

Machine tooling technology

Zero-Point Clamping System

SPN

THE KNOW-HOW FACTORY

www.zimmer-group.com

ZIMMER group

THE KNOW-HOW FACTORY

ZIMMER GROUP
COMMITTED TO OUR CUSTOMERS

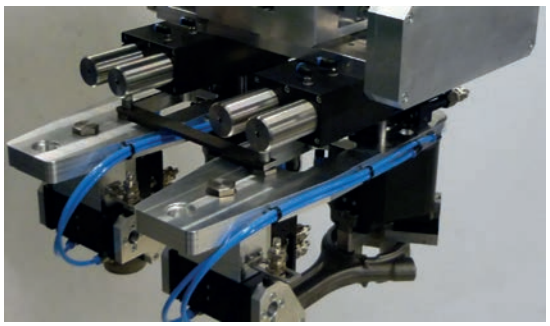
WE HAVE SUCCEEDED FOR YEARS BY OFFERING OUR CUSTOMERS INNOVATIVE AND INDIVIDUALIZED SOLUTIONS. ZIMMER HAS GROWN CONTINUOUSLY AND TODAY WE HAVE REACHED A NEW MILESTONE: THE ESTABLISHMENT OF THE KNOW-HOW FACTORY. IS THERE A SECRET TO OUR SUCCESS?

Foundation. Excellent products and services have always been the foundation of our company's growth. Zimmer is a source of ingenious solutions and important technical innovations. This is why customers with high expectations for technology frequently find their way to us. When things get tricky, Zimmer Group is in its best form.

Style. We have an interdisciplinary approach to everything we do, resulting in refined process solutions in six technology fields. This applies not just to development but to production. Zimmer Group serves all industries and stands ready to resolve even the most unique and highly individualized problems. Worldwide.

Motivation. Customer orientation is perhaps the most important factor of our success. We are a service provider in the complete sense of the word. With Zimmer Group, our customers have a single, centralized contact for all of their needs. We approach each customer's situation with a high level of competence and a broad range of possible solutions.





TECHNOLOGIES



HANDLING TECHNOLOGY

MORE THAN 30 YEARS OF EXPERIENCE AND INDUSTRY KNOWLEDGE: OUR PNEUMATIC, HYDRAULIC AND ELECTRICAL HANDLING COMPONENTS AND SYSTEMS ARE GLOBAL LEADERS.

Components. More than 2,000 standardized grippers, swivel units, robotic accessories and much more. We offer a complete selection of technologically superior products that are ready for rapid delivery.

Semi-standard. Our modular approach to design enables custom configurations and high rates of innovation for process automation.



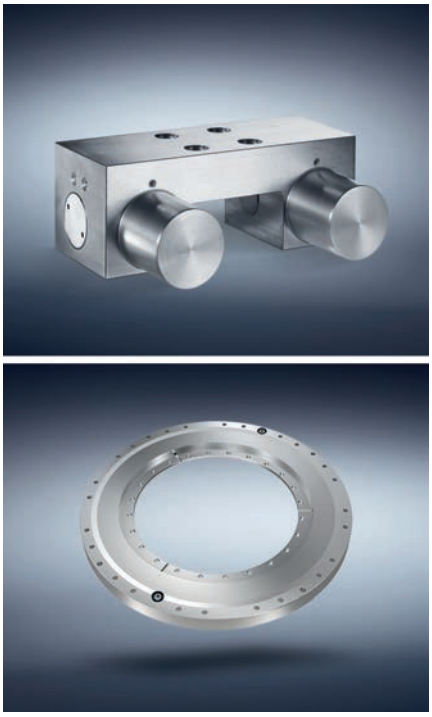
DAMPING TECHNOLOGY

INDUSTRIAL DAMPING TECHNOLOGY AND SOFT CLOSE PRODUCTS EXEMPLIFY THE INNOVATION AND PIONEERING SPIRIT OF THE KNOW-HOW FACTORY.

Industrial damping technology. Whether standard or customized solutions, our products stand for the highest cycle rates and maximum energy absorption with minimal space requirements.

Soft Close. Development and mass production of pneumatic and fluid dampers with extraordinary quality and rapid delivery.

OEM and direct. Whether they need components, returning mechanisms or complete production lines – we are the trusted partner of many prestigious customers.



LINEAR TECHNOLOGY

WE DEVELOP LINEAR COMPONENTS AND SYSTEMS THAT ARE INDIVIDUALLY ADAPTED TO OUR CUSTOMERS' NEEDS.

Clamping and braking elements. We offer you more than 4,000 types for profiled and round rails as well as for a variety of guide systems from all manufacturers. It makes no difference whether you prefer manual, pneumatic, electric or hydraulic drive.

Flexibility. Our clamping and braking elements ensure that movable components such as Z-axes or machining tables maintain a fixed position and that machines and systems come to a stop as quickly as possible in an emergency.







PROCESS TECHNOLOGY

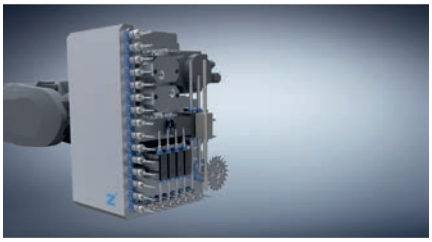
MAXIMUM EFFICIENCY IS ESSENTIAL FOR SYSTEMS AND COMPONENTS USED IN PROCESS TECHNOLOGY. HIGH-LEVEL CUSTOM SOLUTIONS ARE OUR TRADEMARK.

A rich reservoir of experience. Our know-how ranges from the development of materials, processes and tools through product design to production of series products.

Deep production capabilities. The Zimmer Group pairs these capabilities with flexibility, quality and precision, even when making custom products.

Series production. We manufacture demanding products out of metal (MIM), elastomers and plastics with flexibility and speed.







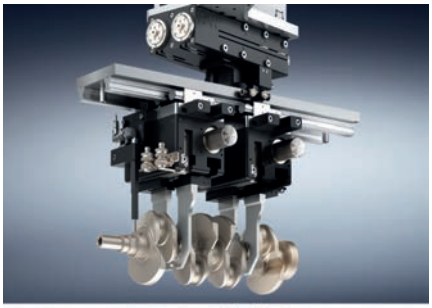
MACHINE TECHNOLOGY

ZIMMER GROUP DEVELOPS INNOVATIVE METAL, WOOD AND COMPOSITE MATERIAL PROCESSING TOOL SYSTEMS FOR ALL INDUSTRIES. NUMEROUS CUSTOMERS CHOOSE US AS THEIR SYSTEMS AND INNOVATION PARTNER.

Knowledge and experience. Industry knowledge and a decades-long development partnership in exchangeable assemblies, tool interfaces and systems make us bound for new challenges around the world.

Components. We deliver numerous standard components from stock and develop innovative, customized systems for OEM and end customers – far beyond the metal and wood processing industries.

Variety. Whether you have machining centers, lathes or flexible production cells, the power tools, holders, assemblies and drilling heads of Zimmer Group are ready for action.





SYSTEM TECHNOLOGY

ZIMMER GROUP IS ONE OF THE LEADING SPECIALISTS IN THE DEVELOPMENT OF CUSTOMIZED SYSTEM SOLUTIONS WORLDWIDE.

Customized. A team made up of more than 20 experienced designers and project engineers develop and produce customized solutions for special tasks in close collaboration with end customers and system integrators. It doesn't matter if it is a simple gripper and handling solution or a complex system solution.

Solutions. These system solutions are used in many industries, from mechanical engineering to the automotive and supplier industries to plastics engineering and consumer goods industries, all the way to foundries. The Know-how Factory helps countless companies to thrive competitively by increasing automation efficiency.

SPN ZERO-POINT CLAMPING SYSTEM
ORDER INFORMATION

STRUCTURE OF THE ORDER NUMBER

Example:

S	P	N	112	E	6	AD	–	B

▶ **Clamping system**
- **S** Clamping system

▶ **Actuation**
- **P** Pneumatic

▶ **Characteristics**
- **N** Zero point clamping system

▶ **Installation size**
- Diameter [mm]

▶ **Design**
- **E** Insertion element

▶ **Operating pressure**
- **4** bar
- **6** bar

▶ **Versions**
- **SD** Standard
- **AD** Advanced

▶ **Model series**

SPN ZERO-POINT CLAMPING SYSTEM
ADVANTAGES

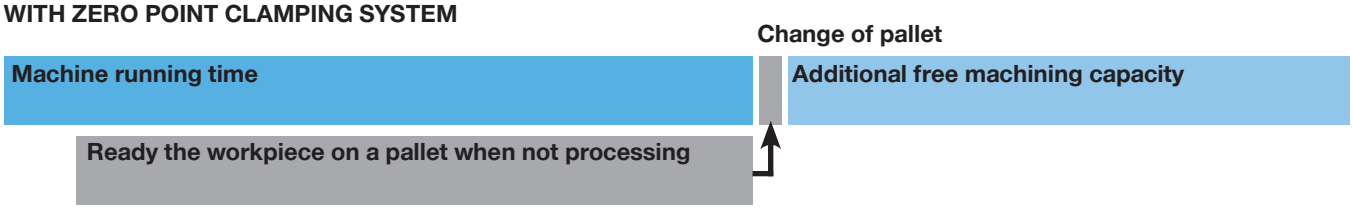
▶ Increased Productivity

By automating processes the zero point clamping system dramatically increases productivity of processes that required precision. Machine set-up times are reduced by up to 90%, and cleaning and maintenance of the system is minimal. The option to link processes, one after the other, in a single workpiece clamping system, in various machining cells and equipped with identical clamping system geometries, allows previously unrealized synergies. The workpiece carrier with the zero point clamping system accompanies the workpiece all the way through the production process, thus ensuring the ultimate in precision and cost efficiency.

WITHOUT ZERO POINT CLAMPING SYSTEM



WITH ZERO POINT CLAMPING SYSTEM



▶ Maximum repeatability and precision

The zero-point clamping system features a repeatability of 0.005 mm thanks to its sophisticated design. Thanks to its very high clamping forces and consistent use of tempered stainless steel, the system provides a high-precision, torsion-resistant base and also stabilizes parts that tend to vibrate.

▶ Increased process reliability

The zero-point clamping system reduces errors during milling, rotating, wire or die eroding, flat or cylindrical grinding, drilling, lasering and measuring. The maintenance-free design also contributes to the superior process reliability.

▶ Exactly the right system for your production

The modular zero-point clamping system from Zimmer Group gives you the right system for every requirement. In addition to a standard version reduced to the basic functions, which fulfills essential operations such as unlocking and a PLUS connection, there is also an advanced version with an extensive range of functions that are necessary for automated production, for example. Both variants feature positive locking via clamping segments that are specially adapted to the pin contour. This creates an extremely rigid system that can absorb the highest forces with maximum repeat accuracy. The product range is extended by many different types of clamping plates, available in every size and various configurations. To increase the protection of the particular zero-point clamping system and to prevent any intrusion of dirt, there is an optional automatic seal that reliably protects the pin opening.

SPN ZERO-POINT CLAMPING SYSTEM
SPN ADVANCED SERIES – THE SUPERIOR

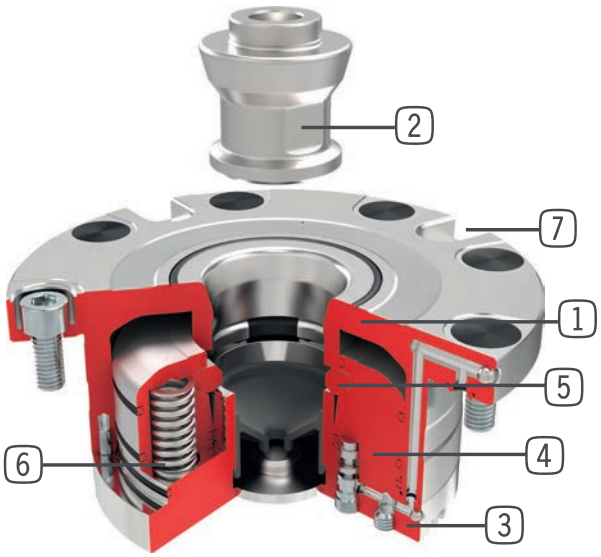
▶ PRODUCT ADVANTAGES



- **Locking by means of clamping segments**
- **PLUS connection**
- **Rustproof – tempered stainless steel**
- **Two integrated rotation locks**
- **Integrated positioning check**
- **Pneumatic piston position sensing**
- **Integrated blow-out function**
- **Two connection options**
- **Optional automatic seal**

▶ The zero-point clamping system of Zimmer Group's Advanced series provides a number of functions that are one-of-a-kind in this form and composition. Functions such as the PLUS connection, positioning check and pneumatic piston position sensing are integrated as standard, as well as air discharge of the pin opening and contact surface cleaning. The zero-point clamping system offers two connection options for maximum flexibility: either via spot facing on the flange surface or via hoses at the base of the element. To ensure the best protection, in addition to the standard integrated blow-out function, there is also an automatic seal that reliably protects the pin opening. The zero-point clamping system is able to absorb maximum forces with maximum repeatability. This is achieved through a sophisticated clamping principle that uses clamping segments for positive locking. In comparison to conventional systems where balls are in point contact, clamping segments adapted to the clamping contour establish the surface contact between the clamping system and clamping pin. This gives the system a very high rigidity.

▶ TECHNICAL DETAILS



1 **Housing**
2 **Clamping pins**
3 **Cover**
4 **Clamp dog**
5 **Clamping segments**
6 **Spring assembly**
7 **Torque support/rotation lock**

SPN ZERO-POINT CLAMPING SYSTEM
SPN STANDARD SERIES – THE ECONOMICAL

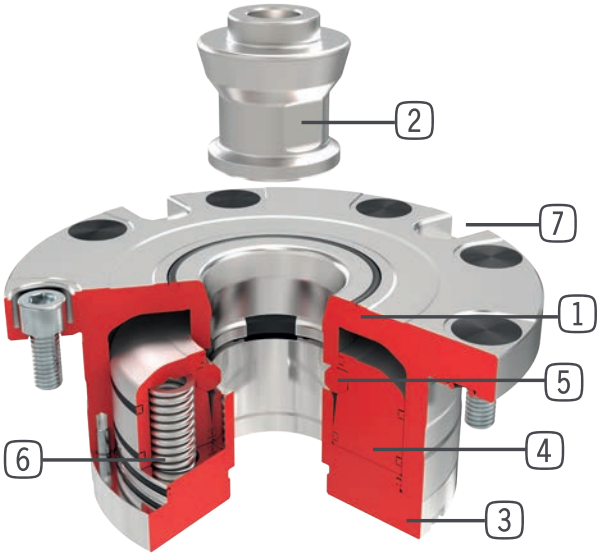
▶ PRODUCT ADVANTAGES



- **Concentration on the basic functions**
- **Locking by means of clamping segments**
- **PLUS connection**
- **Rustproof – tempered stainless steel**
- **Two integrated rotation locks**
- **Optional automatic seal**

▶ Zimmer Group's standard zero-point clamping system is reduced to the essentials, with functions such as unlocking and a PLUS connection as well as the two torque reaction devices. Even this economical zero-point clamping system also uses the well-proven positive locking system by means of clamping segments. It therefore it offers the best choice for a solution that is both cost-effective and high-quality. The range of accessories also offers an automatic seal for the pin opening, just like for the zero-point clamping system of the Advanced series.

▶ TECHNICAL DETAILS



1. **Housing**
2. **Clamping pins**
3. **Cover**
4. **Clamp dog**
5. **Clamping segments**
6. **Spring assembly**
7. **Torque support/rotation lock**

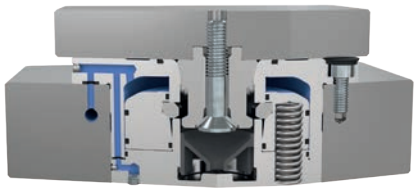
SPN ZERO-POINT CLAMPING SYSTEM
FUNCTIONAL DESCRIPTION

▶ CLAMPED



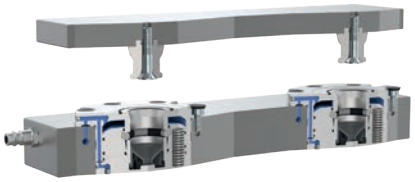
- Clamping pins clamped in the zero-point clamping system
- Positive locking
- Clamped with no energy, so no power consumption

▶ OPEN



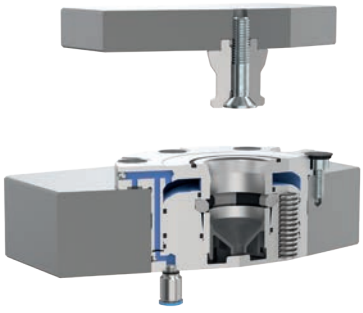
- Clamping pins not clamped in the zero-point clamping system
- Zero-point clamping system pressurized with compressed air
- Clamping mechanism is open

▶ HOSE-LESS CONNECTION



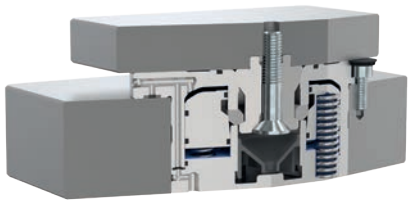
- All the functions can be controlled using the flange surface through spot facing

▶ HOSE CONNECTION



- Alternatively, the functions can be controlled using hoses at the base of the zero-point clamping system

▶ PLUS CONNECTION



- When the additional PLUS connection is used on the zero-point clamping system, the clamping force can be significantly increased

▶ RUSTPROOF



- The housing is made of stainless steel – contact parts are tempered and thus wear-free

▶ TWO INTEGRATED ROTATION LOCKS



- Two integrated rotation locks enable torque support around the pin axis

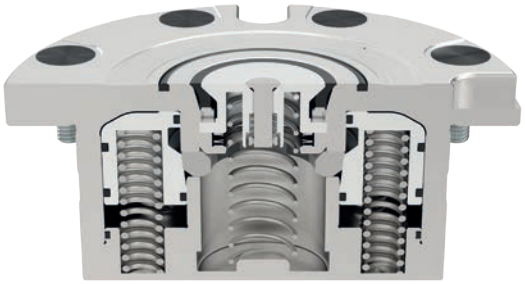
SPN ZERO-POINT CLAMPING SYSTEM
SERIES SPN

▶ OPTIONAL ACCESSORIES – AUTOMATIC SEAL

- To protect the pin opening reliably during operation, there is an automatic seal that descends when the clamping pin is inserted
- The automatic seal effectively prevents any dirt and chips from entering the zero-point clamping system
- In the Advanced series, the blow-out function is available with and without an automatic seal
- To provide optimum protection of the bolt opening, the delivery includes a locking bolt that closes the bolt opening when not in use



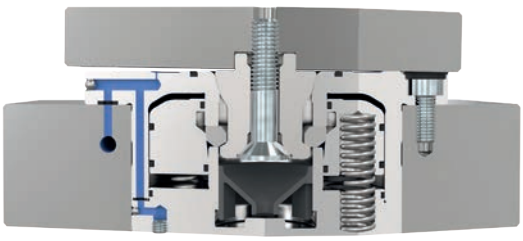
▶ Locking bolt



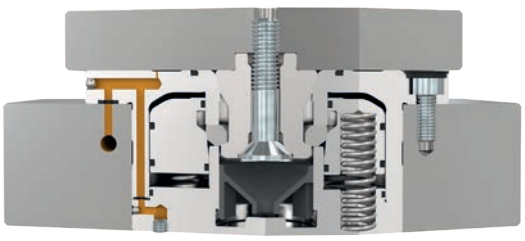
▶ With an automatic seal

▶ POSITIONING CHECK

- The pneumatic positioning check makes it possible to use an externally connected flowmeter (blue – flow) or pitot tube (orange – dynamic pressure) to check whether the workpiece or clamping pallet is laying correctly on the surface of the zero-point clamping system



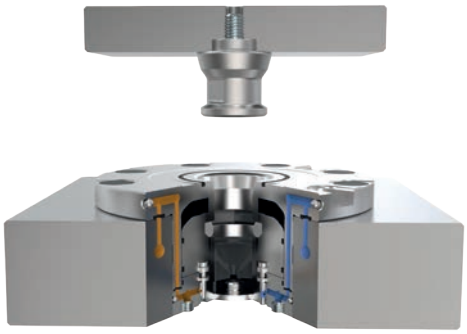
▶ The clamped product is not resting correctly on the contact surface. **- No dynamic pressure is generated**



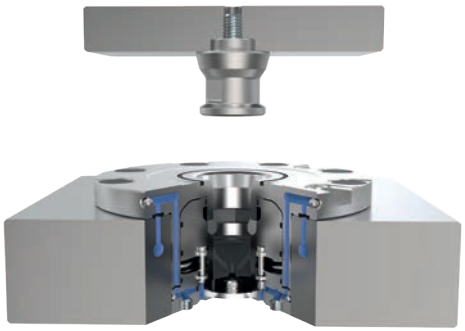
▶ The clamped product is resting correctly on the contact surface. **- Dynamic pressure is generated**

▶ PISTON POSITION SENSING

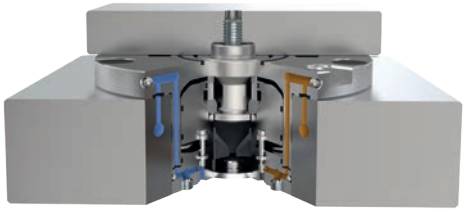
▶ By directly sensing the piston position by means of pneumatic dynamic pressure, the status of the zero-point clamping system (open, clamped, clamping pins clamped) can be queried



▶ Open



▶ Clamped, without a clamping pin



▶ Clamped, with a clamping pin

0 = dynamic pressure (orange)

1 = flow (blue)

		Open	Clamped, with a clamping pin	Clamped, without a clamping pin
Connection	**4**	0	1	1
Connection	**5**	1	0	1

SPN ZERO-POINT CLAMPING SYSTEM
CLAMPING PINS ARRANGEMENT

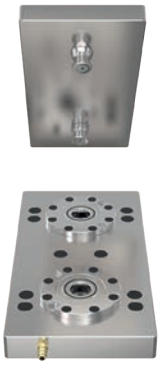
▶ CONFIGURATIONS

In order to best redirect the forces of the device to be clamped, the displayed arrangement of clamping pins is recommended. This arrangement makes it possible to compensate for geometry errors that emerge from production tolerances or thermal expansion:



Configuration with one zero-point clamping system

When one zero-point clamping system is used, only one centering pin is needed.
The centering pin secures the position in all three directions of the X, Y, Z coordinate system, thereby forming the zero point for the device to be secured in place. Two integrated rotation locks enable torque support around the pin axis.



Configuration with two zero-point clamping systems

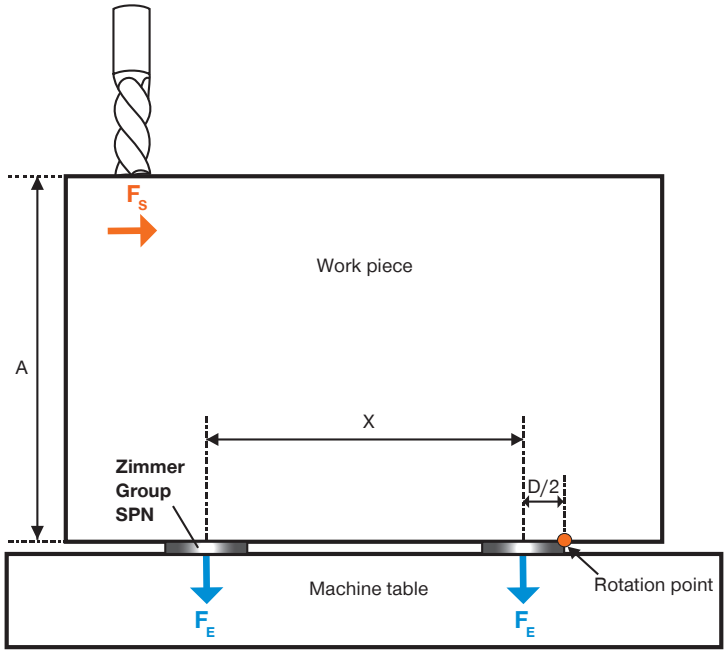
When two zero-point clamping systems are used, a centering pin and a sword pin are needed.
The sword pin can compensate for a change in length in one direction while absorbing the forces in the other two directions. It must be positioned so that it can support the torques applied around the centering pin in the Z direction.



Configuration with four or more zero-point clamping systems

When four or more zero-point clamping systems are used, retention pins are also needed in addition to the centering pin and sword pin.
The retention pin can only absorb forces in the Z direction. It compensates for changes in length in the X and Y direction.

SPN ZERO-POINT CLAMPING SYSTEM
CALCULATION EXAMPLE



▶ CALCULATION EXAMPLE

FORMULAS

▶ **Layout:**

4 Zero-Point Clamping System elements (assumed to be installation size SPN112)

D = 112 mm

X = 200 mm

A = 350 mm

F_{Cut} = 5 kN (cutting force)

Safety S = 2

$\sum$ M=0 (total of all moments = zero)

$S*F_{Cut}*A-2*(F_C*(X+D/2)+F_C*D/2)=0$

$-F_C=S*F_{Cut}*A/(2X+2D)$

$F_C= 2*5\ kN*350\ mm/(2*200\ mm+2*112\ mm)$

F_C =5.6 kN

▶ **Selection of Zero-Point Clamping Systems:**

SPN112E6AD-B clamping force = 6 kN

SPN ZERO-POINT CLAMPING SYSTEM
APPLICATIONS

▶ EXAMPLES



▶ Drilling



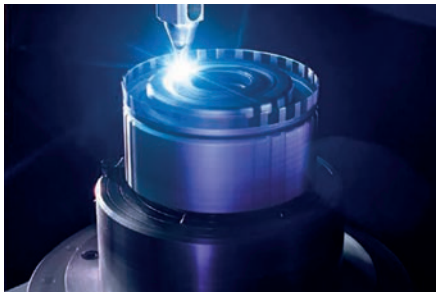
▶ Milling



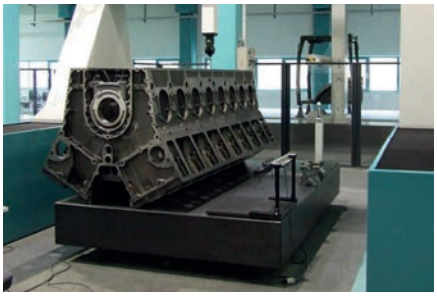
▶ Honing



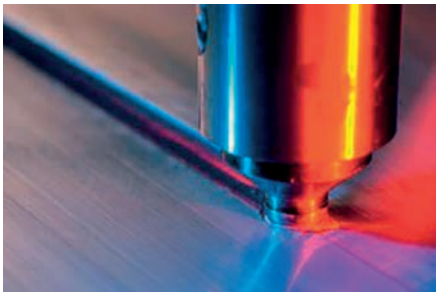
▶ Laser cutting



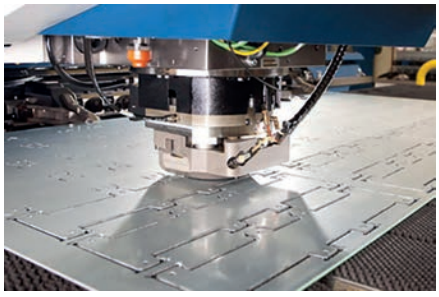
▶ Laser welding



▶ Measuring



▶ Friction stir welding



▶ Stamping



▶ Transport aircraft



▶ Robotics

SPN ZERO-POINT CLAMPING SYSTEM
OVERVIEW

Products	Operating pressure [bar]	Clamping force [kN]	Clamping force with PLUS connection [kN]	Rotation prevention	Contact monitoring	Piston position sensing	Page
SPN062 Advanced	4/6	1/2	2,5/5	●	●	●	18
SPN062 Standard	4/6	1/2	2,5/5	●			20
SPN062 Clamping plates	4/6			●			22
SPZ062 Clamping pins							25
SPN112 Advanced	4/6	4/6	10/15	●	●	●	26
SPN112 Standard	4/6	4/6	10/15	●			28
SPN112 Clamping plates	4/6			●			30
SPZ112 Clamping pins							33
SPN138 Advanced	4/6	12/18	24/36	●	●	●	34
SPN138 Standard	4/6	12/18	24/36	●			36
SPN138 Clamping plates	4/6			●			38
SPZ138 Clamping pins							41

SPN ZERO-POINT CLAMPING SYSTEM
SPN062 ADVANCED

▶ PRODUCT ADVANTAGES



- Pre-positioning 18 mm before reaching end position
- Automatic centering and pull-in already 0,5 mm before reaching end position
- Resistant against contamination
- Mechanical locked in clamping position
- Low operating pressure of 4 or 6bar
- Maintenance free

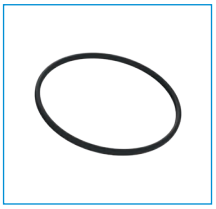
▶ EQUIPMENT FEATURES

- Pneumatic
- Form fit
- PLUS connection
- Tubeless connection
- Torque support
- Automatic seal
- Stainless steel
- Pins compatible with reference system
- Low height
- Repeatability
- Hardened
- Piston position sensing / positioning check

▶ INCLUDED IN DELIVERY



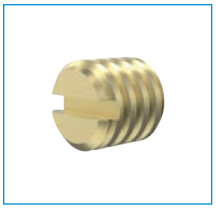
Mounting screw
M3x8 12.9
C0912030082



O-Ring
COR002010V



Cover cap
M3
095138



Venting filter
CFILT00052



Sealing
pin
SPZ062BV-B

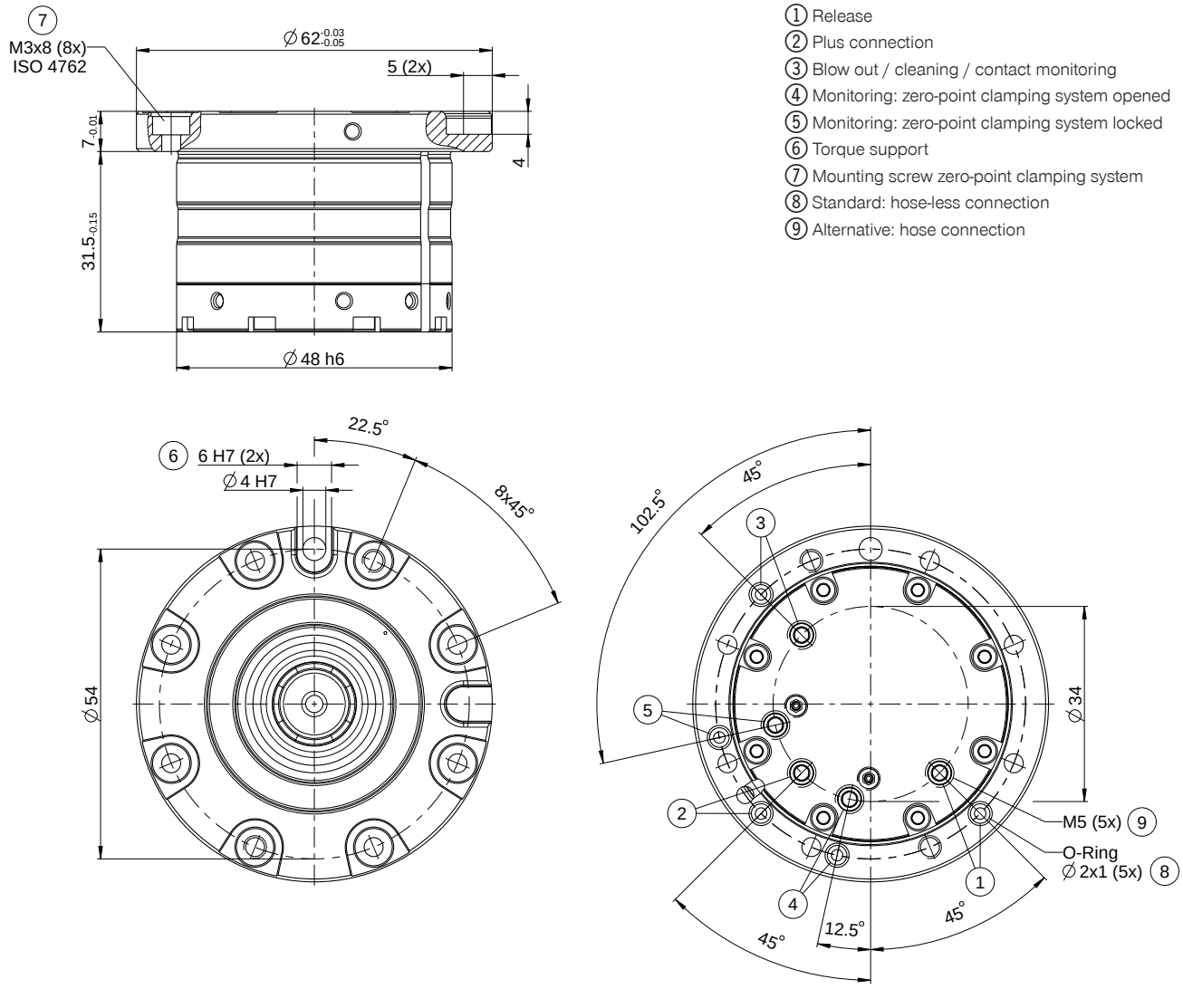
▶ OPTIONAL ACCESSORIES



Automatic
seal
SPZ062AV-B

▶ TECHNICAL DATA

	▶ Technical Data	
Order no.	**SPN062E6AD-B**	**SPN062E4AD-B**
Holding force max.	M8	M8
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	2	1
Pull-in force with PLUS connection [kN]	5	2.5
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	Yes	Yes
Contact monitoring	Yes	Yes
Contact seal	Yes	Yes
Repetition accuracy [mm]	0.005	0.005
Material	Tempered stainless steel	Tempered stainless steel
Weight [kg]	0.47	0.47



1. Release
2. Plus connection
3. Blow out / cleaning / contact monitoring
4. Monitoring: zero-point clamping system opened
5. Monitoring: zero-point clamping system locked
6. Torque support
7. Mounting screw zero-point clamping system
8. Standard: hose-less connection
9. Alternative: hose connection

SPN ZERO-POINT CLAMPING SYSTEM
SPN062 STANDARD

▶ PRODUCT ADVANTAGES



- Pre-positioning 18 mm before reaching end position
- Automatic centering and pull-in already 0,5 mm before reaching end position
- Resistant against contamination
- Mechanical locked in clamping position
- Low operating pressure of 4 or 6bar
- Maintenance free

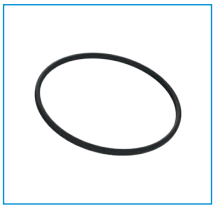
▶ EQUIPMENT FEATURES

- Pneumatic
- Form fit
- PLUS connection
- Tubeless connection
- Torque support
- Automatic seal
- Stainless steel
- Pins compatible with reference system
- Low height
- Repeatability
- Hardened

▶ INCLUDED IN DELIVERY



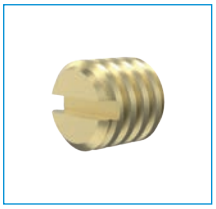
Mounting screw
M3x8 12.9
C0912030082



O-Ring
COR002010V



Cover cap
M3
095138



Venting filter
CFILT00052



Sealing
pin
SPZ062BV-B

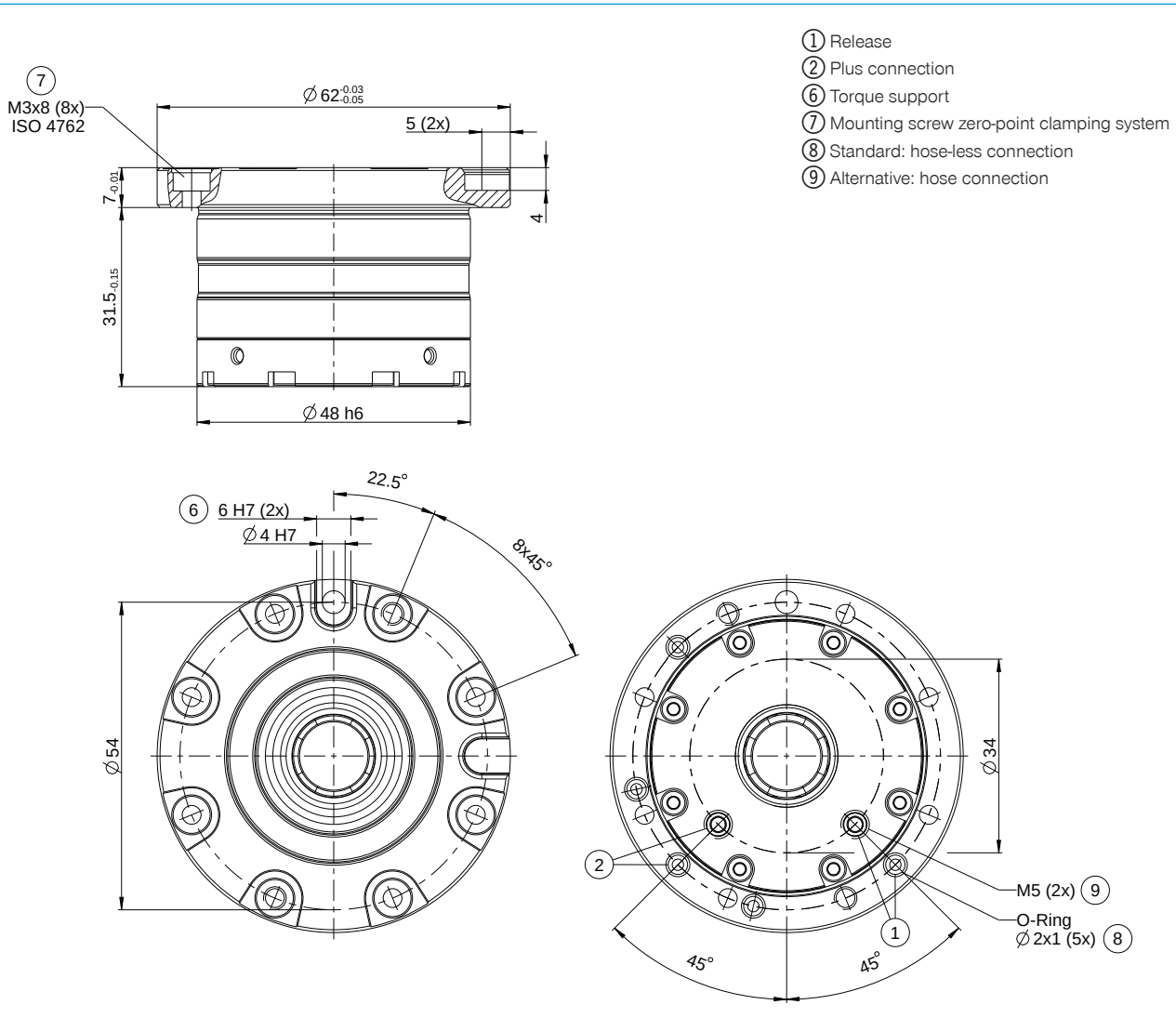
▶ OPTIONAL ACCESSORIES



Automatic
seal
SPZ062AV-B

▶ TECHNICAL DATA

	▶ Technical Data	
Order no.	**SPN062E6SD-B**	**SPN062E4SD-B**
Holding force max.	M8	M8
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	2	1
Pull-in force with PLUS connection [kN]	5	2.5
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Contact monitoring	No	No
Contact seal	Yes	Yes
Repetition accuracy [mm]	0.005	0.005
Material	Tempered stainless steel	Tempered stainless steel
Weight [kg]	0.47	0.47



(1) Release
(2) Plus connection
(6) Torque support
(7) Mounting screw zero-point clamping system
(8) Standard: hose-less connection
(9) Alternative: hose connection

SPN ZERO-POINT CLAMPING SYSTEM
SPN062P2 - CLAMPING PLATE

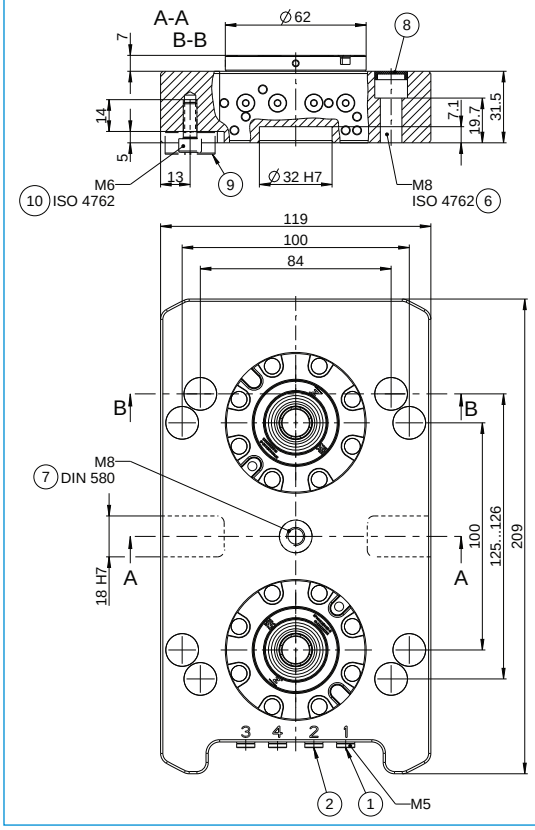
▶ 2-FOLD



- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN062P2E6SD-B	SPN062P2E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	2xM8	2xM8
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	2x2	2x1
Pull-in force with PLUS connection [kN]	2x5	2x2.5
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	5.6	5.6

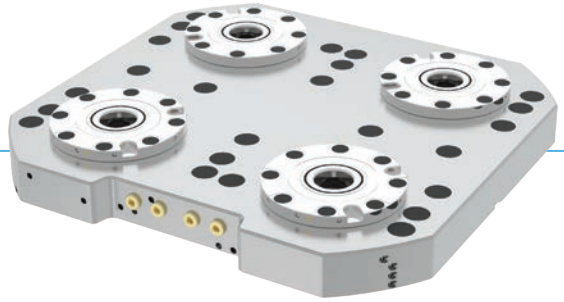


① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

*Not included in delivery

SPN ZERO-POINT CLAMPING SYSTEM
SPN062P4 - CLAMPING PLATE

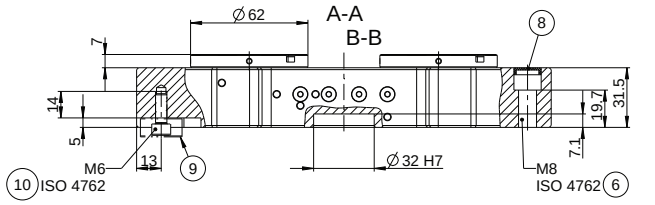
▶ 4-FOLD

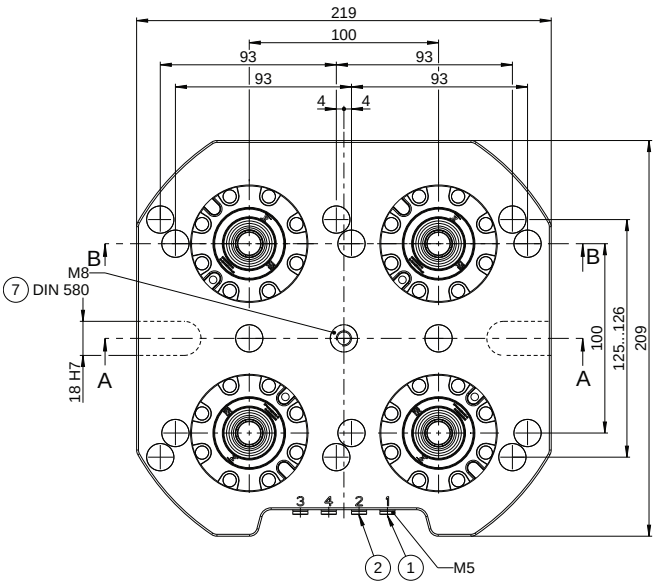


- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN062P4E6SD-B	SPN062P4E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	4xM8	4xM8
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	4x2	4x1
Pull-in force with PLUS connection [kN]	4x5	4x2.5
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	9.8	9.8



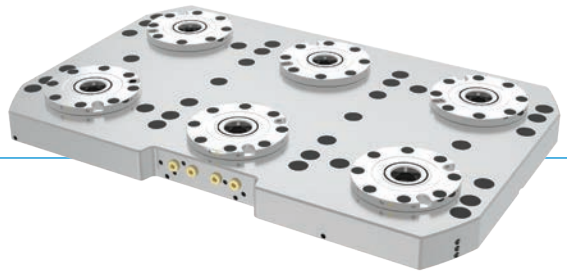


1 Release
2 Plus connection
6 Mounting screw*
7 Thread bore transport
8 Sealing cap
9 T-slot nut*
10 T-slot nut mounting screw*

*Not included in delivery

SPN ZERO-POINT CLAMPING SYSTEM
SPN062P6 - CLAMPING PLATE

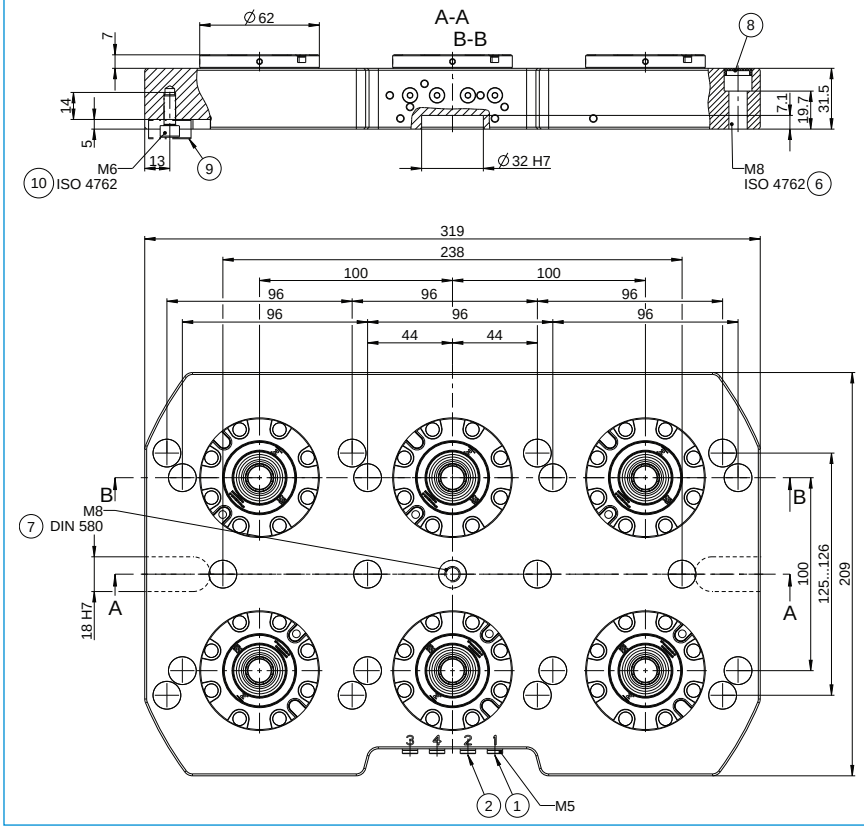
▶ 6-FOLD



- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN062P6E6SD-B	SPN062P6E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	6xM8	6xM8
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	6x2	6x1
Pull-in force with PLUS connection [kN]	6x5	6x2.5
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	15.2	15.2



① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

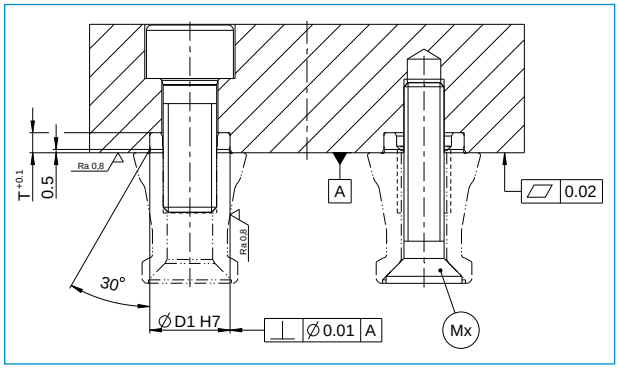
*Not included in delivery

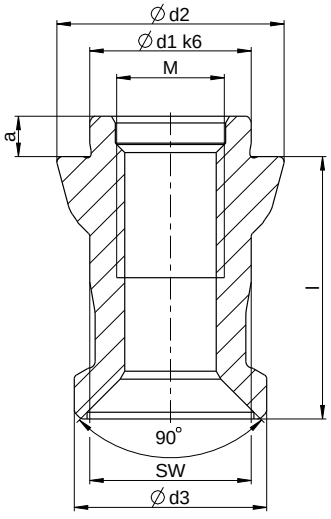
SPN ZERO-POINT CLAMPING SYSTEM
SPZ062 - CLAMPING PINS

▶ TECHNICAL DATA

	▶ Technical Data		
Order no.	**SPZ062BZ08-B**	**SPZ062BE08-B**	**SPZ062BS08-B**
Ød1 [mm]	12	12	12
Ød2 [mm]	17	16.85	17
Ød3 [mm]	14.3	14.3	14.3
ØD1 [mm]	12	12	12
a [mm]	2.9	2.9	2.9
g [mm]	12	12	12
l [mm]	19.5	19.5	19.5
SW [mm]	12	12	12
T [mm]	3	3	3
M *	M8	M8	M8
Mx * *	M6	M6	M6

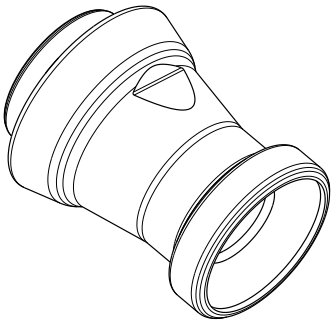
*ISO 4762
Holding force 12.9 max. [kN]: M6 = 15 ; M8 = 25 ; M10 = 35 ; M12 = 50 ; M16 = 75
Holding force 10.9 max. [kN]: M6 = 12 ; M8 = 20 ; M10 = 30 ; M12 = 40 ; M16 = 60
**ISO 10642
Holding force 12.9 max. [kN]: M6 = 12 ; M8 = 20 ; M10 = 28 ; M12 = 40 ; M16 = 60
Holding force 10.9 max. [kN]: M6 = 9,5 ; M8 = 16 ; M10 = 24 ; M12 = 32 ; M16 = 48



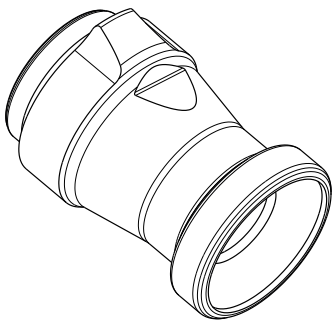


SPZ062BZ08-B
Centering pin

SPZ062BE08-B
Retention pin

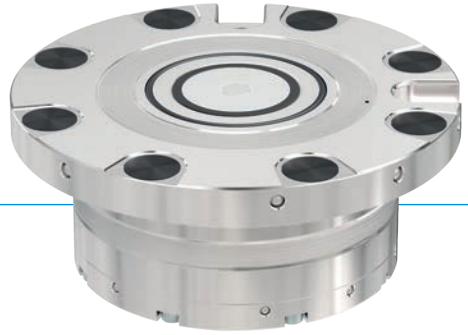


SPZ062BS08-B
Sword pin



SPN ZERO-POINT CLAMPING SYSTEM
SPN112 ADVANCED

▶ PRODUCT ADVANTAGES



- Pre-positioning 22 mm before reaching end position
- Automatic centering and pull-in already 1 mm before reaching end position
- Resistant against contamination
- Mechanical locked in clamping position
- Low operating pressure of 4 or 6bar
- Maintenance free

▶ EQUIPMENT FEATURES

- Pneumatic
- Form fit
- PLUS connection
- Tubeless connection
- Torque support
- Automatic seal
- Stainless steel
- Pins compatible with reference system
- Low height
- Repeatability
- Hardened
- Piston position sensing / positioning check

▶ INCLUDED IN DELIVERY



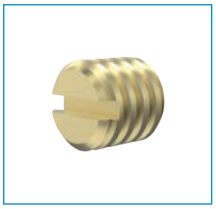
Mounting screw
M6x14 12.9
C0912060144D



O-ring
3,5x1,5
COR003515V



Cover cap
M6
093088



Venting filter
CFILT00052



Sealing
pin
SPZ112BV-B

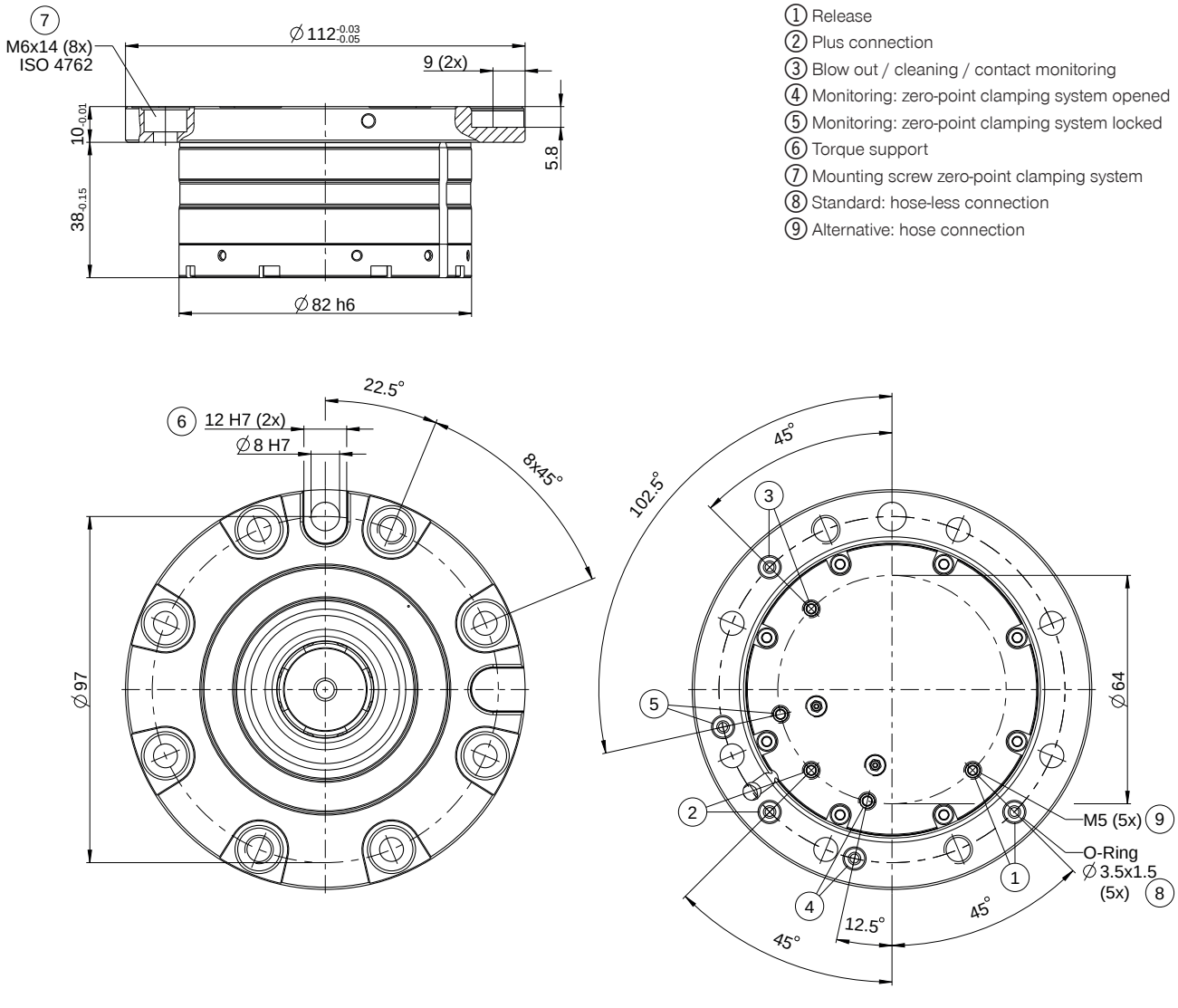
▶ OPTIONAL ACCESSORIES



Automatic
seal
SPZ112AV-B

▶ TECHNICAL DATA

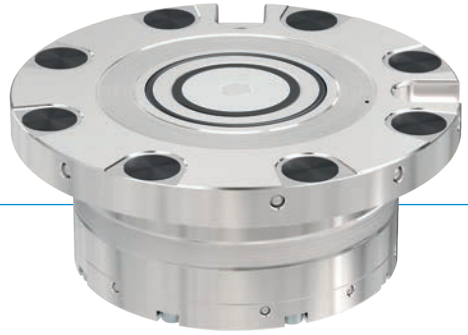
	▶ Technical Data	
Order no.	**SPN112E6AD-B**	**SPN112E4AD-B**
Holding force max.	M10/M12	M10/M12
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	6	4
Pull-in force with PLUS connection [kN]	15	10
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	Yes	Yes
Contact monitoring	Yes	Yes
Contact seal	Yes	Yes
Repetition accuracy [mm]	0.005	0.005
Material	Tempered stainless steel	Tempered stainless steel
Weight [kg]	1.67	1.67



1. Release
2. Plus connection
3. Blow out / cleaning / contact monitoring
4. Monitoring: zero-point clamping system opened
5. Monitoring: zero-point clamping system locked
6. Torque support
7. Mounting screw zero-point clamping system
8. Standard: hose-less connection
9. Alternative: hose connection

SPN ZERO-POINT CLAMPING SYSTEM
SPN112 STANDARD

▶ PRODUCT ADVANTAGES



- Pre-positioning 22 mm before reaching end position
- Automatic centering and pull-in already 1 mm before reaching end position
- Resistant against contamination
- Mechanical locked in clamping position
- Low operating pressure of 4 or 6bar
- Maintenance free

▶ EQUIPMENT FEATURES

- Pneumatic
- Form fit
- PLUS connection
- Tubeless connection
- Torque support
- Automatic seal
- Stainless steel
- Pins compatible with reference system
- Low height
- Repeatability
- Hardened

▶ INCLUDED IN DELIVERY



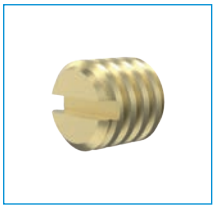
Mounting screw
M6x14 12.9
C0912060144D



O-ring
3,5x1,5
COR003515V



Cover cap
M6
093088



Venting filter
CFILT00052



Sealing
pin
SPZ112BV-B

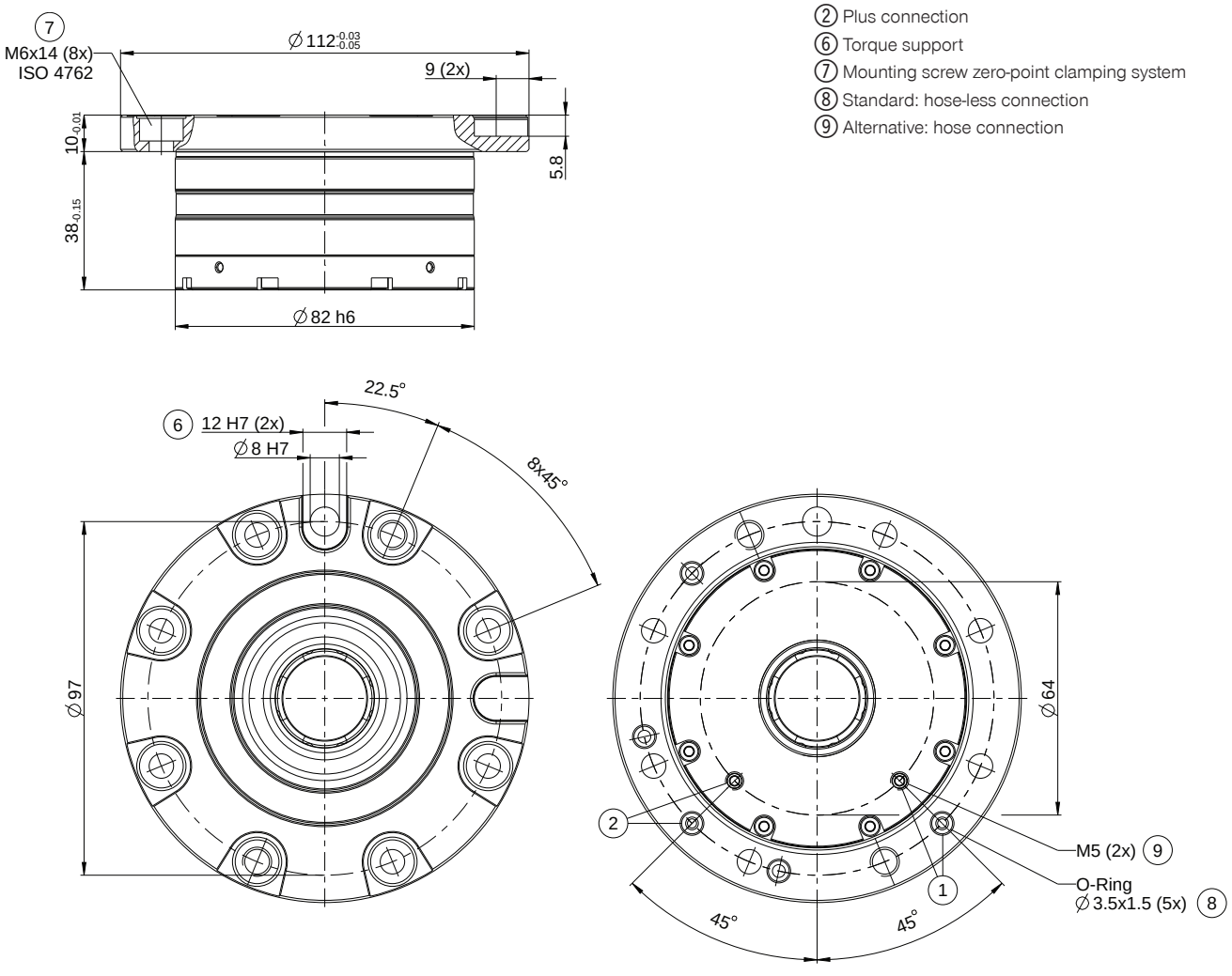
▶ OPTIONAL ACCESSORIES



Automatic
seal
SPZ112AV-B

▶ TECHNICAL DATA

	▶ Technical Data	
Order no.	**SPN112E6SD-B**	**SPN112E4SD-B**
Holding force max.	M10/M12	M10/M12
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	6	4
Pull-in force with PLUS connection [kN]	15	10
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Contact monitoring	No	No
Contact seal	Yes	Yes
Repetition accuracy [mm]	0.005	0.005
Material	Tempered stainless steel	Tempered stainless steel
Weight [kg]	1.67	1.67



(1) Release
(2) Plus connection
(6) Torque support
(7) Mounting screw zero-point clamping system
(8) Standard: hose-less connection
(9) Alternative: hose connection

SPN ZERO-POINT CLAMPING SYSTEM
SPN112P2 - CLAMPING PLATE

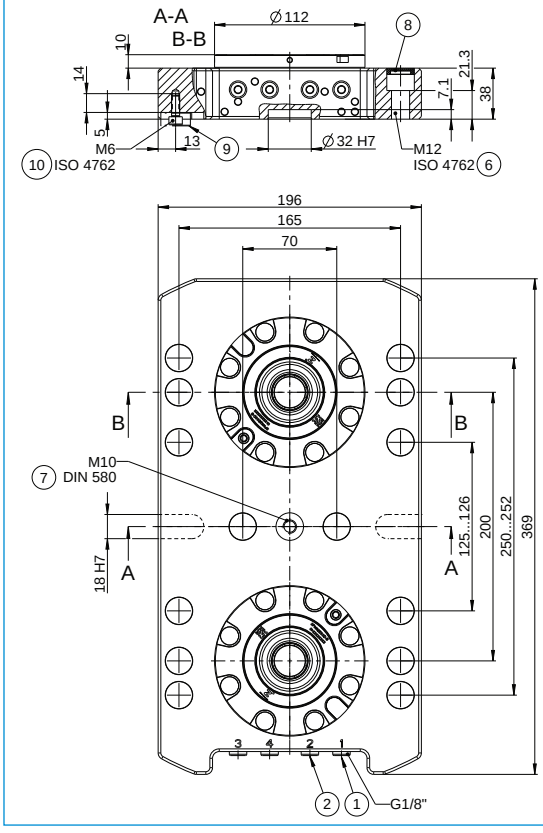
▶ 2-FOLD



- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN112P2E6SD-B	SPN112P2E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	2xM10/M12	2xM10/M12
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	2x6	2x4
Pull-in force with PLUS connection [kN]	2x15	2x10
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	19.8	19.8

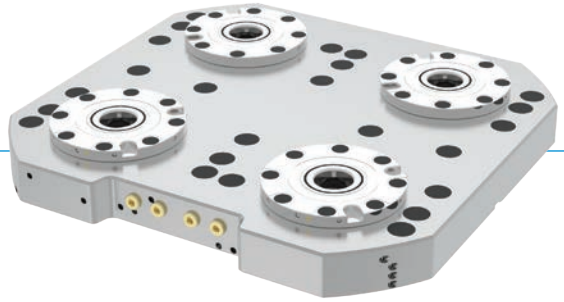


① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

*Not included in delivery

SPN ZERO-POINT CLAMPING SYSTEM
SPN112P4 - CLAMPING PLATE

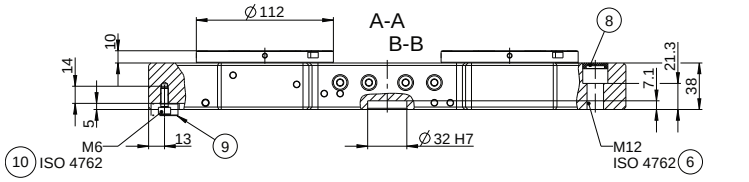
▶ 4-FOLD

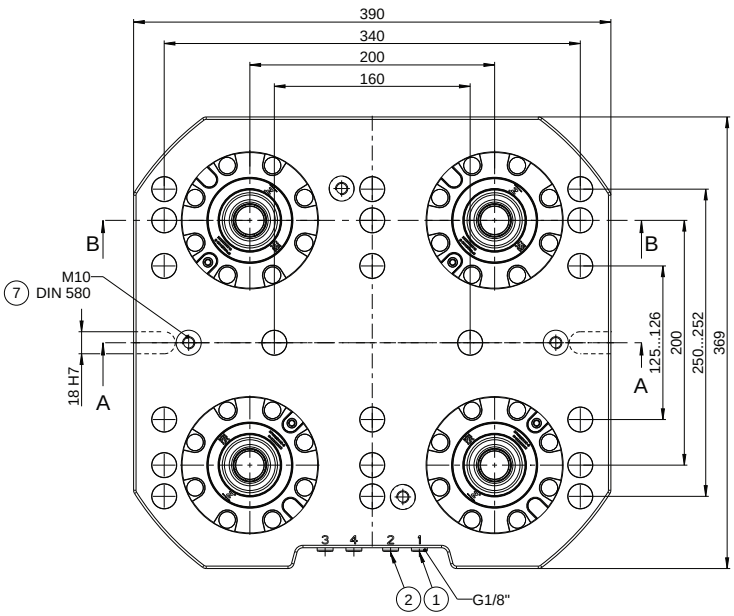


- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN112P4E6SD-B	SPN112P4E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	4xM10/M12	4xM10/M12
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	4x6	4x4
Pull-in force with PLUS connection [kN]	4x15	4x10
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	38.9	38.9



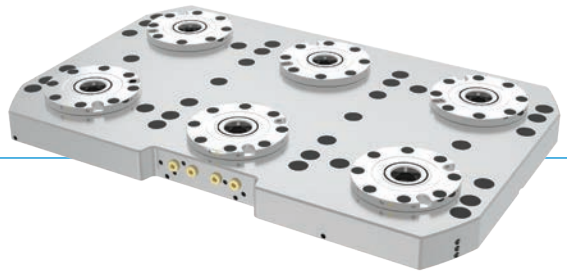


① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

*Not included in delivery

SPN ZERO-POINT CLAMPING SYSTEM
SPN112P6 - CLAMPING PLATE

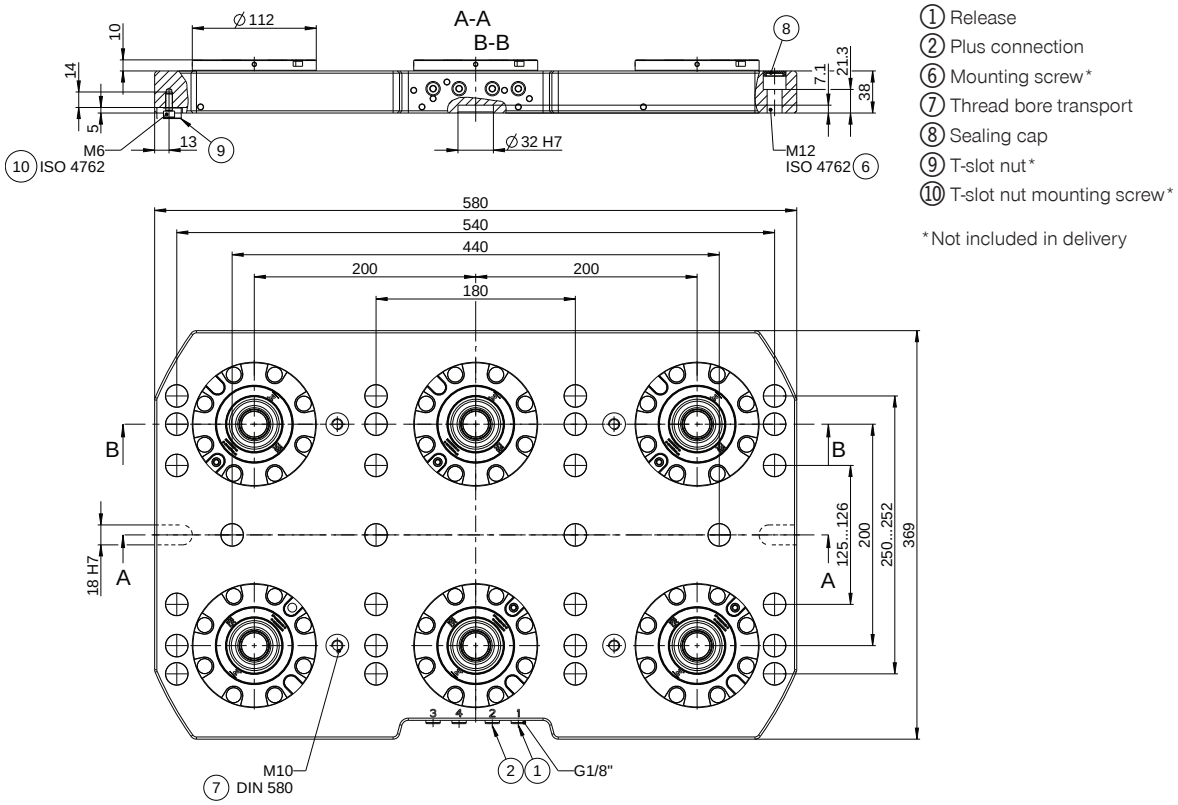
▶ 6-FOLD



- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN112P6E6SD-B	SPN112P6E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	6xM10/M12	6xM10/M12
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	6x6	6x4
Pull-in force with PLUS connection [kN]	6x15	6x10
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	60	60



① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

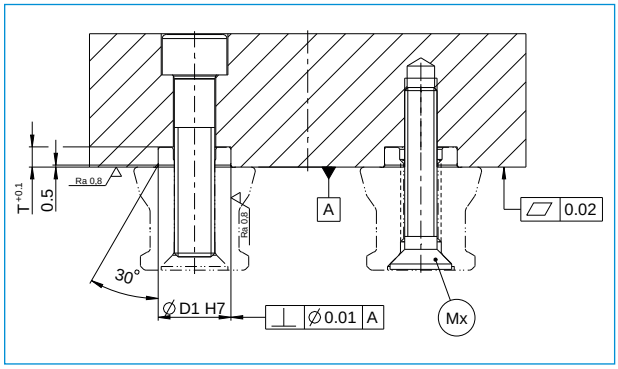
*Not included in delivery

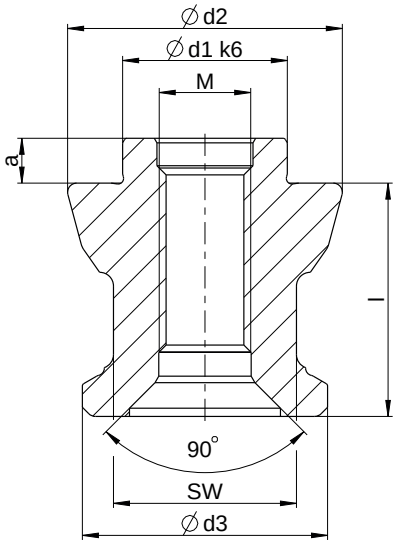
SPN ZERO-POINT CLAMPING SYSTEM
SPZ112 - CLAMPING PINS

▶ TECHNICAL DATA

	▶ Technical Data					
Order no.	**SPZ112BZ10-B**	**SPZ112BZ12-B**	**SPZ112BE10-B**	**SPZ112BE12-B**	**SPZ112BS10-B**	**SPZ112BS12-B**
Ød1 [mm]	18	18	18	18	18	18
Ød2 [mm]	30	30	29.85	29.85	30	30
Ød3 [mm]	26.8	26.8	26.8	26.8	26.8	26.8
ØD1 [mm]	18	18	18	18	18	18
a [mm]	4.9	4.9	4.9	4.9	4.9	4.9
l [mm]	25.5	25.5	25.5	25.5	25.5	25.5
SW [mm]	20	20	20	20	20	20
T [mm]	5	5	5	5	5	5
M *	M10	M12	M10	M12	M10	M12
Mx **	M8	M10	M8	M10	M8	M10

*ISO 4762
Holding force 12.9 max. [kN]: M6 = 15 ; M8 = 25 ; M10 = 35 ; M12 = 50 ; M16 = 75
Holding force 10.9 max. [kN]: M6 = 12 ; M8 = 20 ; M10 = 30 ; M12 = 40 ; M16 = 60
**ISO 10642
Holding force 12.9 max. [kN]: M6 = 12 ; M8 = 20 ; M10 = 28 ; M12 = 40 ; M16 = 60
Holding force 10.9 max. [kN]: M6 = 9,5 ; M8 = 16 ; M10 = 24 ; M12 = 32 ; M16 = 48



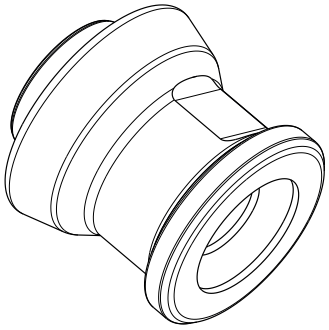


SPZ112BZ10-B
Centering pin

SPZ112BZ12-B
Centering pin

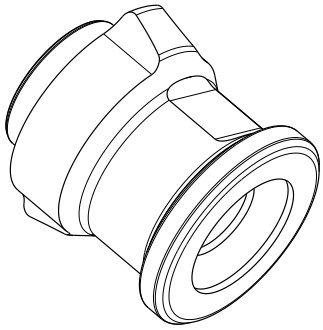
SPZ112BE10-B
Retention pin

SPZ112BE12-B
Retention pin



SPZ112BS10-B
Sword pin

SPZ112BS12-B
Sword pin



SPN ZERO-POINT CLAMPING SYSTEM
SPN138 ADVANCED

▶ PRODUCT ADVANTAGES



- Pre-positioning 28 mm before reaching end position
- Automatic centering and pull-in already 1 mm before reaching end position
- Resistant against contamination
- Mechanical locked in clamping position
- Low operating pressure of 4 or 6bar
- Maintenance free

▶ EQUIPMENT FEATURES

- Pneumatic
- Form fit
- PLUS connection
- Tubeless connection
- Torque support
- Automatic seal
- Stainless steel
- Pins compatible with reference system
- Low height
- Repeatability
- Hardened
- Piston position sensing / positioning check

▶ INCLUDED IN DELIVERY



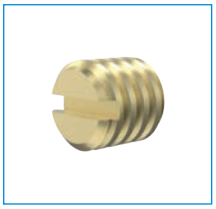
Mounting screw
M6x14 12.9
C0912060144D



O-ring
3,5x1,5
COR003515V



Cover cap
M6
093088



Venting filter
CFILT00052



Sealing
pin
SPZ138BV-B

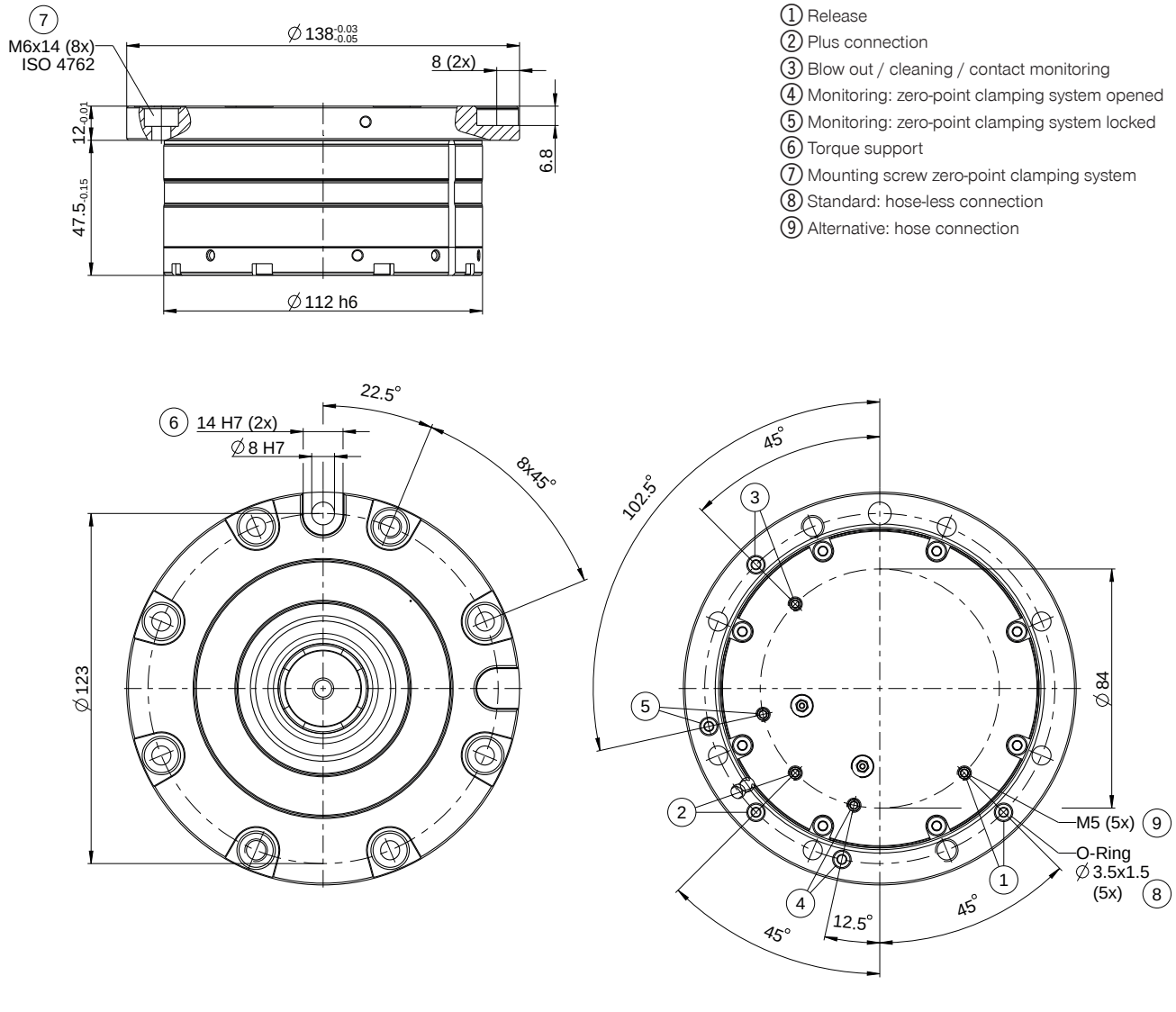
▶ OPTIONAL ACCESSORIES



Automatic
seal
SPZ138AV-B

▶ TECHNICAL DATA

	▶ Technical Data	
Order no.	**SPN138E6AD-B**	**SPN138E4AD-B**
Holding force max.	M12/M16	M12/M16
Operating pressure [bar]	6	4
Retraction force [kN]	18	12
Pull-in force with PLUS connection [kN]	36	24
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	Yes	Yes
Contact monitoring	Yes	Yes
Contact seal	Yes	Yes
Repetition accuracy [mm]	0.005	0.005
Material	Tempered stainless steel	Tempered stainless steel
Weight [kg]	3.7	3.7



1. Release
2. Plus connection
3. Blow out / cleaning / contact monitoring
4. Monitoring: zero-point clamping system opened
5. Monitoring: zero-point clamping system locked
6. Torque support
7. Mounting screw zero-point clamping system
8. Standard: hose-less connection
9. Alternative: hose connection

SPN ZERO-POINT CLAMPING SYSTEM
SPN138 STANDARD

▶ PRODUCT ADVANTAGES



- Pre-positioning 28 mm before reaching end position
- Automatic centering and pull-in already 1 mm before reaching end position
- Resistant against contamination
- Mechanical locked in clamping position
- Low operating pressure of 4 or 6bar
- Maintenance free

▶ EQUIPMENT FEATURES

- Pneumatic
- Form fit
- PLUS connection
- Tubeless connection
- Torque support
- Automatic seal
- Stainless steel
- Pins compatible with reference system
- Low height
- Repeatability
- Hardened

▶ INCLUDED IN DELIVERY



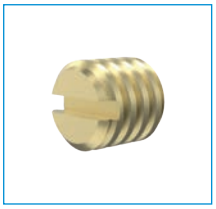
Mounting screw
M6x14 12.9
C0912060144D



O-ring
3,5x1,5
COR003515V



Cover cap
M6
093088



Venting filter
CFILT00052



Sealing
pin
SPZ138BV-B

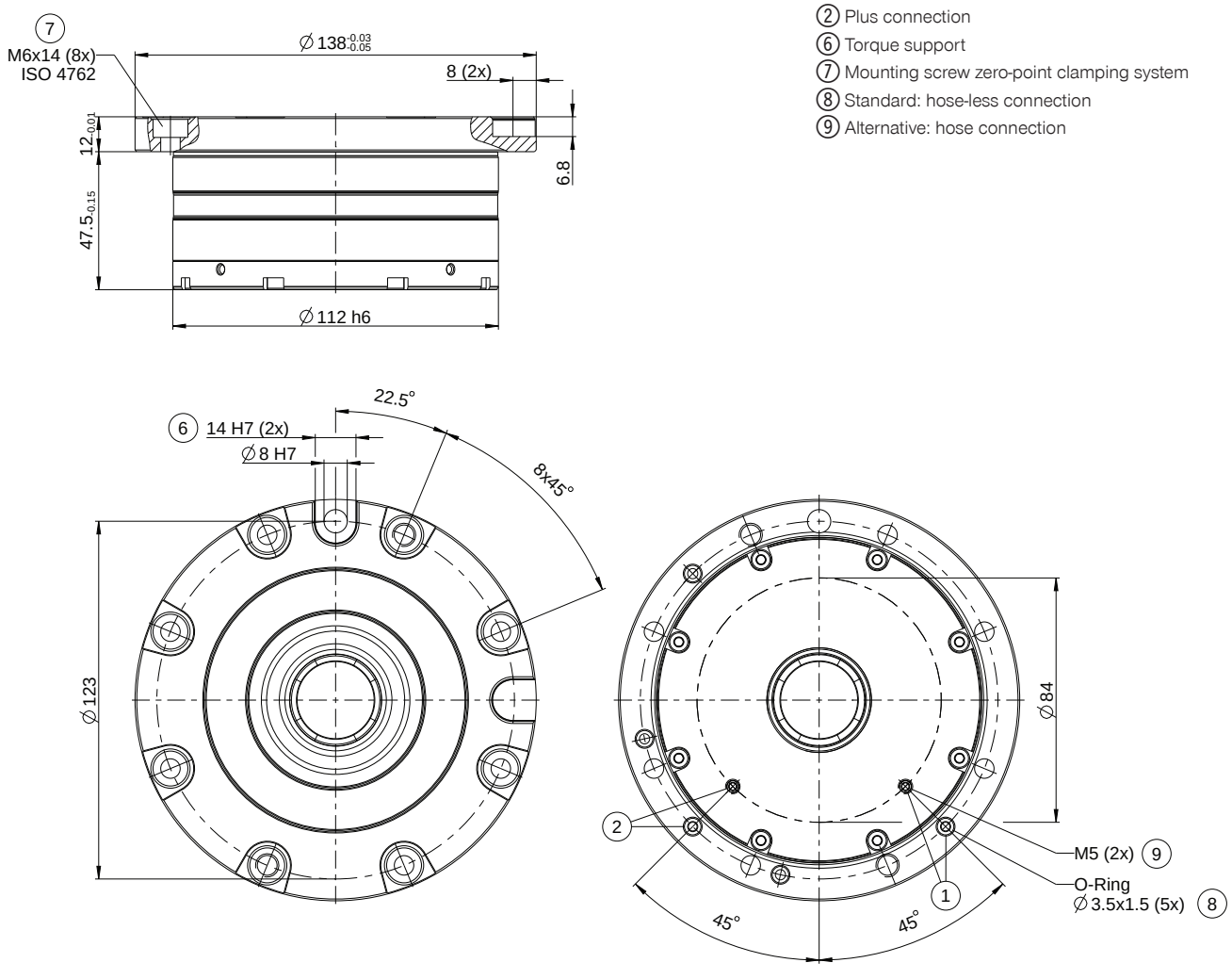
▶ OPTIONAL ACCESSORIES



Automatic
seal
SPZ138AV-B

▶ TECHNICAL DATA

	▶ Technical Data	
Order no.	**SPN138E6SD-B**	**SPN138E4SD-B**
Holding force max.	M12/M16	M12/M16
Operating pressure [bar]	6	4
Retraction force [kN]	18	12
Pull-in force with PLUS connection [kN]	36	24
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Contact monitoring	No	No
Contact seal	Yes	Yes
Repetition accuracy [mm]	0.005	0.005
Material	Tempered stainless steel	Tempered stainless steel
Weight [kg]	3.7	3.7



SPN ZERO-POINT CLAMPING SYSTEM
SPN138P2 - CLAMPING PLATE

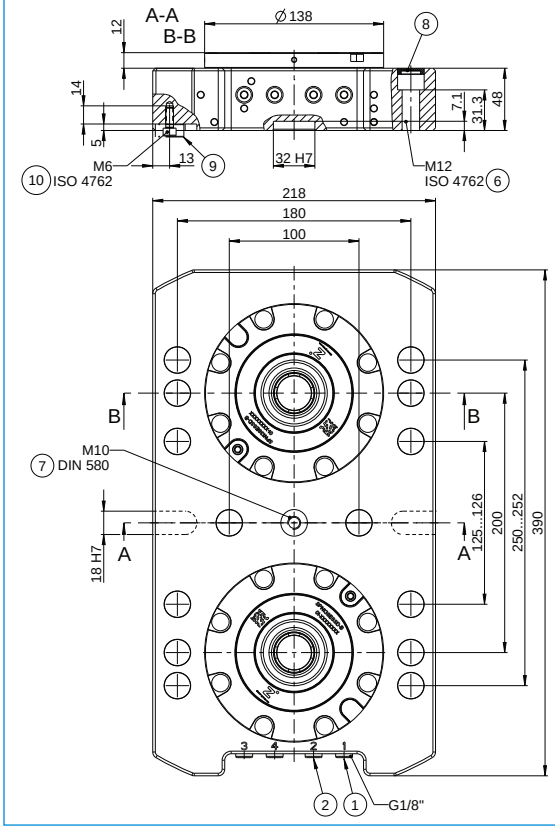
▶ 2-FOLD



- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN138P2E6SD-B	SPN138P2E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	2xM12/M16	2xM12/M16
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	2x18	2x12
Pull-in force with PLUS connection [kN]	2x36	2x24
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	29.6	29.6

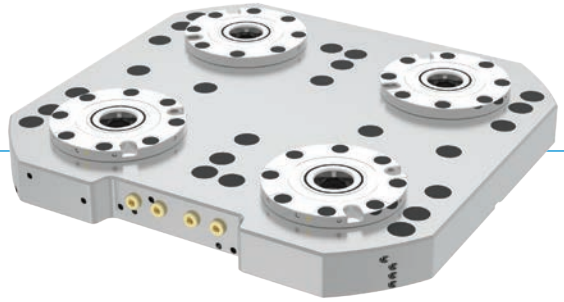


① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

*Not included in delivery

SPN ZERO-POINT CLAMPING SYSTEM
SPN138P4 - CLAMPING PLATE

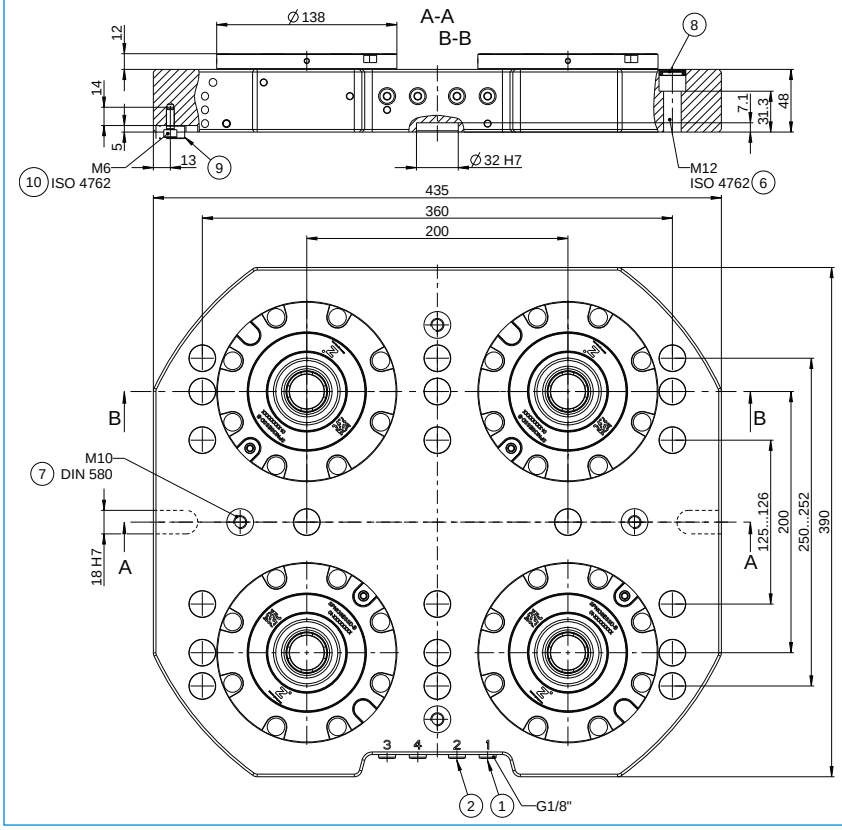
▶ 4-FOLD



- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN138P4E6SD-B	SPN138P4E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	4xM12/M16	4xM12/M16
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	4x18	4x12
Pull-in force with PLUS connection [kN]	4x36	4x24
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	56.6	56.6

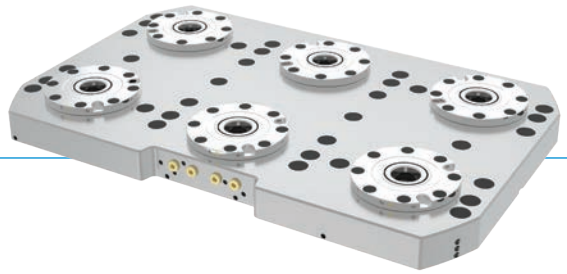


① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

*Not included in delivery

SPN ZERO-POINT CLAMPING SYSTEM
SPN138P6 - CLAMPING PLATE

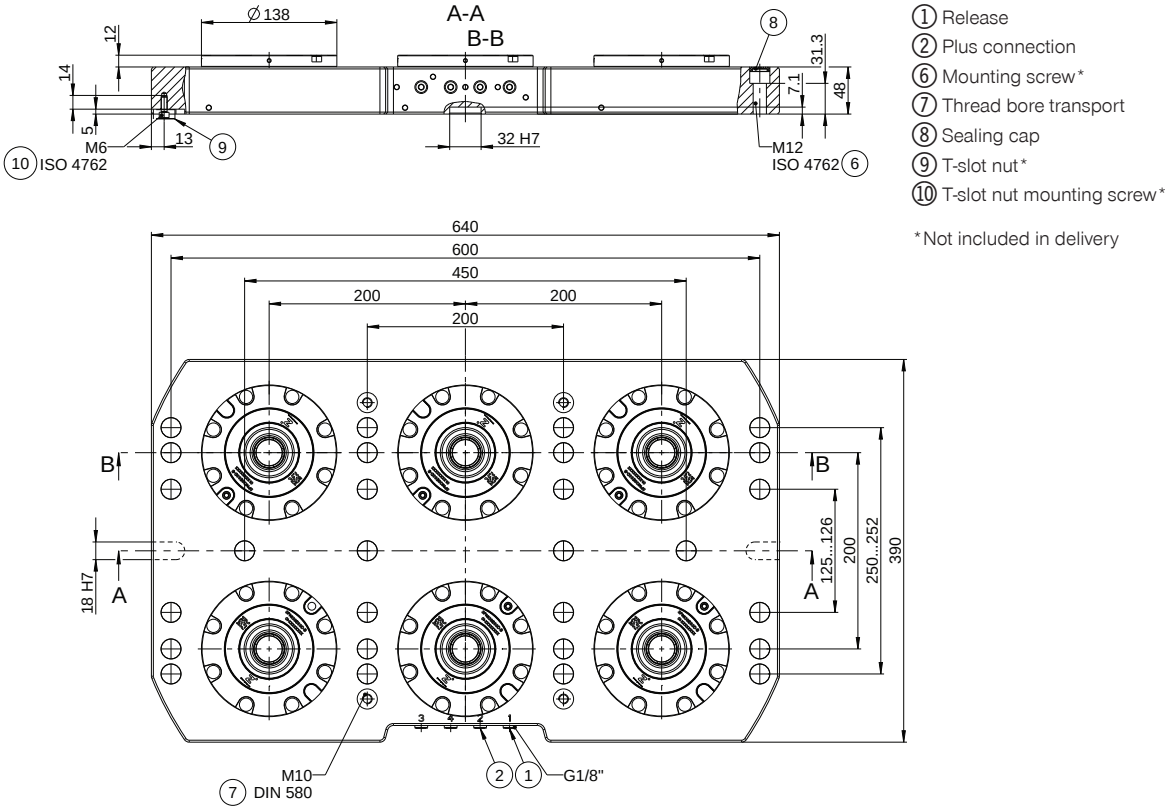
▶ 6-FOLD



- Compact design with optimized design height
- System assembly with high precision
- Integrated air supply/distribution
- Integrated PLUS connection
- Available with the advanced zero-point clamping system on request
- Variable mounting options

▶ **Technical Data**

Order no.	SPN138P6E6SD-B	SPN138P6E4SD-B
Operation mode	Pneumatic	Pneumatic
Holding force max.	6xM12/M16	6xM12/M16
Operating pressure [bar]	6 ... 7	4 ... 7
Retraction force [kN]	6x18	6x12
Pull-in force with PLUS connection [kN]	6x36	6x24
Operating temperature [°C]	-10 ... +70	-10 ... +70
Rotation prevention	Yes	Yes
PLUS connection	Yes	Yes
Air cleaning	No	No
Piston position sensing	No	No
Contact monitoring	No	No
Material	Tempered stainless steel/steel	Tempered stainless steel/steel
Weight [kg]	88.4	88.4



① Release
② Plus connection
⑥ Mounting screw*
⑦ Thread bore transport
⑧ Sealing cap
⑨ T-slot nut*
⑩ T-slot nut mounting screw*

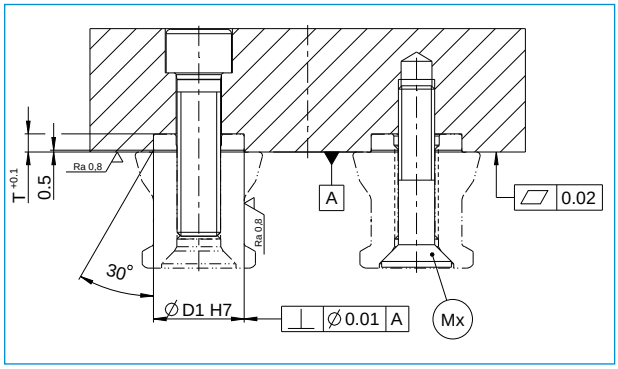
*Not included in delivery

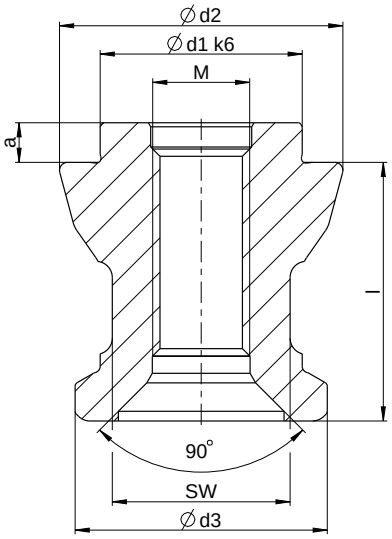
SPN ZERO-POINT CLAMPING SYSTEM
SPZ138 - CLAMPING PINS

▶ TECHNICAL DATA

	▶ Technical Data					
Order no.	**SPZ138BZ12-B**	**SPZ138BZ16-B**	**SPZ138BE12-B**	**SPZ138BE16-B**	**SPZ138BS12-B**	**SPZ138BS16-B**
Ød1 [mm]	25	25	25	25	25	25
Ød2 [mm]	35	35	34.85	34.85	35	35
Ød3 [mm]	31.2	31.2	31.2	31.2	31.2	31.2
ØD1 [mm]	25	25	25	25	25	25
a [mm]	4.9	4.9	4.9	4.9	4.9	4.9
l [mm]	32	32	32	32	32	32
SW [mm]	22	22	22	22	22	22
T [mm]	5	5	5	5	5	5
M *	M12	M16	M12	M16	M12	M16
Mx **	M10	M12	M10	M12	M10	M12

*ISO 4762
Holding force 12.9 max. [kN]: M6 = 15 ; M8 = 25 ; M10 = 35 ; M12 = 50 ; M16 = 75
Holding force 10.9 max. [kN]: M6 = 12 ; M8 = 20 ; M10 = 30 ; M12 = 40 ; M16 = 60
**ISO 10642
Holding force 12.9 max. [kN]: M6 = 12 ; M8 = 20 ; M10 = 28 ; M12 = 40 ; M16 = 60
Holding force 10.9 max. [kN]: M6 = 9,5 ; M8 = 16 ; M10 = 24 ; M12 = 32 ; M16 = 48





SPZ138BZ12-B
Centering pin

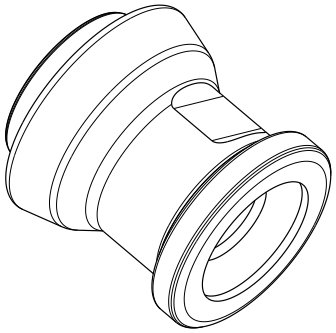
SPZ138BZ16-B
Centering pin

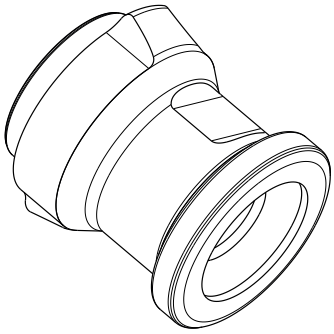
SPZ138BE12-B
Retention pin

SPZ138BS12-B
Sword pin

SPZ138BE16-B
Retention pin

SPZ138BS16-B
Sword pin





SPN ZERO-POINT CLAMPING SYSTEM
FAQ

Can clamping pins be integrated directly into the workpiece?

The clamping pins can be integrated directly into the workpiece using the Zimmer zero-point clamping system to clamp the workpiece with precision, repeatability and cost efficiency. This approach makes it possible to perform complete 5-side machining in one workpiece clamping setup.

Why are there different clamping pins available?

The various clamping pins ensure the desired precision clamping behavior in different three-dimensional axes. The centering pin defines the reference point for the workpiece and provides precision in the X, Y and Z direction. The sword pin provides precision in the X or Y and Z direction and the clamping pin clamps only in the Z direction.

Do the zero-point clamping systems feature temperature compensation?

The Zimmer zero-point clamping systems can be implemented to provide temperature compensation if you only use sword pins.

Which distance tolerances should be observed for in-house production?

For safe operation, a distance tolerance of +/- 0.015 mm from clamping pin to clamping pin must be kept. The same applies to the zero-point clamping system.

What is a PLUS connection or how does a PLUS connection work?

Zimmer zero-point clamping systems come standard with an additional pneumatic connection. This connection can be used to increase the clamping force significantly.

How does the contact monitoring work?

The contact monitoring makes it possible to check whether the workpiece or clamping pallet is laying flat on the surface of the zero-point clamping system by using a connected flowmeter or Pitot tube.

How are the clamping force and the holding force of a zero-point clamping system defined?

The clamping force describes the force that is used for clamping the clamping pins and for form fit clamping in the zero-point clamping system. The holding force of the zero-point clamping system is limited by the maximum permitted pulling force of the pin mounting screw.

How is the repeatability defined?

Repeatability defines the tolerance zone within which the reference points defined on the workpiece can be clamped, released and clamped again. On Zimmer zero-point clamping systems, this repeatability is less than or equal to 0.005 mm.

CHECKLIST
SPN ZERO-POINT CLAMPING SYSTEM

Customer number | Phone number

Company | Fax number

Contact | E-mail
Mr. ☐ Ms. ☐

Article

Sales database

Processed by | Desired price

Desired delivery date | Other

Amount | Pot. amount (annually) | Date

Area or application

Clamping device
☐ Milling ☐ Drilling ☐ Measuring ☐ Other
☐ Rotate ☐ Rubbing ☐ Laser processing

Process force ____ N
Compressed air system pressure ____ bar

Insertion force necessary ____ N
Lever arm between process force and clamping system ____ mm

Holding force necessary ____ N
Number of plannes clamping system per clamping device ____ piece

Alignment
☐ Sketch ☐ 3D Model ☐ Other

Environment
Temperature min. ____ °C max. ____ °C
☐ Chips ☐ Dirt ☐ Oil/Fat ☐ Cool lubrication Other ____

Number of clamping cycles per hour ____ cycles

Handling
☐ Manual ☐ Automatic

Additional functions
☐ Flat-surface cleaning / positioning check

Notes/comments

USAGE NOTE
GENERAL

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Furthermore, the respective laws, guidelines from TÜV, guidelines from the respective trade association and VDE stipulations shall apply.

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The technical data and figures have been compiled with great care and to the best of our knowledge. We cannot guarantee that the information is up to date, correct or complete.

The specifications and information—such as figures, drawings, descriptions, dimensions, weights, materials, technical and other performance data and the described products and services—contained in general product descriptions, Zimmer GmbH catalogs, brochures and price lists in any form are subject to change and may be modified or updated at any time without prior notification. They are binding only to the extent expressly specified in a contract or order confirmation. Slight deviations from such descriptive product information shall be considered approved and shall not affect fulfillment of agreements insofar as they are reasonable for the customer.

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STANDARDS

Zimmer Group has a quality management system certified in accordance with ISO 9001:2008. Zimmer Group has an environmental management system certified in accordance with ISO 14001:2004.

DECLARATION OF INCORPORATION IN TERMS OF THE EC DIRECTIVE 2006/42/EC ON MACHINERY (ANNEX II 1 B)

We hereby declare that our elements meet the following basic requirements of the Machinery Directive 2006/42/EC as an incomplete machine

No.1.1.2., No.1.1.3., No.1.1.5., No.1.3.2, No. 1.3.4, No. 1.3.7, No.1.5.3, No.1.5.4, No.1.5.8., No.1.6.4, No.1.7.1, No.1.7.3, No.1.7.4.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with electronic versions of the incomplete machine‘s special documents via our documentation department should they have reason to request them.
The incomplete machine may only be commissioned if the machine or system in which the incomplete machine is to be installed has been determined to satisfy the conditions of the Machinery Directive 2006/42/EC and the EC Declaration of Conformity has been produced in accordance with Annex II A.



Machine tooling technology

Motor spindles

System Acessories

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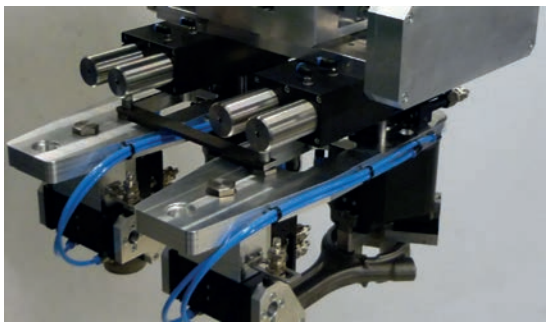
WE HAVE SUCCEEDED FOR YEARS BY OFFERING OUR CUSTOMERS INNOVATIVE AND INDIVIDUALIZED SOLUTIONS. ZIMMER HAS GROWN CONTINUOUSLY AND TODAY WE HAVE REACHED A NEW MILESTONE: THE ESTABLISHMENT OF THE KNOW-HOW FACTORY. IS THERE A SECRET TO OUR SUCCESS?

Foundation. Excellent products and services have always been the foundation of our company's growth. Zimmer is a source of ingenious solutions and important technical innovations. This is why customers with high expectations for technology frequently find their way to us. When things get tricky, Zimmer Group is in its best form.

Style. We have an interdisciplinary approach to everything we do, resulting in refined process solutions in six technology fields. This applies not just to development but to production. Zimmer Group serves all industries and stands ready to resolve even the most unique and highly individualized problems. Worldwide.

Motivation. Customer orientation is perhaps the most important factor of our success. We are a service provider in the complete sense of the word. With Zimmer Group, our customers have a single, centralized contact for all of their needs. We approach each customer's situation with a high level of competence and a broad range of possible solutions.





TECHNOLOGIES



HANDLING TECHNOLOGY

MORE THAN 30 YEARS OF EXPERIENCE AND INDUSTRY KNOWLEDGE: OUR PNEUMATIC, HYDRAULIC AND ELECTRICAL HANDLING COMPONENTS AND SYSTEMS ARE GLOBAL LEADERS.

Components. More than 2,000 standardized grippers, swivel units, robotic accessories and much more. We offer a complete selection of technologically superior products that are ready for rapid delivery.

Semi-standard. Our modular approach to design enables custom configurations and high rates of innovation for process automation.



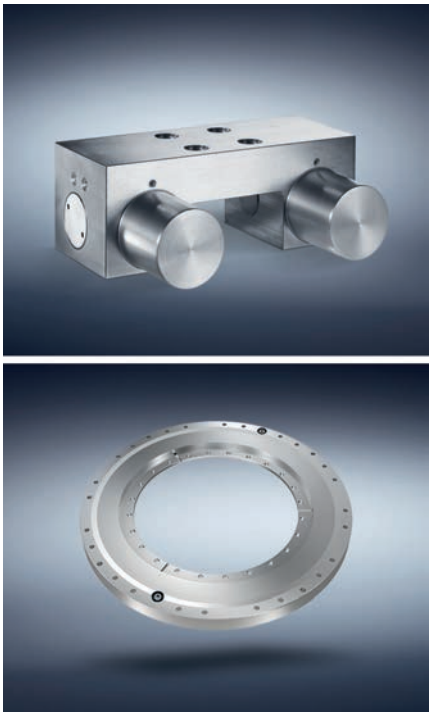
DAMPING TECHNOLOGY

INDUSTRIAL DAMPING TECHNOLOGY AND SOFT CLOSE PRODUCTS EXEMPLIFY THE INNOVATION AND PIONEERING SPIRIT OF THE KNOW-HOW FACTORY.

Industrial damping technology. Whether standard or customized solutions, our products stand for the highest cycle rates and maximum energy absorption with minimal space requirements.

Soft Close. Development and mass production of pneumatic and fluid dampers with extraordinary quality and rapid delivery.

OEM and direct. Whether they need components, returning mechanisms or complete production lines – we are the trusted partner of many prestigious customers.



LINEAR TECHNOLOGY

WE DEVELOP LINEAR COMPONENTS AND SYSTEMS THAT ARE INDIVIDUALLY ADAPTED TO OUR CUSTOMERS' NEEDS.

Clamping and braking elements. We offer you more than 4,000 types for profiled and round rails as well as for a variety of guide systems from all manufacturers. It makes no difference whether you prefer manual, pneumatic, electric or hydraulic drive.

Flexibility. Our clamping and braking elements ensure that movable components such as Z-axes or machining tables maintain a fixed position and that machines and systems come to a stop as quickly as possible in an emergency.



PROCESS TECHNOLOGY

MAXIMUM EFFICIENCY IS ESSENTIAL FOR SYSTEMS AND COMPONENTS USED IN PROCESS TECHNOLOGY. HIGH-LEVEL CUSTOM SOLUTIONS ARE OUR TRADEMARK.

A rich reservoir of experience. Our know-how ranges from the development of materials, processes and tools through product design to production of series products.

Deep production capabilities. The Zimmer Group pairs these capabilities with flexibility, quality and precision, even when making custom products.

Series production. We manufacture demanding products out of metal (MIM), elastomers and plastics with flexibility and speed.



MACHINE TECHNOLOGY

ZIMMER GROUP DEVELOPS INNOVATIVE METAL, WOOD AND COMPOSITE MATERIAL PROCESSING TOOL SYSTEMS FOR ALL INDUSTRIES. NUMEROUS CUSTOMERS CHOOSE US AS THEIR SYSTEMS AND INNOVATION PARTNER.

Knowledge and experience. Industry knowledge and a decades-long development partnership in exchangeable assemblies, tool interfaces and systems make us bound for new challenges around the world.

Components. We deliver numerous standard components from stock and develop innovative, customized systems for OEM and end customers – far beyond the metal and wood processing industries.

Variety. Whether you have machining centers, lathes or flexible production cells, the power tools, holders, assemblies and drilling heads of Zimmer Group are ready for action.



SYSTEM TECHNOLOGY

ZIMMER GROUP IS ONE OF THE LEADING SPECIALISTS IN THE DEVELOPMENT OF CUSTOMIZED SYSTEM SOLUTIONS WORLDWIDE.

Customized. A team made up of more than 20 experienced designers and project engineers develop and produce customized solutions for special tasks in close collaboration with end customers and system integrators. It doesn't matter if it is a simple gripper and handling solution or a complex system solution.

Solutions. These system solutions are used in many industries, from mechanical engineering to the automotive and supplier industries to plastics engineering and consumer goods industries, all the way to foundries. The Know-how Factory helps countless companies to thrive competitively by increasing automation efficiency.

MOTOR SPINDLES
ORDER INFORMATION

STRUCTURE OF THE ORDER NUMBER

Example:



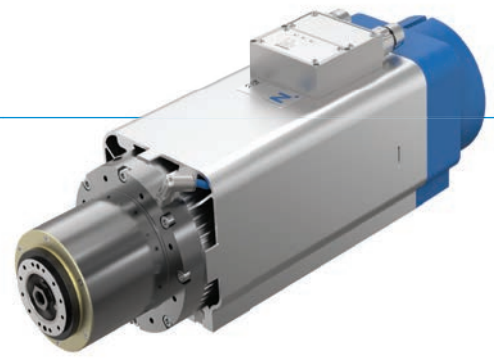
- **Motor spindle**
  HF high frequency
- **Size**
  in mm (rounded up in 5 mm increments)
- **Module/series**
  sequential numbering
- **Variant**
  sequential numbering

MOTOR SPINDLES
OVERVIEW

Version	Rated power S1 [kW]	Rated torque S1 [Nm]	max. Speed [rpm]	Cooling	Motor technology	Version	Page
HF145-001-001	6	4,9	24.000	Electric fan	Asynchronous	Basic variant	8
HF145-001-002	7,5	6,1	24.000	Electric fan	Asynchronous	Basic variant	10
HF145-001-003	11,8	9,6	24.000	Electric fan	Asynchronous	Basic variant	12
HF145-001-004	6	4,9	24.000	Electric fan	Asynchronous	Vector control	14
HF145-001-005	7,5	6,1	24.000	Electric fan	Asynchronous	Vector control	16
HF145-001-006	11,8	9,6	24.000	Electric fan	Asynchronous	Vector control	18
HF125-002-001	9	7,3	24.000	Water	Asynchronous	Basic variant	20
HF125-002-002	12	9	24.000	Water	Asynchronous	Basic variant	22
HF125-002-004	9	7,3	24.000	Water	Asynchronous	Vector control	24
HF125-002-005	12	9	24.000	Water	Asynchronous	Vector control	26
HF150-003-001	14,5	14,7	26.000	Water	Asynchronous	Vector control	28
HF150-003-003	14,5	14,7	26.000	Water	Asynchronous	Basic variant	30
HF150-005-001	20	18,5	24.000	Water	Synchronous	Vector control	32
HF150-005-002	20	14,3	24.000	Water	Asynchronous	Vector control	34
HF205-006-001	34	83,7	14.000	Water	Asynchronous	Vector control	36
HF205-006-002	48	153	6.000	Water	Synchronous	Vector control	38
SYSTEM ACCESO-RIES							41

MOTOR SPINDLES
HF145-001-001

▶ PRODUCT ADVANTAGES



- **Rated power S1: 6 kW**
  Rated torque S1: 4.9 Nm
  Max. speed: 24,000 rpm
- Air cooling via electric fan
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link

▶ OPTIONS

- C-axis interface
- Acceleration sensor
- Vector controlled / feedback
- Manual tool release pushbutton
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



Frequency inverter

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Control units

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Adapter
Frequency inverter

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Power lines

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Signal lines

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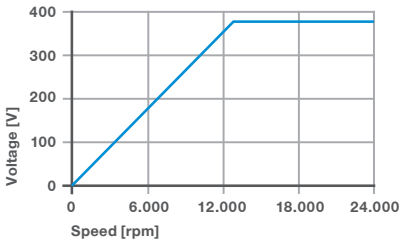
Robot change unit

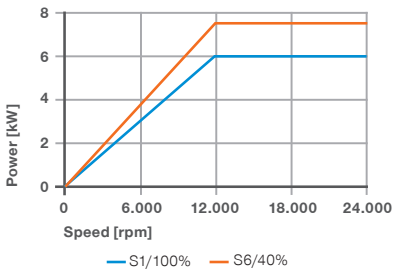
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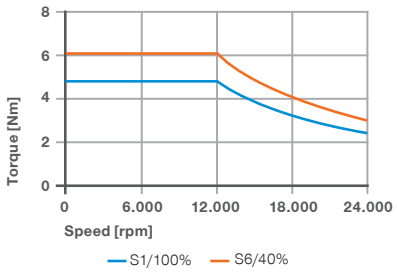
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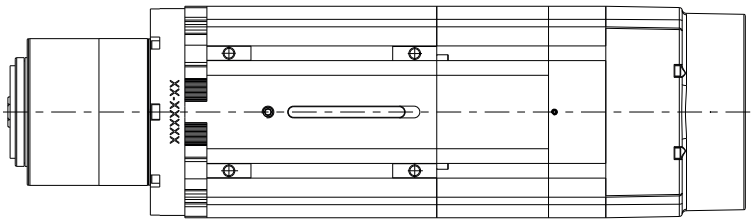
	▶ HF145-001-001
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	6.0
Rated torque S1 [Nm]	4.9
Nominal current S1 [A]	13
Nominal speed [rpm]	11.780
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Electric fan
Weight [kg]	29

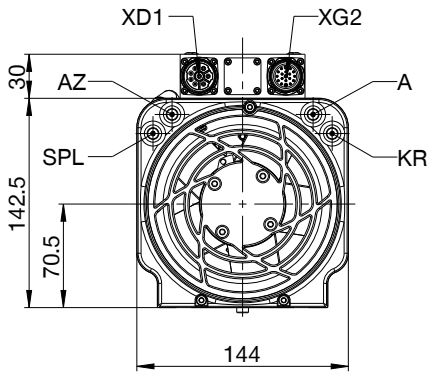
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector

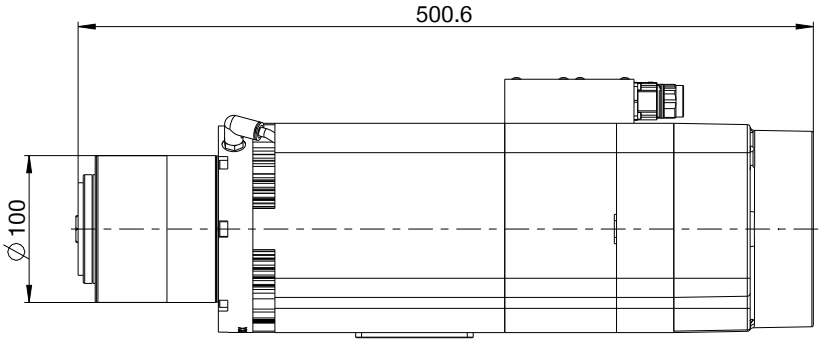






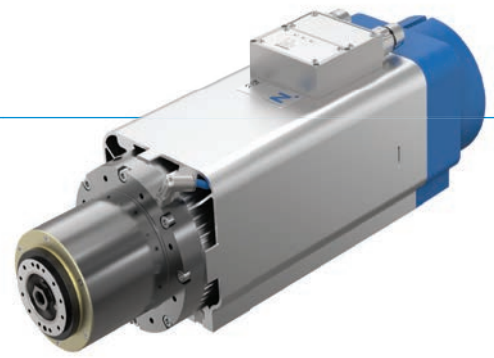






MOTOR SPINDLES
HF145-001-002

▶ PRODUCT ADVANTAGES



- **Rated power S1: 7.5 kW**
  Rated torque S1: 6.1 Nm
  Max. speed: 24,000 rpm
- Air cooling via electric fan
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link

▶ OPTIONS

- C-axis interface
- Acceleration sensor
- Vector controlled / feedback
- Manual tool release pushbutton
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



Frequency inverter

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Signal lines

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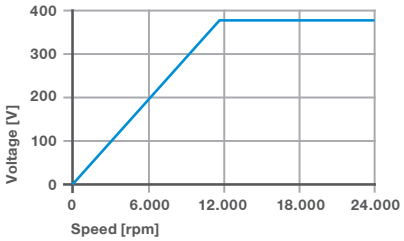
Robot change unit

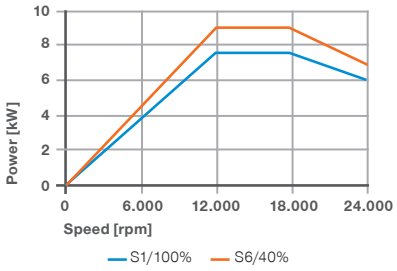
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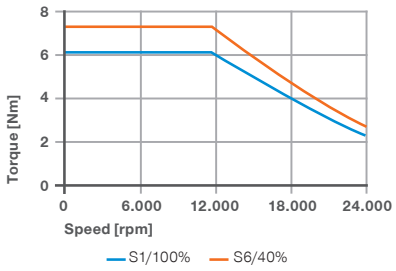
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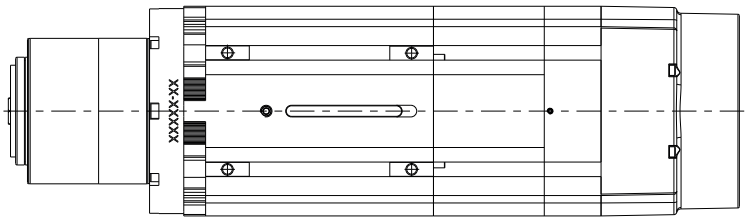
	▶ HF145-001-002
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	7.5
Rated torque S1 [Nm]	6.1
Nominal current S1 [A]	15
Nominal speed [rpm]	11.770
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Electric fan
Weight [kg]	30

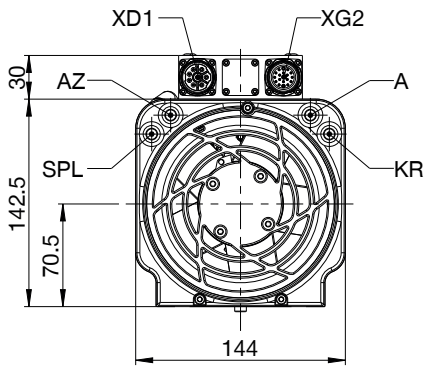
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector

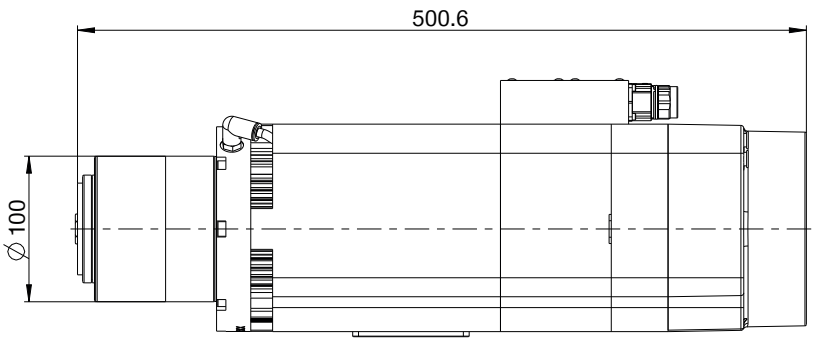






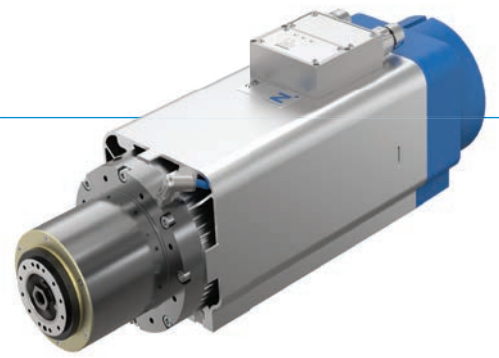






MOTOR SPINDLES
HF145-001-003

▶ PRODUCT ADVANTAGES



- **Rated power S1: 11.8 kW**
  Rated torque S1: 9.6 Nm
  Max. speed: 24,000 rpm
- Air cooling via electric fan
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link

▶ OPTIONS

- C-axis interface
- Acceleration sensor
- Vector controlled / feedback
- Manual tool release pushbutton
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



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Control units

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Adapter
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Power lines

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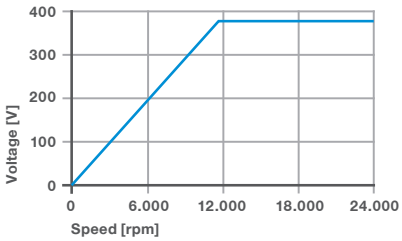
Signal lines

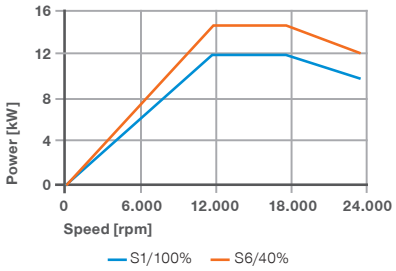
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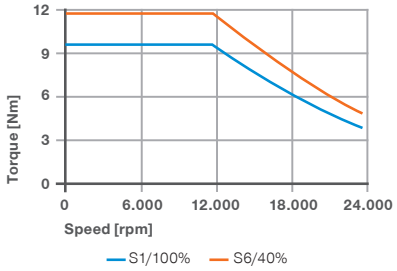
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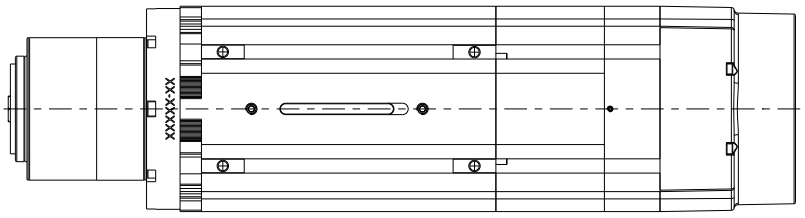
	▶ HF145-001-003
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	11.8
Rated torque S1 [Nm]	9.6
Nominal current S1 [A]	25
Nominal speed [rpm]	11.780
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Electric fan
Weight [kg]	35

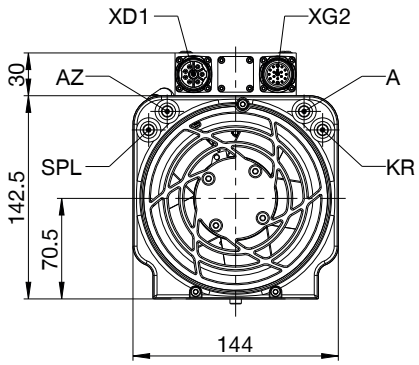
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector

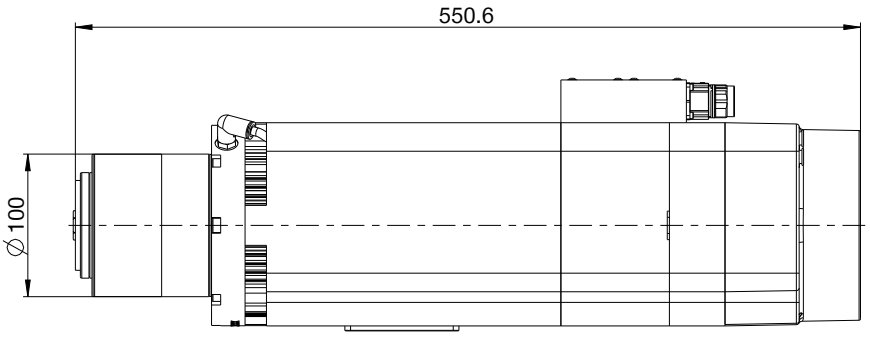






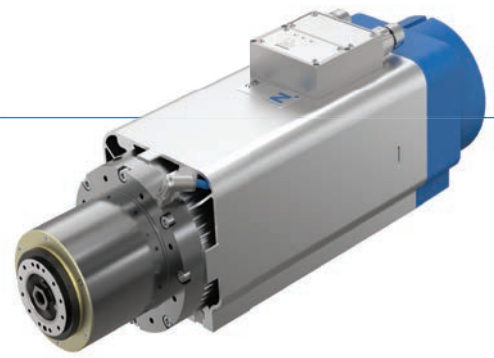






MOTOR SPINDLES
HF145-001-004

▶ PRODUCT ADVANTAGES



- **Rated power S1: 6 kW**
  Rated torque S1: 4.9 Nm
  Max. speed: 24,000 rpm
- Air cooling via electric fan
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites
- Vector controlled

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link
- Vector controlled / feedback

▶ OPTIONS

- C-axis interface
- Acceleration sensor
- Manual tool release pushbutton
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



Frequency inverter

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Control units

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Adapter
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Signal lines

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Encoder lines

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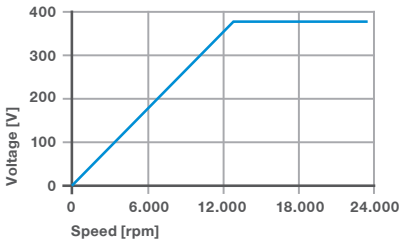
Robot change unit

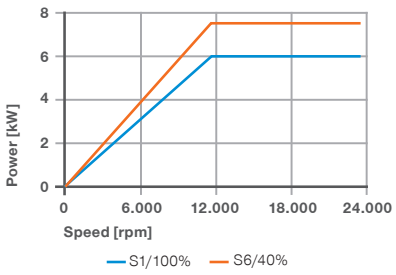
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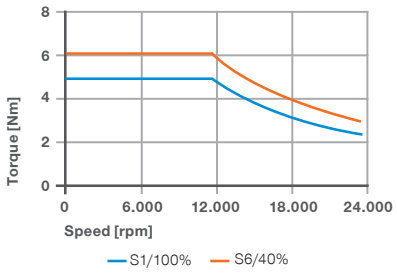
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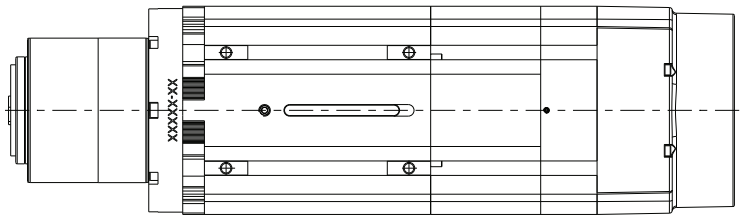
	▶ HF145-001-004
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	6
Rated torque S1 [Nm]	4.9
Nominal current S1 [A]	14
Nominal speed [rpm]	11.780
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Electric fan
Weight [kg]	29

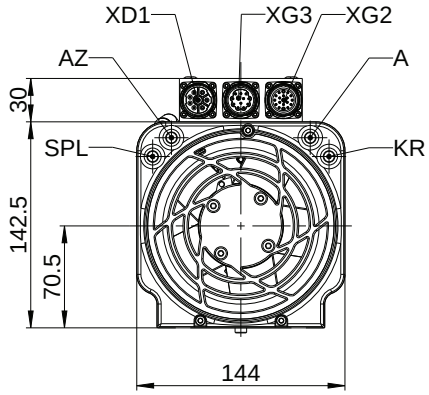
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

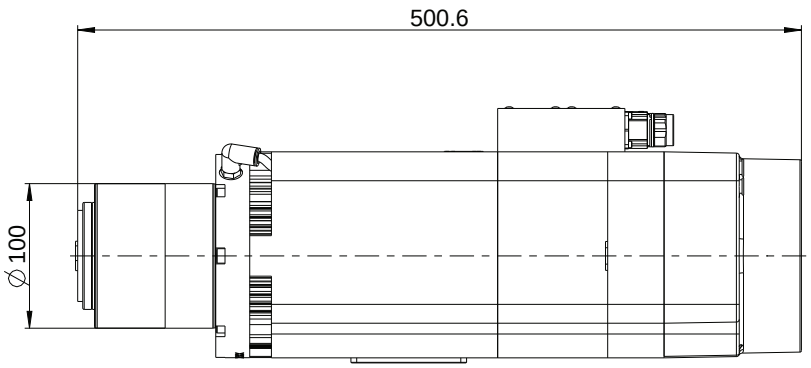






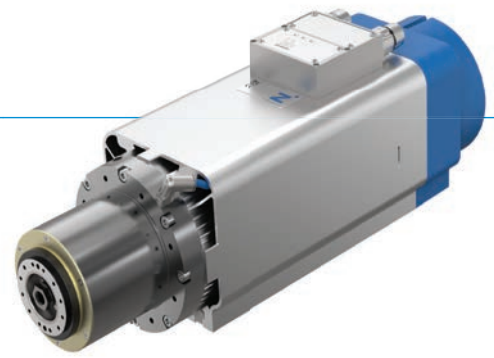






MOTOR SPINDLES
HF145-001-005

▶ PRODUCT ADVANTAGES



- **Rated power S1: 7.5 kW**
  Rated torque S1: 6.1 Nm
  Max. speed: 24,000 rpm
- Air cooling via electric fan
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites
- Vector controlled

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link
- Vector controlled / feedback

▶ OPTIONS

- C-axis interface
- Acceleration sensor
- Manual tool release pushbutton
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



Frequency inverter

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Control units

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Signal lines

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Encoder lines

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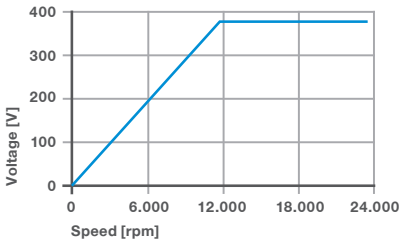
Robot change unit

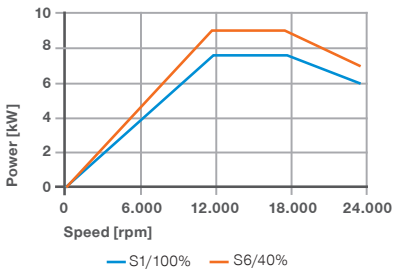
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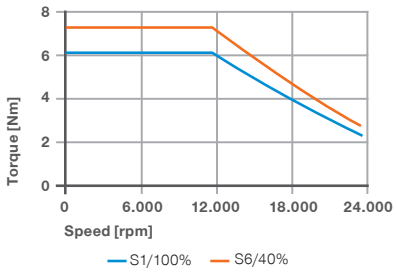
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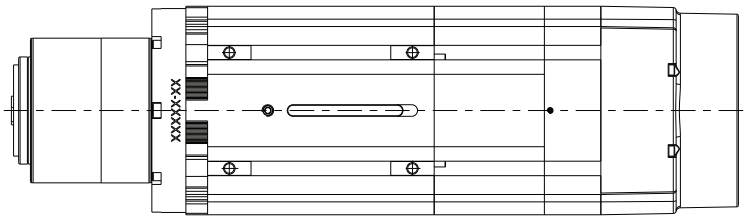
	▶ HF145-001-005
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	7.5
Rated torque S1 [Nm]	6.1
Nominal current S1 [A]	15
Nominal speed [rpm]	11.770
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Electric fan
Weight [kg]	30

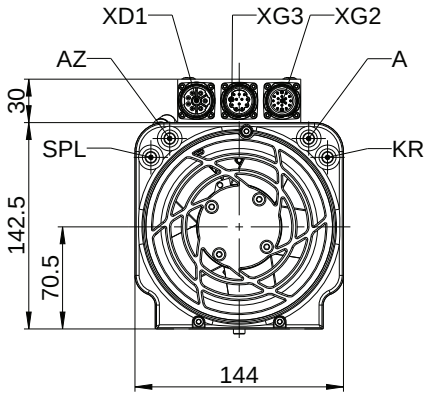
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

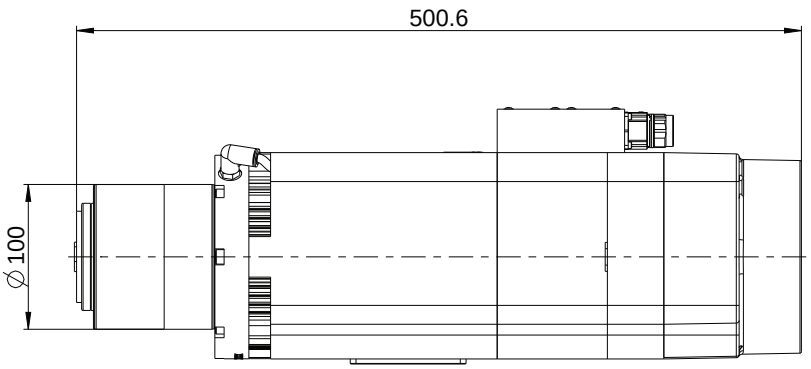






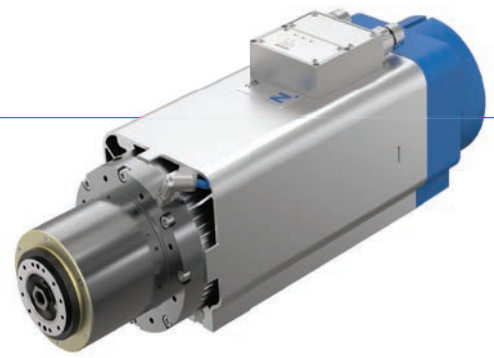






MOTOR SPINDLES
HF145-001-006

▶ PRODUCT ADVANTAGES



- **Rated power S1: 11.8 kW**
  Rated torque S1: 9.6 Nm
  Max. speed: 24,000 rpm
- Air cooling via electric fan
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites
- Vector controlled

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link
- Vector controlled / feedback

▶ OPTIONS

- C-axis interface
- Acceleration sensor
- Manual tool release pushbutton
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



Frequency inverter

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Control units

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Adapter
Frequency inverter

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Power lines

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Signal lines

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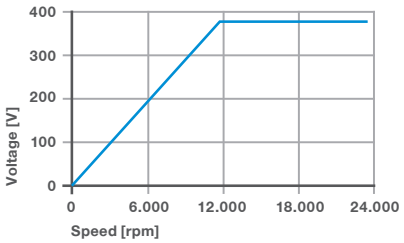
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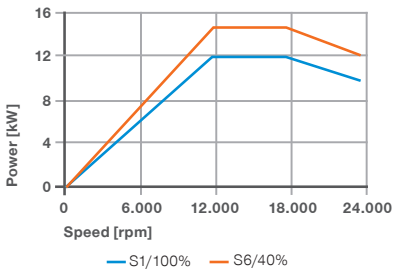
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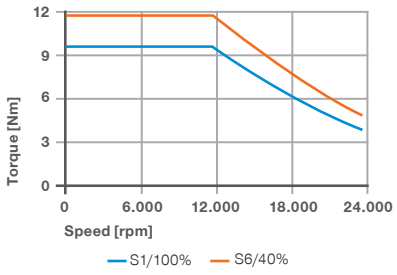
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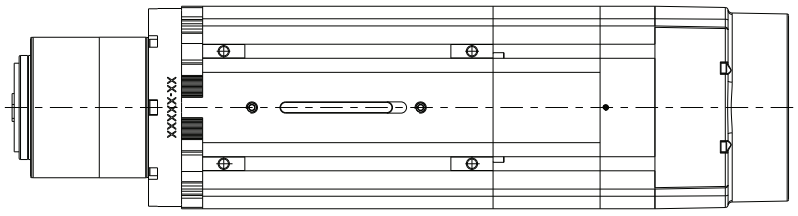
	▶ HF145-001-006
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	11.8
Rated torque S1 [Nm]	9.6
Nominal current S1 [A]	25
Nominal speed [rpm]	11.780
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Electric fan
Weight [kg]	35

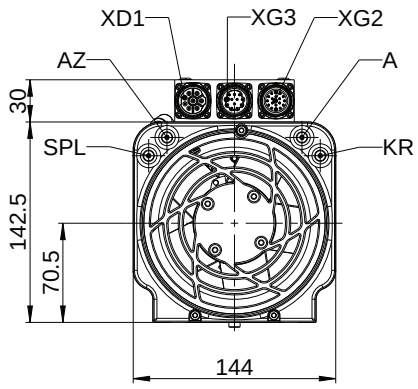
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

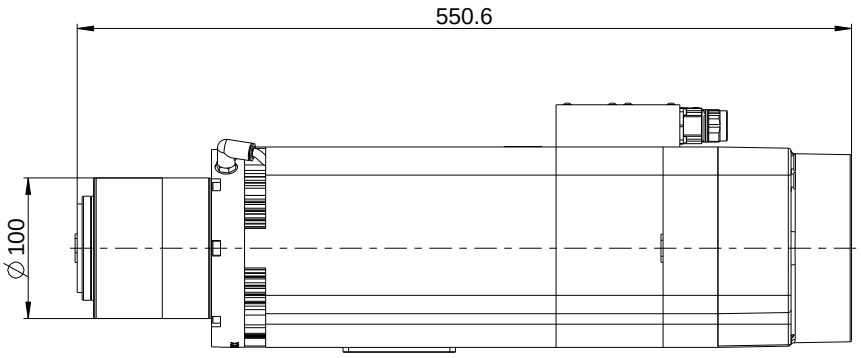












MOTOR SPINDLES
HF125-002-001

▶ PRODUCT ADVANTAGES



- **Rated power S1: 9 kW**
  Rated torque S1: 7.3 Nm
  Max. speed: 24,000 rpm
- Water cooling
- IO-Link communication
- Designed as unit carrier
- Adapted for use in an angle head, for example
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link
- Controllable air connectors

▶ OPTIONS

- Acceleration sensor
- Vector controlled / feedback
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



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Cooling units/
connector set

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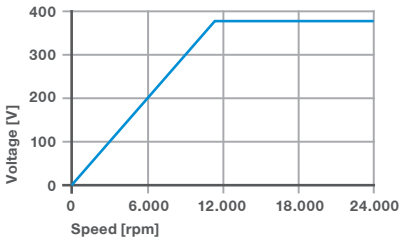
Robot change unit

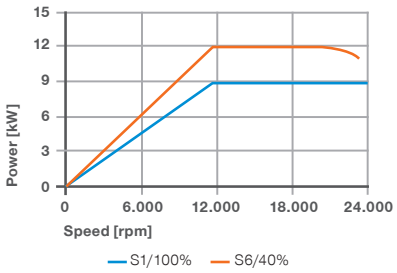
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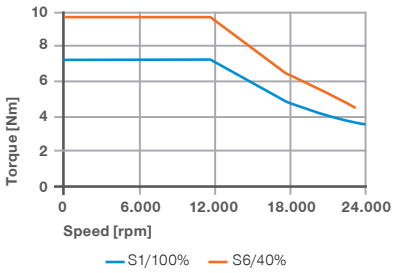
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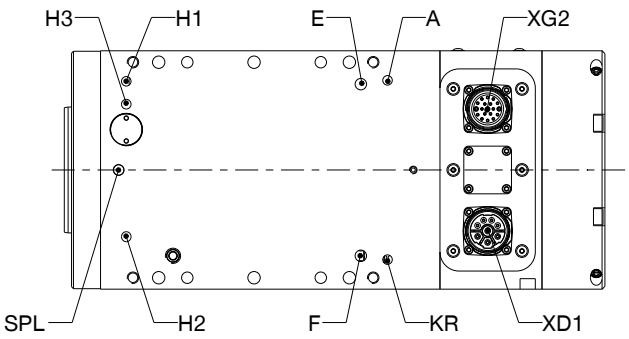
	▶ HF125-002-001
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	9.0
Rated torque S1 [Nm]	7.3
Nominal current S1 [A]	20
Nominal speed [rpm]	11.750
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	16

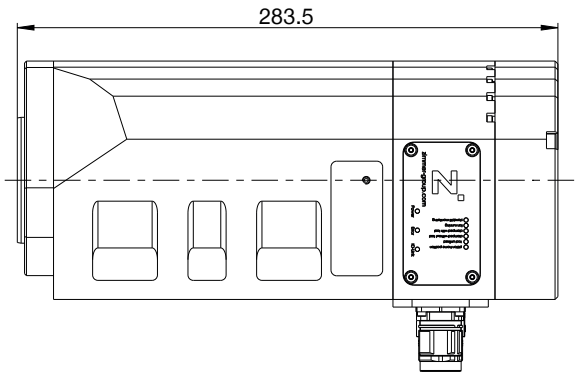
▶ Interface Diagram	
	Interface
A	Tool unlocked
E, F	Cooling system inlet and outlet
Hx	Controllable connection
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector

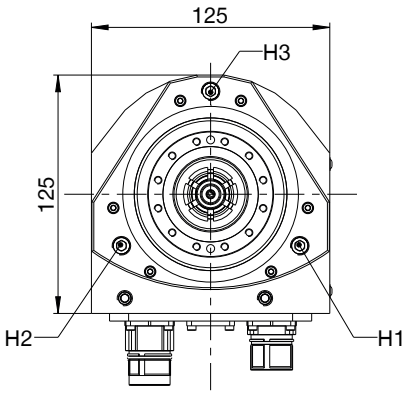












MOTOR SPINDLES
HF125-002-002

▶ PRODUCT ADVANTAGES



- **Rated power S1: 12 kW**
  Rated torque S1: 9 Nm
  Max. speed: 24,000 rpm
- Water cooling
- IO-Link communication
- Designed as unit carrier
- Adapted for use in an angle head, for example
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link
- Controllable air connectors

▶ OPTIONS

- Acceleration sensor
- Vector controlled / feedback
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



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Cooling units/
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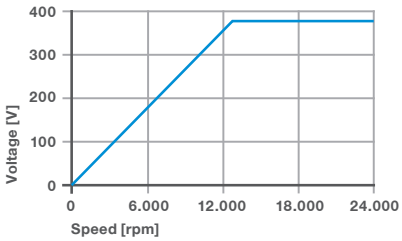
Signal lines

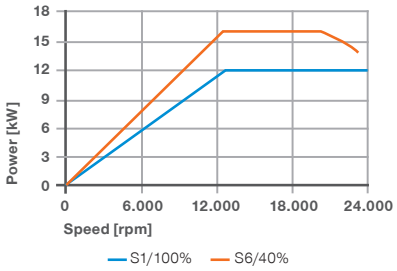
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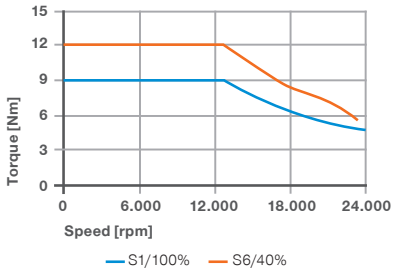
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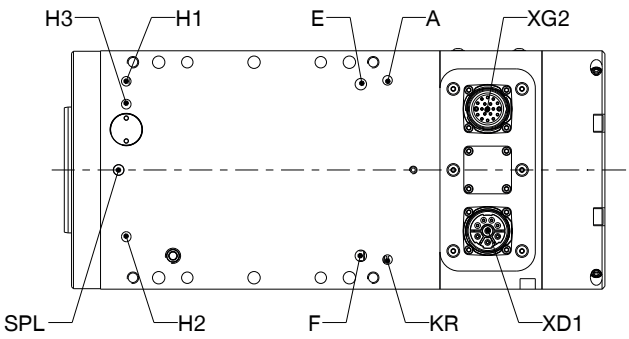
	▶ HF125-002-002
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	12.0
Rated torque S1 [Nm]	9.0
Nominal current S1 [A]	25
Nominal speed [rpm]	12.730
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	16

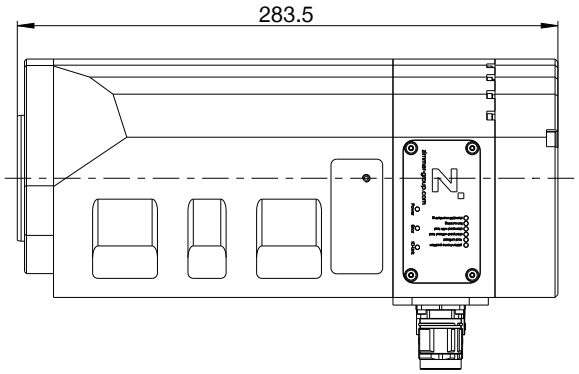
	▶ Interface Diagram
	Interface
A	Tool unlocked
E, F	Cooling system inlet and outlet
Hx	Controllable connection
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector

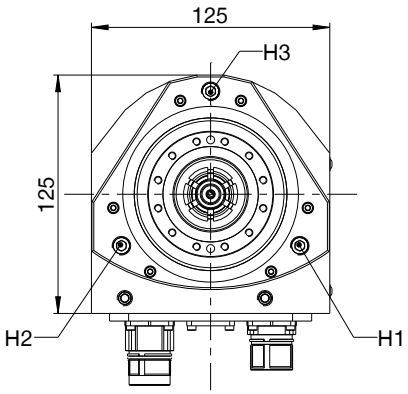












MOTOR SPINDLES
HF125-002-004

▶ PRODUCT ADVANTAGES



- **Rated power S1: 9 kW**
  Rated torque S1: 7.3 Nm
  Max. speed: 24,000 rpm
- Water cooling
- IO-Link communication
- Designed as unit carrier
- Adapted for use in an angle head, for example
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites
- Vector controlled

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link
- Controllable air connectors
- Vector controlled / feedback

▶ OPTIONS

- Acceleration sensor
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



Frequency inverter

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Cooling units/
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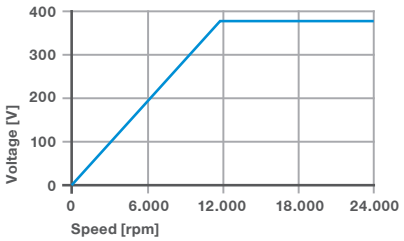
Robot change unit

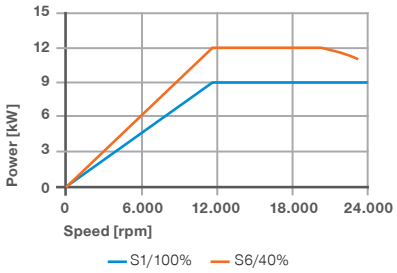
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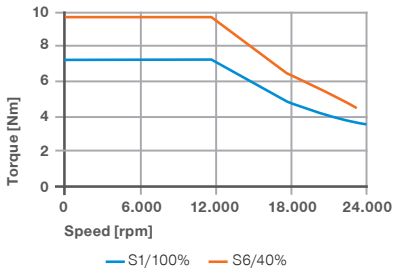
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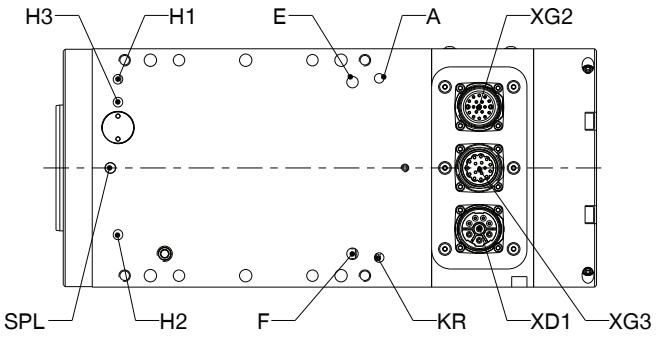
	▶ HF125-002-004
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	9
Rated torque S1 [Nm]	7.3
Nominal current S1 [A]	20
Nominal speed [rpm]	11.750
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	16

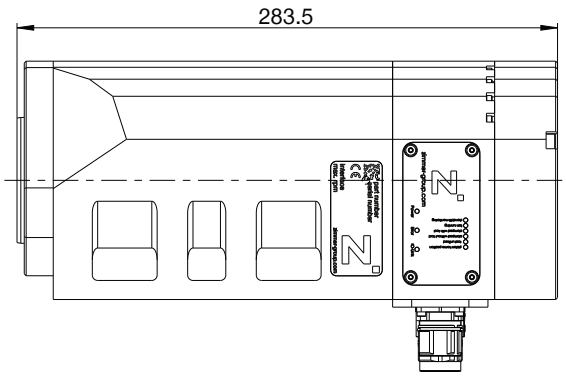
	▶ Interface Diagram
	Interface
A	Tool unlocked
E, F	Cooling system inlet and outlet
Hx	Controllable connection
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

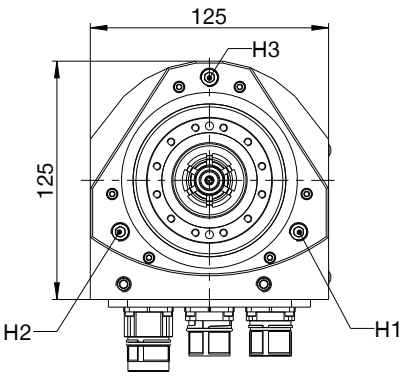












MOTOR SPINDLES
HF125-002-005

▶ PRODUCT ADVANTAGES



- **Rated power S1: 12 kW**
  Rated torque S1: 9 Nm
  Max. speed: 24,000 rpm
- Water cooling
- IO-Link communication
- Designed as unit carrier
- Adapted for use in an angle head, for example
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites
- Vector controlled

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- IO-Link
- Controllable air connectors
- Vector controlled / feedback

▶ OPTIONS

- Acceleration sensor
- Aggregate interface
- Robot change unit

▶ ACCESSORIES



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Cooling units/
connector set

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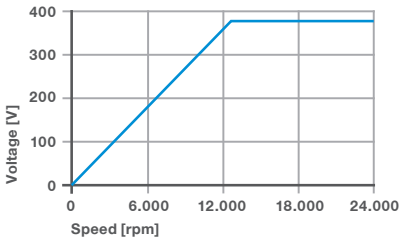
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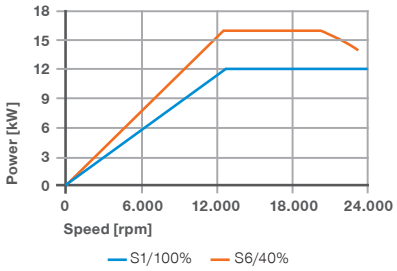
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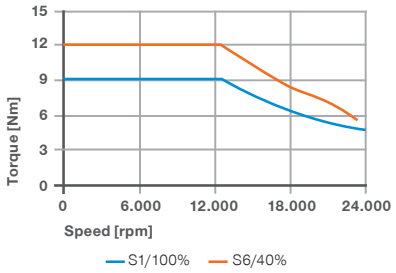
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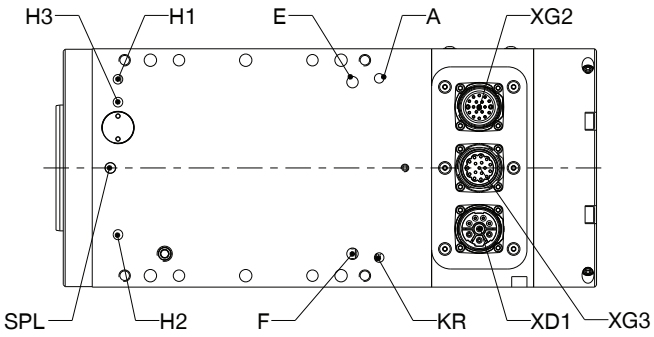
	▶ HF125-002-005
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	12
Rated torque S1 [Nm]	9
Nominal current S1 [A]	25
Nominal speed [rpm]	12.730
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	16

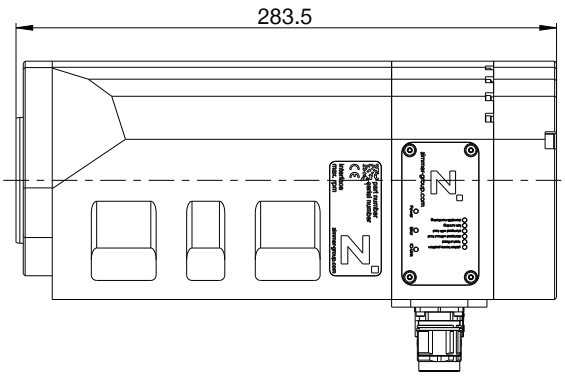
	▶ Interface Diagram
	Interface
A	Tool unlocked
E, F	Cooling system inlet and outlet
Hx	Controllable connection
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

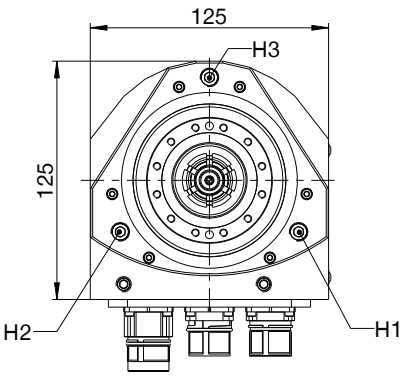






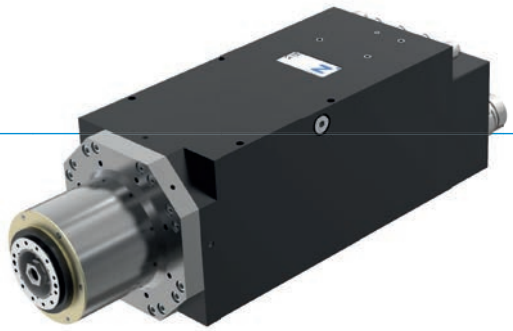






MOTOR SPINDLES
HF150-003-001

▶ PRODUCT ADVANTAGES



- **Rated power S1: 14.5 kW**
  Rated torque S1: 14.7 Nm
  Max. speed: 26,000 rpm
- Water cooling
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites
- Vector controlled

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- Controllable air connectors
- Vector controlled / feedback
- IO-Link

▶ OPTIONS

- Aggregate interface
- Bearing temperature sensor

▶ ACCESSORIES



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Control units

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Adapter
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Cooling units/
connector set

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Signal lines

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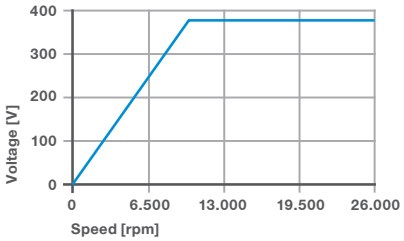
Encoder lines

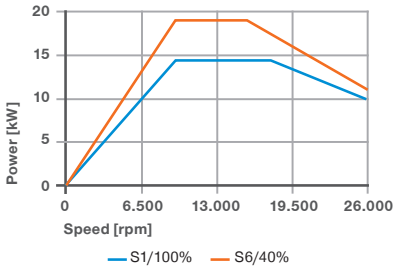
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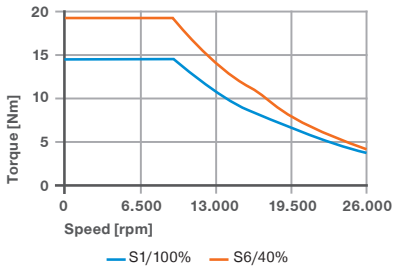
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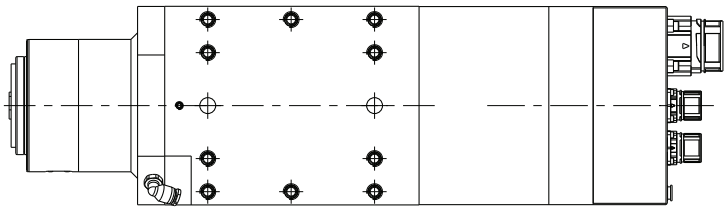
	▶ HF150-003-001
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	14.5
Rated torque S1 [Nm]	14.7
Nominal current S1 [A]	30
Nominal speed [rpm]	9.450
Max. speed [rpm]	26.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	35

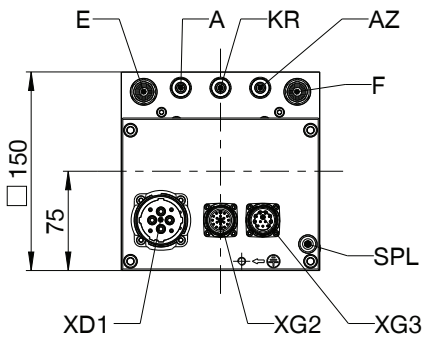
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
E, F	Cooling system inlet and outlet
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

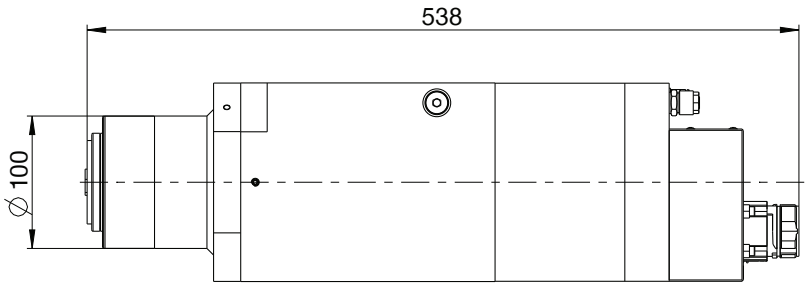






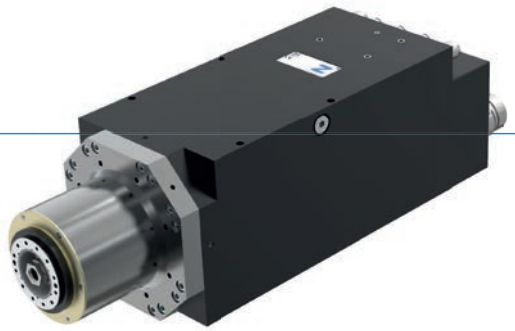






MOTOR SPINDLES
HF150-003-003

▶ PRODUCT ADVANTAGES



- **Rated power S1: 14.5 kW**
  Rated torque S1: 14.7 Nm
  Max. speed: 26,000 rpm
- Water cooling
- IO-Link communication
- Designed as unit carrier
- Hybrid bearings used for maximum performance
- Ideal for processing wood, plastics, lightweight metal and composites

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- Controllable air connectors
- IO-Link

▶ OPTIONS

- Aggregate interface
- Bearing temperature sensor
- Vector controlled / feedback

▶ ACCESSORIES



Frequency inverter

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Control units

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Adapter
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Cooling units/
connector set

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Signal lines

Page 43



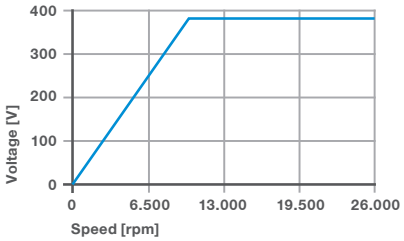
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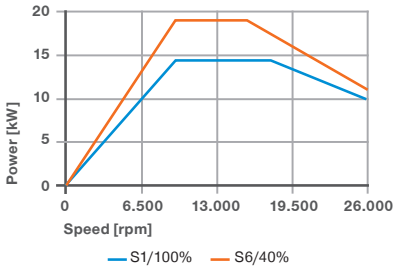
Page 43

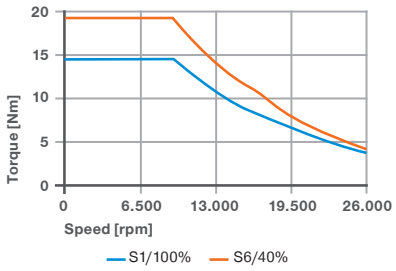
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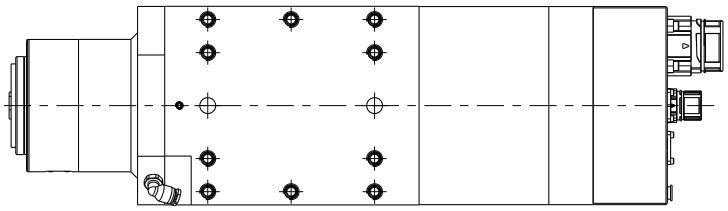
	▶ HF150-003-003
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	14.5
Rated torque S1 [Nm]	14.7
Nominal current S1 [A]	30
Nominal speed [rpm]	9.450
Max. speed [rpm]	26.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	35

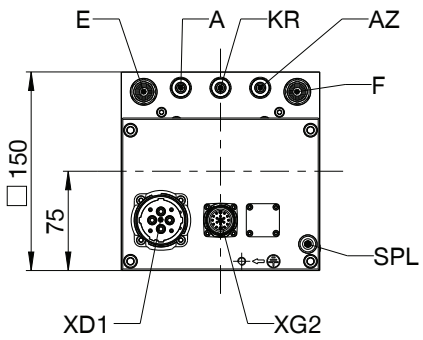
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
E, F	Cooling system inlet and outlet
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector

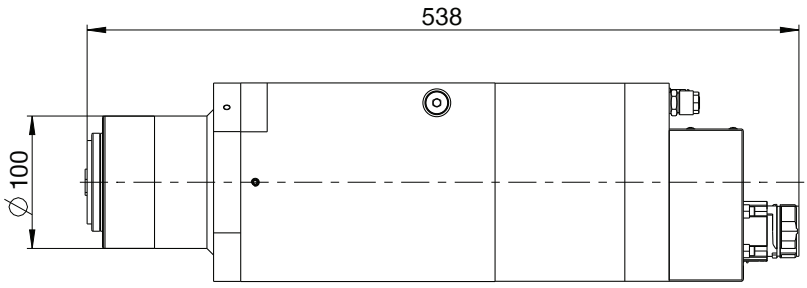






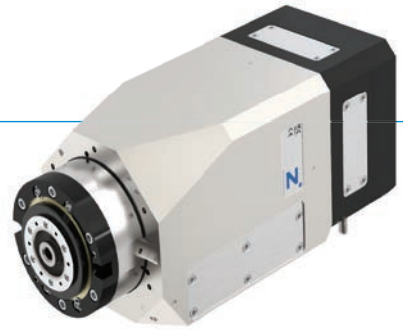






MOTOR SPINDLES
HF150-005-001

▶ PRODUCT ADVANTAGES



- **Rated power S1: 20 kW**
  Rated torque S1: 18.5 Nm
  Max. speed: 24,000 rpm
- Water cooling
- Hybrid bearings used for maximum performance
- Very high power density (synchronous motor)
- Very high torque (synchronous motor)
- Adapted for use in an angle head
- Suitable for machining light metals, composites, wood and plastics

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- Controllable air connectors
- Vector controlled / feedback
- IO-Link

▶ OPTIONS

- Aggregate interface
- Bearing temperature sensor

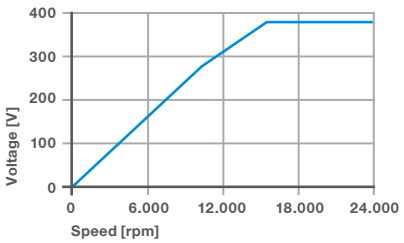
▶ ACCESSORIES

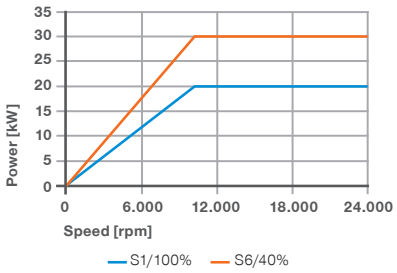
We would be glad to help you select and configure the right accessories.

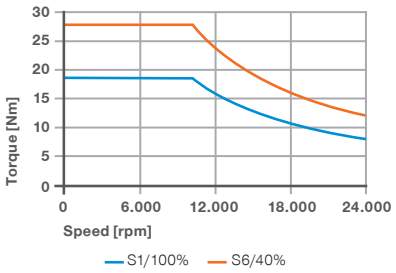
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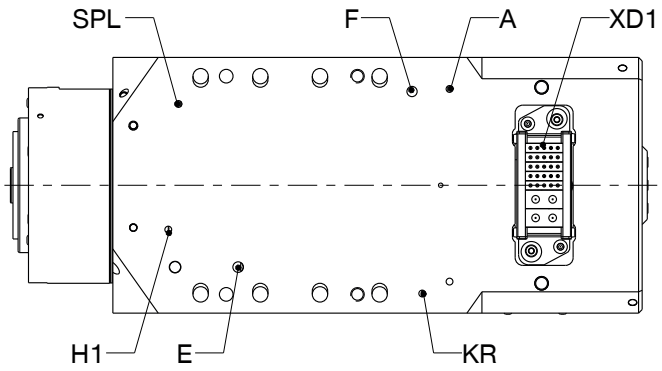
	▶ HF150-005-001
	Three phase synchron motor, 4-poles
Nominal output S1 [kW]	20.0
Rated torque S1 [Nm]	18.5
Nominal current S1 [A]	50
Nominal speed [rpm]	10.300
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Synchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	36

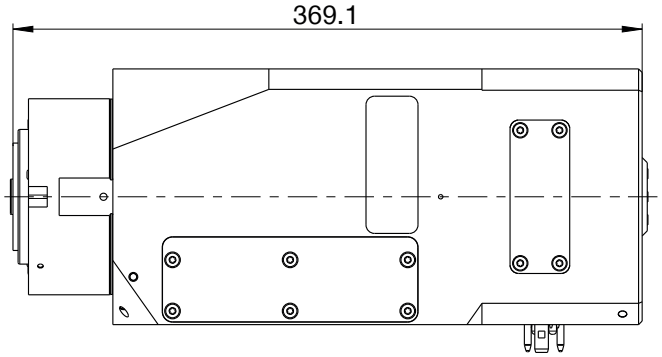
	▶ Interface Diagram
	Interface
A	Tool unlocked
E, F	Cooling system inlet and outlet
Hx	Controllable connection
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector

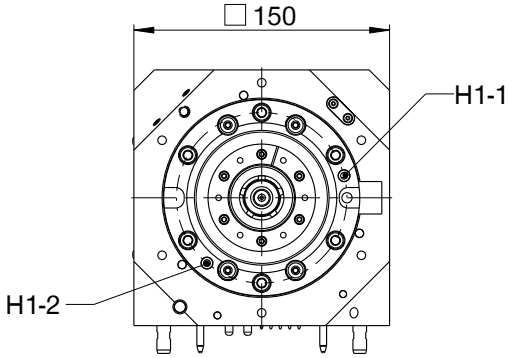






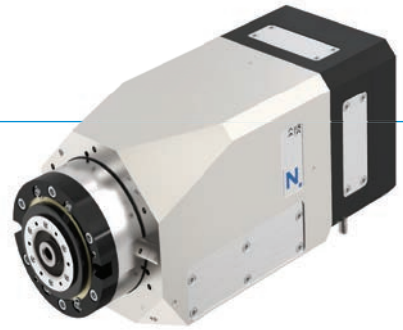






MOTOR SPINDLES
HF150-005-002

▶ PRODUCT ADVANTAGES



- **Rated power S1: 20 kW**
  Rated torque S1: 14.3 Nm
  Max. speed: 24,000 rpm
- Water cooling
- Hybrid bearings used for maximum performance
- Adapted for use in an angle head
- Suitable for machining light metals, composites, wood and plastics

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Sealing air
- Speed monitoring
- Automatic tool change
- Controllable air connectors
- Vector controlled / feedback

▶ OPTIONS

- Aggregate interface
- Bearing temperature sensor
- IO-Link

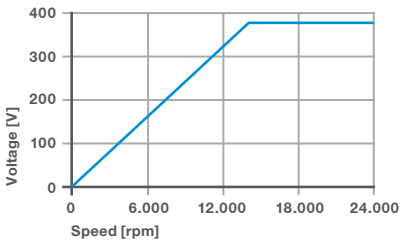
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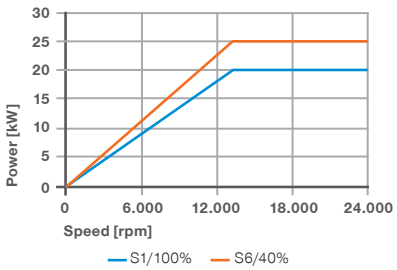
We would be glad to help you select and configure the right accessories.

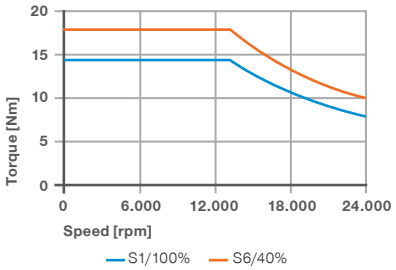
▶ TECHNICAL DATA

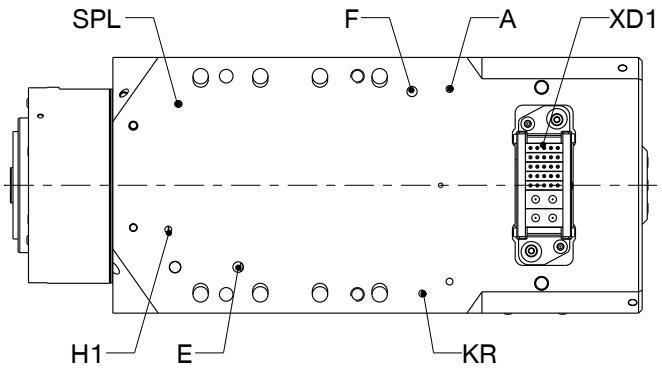
	▶ HF150-005-002
	Three phase asynchron motor, 4-poles
Nominal output S1 [kW]	20.0
Rated torque S1 [Nm]	14.3
Nominal current S1 [A]	43
Nominal speed [rpm]	13.360
Max. speed [rpm]	24.000
Tool interface	HSK-F63
Motor technology	Asynchronous
Number of poles	4
Release unit	Pneumatic
Cooling	Water
Weight [kg]	36

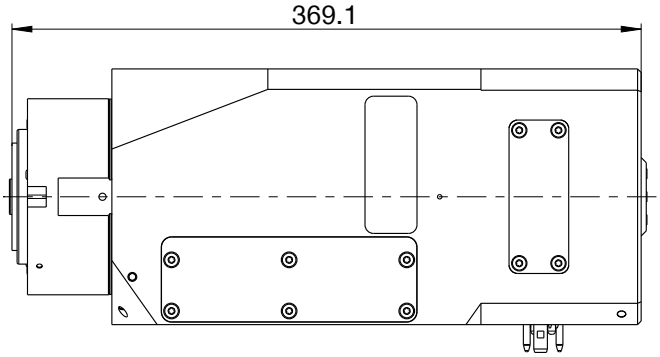
	▶ Interface Diagram
	Interface
A	Tool unlocked
E, F	Cooling system inlet and outlet
Hx	Controllable connection
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector

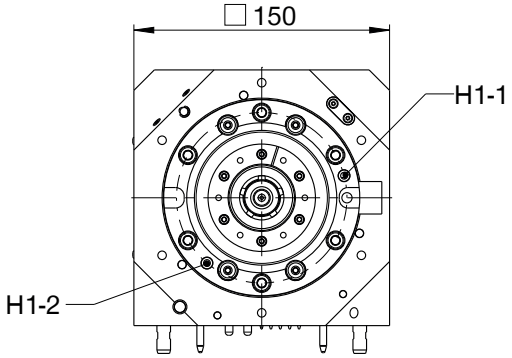






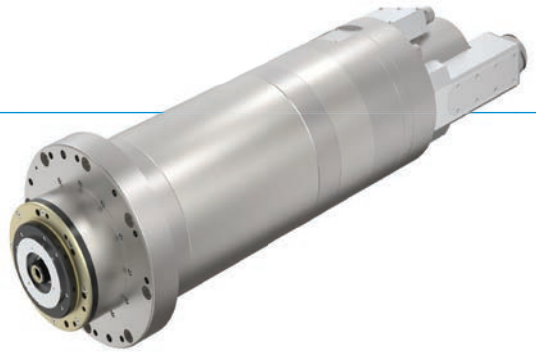






MOTOR SPINDLES
HF205-006-001

▶ PRODUCT ADVANTAGES



- **Rated power S1: 34 kW**
  Rated torque S1: 83.7 Nm
  Max. speed: 14,000 rpm
- Water cooling
- Hybrid bearings used for maximum performance
- Adapted for use in tooling machines
- Ideal for processing brass, aluminum, steel and cast iron

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Purged air-seal
- Automatic tool change
- Vector controlled / feedback
- Coolant through shaft

▶ OPTIONS

- Acceleration sensor

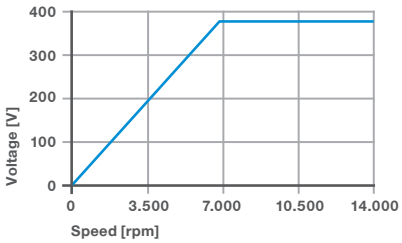
▶ ACCESSORIES

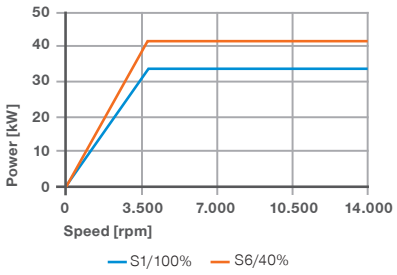
We would be glad to help you select and configure the right accessories.

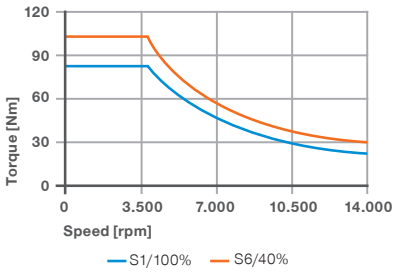
▶ TECHNICAL DATA

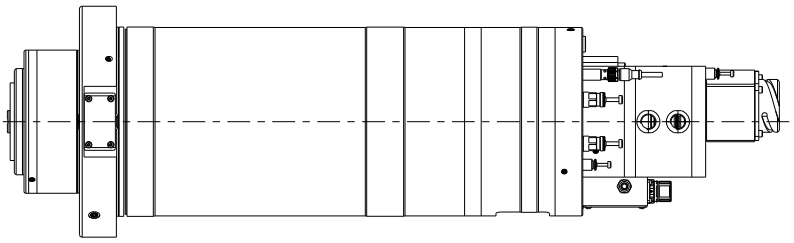
	▶ HF205-006-001
	Three phase asynchron motor, 6-poles
Nominal output S1 [kW]	34.0
Rated torque S1 [Nm]	83.7
Nominal current S1 [A]	130
Nominal speed [rpm]	3.880
Max. speed [rpm]	14.000
Tool interface	HSK-A63
Motor technology	Asynchronous
Number of poles	6
Release unit	Hydraulic
Cooling	Water
Weight [kg]	136

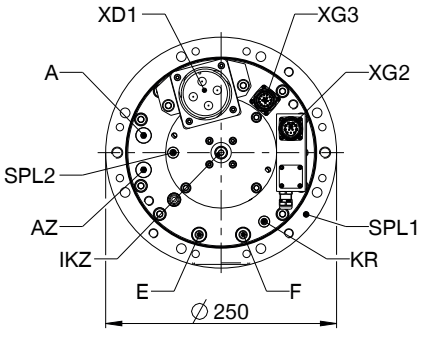
▶ Interface Diagram	
	Interface
A	Tool unlocked
AZ	Tool clamping
E, F	Cooling system inlet and outlet
IKZ	Coolant through shaft
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

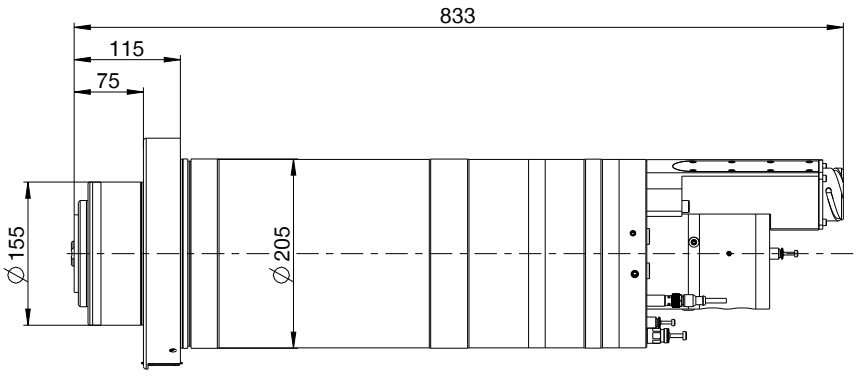






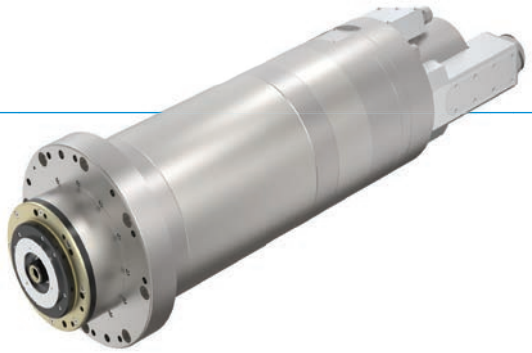






MOTOR SPINDLES
HF205-006-002

▶ PRODUCT ADVANTAGES



- **Rated power S1: 48 kW**
  Rated torque S1: 153 Nm
  Max. speed: 6,000 rpm
- Water cooling
- Hybrid bearings used for maximum performance
- Adapted for use in tooling machines
- Ideal for processing brass, aluminum, steel and cast iron
- Very high power density (synchronous motor)
- Very high torque (synchronous motor)

▶ EQUIPMENT FEATURES

- Conus cleanig of tool fixation
- Labyrinth seal
- Tool fixation monitoring
- Purged air-seal
- Automatic tool change
- Vector controlled / feedback
- Coolant through shaft

▶ OPTIONS

- Acceleration sensor

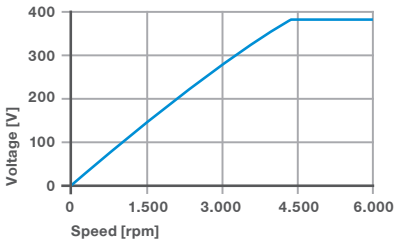
▶ ACCESSORIES

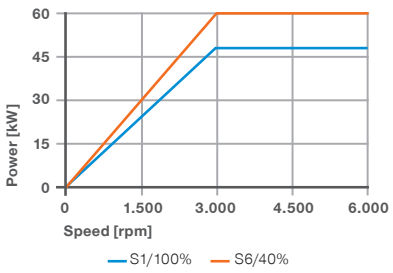
We would be glad to help you select and configure the right accessories.

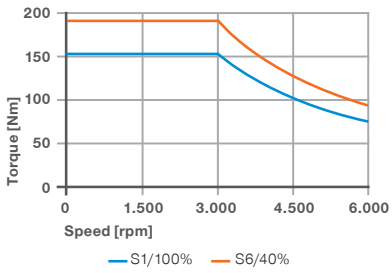
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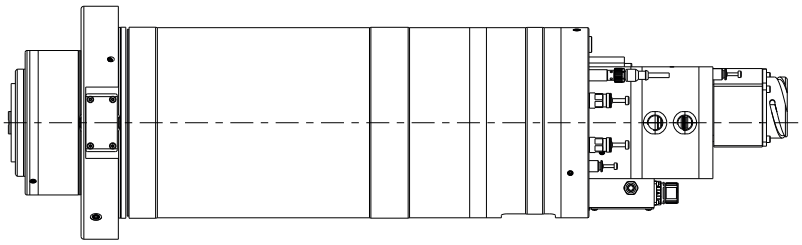
	▶ HF205-006-002
	Three phase synchron motor, 6-poles
Nominal output S1 [kW]	48.0
Rated torque S1 [Nm]	153.0
Nominal current S1 [A]	116
Nominal speed [rpm]	3.000
Max. speed [rpm]	6.000
Tool interface	HSK-A63
Motor technology	Synchronous
Number of poles	6
Release unit	Hydraulic
Cooling	Water
Weight [kg]	140

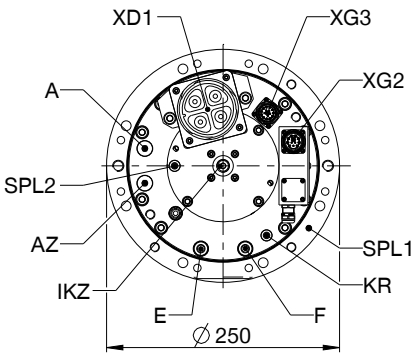
	▶ Interface Diagram
	Interface
A	Tool unlocked
AZ	Tool clamping
E, F	Cooling system inlet and outlet
IKZ	Coolant through shaft
KR	Conus cleaning
SPL	Sealing air
XD1	Power and signal connector
XG2	Signal connector
XG3	Position and speed sensor

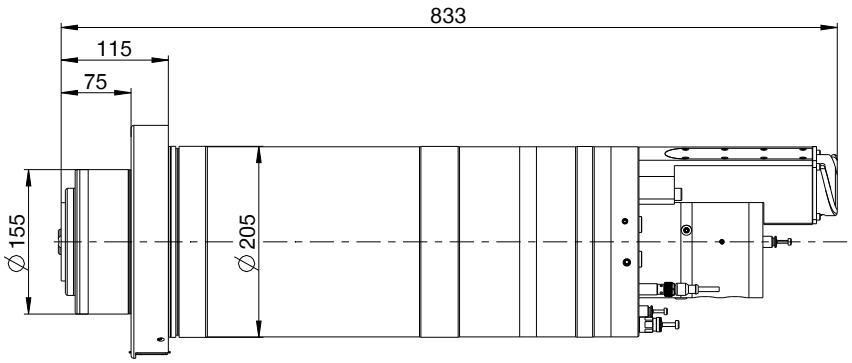












THE KNOW-HOW FACTORY

SYSTEM ACCESSORIES
FREQUENCY INVERTER

▶ PRODUCT ADVANTAGES



▶ In combination with the motor spindle, the frequency inverter creates a perfect complete package for precise positioning tasks with integrated safety technology (STO) and operations at low speeds as well as for high speeds. The pluggable fieldbus operators (Interbus, CANopen, Ethernet, DeviceNet, EtherCAT, etc.) for all common protocol standards, including the new Ethernet-based solutions, provide the connections to the control level required in the application. The necessary accessory ranges with EMC assemblies for environments C1 and C2, brake resistors, power chokes and harmonic filters round off the complete solution.

▶ INFORMATION ON THE PRODUCTS

APPLICATION SCENARIOS

The only way to achieve an optimum performance and power output is to ensure that the motor spindle and frequency inverter match each other perfectly. We cooperate with leading converter and machine manufacturers early on during development and also during field testing. The goal is always to achieve the highest possible benefit for the customer. When the motor and frequency converter match each other perfectly, this noticeably improves not only the service life, but also the running smoothness, heat balance and, of course, the power density. Zimmer Group's goal is to provide a system that integrates seamlessly and enables customers to get the most out of their motor spindles.

	▶ Frequency inverter					
Motor spindle	**Frequency inverter**	**Control unit Interface Operator**	**Control unit EtherCAT Operator**	**Control unit CANopen Operator**	**Control unit PROFINET Operator**	**Connecting cable**
HF145-001-001	HFZ121092	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF145-001-002	HFZ121092	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF145-001-003	HFZ121094	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF145-001-004	HFZ121092	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF145-001-005	HFZ121092	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF145-001-006	HFZ121094	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF125-002-001	HFZ121093	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF125-002-002	HFZ121094	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF125-002-004	HFZ121093	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF125-002-005	HFZ121094	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF150-003-001	HFZ121095	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF150-003-003	HFZ121095	CREG00092	CREG00152	CREG00153	CREG00154	HFZ121356
HF150-005-001	on request	on request	on request	on request	on request	on request
HF150-005-002	on request	on request	on request	on request	on request	on request
HF205-006-001	on request	on request	on request	on request	on request	on request
HF205-006-002	on request	on request	on request	on request	on request	on request

SYSTEM ACCESSORIES
COOLING UNITS

▶ PRODUCT ADVANTAGES



▶ For our water-cooled motor spindles we offer cooling units designed to match, including connector sets. The reliability of the required amount of coolant and its temperature reduce heat generation during operation and ensure maximum spindle performance.

▶ INFORMATION ON THE PRODUCTS

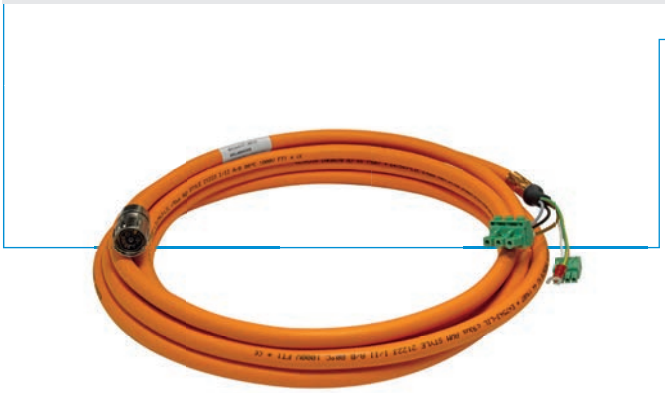
APPLICATION SCENARIOS

By working with renowned cooling unit manufacturers, we are able to precisely regulate the temperature and dosage of the cooling medium, which consistently keeps the operating temperatures low. Accurate dosage and control is important for eliminating inaccuracies on the spindle that can be caused by temperature fluctuations. We provide you with components that match each other well, so you can be sure they will work together reliably.

	▶ Cooling units	
Motor spindle	**Cooling units**	**Connector set**
HF125-002-001	HFZ121046	HFZ121047
HF125-002-002	HFZ121046	HFZ121047
HF125-002-004	HFZ121046	HFZ121047
HF125-002-005	HFZ121046	HFZ121047
HF150-003-001	HFZ121046	HFZ121047
HF150-003-003	on request	on request
HF150-005-001	on request	on request
HF150-005-002	on request	on request
HF205-006-001	on request	on request
HF205-006-002	on request	on request

SYSTEM ACCESSORIES
CABLES

▶ PRODUCT ADVANTAGES



▶ Cables, lines

The Zimmer Group is a system supplier and reliable partner that offers you the complete package. Our support helps you cut costs when you implement your system. We offer customized special solutions for any application. For all our motor spindles and accessories, we offer fully configurable connector sets and cables.

Your benefits:

- Customized solutions for your application
- Low effort – we handle the design for you
- Ready to connect and assembled precisely
- Already installed and tested for proper function

▶ INFORMATION ON THE PRODUCTS

	Order no.	Characteristics	Length [m]	HF145-001-001	HF145-001-002	HF145-001-003	HF145-001-004	HF145-001-005	HF145-001-006	HF125-002-001	HF125-002-002	HF125-002-004	HF125-002-005	HF150-003-001	HF150-003-003	HF150-005-001	HF150-005-002	HF205-006-001	HF205-006-002
Power line	CSTE01289	Robot, socket + open ends	5	●	●		●	●						*	*	*	*	*	*
	CSTE01290	Robot, socket + open ends	10	●	●		●	●						*	*	*	*	*	*
	CSTE01291	Robot, socket + plug	5	●	●		●	●						*	*	*	*	*	*
	CSTE01292	Robot, socket + plug	10	●	●		●	●						*	*	*	*	*	*
	CSTE01301	Drag chain, socket + open ends	5	●	●		●	●						*	*	*	*	*	*
	CSTE01302	Drag chain, socket + open ends	10	●	●		●	●						*	*	*	*	*	*
	CSTE01303	Drag chain, socket + plug	5	●	●		●	●						*	*	*	*	*	*
	CSTE01304	Drag chain, socket + plug	10	●	●		●	●						*	*	*	*	*	*
	CSTE01293	Robot, socket + open ends	5			●			●	●	●	●	●	*	*	*	*	*	*
	CSTE01294	Robot, socket + open ends	10			●			●	●	●	●	●	*	*	*	*	*	*
	CSTE01295	Robot, socket + plug	5			●			●	●	●	●	●	*	*	*	*	*	*
	CSTE01296	Robot, socket + plug	10			●			●	●	●	●	●	*	*	*	*	*	*
	CSTE01305	Drag chain, socket + open ends	5			●			●	●	●	●	●	*	*	*	*	*	*
	CSTE01306	Drag chain, socket + open ends	10			●			●	●	●	●	●	*	*	*	*	*	*
	CSTE01307	Drag chain, socket + plug	5			●			●	●	●	●	●	*	*	*	*	*	*
	CSTE01308	Drag chain, socket + plug	10			●			●	●	●	●	●	*	*	*	*	*	*
Signal line	CSTE01297	Robot, socket + open ends	5	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
	CSTE01298	Robot, socket + open ends	10	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
	CSTE01299	Robot, socket + plug	5	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
	CSTE01300	Robot, socket + plug	10	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
	CSTE01309	Drag chain, socket + open ends	5	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
	CSTE01310	Drag chain, socket + open ends	10	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
	CSTE01311	Drag chain, socket + plug	5	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
	CSTE01312	Drag chain, socket + plug	10	●	●	●	●	●	●	●	●	●	●	*	*	*	*	*	*
Encoder line	CSTE01467	Robot, socket + open ends	5				●	●	●			●	●	*	*	*	*	*	*
	CSTE01468	Robot, socket + open ends	10				●	●	●			●	●	*	*	*	*	*	*
	CSTE01471	Robot, socket + plug	5				●	●	●			●	●	*	*	*	*	*	*
	CSTE01472	Robot, socket + plug	10				●	●	●			●	●	*	*	*	*	*	*
	CSTE01469	Drag chain, socket + open ends	5				●	●	●			●	●	*	*	*	*	*	*
	CSTE01470	Drag chain, socket + open ends	10				●	●	●			●	●	*	*	*	*	*	*
	CSTE01473	Drag chain, socket + plug	5				●	●	●			●	●	*	*	*	*	*	*
	CSTE01474	Drag chain, socket + plug	10				●	●	●			●	●	*	*	*	*	*	*

* on request

SYSTEM ACCESSORIES
ROBOT CHANGE UNIT

▶ PRODUCT ADVANTAGES



▶ Specially designed robot change units are available for motor spindles that are designed for use with robots. The robot change units provide a reliable interface between the robot and motor spindle. The loose part is attached to the motor spindle, while the fixed part is mounted at the end of the robot arm. A storage station is supplied to set the motor spindle aside when it is not being used.

- Automated coupling mechanism
- Extremely flat design
- Mechanical self-locking mechanism
- Transfer of compressed air
- Transmission of power and signals for operating the motor spindle

Pos.	Product	Order no.
1	Storage station	**ALSR13100**
2	Tool Changer Fix Part	**WWS100F-001**
3	Tool Changer Loose Part	**WWS100L-001**
4	Motor spindle	**HF145-001-001/HF145-001-002**

Also available for motor spindles with vector control on request

▶ EQUIPMENT FEATURES

- Automatic tool change
- Aggregate interface
- Media transmission, load current
- Media transmission, signal current

▶ OPTIONS

- Piston position sensing
- Loose part present sensing

▶ RECOMMENDED ACCESSORY



Piston position sensing
ZUB088924



Inductive Proximity Switch Cable 0,3 m - Connector M8
NJR04-E2SK



Base module for storage station
ALSR13100



Inductive proximity switch - Cable 5 m
NJ8-E2



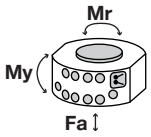
Inductive proximity switch - Connector M8
NJ8-E2S

▶ PRODUCT SPECIFICATIONS



▶ Forces and moments

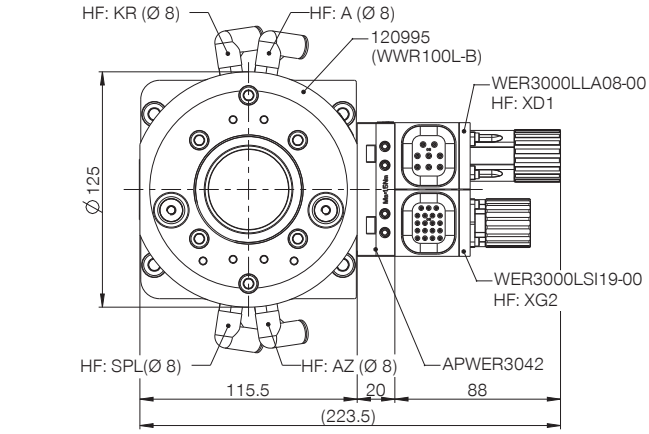
Shows static forces and moments which may impact on the tool changer.

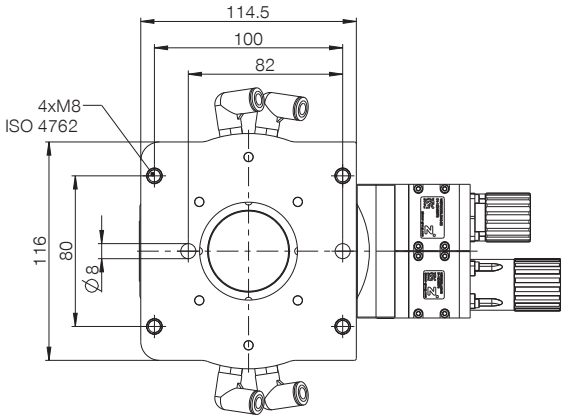


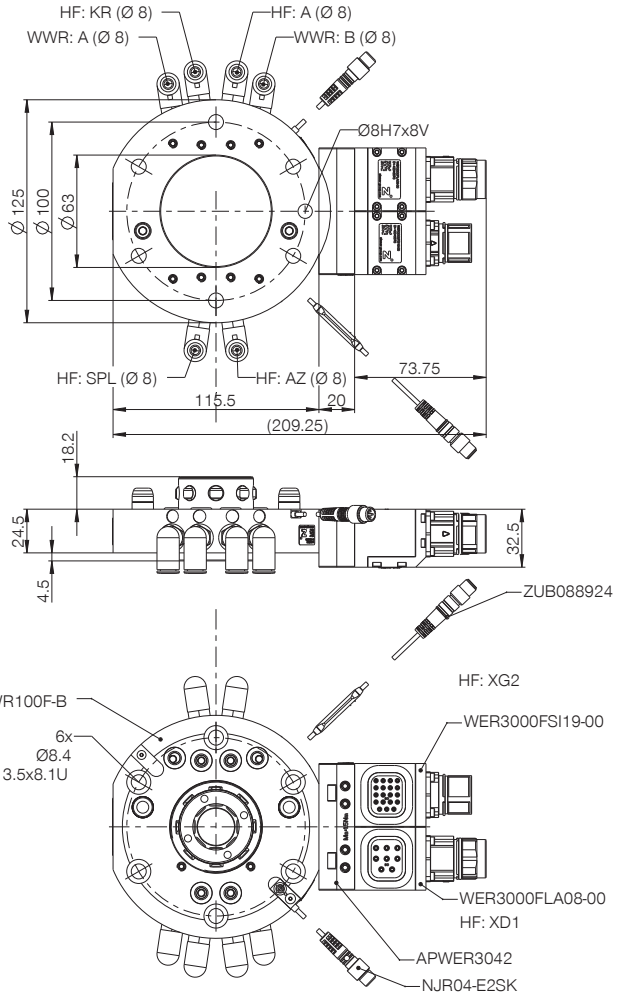
Mr [Nm]	600
My [Nm]	850
Fa [N]	16000

▶ Technical data

Order no.	WWS100F-001	WWS100L-001
Connecting flange according EN ISO 9409-1	TK 100	TK 100
Energy transfer	Suitable for HF145-001-001 | HF145-001-002	Suitable for HF145-001-001 | HF145-001-002
Locking stroke [mm]	1.2	
Self locking mechanism when locking	mechanical	mechanical
Repetition accuracy in X, Y [mm]	0.02	0.02
Repetition accuracy in Z [mm]	0.01	0.01
Operating pressure [bar]	4 ... 10	4 ... 10
Operating temperature [°C]	+5 ... +80	+5 ... +80
Air volume per cycle [cm³]	25	
Weight [kg]	1.8	2.2







SYSTEM ACCESSORIES
ROBOT CHANGE UNIT

▶ PRODUCT ADVANTAGES



▶ Specially designed robot change units are available for motor spindles that are designed for use with robots. The robot change units provide a reliable interface between the robot and motor spindle. The loose part is attached to the motor spindle, while the fixed part is mounted at the end of the robot arm. A storage station is supplied to set the motor spindle aside when it is not being used.

- Automated coupling mechanism
- Extremely flat design
- Mechanical self-locking mechanism
- Transfer of compressed air and cooling medium
- Transmission of power and signals for operating the motor spindle

Pos.	Product	Order no.
1	Storage station	**ALSR13100**
2	Tool Changer Fix Part	**WWS100F-002**
3	Tool Changer Loose Part	**WWS100L-002**
4	Motor spindle	**HF125-002-001**

Also available for motor spindles with vector control on request

▶ EQUIPMENT FEATURES

- Automatic tool change
- Aggregate interface
- Coolant transfer
- Media transfer air/vacuum
- Media transmission, load current
- Media transmission, signal current

▶ OPTIONS

- Piston position sensing
- Loose part present sensing

▶ RECOMMENDED ACCESSORY



Piston position sensing
ZUB088924



Inductive Proximity Switch Cable 0,3 m - Connector M8
NJR04-E2SK



Base module for storage station
ALSR13100



Inductive proximity switch - Cable 5 m
NJ8-E2



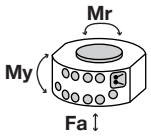
Inductive proximity switch - Connector M8
NJ8-E2S

▶ PRODUCT SPECIFICATIONS



▶ Forces and moments

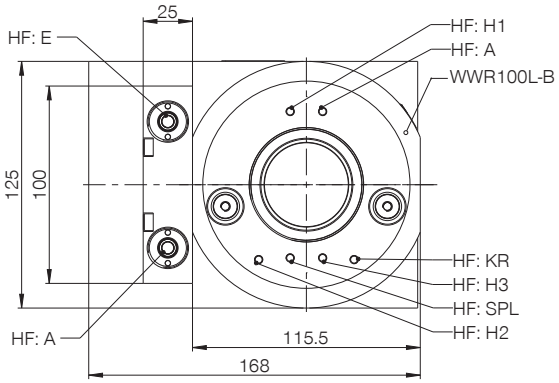
Shows static forces and moments which may impact on the tool changer.

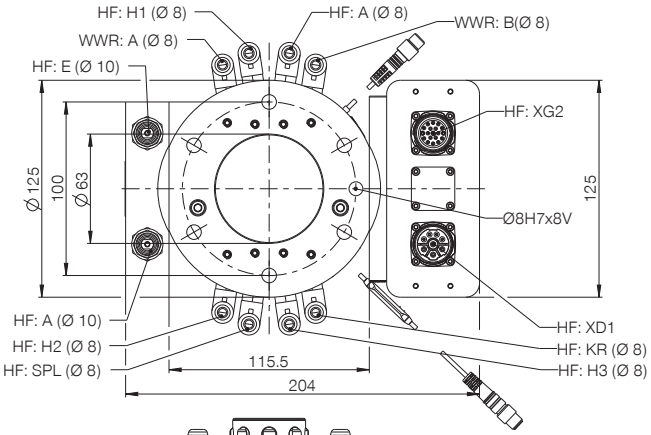


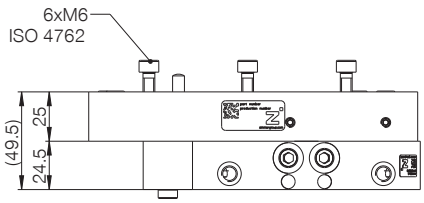
Mr [Nm]	600
My [Nm]	850
Fa [N]	16000

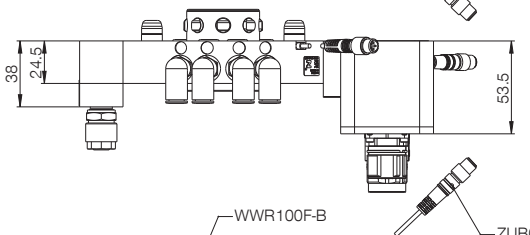
▶ Technical data

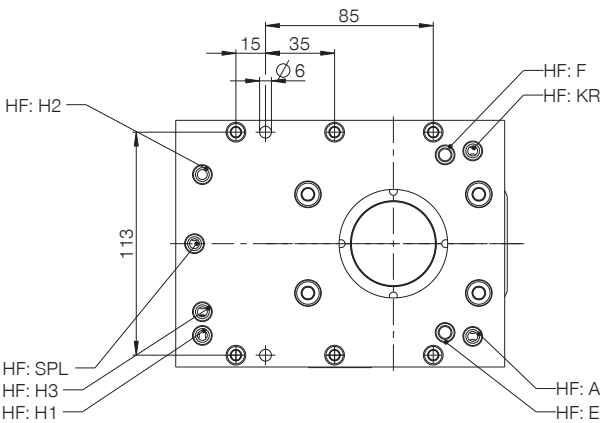
Order no.	WWS100F-002	WWS100L-002
Connecting flange according EN ISO 9409-1	TK 100	TK 100
Energy transfer	Suitable for HF125-002-001	Suitable for HF125-002-001
Locking stroke [mm]	1.2	
Self locking mechanism when locking	mechanical	mechanical
Repetition accuracy in X, Y [mm]	0.02	0.02
Repetition accuracy in Z [mm]	0.01	0.01
Operating pressure [bar]	4 ... 10	4 ... 10
Operating temperature [°C]	+5 ... +80	+5 ... +80
Air volume per cycle [cm³]	25	
Weight [kg]	2.4	2.4

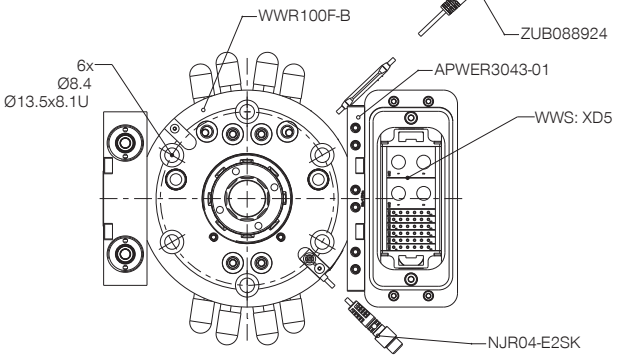






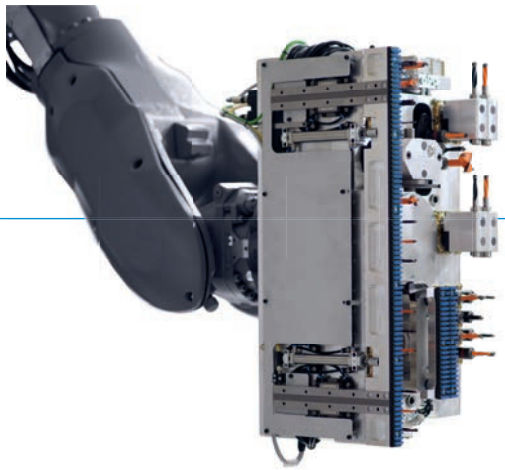






SYSTEM ACCESSORIES
MULTIFUNCTION UNITS

▶ PRODUCT ADVANTAGES



- **Automation of your system**
- **Customer-specific motor connection**
- **Variable number and arrangement of spindles**
- **Numerous attachment options:**
  - Gripper and handling unit
  - Metal fitting unit
  - Setting module for base feet
  - Cutting unit
  - All types of drilling units
  - Buffer setting unit
  - Screwing unit

▶ INFORMATION ON THE PRODUCTS

APPLICATION SCENARIOS

- **Maximum flexibility**

  Using industrial robots is a decisive factor for productivity. Zimmer Group offers innovative, application-optimized end-of-arm products for the increasing use of robotics. The multi-function head is just one example.

  Our multi-functional heads are equipped with many various spindle arrangements and units and can be assembled individually according to customer requirements, so you get the solutions customized for your application. With a multi-function head, you take your machine to the next level. Now you can perform handling operations and automation instead of just conventional machining jobs.

  Take advantage of the modular system we provide to enhance the function of your machine.

- **Machining**
  - Wood/surfaces similar to wood
  - Plasterboard
  - Composite materials
  - Plastics

FURTHER INFORMATION

- **Special customer-specific solutions**

  Multi-functional heads, motor connections and control systems often have different requirements for their tasks. Zimmer Group works with you to develop the most technically advanced solutions.

SERVICE
MOTOR SPINDLES

▶ INFORMATION ABOUT OUR SERVICE

SERVICE HOTLINE

Not every concern requires an immediate repair or replacement. Our highly qualified staff are happy to provide you advice and support by phone whenever you need it.

Phone +49 7243 727-2316
service@zimmer-group.com

▶ Consultation and design

As the heart of a machine, the motor spindle needs to be integrated into the machine concept with expertise. When it comes to selecting the spindle, this goes far beyond the dimensions and performance data. We are glad to help you deal with all the aspects that arise, such as power supply, control and cooling. These are foundational parameters for ensuring that your application performs to your expectations. Are you already using a spindle in your machine but looking for an alternative or upgrade? We would be happy to advise you!

▶ Express repair service

In the event of an accident, it is essential to be able to resume your core duties quickly. In the case of spindle damage, it is therefore a question of how quickly and at what cost your machine can be returned to production at a reasonable expense. Spindle damage starts with the steps of disassembly, then the spindle repair or spindle replacement, then the final recommissioning the machine. As a rule, it therefore makes sense to have the functional spare spindle on site so that disassembly and recommissioning can be carried out at minimum cost during a service call. That is why we deliver you a refurbished or new replacement spindle quickly and without red tape and then service your defective motor spindle carefully.

▶ Service contracts

Are you looking for reliability and support during the lifecycle of your equipment to ensure that you can make long-term plans for your products and production capabilities? We offer the service agreements you need to guarantee that your production capacity is maintained.

▶ On-site service

At your request, our experienced service personnel are happy to visit you on-site to carry out service operations, assist in commissioning or offer professional consultation.

▶ Spare parts service

Manufacturer quality at fair prices, discussed and delivered with the appropriate level of skill. That is what we offer.

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DECLARATION OF INCORPORATION IN TERMS OF THE EC DIRECTIVE 2006/42/EC ON MACHINERY (ANNEX II 1 B)

We hereby declare that our elements meet the following basic requirements of the Machinery Directive 2006/42/EC as an incomplete machine

No.1.1.2., No.1.1.3., No.1.1.5., No.1.3.2, No. 1.3.4, No. 1.3.7, No.1.5.3, No.1.5.4, No.1.5.8., No.1.6.4, No.1.7.1, No.1.7.3, No.1.7.4.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with electronic versions of the incomplete machine‘s special documents via our documentation department should they have reason to request them.
The incomplete machine may only be commissioned if the machine or system in which the incomplete machine is to be installed has been determined to satisfy the conditions of the Machinery Directive 2006/42/EC and the EC Declaration of Conformity has been produced in accordance with Annex II A.