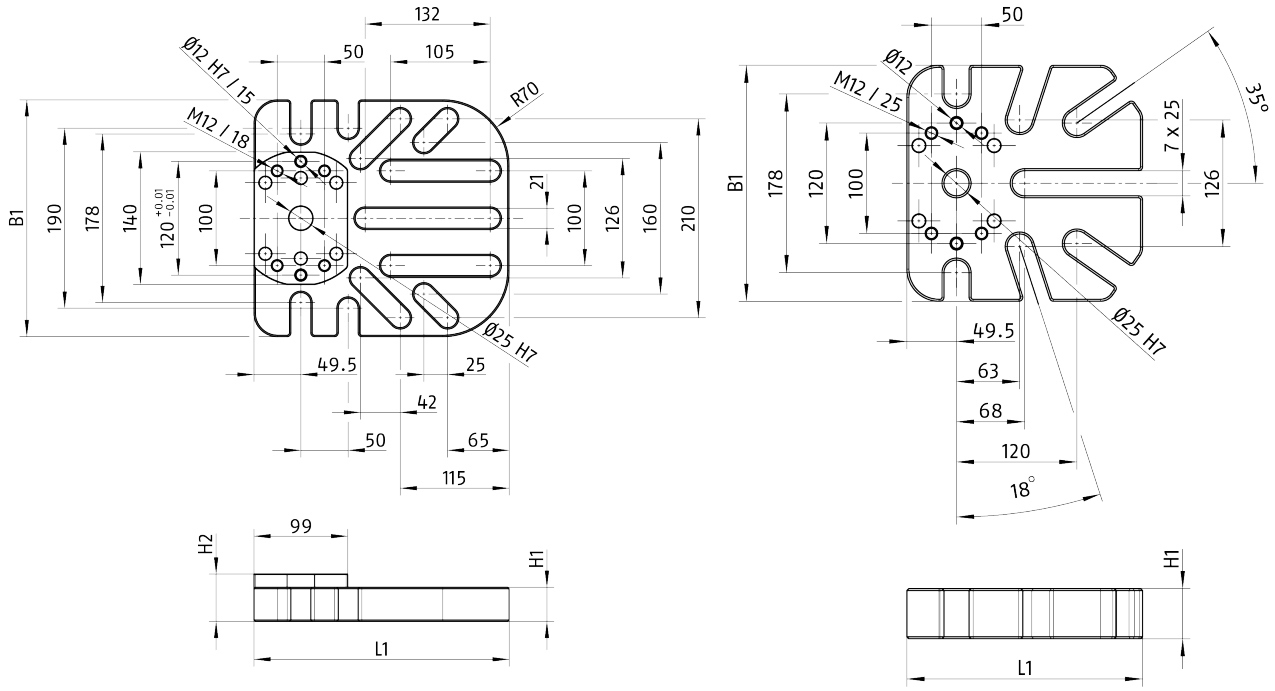
This module with double clamping has two clamping areas for mounting a size 40 clamping pin from above and from below.



ID number	L1 [mm]	B1 [mm]	H1 [mm]	H2 [mm]	D1 [mm]	E1	Weight [kg]
1398171	Ø 143	98	17	125	80	6 x 12 H7	5.00

5.2 WDM-5X Basic height extension

Basic mounting points or basic height extensions provide a stable substructure for the assembly of the basic module. They can be mounted onto all machine tables, even those with large hole patterns, without the use of clamping blanks.

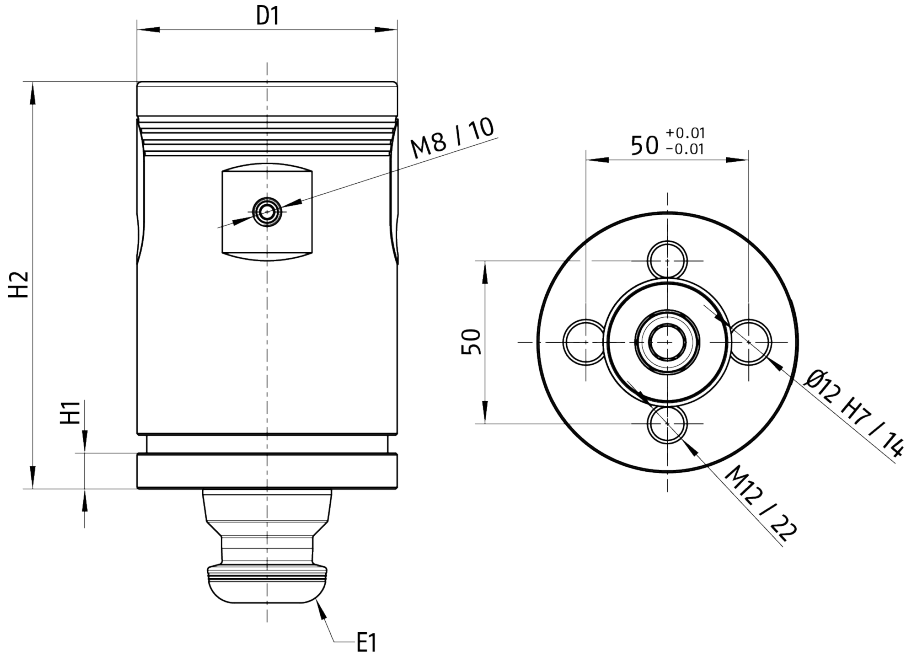


ID number	L1 [mm]	B1 [mm]	H1 [mm]	H2 [mm]	E1	Weight [kg]
1398172	235	235	50	50	max. M24	15.30
1398173	270	250	36	50	max. M21	14.20

5.3 WDM-5X Add-on module

5.3.1 WDM-5X-SM 80-75

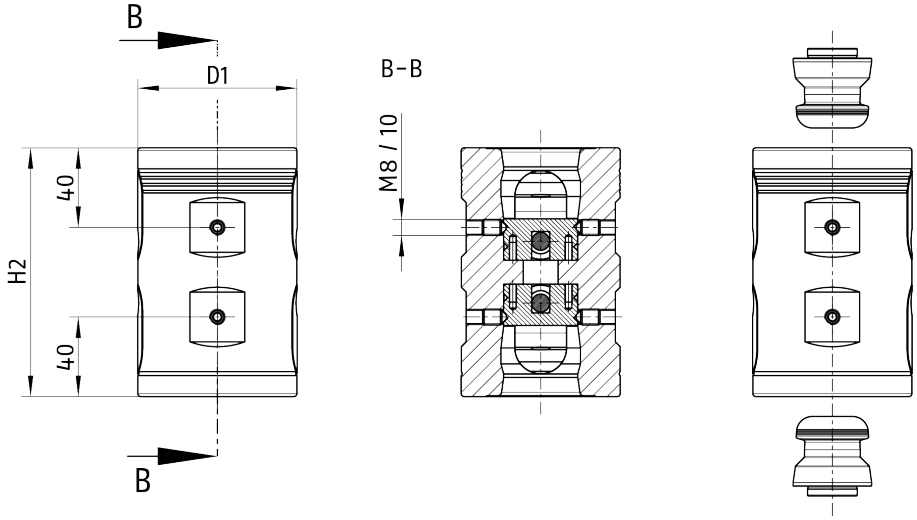
This module is used to raise the height of the basic module. This makes it easier to clamp hard-to-reach workpieces in different heights.



ID number	H1 [mm]	H2 [mm]	D1 [mm]	E1	Weight [kg]
1398181	11	75	80	SPA 16	2.85
1398182	11	100	80	SPA 16	3.65
1398183	11	125	80	SPA 16	4.70

5.3.2 WDM-5X-SDM 80-125 (double clamping module)

This add-on module can be used as a connection for various WDM-5X elements. It also serves as a basic module for assembly on machine tables/grid plates.

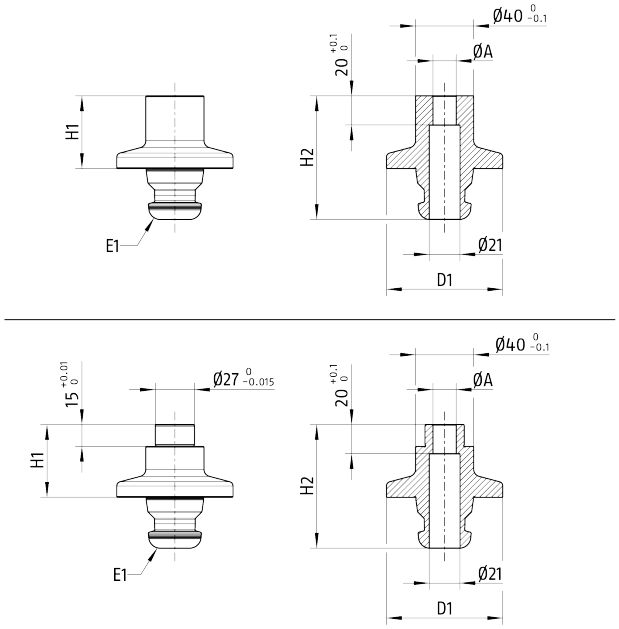


ID number	H2 [mm]	D1 [mm]	E1	Weight [kg]
1398184	125	80	2 x SPA 16	4.50

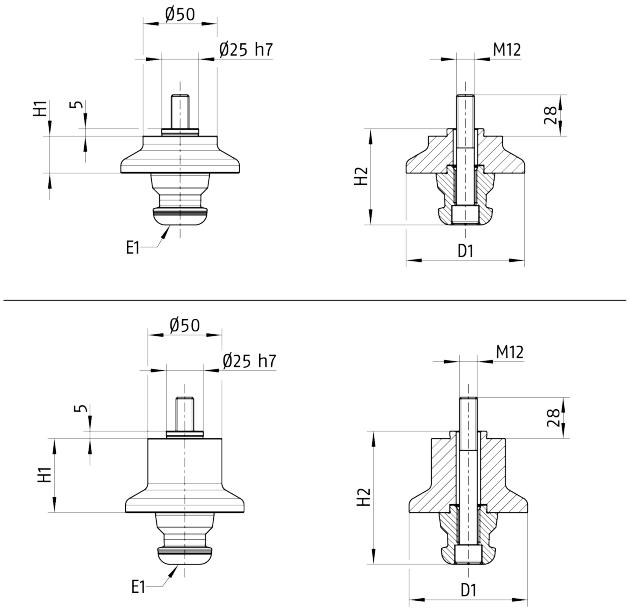
5.4 WDM-5X Reduction adapter

5.4.1 Reduction adapter SPA-VL

The reduction adapters implement optimum workpiece accessibility at the machining area. This makes it possible to clamp small bearing surfaces. The soft versions enable machining for any application. The adapters can be positioned using fitting screws or centering collars.



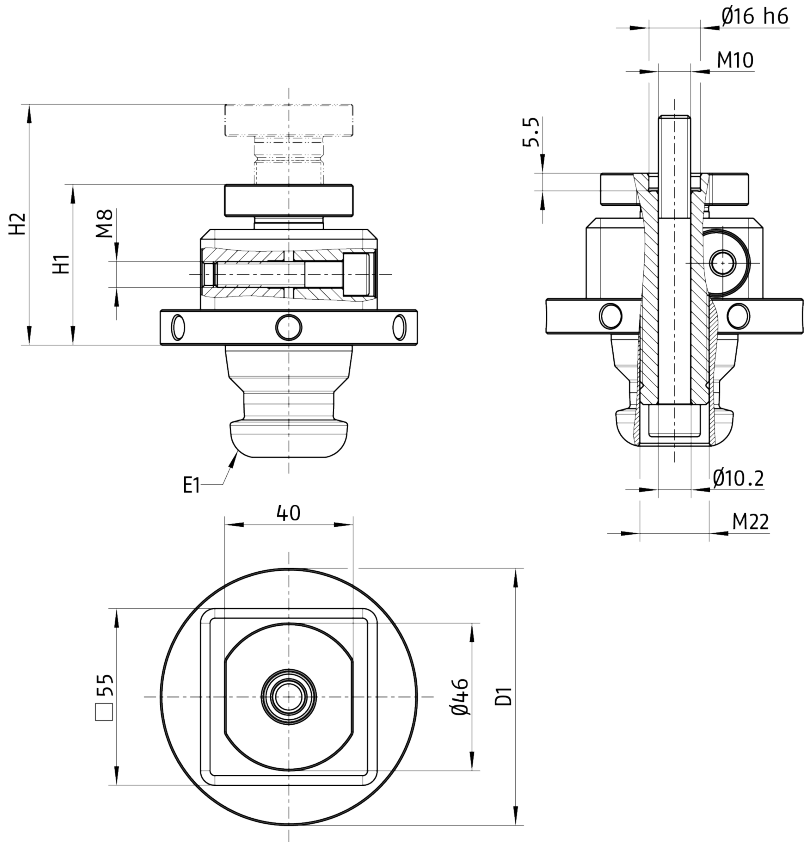
ID number	H1 [mm]	H2 [mm]	D1 [mm]	Version	Adjustable	Ø A	E1	Weight [kg]
1398227	50	85	80/40	hard	–	16 H6	SPA	1.00
1398228	50	85	80/27	hard	Arbor/ring	16 H6	SPA	1.00



ID number	H1 [mm]	H2 [mm]	D1 [mm]	Version	E1	Weight [kg]
1398229	25	60	80/50	soft	SPA 16 / M12x75	1.20
1398230	50	60	80/50	soft	SPA 16 / M12x100	1.50

5.4.2 Height-adjustable adapter SPA-HE

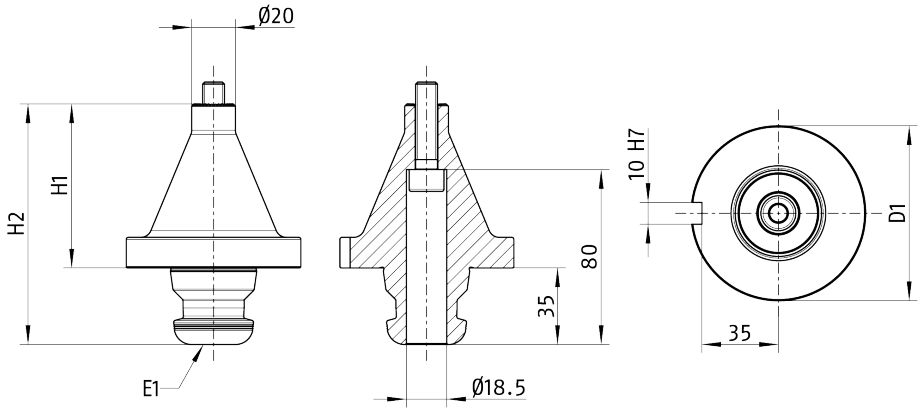
This adapter compensates for different heights during workpiece clamping. Only one adapter is required to enable heights between 50 mm and 75 mm.



ID number	H1 [mm]	H2 [mm]	D1 [mm]	E1	Weight [kg]
1398307	50	75	80	SPA M20	1.45

5.4.3 Plane grip adapter SPA-VLK

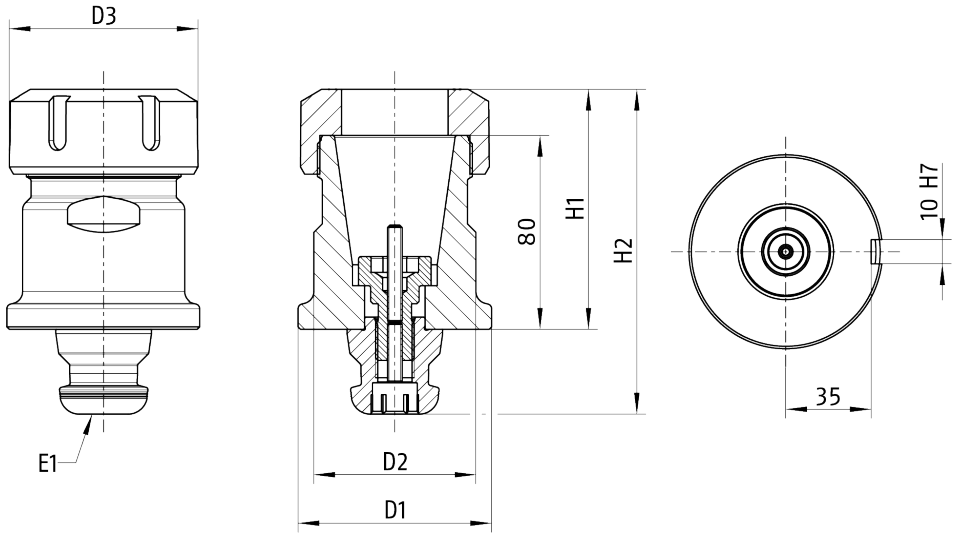
The plane grip adapter with star-shaped gripping surface supports milling of small components from all directions. Mounting is performed using an M10 mounting thread via the clamping pin.



ID number	H1 [mm]	H2 [mm]	D1 [mm]	Torque pin	E1	Weight [kg]
1398308	75	110	80/20	10 H7	SPA M20	1.30

5.4.4 Collet chuck adapter SPA-SEZ

Adapter for clamping shafts and round workpieces in collet chucks of size ER50.

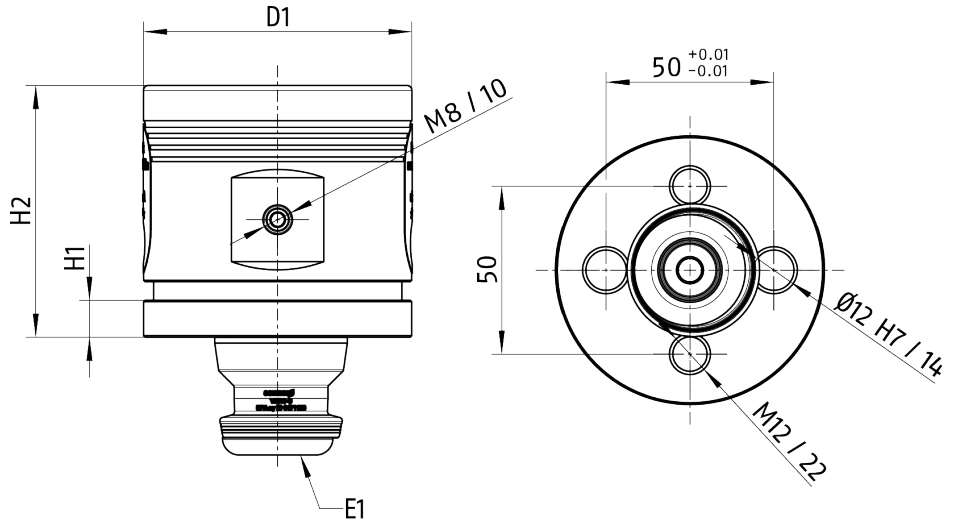


ID number	H1 [mm]	H2 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	Torque pin	E1	Weight [kg]
1398309	approx. 100	approx. 135	80	87	78	10 H7	SPA M20	2.00

5.5 WDM-5X FLEX compensating clamping module

When used with clamping ball SPKG Ø 32 (ID no.: 1647784), the WDM-5X Flex compensating clamping modules must be used for the compensating clamping of workpieces. With a height compensation of ± 2 mm, a radial compensation of ±1 mm and an angular compensation of ± 10° are possible.

The compensating modules do not have any active retraction force. The holding force in the X and Y directions is 1 kN, and in the Z direction 1.5 kN.



ID number	H1 [mm]	H2 [mm]	D1 [mm]	E1	Weight [kg]
1609942	11	75	80	SPA-XY	2.66

6 Operation

⚠ WARNING

Risk of injury due to loss of pallets or workpieces in the case of incorrect actuation and by means of turning application.

- The danger zone must be surrounded by a protective enclosure during operation.
- Do not use the clamping systems on lathes.
- The clamping systems are only permitted for stationary applications with low turning and rotational motion of the clamping structure.

⚠ WARNING

Risk of injury due to falling parts during transport of the quick-change pallet system, when the axis of the clamping pin is in a horizontal position, or in the case of overhead application

- Use a crane for transportation.
- In the case of overhead application, or if the system is in a horizontal position, secure the pallets or workpieces so that they do not fall when the change modules are released.

⚠ CAUTION

There is a risk of limbs being crushed by moving parts during manual loading and unloading and the clamping procedure.

- Do not reach into the clamping pin holder.
- Use loading devices.
- Wear protective gloves.

NOTICE

For manual loading and unloading of workpieces using a crane, there is a danger of damage to the clamping systems by tilting.

Do not tilt the workpiece clamping structures when loading and unloading manually.

7 Maintenance and care

The clamping systems for workpiece direct clamping VERO-S WDM-5X are designed for low-maintenance operation, meaning it is only necessary to open and disassemble the clamping systems and clamping modules under exceptional circumstances.

If it is necessary to disassemble the quick-change pallet system, this may only be performed by trained specialist personnel.

- Clean all the parts thoroughly and check for damage and wear. Damaged and worn parts must be replaced.
- Grease the sliding surfaces of all the other movable components with Renolit HLT 2.

Replace damaged parts with original SCHUNK spare parts only.
A functional check must be conducted before commissioning.

General operating conditions

- Make sure that the contact surfaces of the interface are always clean.
- Always ensure that no chips of any kind enter the interface of the change components.
- Only use high-quality cooling emulsions with anti-corrosive additives during processing.
- Check the clamping systems at regular intervals (at least every two weeks or after 100 clamping operations). Perfect operation is achieved whenever the clamping slides move smoothly without increased application of force when actuated by means of the clamping screw.
- Carry out regular visual / functional checks. In case of visible damage or signs of malfunction on the clamping systems, shut it down immediately. The system may only be commissioned again once the faults have been removed. For example, by replacing the damaged units.

8 Trouble shooting

The chuck jaws on the modules no longer clamp properly

Possible cause	Solution(s)
Clamping screw stiff	Replace clamping screw
Drive hexagon socket on the clamping screw defective	Replace clamping screw
Flat work surface between the modules not achieved	Clean component at the contact surfaces. Assess sealing elements and replace if necessary

The clamping area does not unlock properly

Possible cause	Solution(s)
The module is not lubricated sufficiently	Disassemble, clean and relubricate the module (▶ 7 [🗋 29])
The clamping slide or movement mechanism is damaged	Disassemble the module, replace damaged and worn parts with original SCHUNK spare parts (▶ 7 [🗋 29])
A component is broken (e.g. due to overloading)	Replace the module or send it to SCHUNK for repair
Excess tensile load on clamping pins	Reduce support weight
Lock the clamping pin	Be aware of the direction of rotation for unlocking on the manual direct clamping module
Clamping module not completely opened	Actuate manually in the direction of the "UNLOCK" marking on the drive until you reach the end position

9 Storage

When storing the product for a longer period of time, observe the following points:

- Clean the product and lubricate it lightly.
- Store the product in a suitable transport container.
- Only store the product in dry rooms.
- Protect the product from major temperature fluctuations.

NOTE: Before recommissioning, clean the product and all attachments, check for damage, functionality and leaks.

10 Parts lists

10.1 Basic modules

WDM-5X-BM 80-75 (Type A) (ID 1398160)

WDM-5X-BM 80-100 (Type A) (ID 1398161)

Item	Designation	Quantity
1	Base body	1
2	Slide wedge, right	1
3	Spindle	1
4	Slide wedge, left	1
5	Needle roller	2
6	Spacer	1
7	Set-screw	2

WDM-5X-BM 80-125 (Type B) (ID 1398162)

WDM-5X-BM 80-150 (Type B) (ID 1398163)

WDM-5X-BM 80-175 (Type B) (ID 1398164)

Item	Designation	Quantity
1	Base foot	1
2	Clamping body	1
3	Slide wedge, right	1
4	Slide wedge, left	1
5	Spindle	1
6	Spacer	1
7	Needle roller	2
8	Set-screw	2
11	Washer	3
12	Screw 12.9	1
13	Screw 10.9	2
14	Inner ring	2
15	Cylindrical pin	2

WDM-5X-BDM 80-125 (ID 1398171)

Item	Designation	Quantity
1	Base body	1
2	Slide wedge, right	1
3	Spindle	2
4	Slide wedge, left	1
5	Needle roller	4

Item	Designation	Quantity
6	Spacer	2
7	Set-screw	4
8	Slide wedge, right, rotated 180°	1
9	Slide wedge, left, rotated 180°	1

10.2 Basic height extension

WDM-5X-BP 235-235-50 (ID 1398172)

WDM-5X-BP 270-250-36 (ID 1398173)

Item	Designation	Quantity
1	Base body	1

10.3 Add-on modules

WDM-5X-SM 80-75 (ID 1398181)

Item	Designation	Quantity
1	Clamping body	1
2	Slide wedge, right	1
3	Spindle	1
4	Slide wedge, left	1
5	Needle roller	2
6	Set-screw	2
7	Spacer	1
8	Clamping pin SPA	1
9	Screw 10.9	1

WDM-5X-SM 80-100 (ID 1398182)

Item	Designation	Quantity
1	Clamping body	1
2	Slide wedge, right	1
3	Spindle	1
4	Slide wedge, left	1
5	Needle roller	2
6	Spacer	1
7	Set-screw	2
8	Clamping pin SPA	1

WDM-5X-SM 80-125 (ID 1398183)

Item	Designation	Quantity
1	Clamping body	1
2	Slide wedge, right	1

Item	Designation	Quantity
3	Slide wedge, left	1
4	Spindle	1
5	Needle roller	2
6	Spacer	1
7	Clamping pin SPA	1
8	Set-screw	2

WDM-5X-SDM 80-125 (ID 1398184)

Item	Designation	Quantity
1	Clamping body	1
2	Slide wedge, right	1
3	Slide wedge, left	1
4	Spindle	2
5	Slide wedge, right, rotated 180°	1
6	Slide wedge, left, rotated 180°	1
7	Needle roller	4
8	Spacer	2
9	Set-screw	4

10.4 Reduction adapter

SPA-VL-P 50-M16 (ID 1398227)
SPA-VL-PA 50-M16 (ID 1398228)
SPA-VLK 75-M10 (ID 1398308)

Item	Designation	Quantity
1	Base body	1

SPA-VL 25-M12 (ID 1398229)

Item	Designation	Quantity
1	Base body	1
2	Clamping pin SPA	1
3	Screw 12.9	1

SPA-HE 50-75 (ID 1398307)

Item	Designation	Quantity
1	Base body	1
2	threaded tamper	1
3	Clamping piece	1
4	Screw 10.9	1

SPA-SEZ ER50-100 (ID 1398309)

Item	Designation	Quantity
1	Base body	1
2	Clamping nut	1
3	Cylindrical screw	1
4	Clamping pin SPA M20	1
5	Set-screw	1
6	Set-screw	1

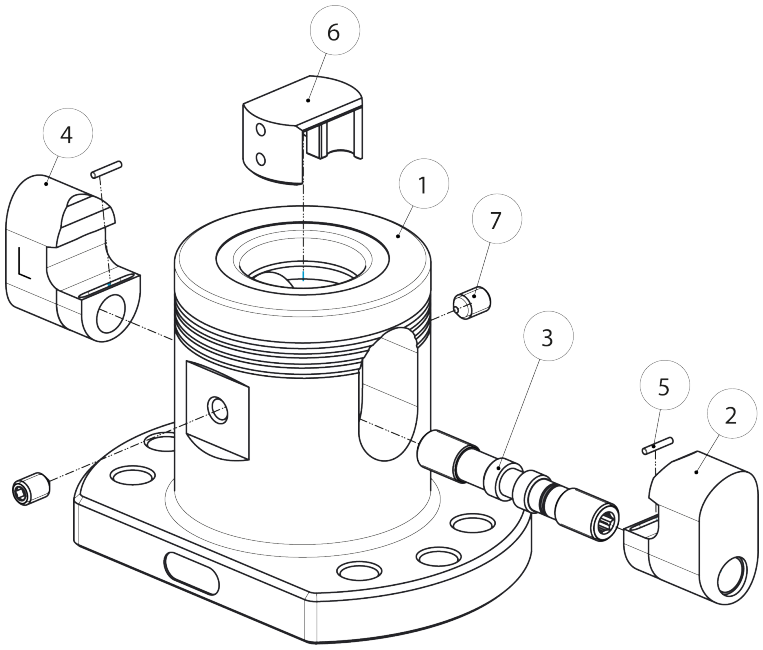
10.5 Compensating clamping module

WDM-5X-FLEX 80-75 (ID 1609942)

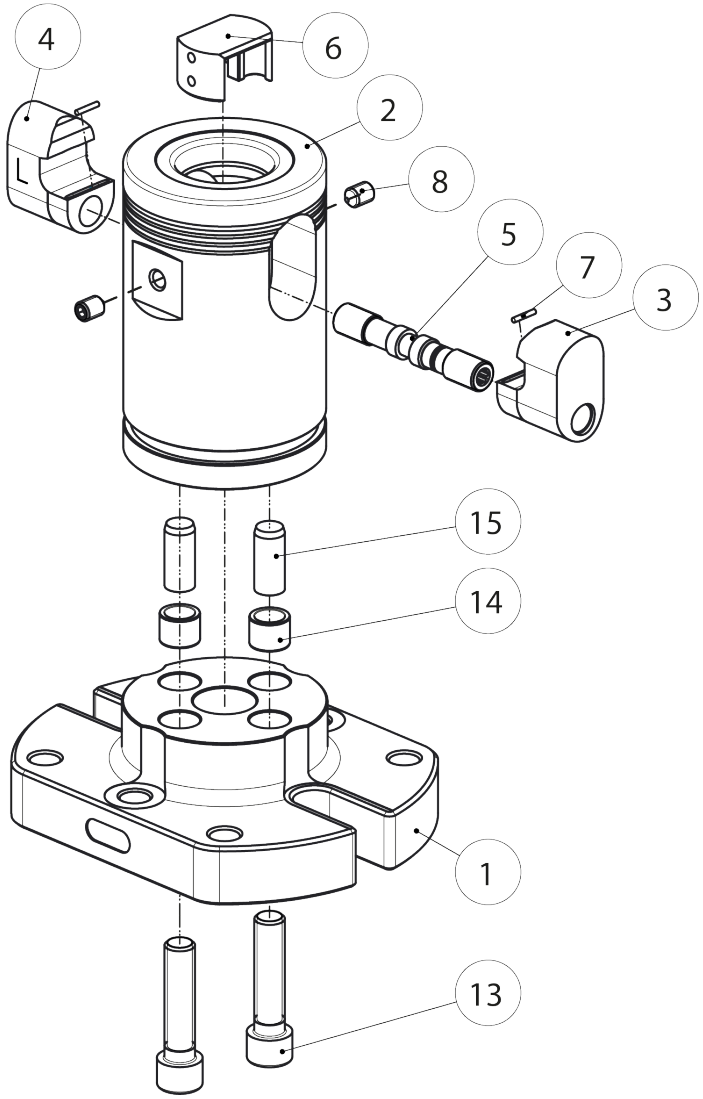
Item	Designation	Quantity
1	Base body	1
2	Slide wedge, right	1
3	Spindle	1
4	Slide wedge, left	1
5	Ball	2
6	Set-screw	2
7	Spacer	1
8	Clamping pin SPA-XY	1
9	Threaded insert	1

11 Assembly Drawings

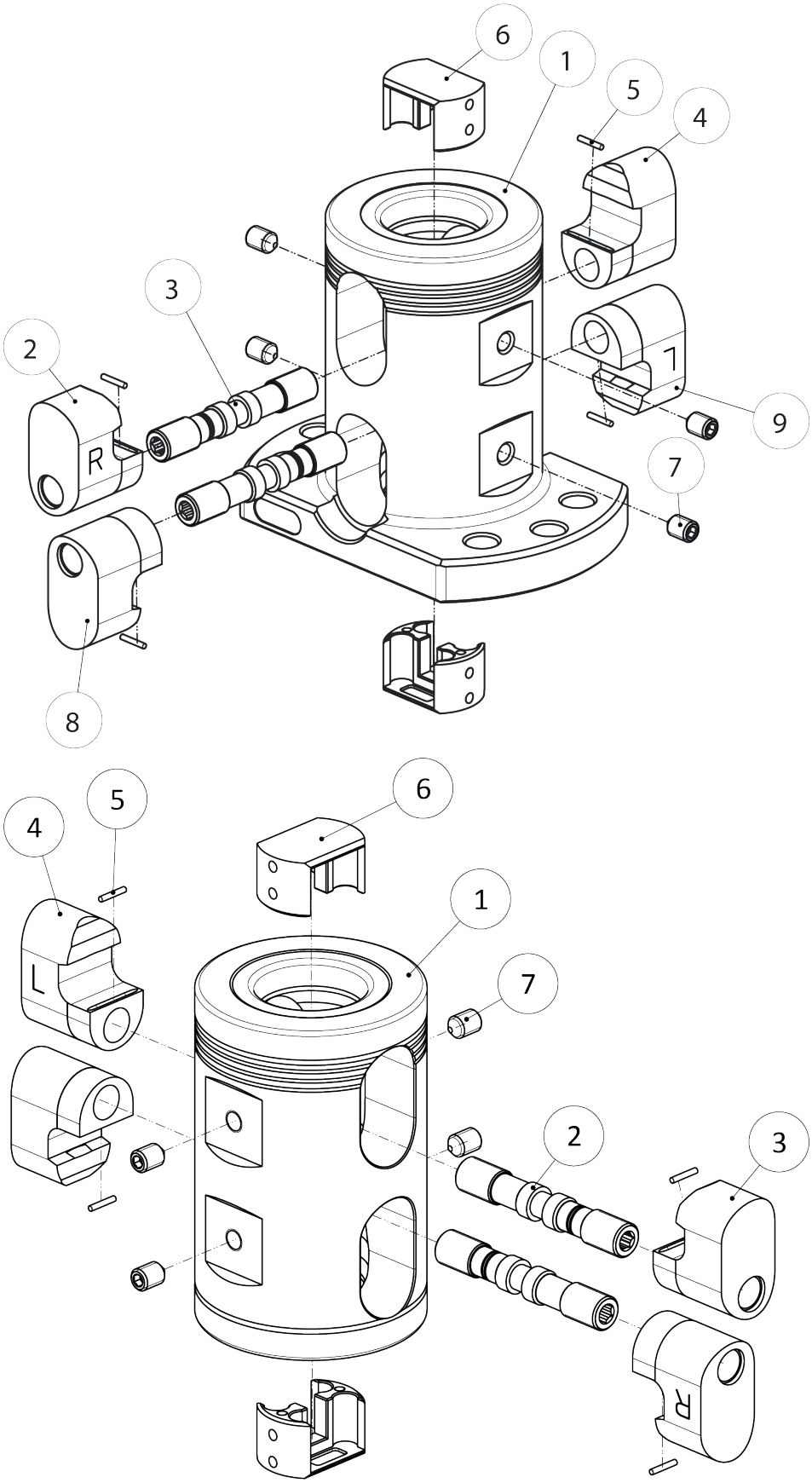
Basic module type A



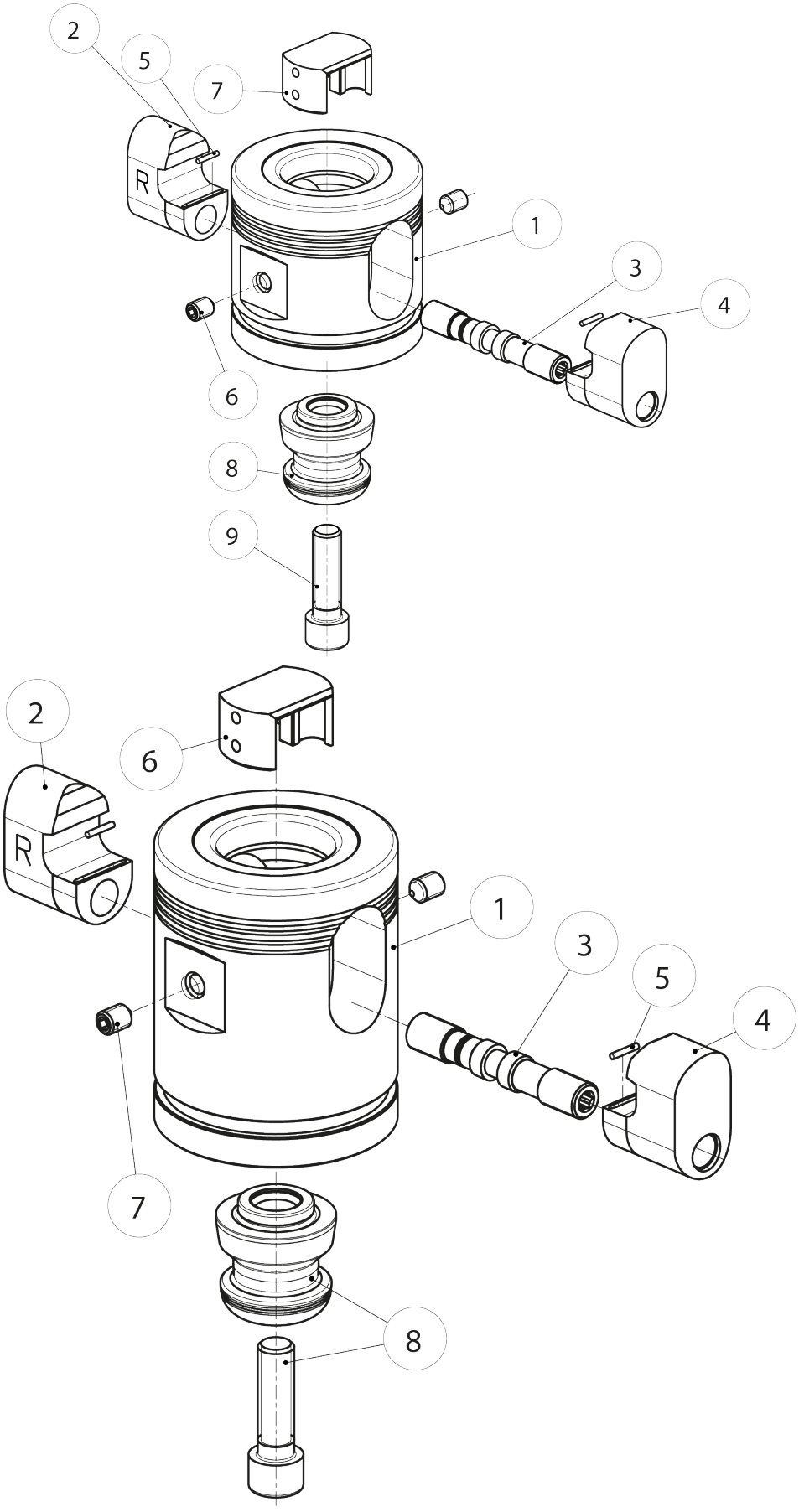
Basic module type B

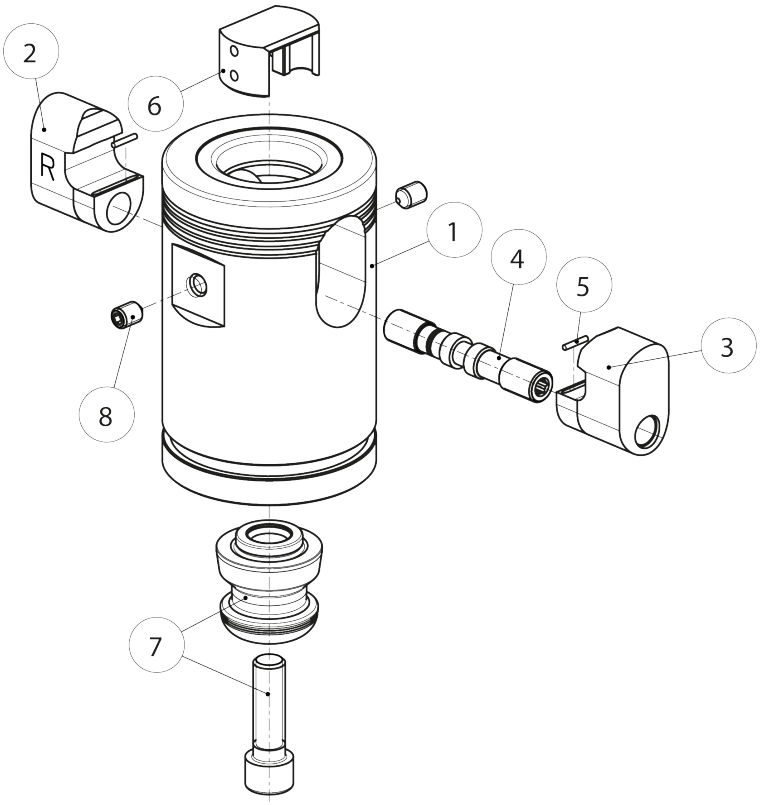


Double clamping module

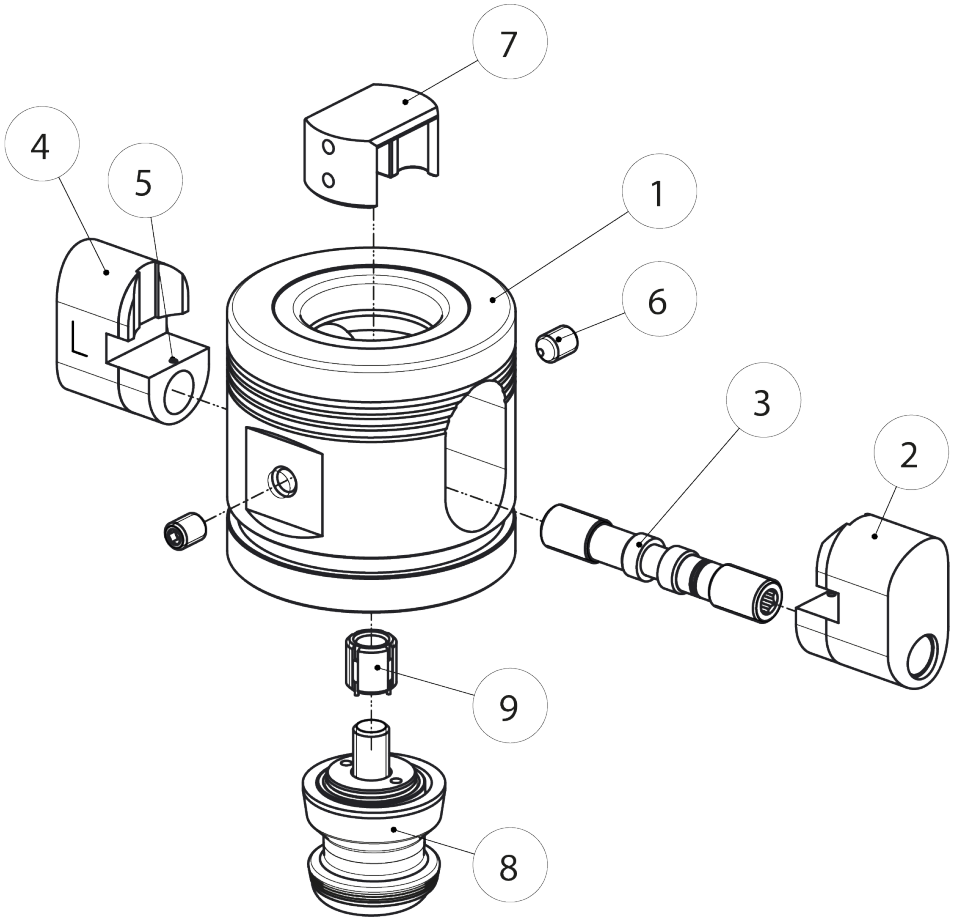


Add-on module





Compensating clamping module



12 Manufacturer certificate

Manufacturer / Distributor:	H.-D. SCHUNK GmbH & Co. Spanntechnik KG Lothringer Str. 23 D-88512 Mengen
Product:	Quick-change pallet system
Designation:	VERO-S
Type designation:	WDM

Heinz-Dieter SCHUNK GmbH & Co. Spanntechnik KG certifies that the above-mentioned products, when used as intended and in compliance with the operating manual and the warnings on the product, are safe according to the national regulations and:

- a **risk assessment** has been carried out in accordance with ISO 12100:2010.
- an **operating manual** for the assembly instructions has been created in accordance with the contents of the Machinery Directive 2006/42/EC Annex I No. 1.7.4.2. and the contents of the provisions of Annex VI of the Machinery Directive 2006/42/EC.
- **Markings** have been made in accordance with EN 1550:1997+A1:2008 Section 6.3.1, VDMA 34192:2019 Section 6.3 or ISO 16156:2004 Section 6.3. The requirements of Annex I No. 1.7.3. of the Machinery Directive 2006/42/EC have been complied with.
- the relevant basic and proven safety principles of the Annexes of **ISO 13849-2:2012**, taking into account the requirements of the documentation have been observed for the component. The parameters, limitations, ambient conditions, characteristic values, etc. for proper operation are defined in the operating manual.
- an $MTTF_D$ value of 150 years can be estimated for mechanical components using the informative procedure in Table C.1 of ISO 13849-1:2015.
- the **fault exclusion** against the fault "Breakage during operation" in compliance with the parameters, limitations, ambient conditions, characteristic values and maintenance intervals, etc., specified in the operating manual.

Harmonized Standards applied:

- **ISO 12100:2010** Safety of machinery - General principles for design - Risk assessment and risk reduction

Other related technical Standards and specifications:

- **VDMA 34192:2019** Safety requirements for clamping devices for use on machines

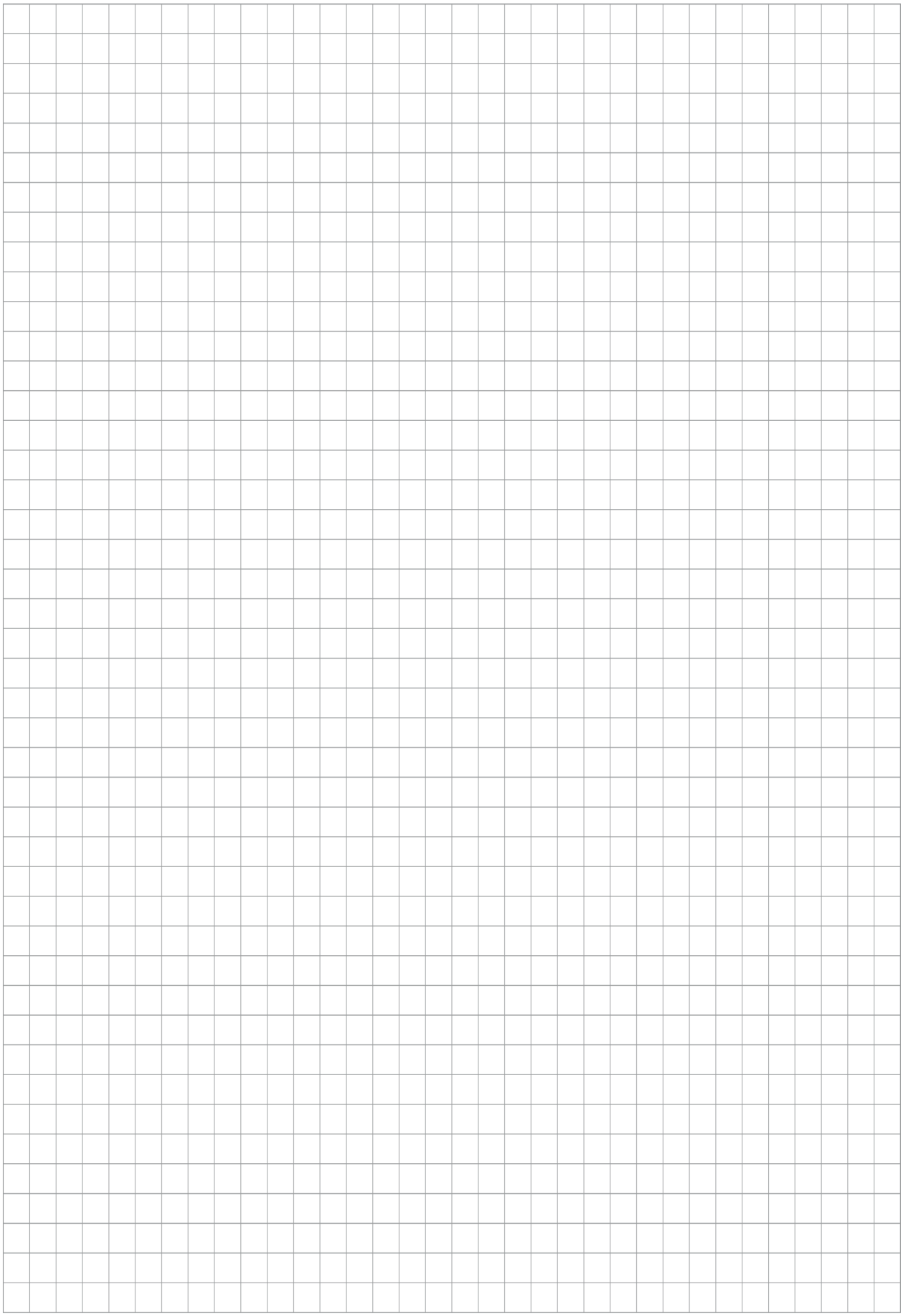
Mengen, 25th of April 2023

Signature: see original declaration

p.p. Philipp Schräder
Head of Development standard products

Signature: see original declaration

p.p. Alexander Koch
Head of Engineering Design special products



H.-D. SCHUNK GmbH & Co.
Spanntechnik KG

Lothringer Str. 23
D-88512 Mengen
Tel. +49-7572-7614-0
info@de.schunk.com
schunk.com

Folgen Sie uns I *Follow us*

Wir drucken nachhaltig I *We print sustainable*

01-2026

02.00 | VERO-S WDM-5X | Modular system for manual workpiece direct clamping | en | 1504808