



Handling technology 2

Robot accessories

THE KNOW-HOW FACTORY

THE KNOW-HOW FACTORY

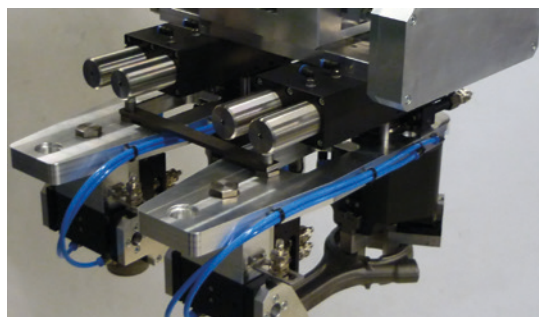
ZIMMER GROUP COMMITTED TO OUR CUSTOMERS

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

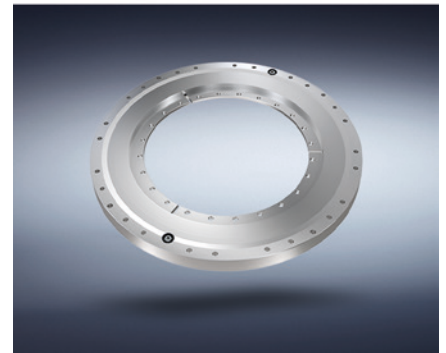
INDUSTRIAL DAMPING TECHNOLOGY AND SOFT CLOSE PRODUCTS EXEMPLIFY THE INNOVATION AND PIONEERING SPIRIT OF THE KNOW-HOW FACTORY.

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.

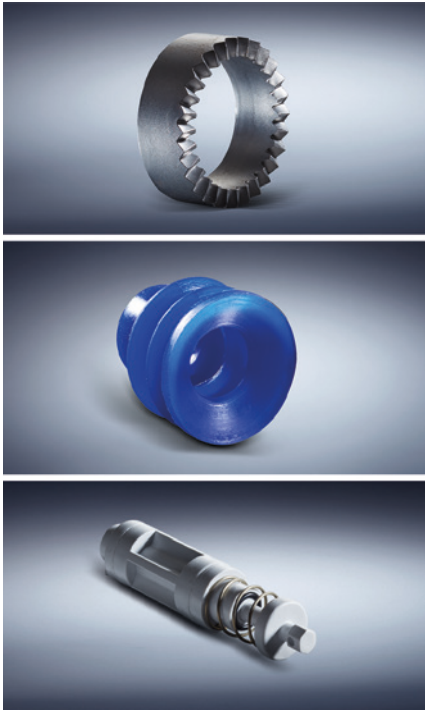


LINEAR TECHNOLOGY

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.



ROBOT ACCESSORIES

OVERVIEW OF SERIES

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TOOL CHANGERS MANUAL

OVERVIEW OF SERIES



1 TOOL CHANGERS MANUAL 8 - 23

 Series HWR2000	10
 Series HWR	18

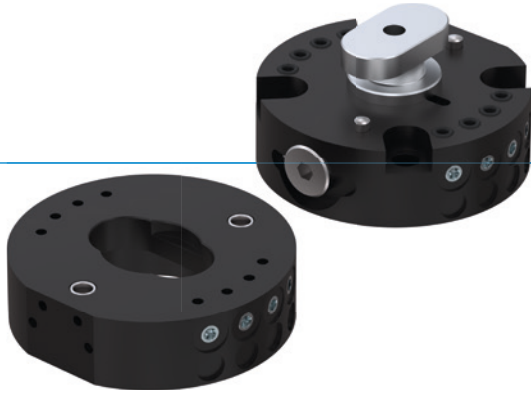
TOOL CHANGERS

SERIES HWR2000

1

Series HWR2000 / Tool Changers / manual / Robot Accessories

▶ PRODUCT ADVANTAGES



▶ **Change in seconds**

Reduce your start up costs and minimise downtimes by changing your tool in seconds

▶ **Integrated air transfer system**

For supplying pneumatic actuators. Additional media can be transmitted using optional energy elements.

▶ **Includes loss protection**

Undesired falling of work pieces is eliminated - this means the highest safety for man and machine

▶ THE BEST PRODUCT FOR YOUR APPLICATION



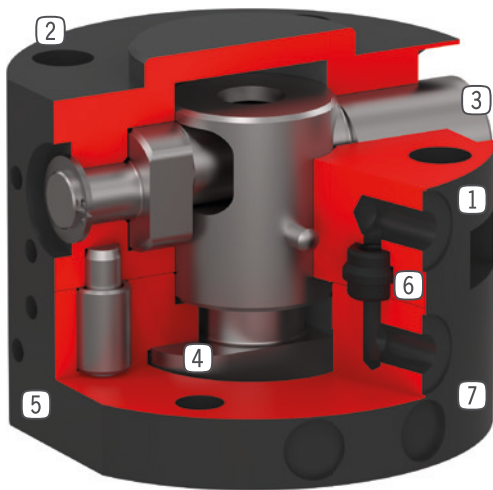
▶ **Our products welcome the challenge!**

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► BENEFITS IN DETAIL



- ① **Fix part**
- for robot side assembly
- ② **Robot flange**
- partial mounting circle in accordance with EN ISO 9409-1
- ③ **Eccentric locking bolt**
- with spring supported snap in function
- ④ **Locking bolt**
- adapted to the clamping sleeve
- ⑤ **Mounting for energy element**
- ⑥ **Integrated air feed-through**
- Air / vaccum transfer
- hoseless control possible
- ⑦ **Loose part**
- for tool side assembly

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Pneumatic energy transfer	Electrical energy transfer
		[Quantity]	
HWR2031	TK 31.5	4	optional
HWR2040	TK 40	4	optional
HWR2050	TK 50	8	optional

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

TOOL CHANGERS

INSTALLATION SIZE HWR2031

1

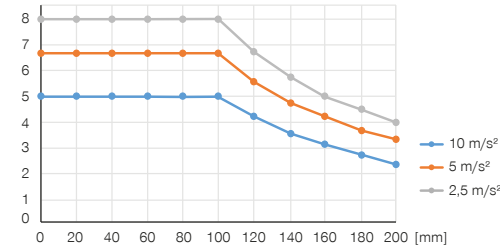
Installation size HWR2031 / Tool Changers / manual / Robot Accessories

▶ PRODUCT SPECIFICATIONS



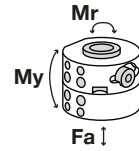
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	30
My [Nm]	25
Fa [N]	1000

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style

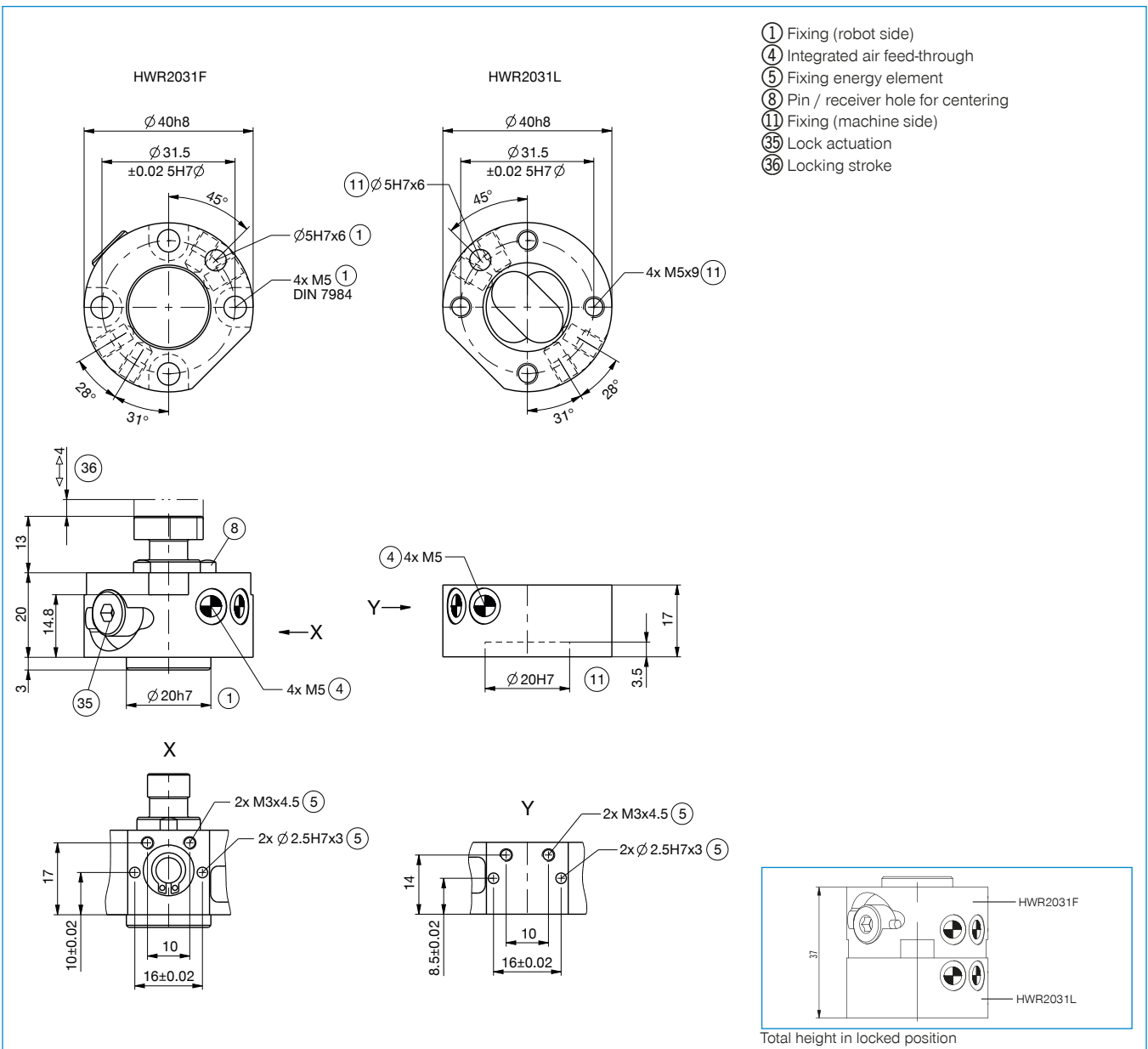


CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62

Order no.	▶ Technical data	
	HWR2031F	HWR2031L
Connecting flange according EN ISO 9409-1	TK 31.5	TK 31.5
Pneumatic energy transfer [Quantity]	4	4
Flow per connector [l/min]	150	150
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	4	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	0.13	0.1
Weight [kg]	0.09	0.04



TOOL CHANGERS

INSTALLATION SIZE HWR2040

1

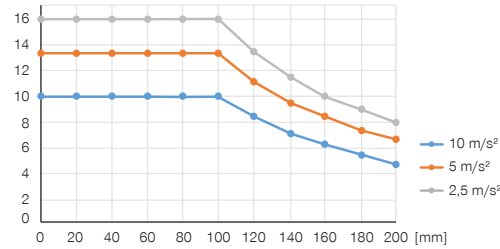
Installation size HWR2040 / Tool Changers / manual / Robot Accessories

▶ PRODUCT SPECIFICATIONS



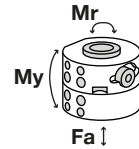
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	55
My [Nm]	50
Fa [N]	1200

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style

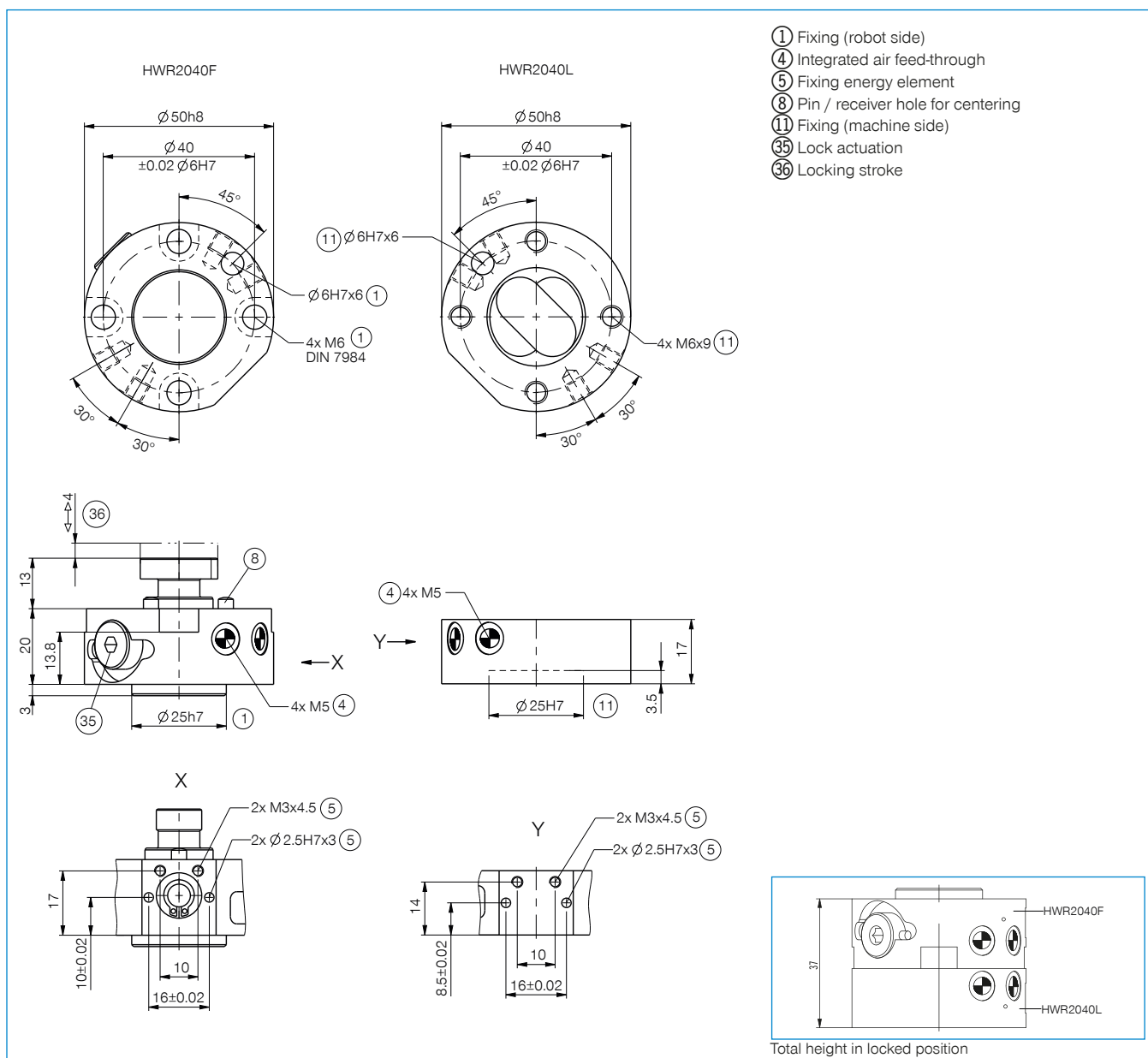


CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62

Order no.	▶ Technical data	
	HWR2040F	HWR2040L
Connecting flange according EN ISO 9409-1	TK 40	TK 40
Pneumatic energy transfer [Quantity]	4	4
Flow per connector [l/min]	150	150
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	4	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	0.33	0.26
Weight [kg]	0.145	0.07



TOOL CHANGERS

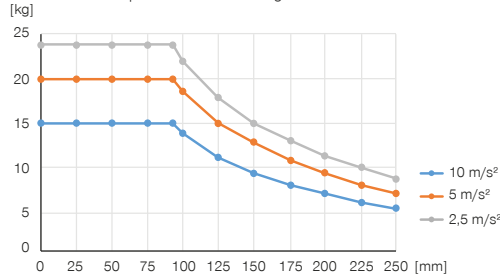
INSTALLATION SIZE HWR2050

▶ PRODUCT SPECIFICATIONS



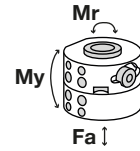
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	80
My [Nm]	70
Fa [N]	1600

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style

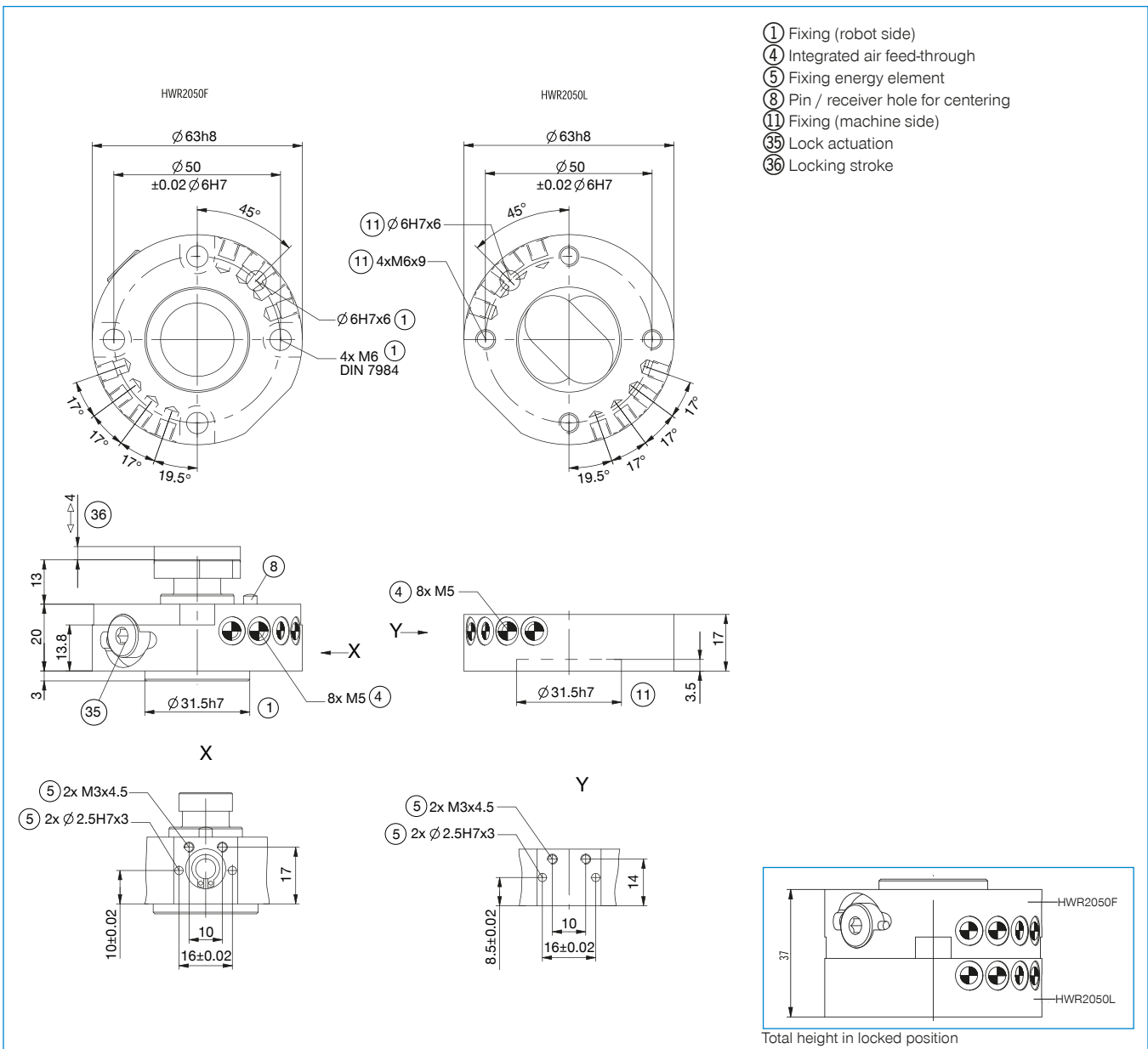


CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62

Order no.	Technical data	
	HWR2050F	HWR2050L
Connecting flange according EN ISO 9409-1	TK 50	TK 50
Pneumatic energy transfer [Quantity]	8	8
Flow per connector [l/min]	150	150
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	4	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	0.86	0.67
Weight [kg]	0.23	0.115



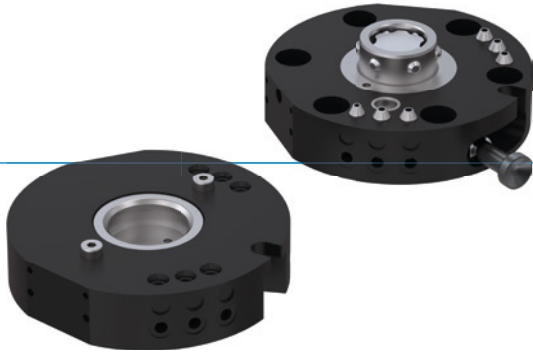
TOOL CHANGERS

SERIES HWR

1

Series HWR / Tool Changers / manual / Robot Accessories

▶ PRODUCT ADVANTAGES



▶ **Change in seconds**

Reduce your start up costs and minimise downtimes by changing your tool in seconds

▶ **Integrated air transfer system**

For supplying pneumatic actuators. Additional media can be transmitted using optional energy elements.

▶ **Replacing with no tools required**

The locking lever fully integrated into the housing makes it possible to replace tools without any additional tools

▶ THE BEST PRODUCT FOR YOUR APPLICATION



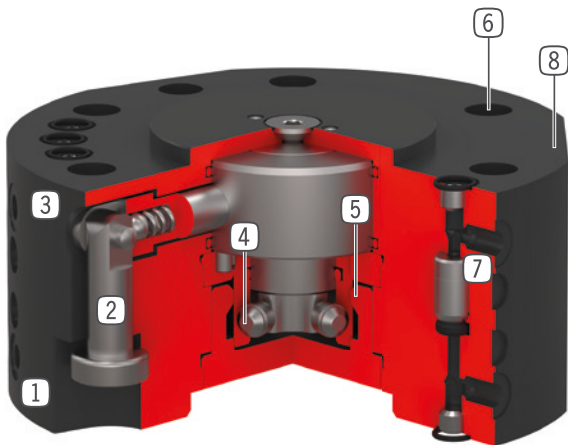
▶ **Our products welcome the challenge!**

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► BENEFITS IN DETAIL



- ① **Loose part**
- for tool side assembly
- ② **Locking lever**
- with spring supported snap in function
- ③ **Fix part**
- for robot side assembly
- ④ **Locking bolt**
- adapted to the clamping sleeve
- ⑤ **Locking stroke**
- re-adjustable via locking sleeve
- ⑥ **Robot flange**
- partial mounting circle in accordance with EN ISO 9409-1
- ⑦ **Integrated air feed-through**
- Air / vacuum transfer
- hoseless control possible
- ⑧ **Mounting for energy element**

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Pneumatic energy transfer	Electrical energy transfer
		[Quantity]	
HWR63	TK 63	6	optional
HWR80	TK 80	6	optional

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

TOOL CHANGERS

INSTALLATION SIZE HWR63

1

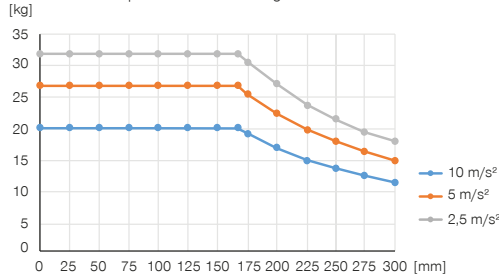
Installation size HWR63 / Tool Changers / manual / Robot Accessories

▶ PRODUCT SPECIFICATIONS



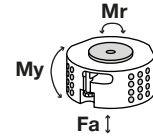
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	200
My [Nm]	200
Fa [N]	1200

▶ INCLUDED IN DELIVERY



6 [piece]
O-Ring
COR0050100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style

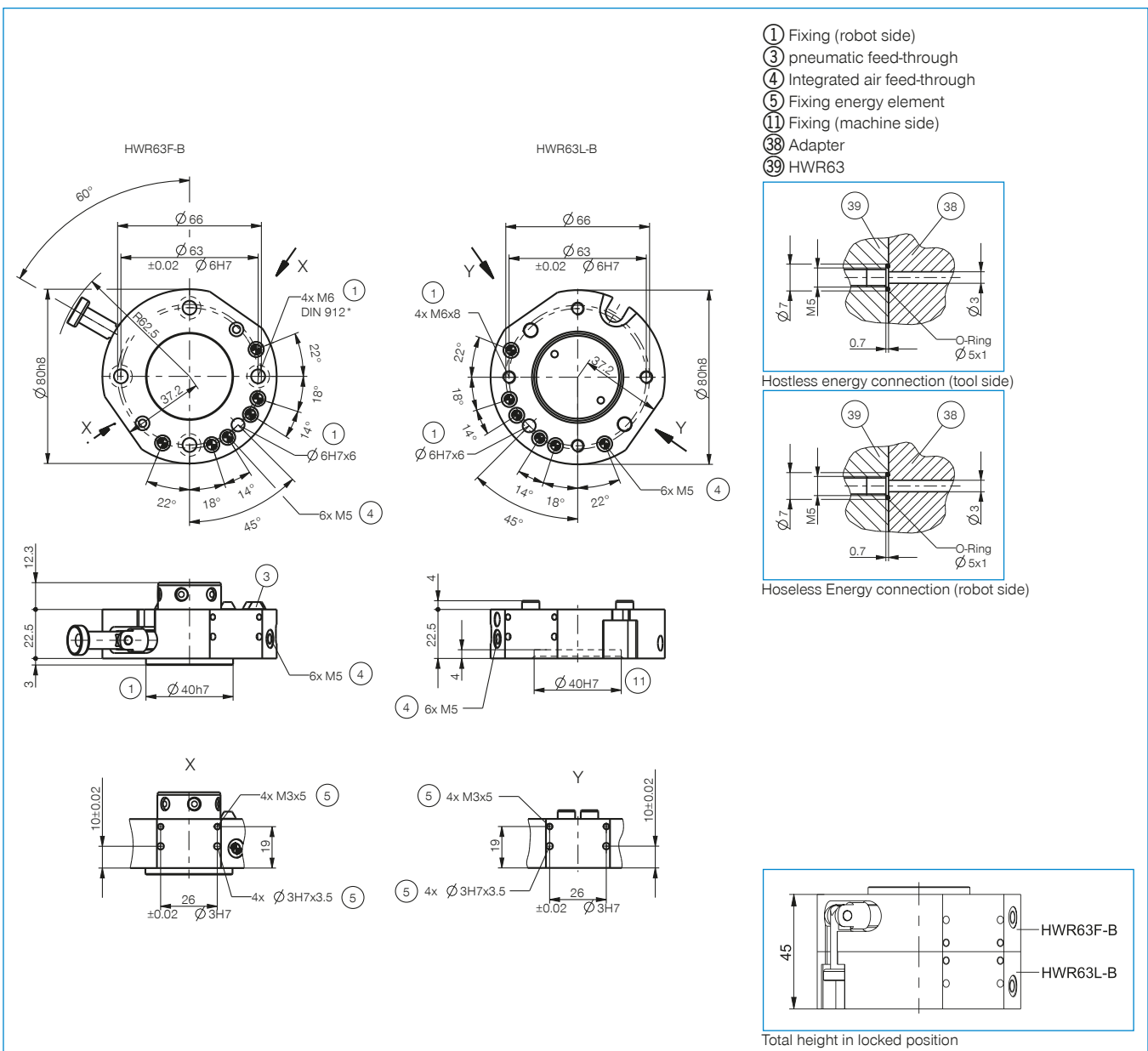


CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62

Order no.	▶ Technical data	
	HWR63F-B	HWR63L-B
Connecting flange according EN ISO 9409-1	TK 63	TK 63
Pneumatic energy transfer [Quantity]	6	6
Flow per connector [l/min]	170	170
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	3.8	2.6
Weight [kg]	0.45	0.3



TOOL CHANGERS

INSTALLATION SIZE HWR80

1

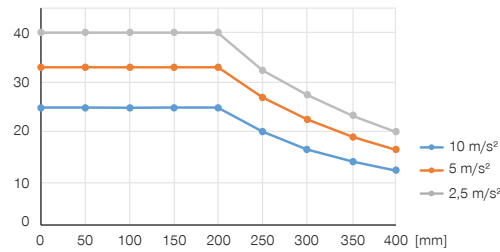
Installation size HWR80 / Tool Changers / manual / Robot Accessories

▶ PRODUCT SPECIFICATIONS



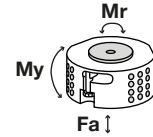
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	300
My [Nm]	300
Fa [N]	1500

▶ INCLUDED IN DELIVERY



6 [piece]
O-Ring
COR0060100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style

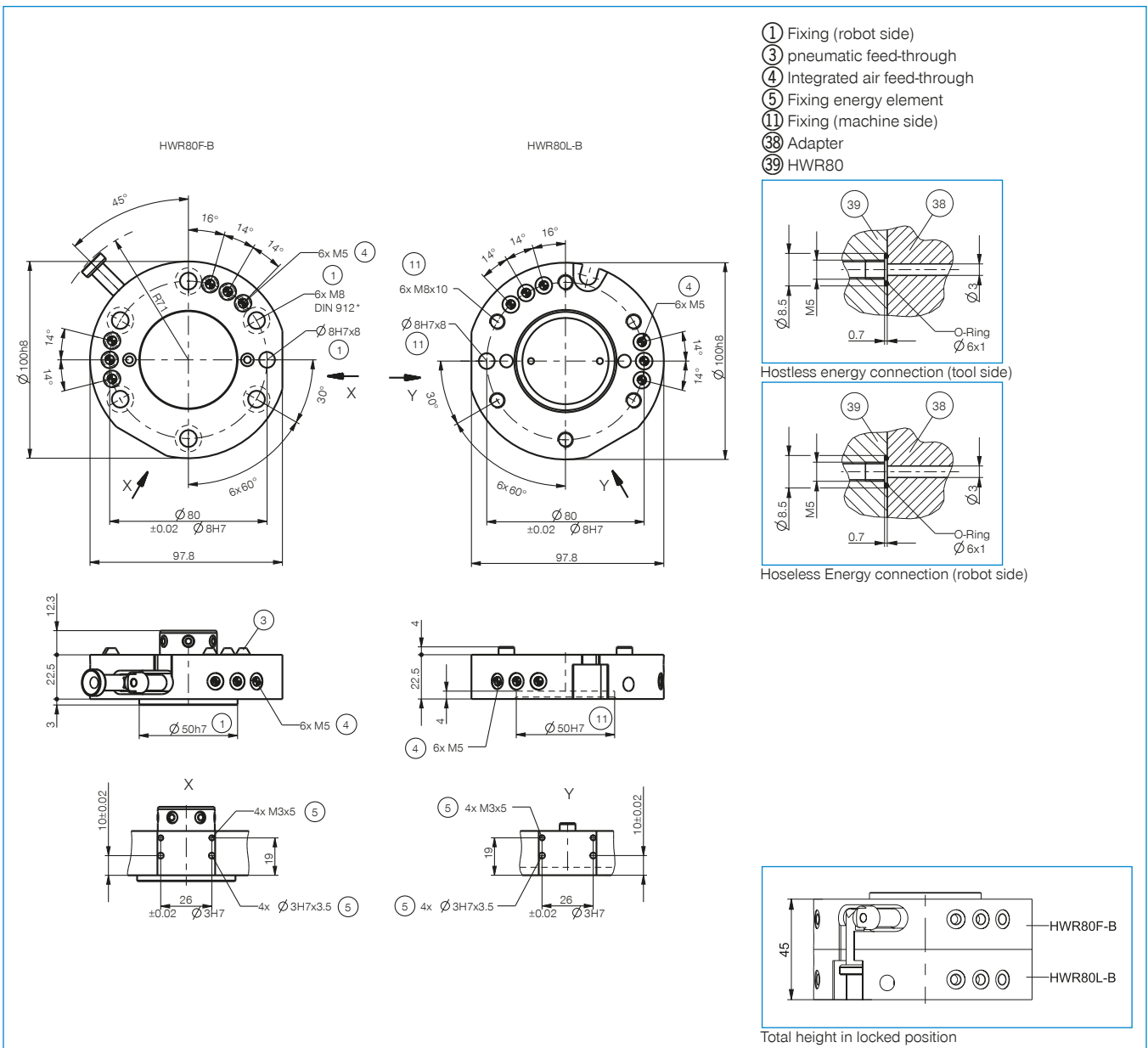


CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62

Order no.	▶ Technical data	
	HWR80F-B	HWR80L-B
Connecting flange according EN ISO 9409-1	TK 80	TK 80
Pneumatic energy transfer [Quantity]	6	6
Flow per connector [l/min]	170	170
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	3.36	2.8
Weight [kg]	0.66	0.48







TOOL CHANGERS PNEUMATIC

OVERVIEW OF SERIES

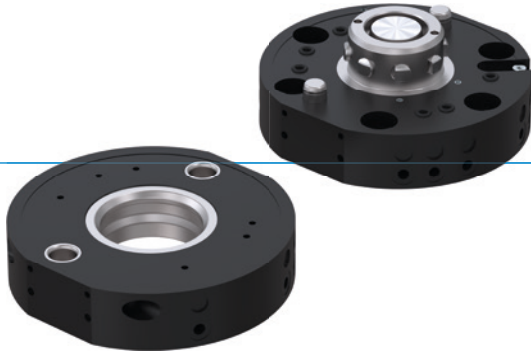


2	TOOL CHANGERS PNEUMATIC	24 - 47
	Series WWR	26
	Series WWR1000	42

TOOL CHANGERS

SERIES WWR

▶ PRODUCT ADVANTAGES



▶ **Secure hold during pressure drop**

The combination of spring loaded and a high gear ratio guarantees them a safe machine

▶ **Extremely flat design**

This structure reduces the moment load for your robot to a minimum and makes it possible to use smaller and more affordable sizes

▶ **Inexhaustible variety of media transfer systems**

No matter which medium you would like to transmit, we will draw from our wealth of experience in implementing projects and find a solution to suit your needs!

▶ THE BEST PRODUCT FOR YOUR APPLICATION



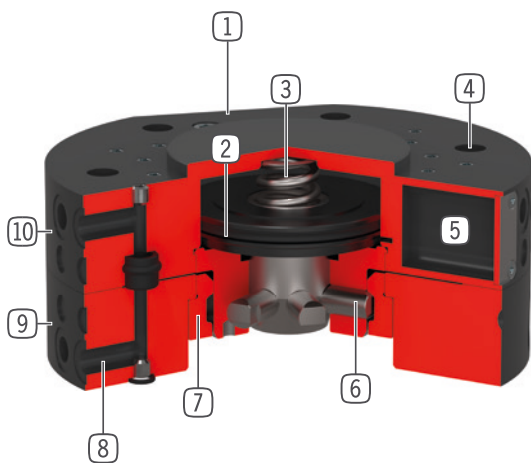
▶ **Our products welcome the challenge!**

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► **BENEFITS IN DETAIL**



- ① **Mounting for energy element**
- ② **Drive**
- double-acting pneumatic cylinder
- ③ **Integrated spring**
- energy storage in case of drop in pressure
- ④ **Robot flange**
- partial mounting circle in accordance with EN ISO 9409-1
- ⑤ **Piston position sensing**
- via magnetic field sensor
- ⑥ **Locking bolt**
- adapted to the clamping sleeve
- ⑦ **Locking sleeve**
- high moment capacity
- ⑧ **Integrated air feed-through**
- Air / vacuum transfer
- hoseless control possible
- ⑨ **Loose part**
- for tool side assembly
- ① ⑩ **Fix part**
- for robot side assembly

► **TECHNICAL DATA**

Installation size	Connecting flange according EN ISO 9409-1	Pneumatic energy transfer	Electrical energy transfer
		[Quantity]	
WWR40	TK 40	4	optional
WWR50	TK 50	4	optional
WWR63	TK 63	6	optional
WWR80	TK 80	6	optional
WWR100	TK 100	6	optional
WWR125	TK 125	10	optional
WWR160	TK 160	10	optional

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TOOL CHANGERS

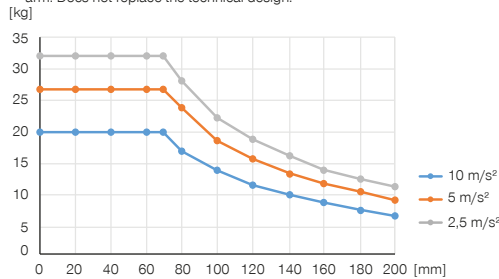
INSTALLATION SIZE WWR40

▶ PRODUCT SPECIFICATIONS



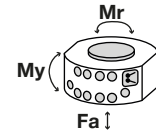
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	70
My [Nm]	90
Fa [N]	3800

▶ INCLUDED IN DELIVERY



4 [piece]
O-Ring
COR0025100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WWM5
Angled Fittings - Quick Connect Style



SENSORS



ZUB088929
Piston position sensing



SENSORS



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



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



ALSR1-40-B
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION

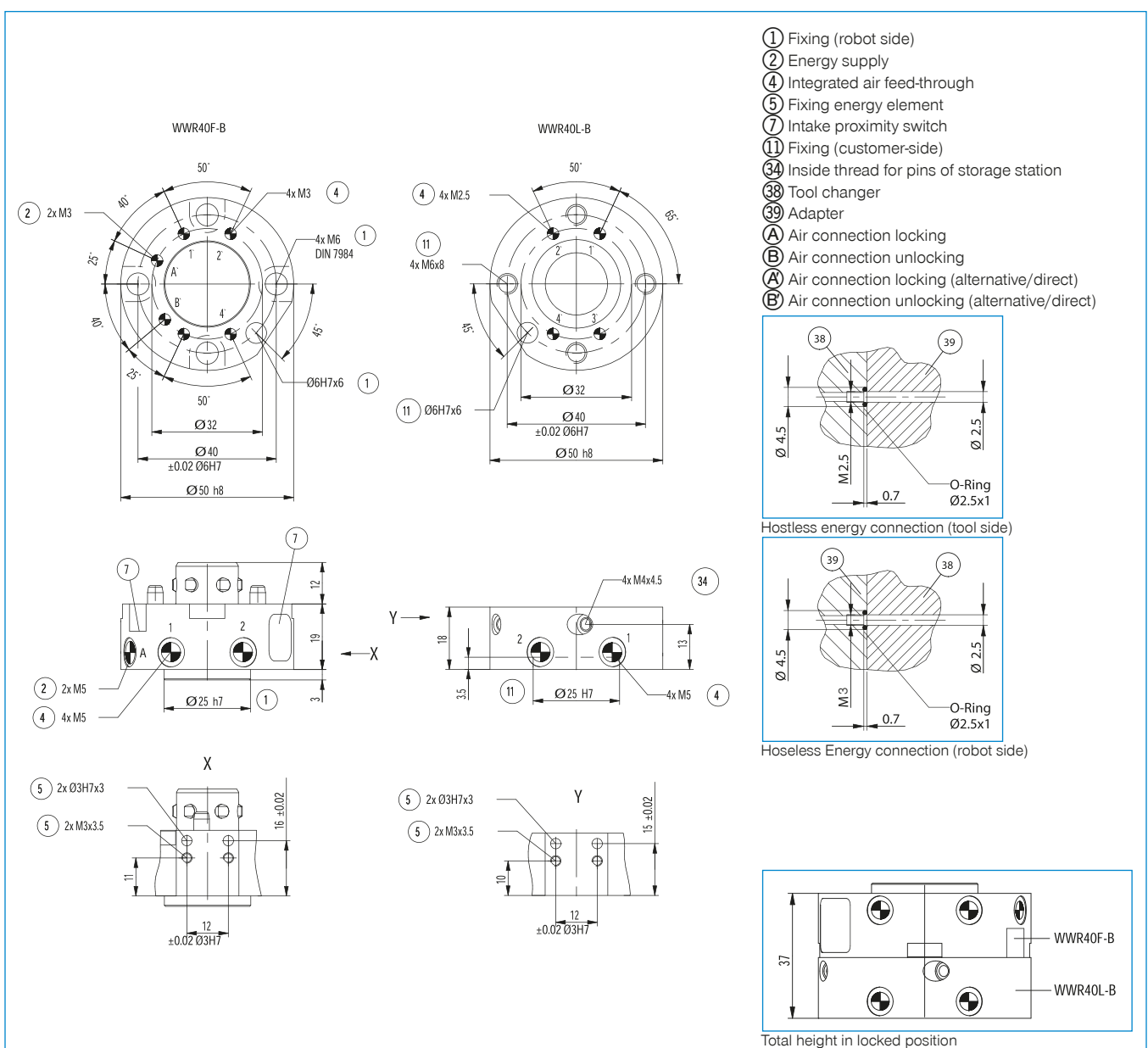


NJ5-E2
Inductive proximity switch - Cable 5 m



NJ5-E2SK
Inductive Proximity Switch Cable 0,3 m - Connector M8

Order no.	▶ Technical data	
	WWR40F-B	WWR40L-B
Connecting flange according EN ISO 9409-1	TK 40	TK 40
Pneumatic energy transfer [Quantity]	4	4
Flow per connector [l/min]	150	150
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	0.3	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Joining force [N]	50	
Release force [N]	30	
Offset at coupling max. in X,Y [mm]	1.3	1.3
Operating pressure [bar]	4 ... 10	4 ... 10
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm ³]	2.8	
Moment of inertia [kgcm ²]	0.3	0.28
Weight [kg]	0.125	0.09



TOOL CHANGERS

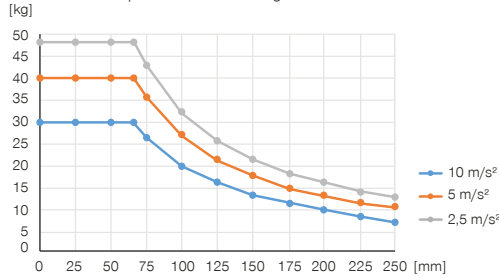
INSTALLATION SIZE WWR50

▶ PRODUCT SPECIFICATIONS



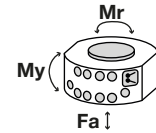
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	100
My [Nm]	105
Fa [N]	4000

▶ INCLUDED IN DELIVERY



4 [piece]
O-Ring
COR0025100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



SENSORS



ZUB088928
Piston position sensing



SENSORS



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



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



ALSR1-50-B
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION

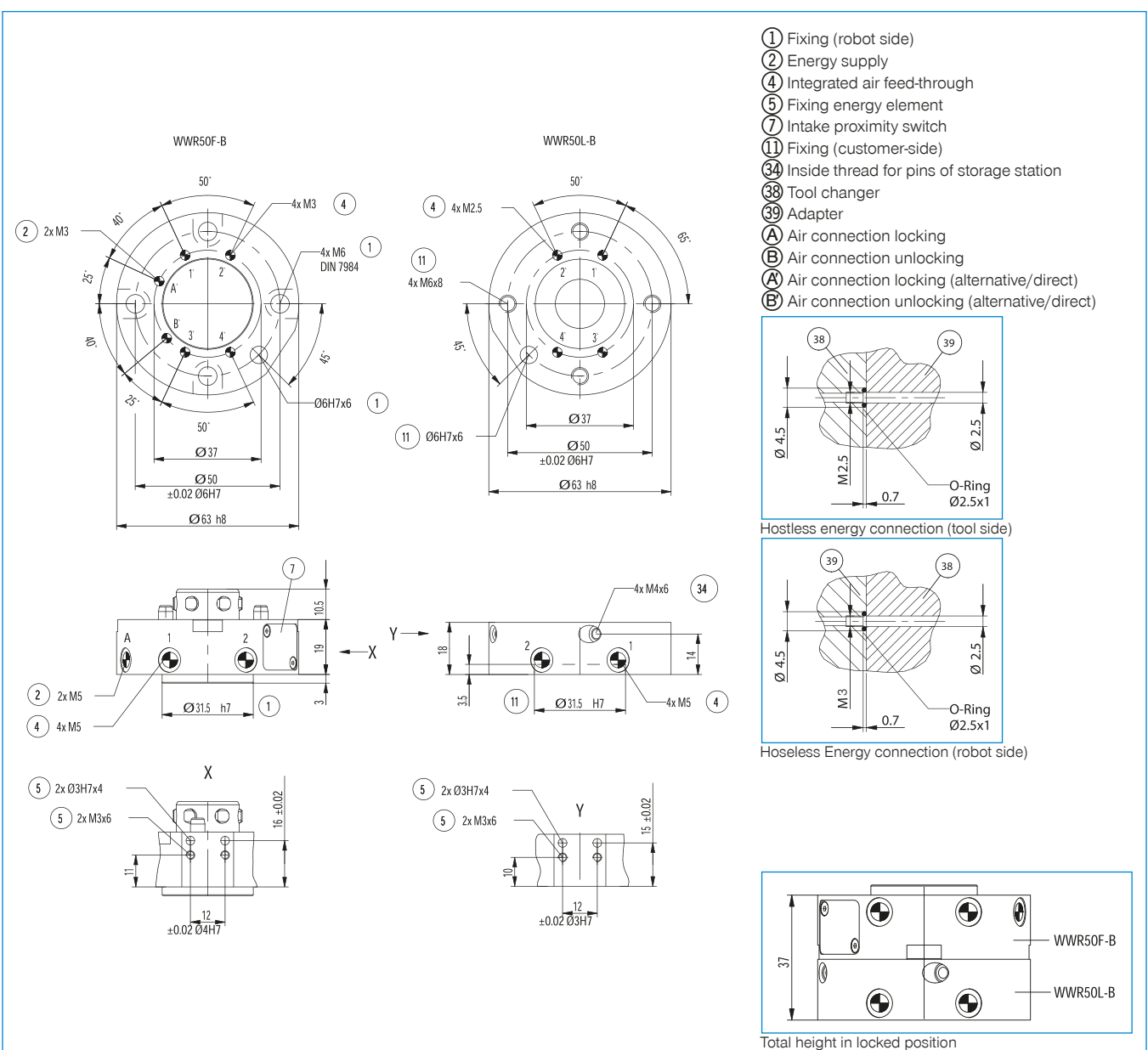


NJ5-E2
Inductive proximity switch - Cable 5 m



NJ5-E2SK
Inductive Proximity Switch Cable 0,3 m - Connector M8

Order no.	▶ Technical data	
	WWR50F-B	WWR50L-B
Connecting flange according EN ISO 9409-1	TK 50	TK 50
Pneumatic energy transfer [Quantity]	4	4
Flow per connector [l/min]	150	150
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	0.3	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Joining force [N]	50	
Release force [N]	30	
Offset at coupling max. in X,Y [mm]	1.5	1.5
Operating pressure [bar]	4 ... 10	4 ... 10
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm ³]	3	
Moment of inertia [kgcm ²]	0.8	0.7
Weight [kg]	0.19	0.15



TOOL CHANGERS

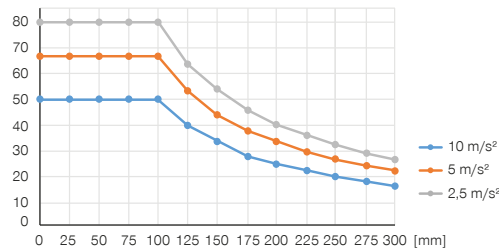
INSTALLATION SIZE WWR63

▶ PRODUCT SPECIFICATIONS



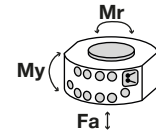
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	200
My [Nm]	300
Fa [N]	7600

▶ INCLUDED IN DELIVERY



6 [piece]
O-Ring
COR0030100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



SENSORS



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



WWM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



SENSORS



ZUB088927
Piston position sensing



ALSR1-63-B
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION

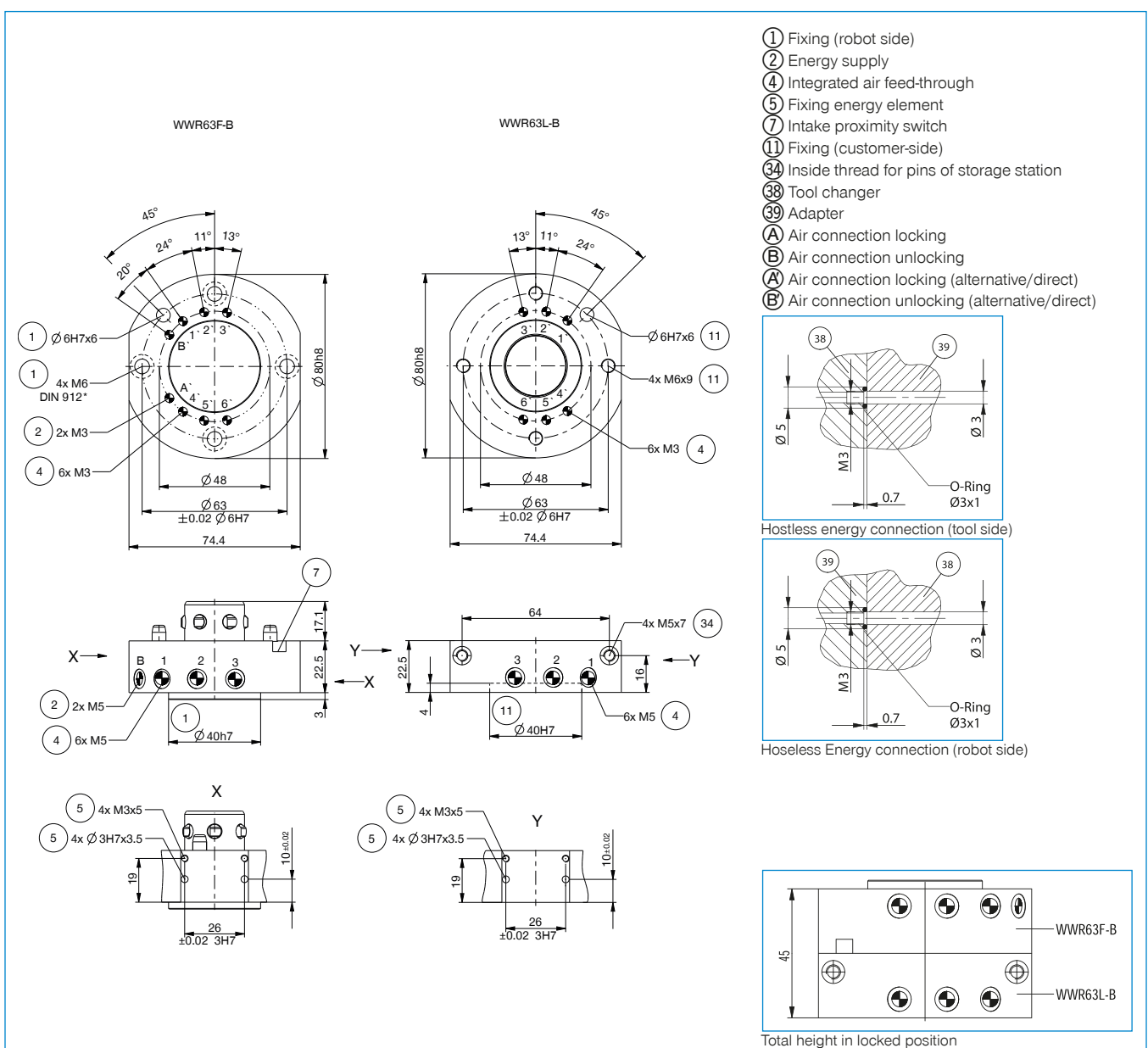


NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	Technical data	
	WWR63F-B	WWR63L-B
Connecting flange according EN ISO 9409-1	TK 63	TK 63
Pneumatic energy transfer [Quantity]	6	6
Flow per connector [l/min]	170	170
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Joining force [N]	110	
Release force [N]	60	
Offset at coupling max. in X,Y [mm]	1.65	1.65
Operating pressure [bar]	4 ... 10	4 ... 10
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm ³]	9	
Moment of inertia [kgcm ²]	2.3	2.2
Weight [kg]	0.37	0.28



TOOL CHANGERS

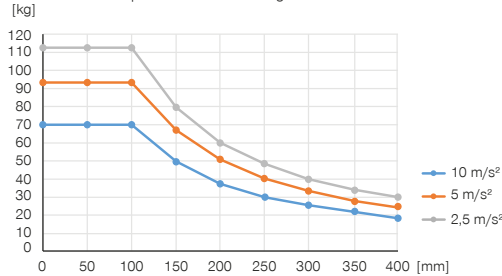
INSTALLATION SIZE WWR80

▶ PRODUCT SPECIFICATIONS



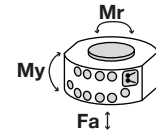
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	300
My [Nm]	600
Fa [N]	9150

▶ INCLUDED IN DELIVERY



6 [piece]
O-Ring
COR0030100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WWM5
Angled Fittings - Quick Connect Style



SENSORS



ZUB088925
Piston position sensing



SENSORS



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



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



ALSR1-80-B
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION

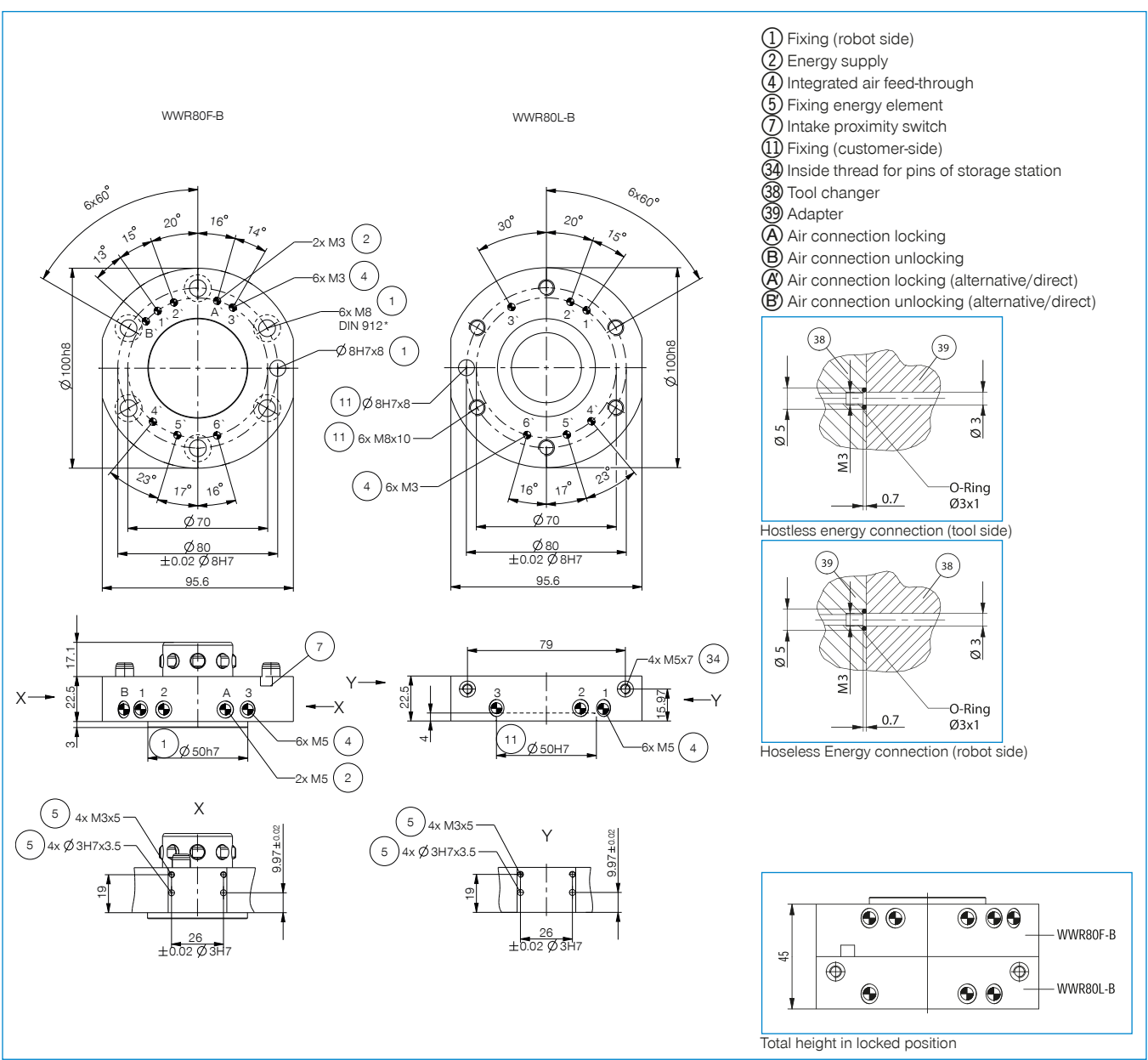


NJ8-E2
Inductive proximity switch - Cable 5 m

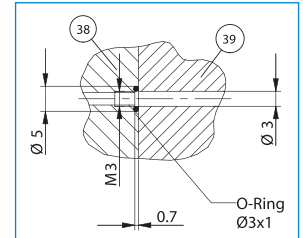


NJ8-E2S
Inductive proximity switch - Connector M8

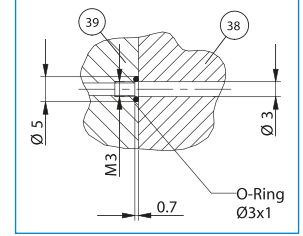
Order no.	Technical data	
	WWR80F-B	WWR80L-B
Connecting flange according EN ISO 9409-1	TK 80	TK 80
Pneumatic energy transfer [Quantity]	6	6
Flow per connector [l/min]	170	170
Electrical energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Joining force [N]	100	
Release force [N]	60	
Offset at coupling max. in X,Y [mm]	1.65	1.65
Operating pressure [bar]	4 ... 10	4 ... 10
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm³]	16	
Moment of inertia [kgcm²]	5.6	5.5
Weight [kg]	0.58	0.45



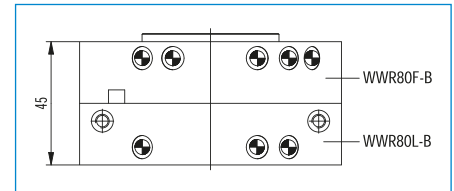
- ① Fixing (robot side)
- ② Energy supply
- ④ Integrated air feed-through
- ⑤ Fixing energy element
- ⑦ Intake proximity switch
- ⑪ Fixing (customer-side)
- ⑬ Inside thread for pins of storage station
- ⑰ Tool changer
- ⑲ Adapter
- Ⓐ Air connection locking
- Ⓑ Air connection unlocking
- Ⓐ Air connection locking (alternative/direct)
- Ⓑ Air connection unlocking (alternative/direct)



Hostless energy connection (tool side)



Hoseless Energy connection (robot side)



Total height in locked position

TOOL CHANGERS

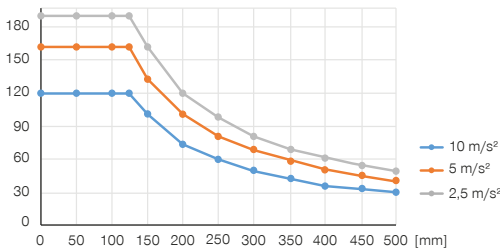
INSTALLATION SIZE WWR100

▶ PRODUCT SPECIFICATIONS



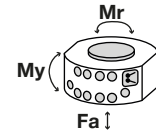
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



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

▶ INCLUDED IN DELIVERY



6 [piece]
O-Ring
COR0070150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



ZUB088924
Piston position sensing



SENSORS



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



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



ALSR13100
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION

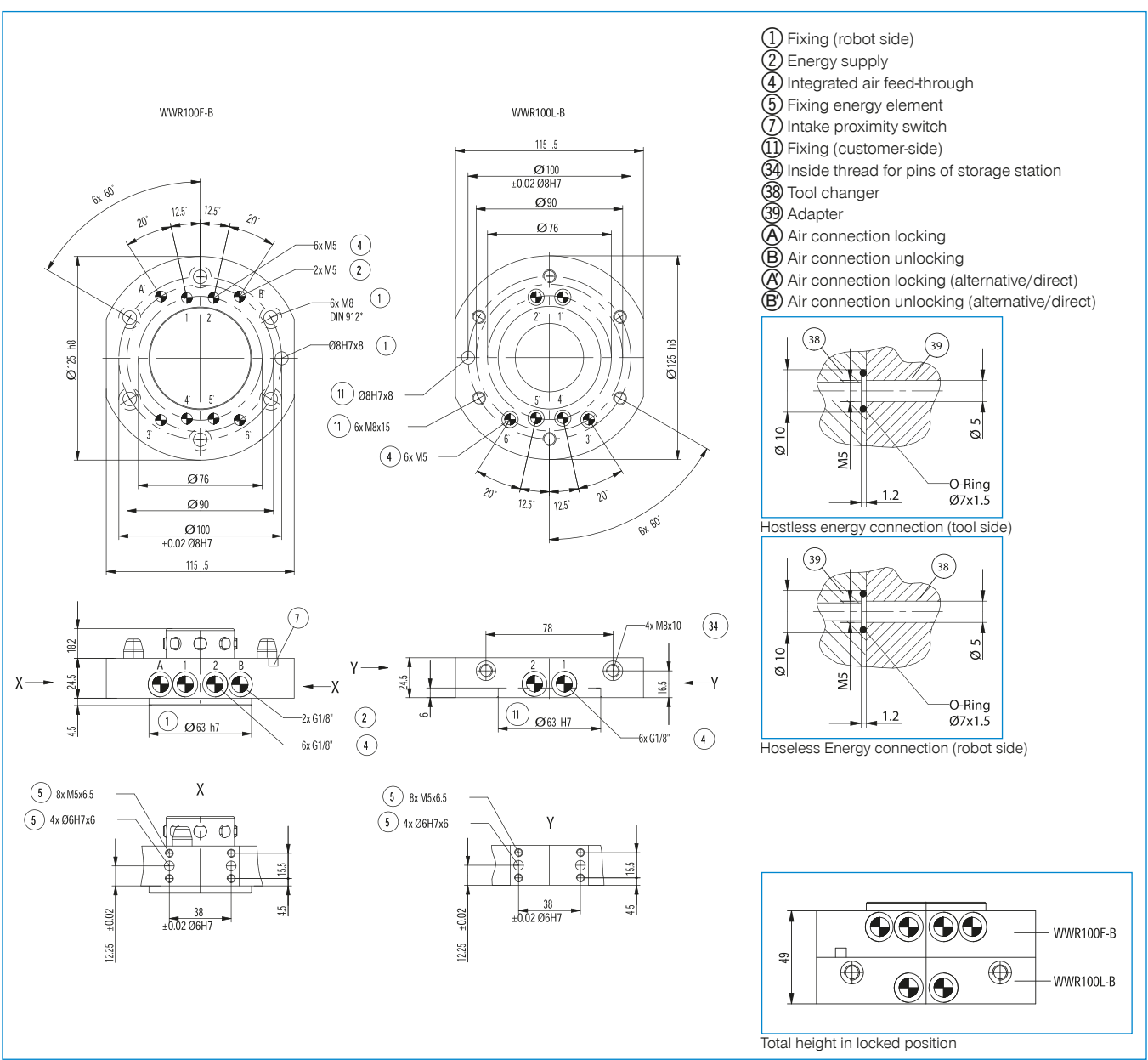


NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	▶ Technical data	
	WWR100F-B	WWR100L-B
Connecting flange according EN ISO 9409-1	TK 100	TK 100
Pneumatic energy transfer [Quantity]	6	6
Flow per connector [l/min]	330	330
Electrical energy transfer	optional	optional
Hydraulic energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1.2	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Joining force [N]	120	
Release force [N]	75	
Offset at coupling max. in X,Y [mm]	1.85	1.85
Operating pressure [bar]	4 ... 10	4 ... 10
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm³]	25	
Moment of inertia [kgcm²]	14	14
Weight [kg]	0.96	0.725



TOOL CHANGERS

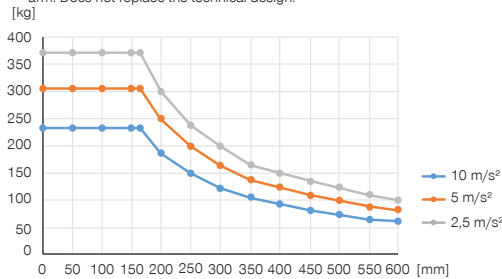
INSTALLATION SIZE WWR125

▶ PRODUCT SPECIFICATIONS



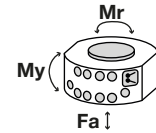
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	1500
My [Nm]	1700
Fa [N]	26000

▶ INCLUDED IN DELIVERY



10 [piece]
O-Ring
COR0070150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



ZUB088923
Piston position sensing



SENSORS



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



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



ALSR13125
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION

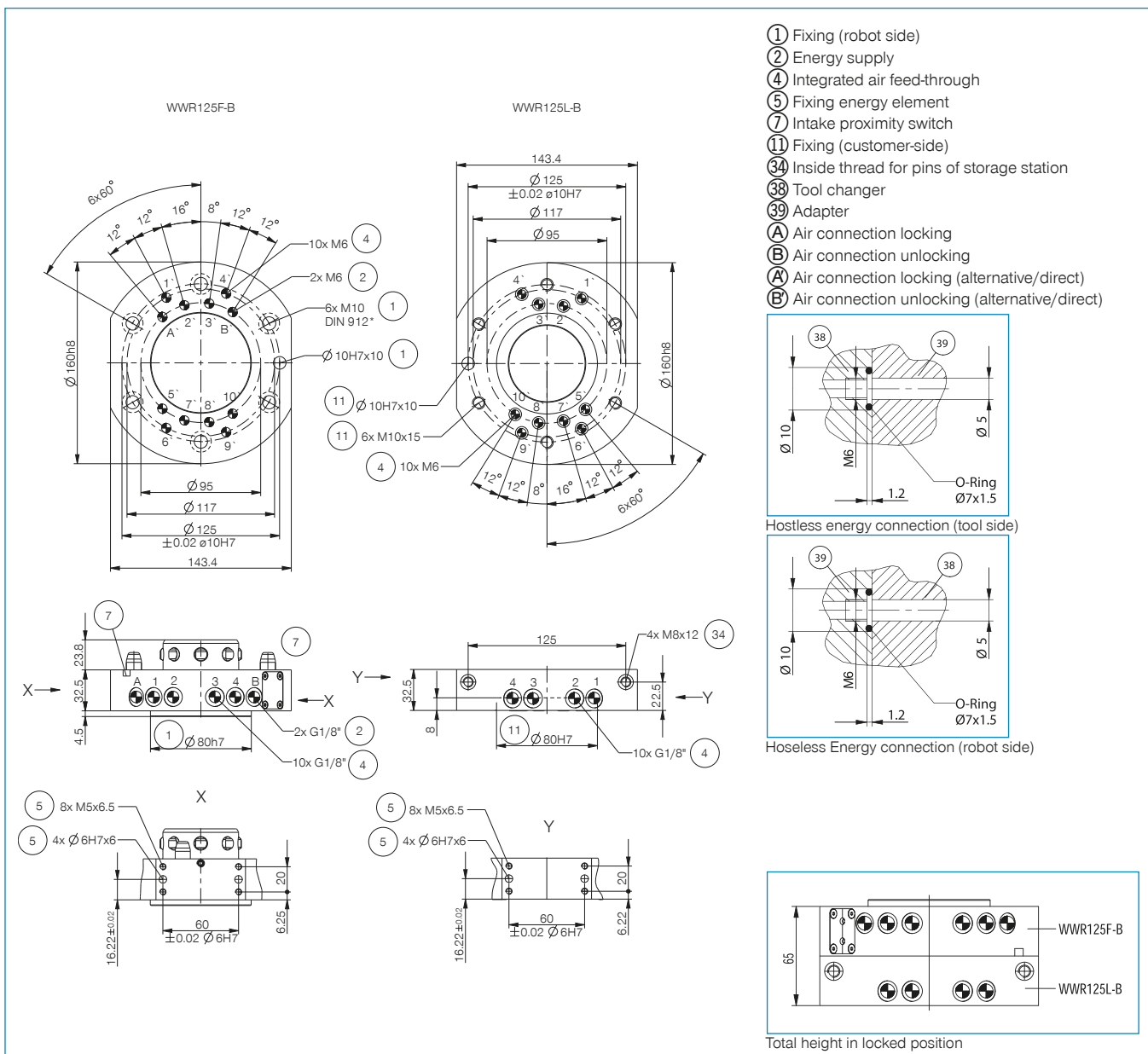


NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	► Technical data	
	WWR125F-B	WWR125L-B
Connecting flange according EN ISO 9409-1	TK 125	TK 125
Pneumatic energy transfer [Quantity]	10	10
Flow per connector [l/min]	500	500
Electrical energy transfer	optional	optional
Hydraulic energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1.3	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Joining force [N]	150	
Release force [N]	80	
Offset at coupling max. in X,Y [mm]	2.85	2.85
Operating pressure [bar]	4 ... 10	4 ... 10
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm³]	80	
Moment of inertia [kgcm²]	48	42
Weight [kg]	2.1	1.45



TOOL CHANGERS

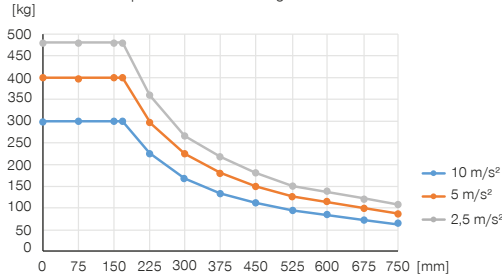
INSTALLATION SIZE WWR160

▶ PRODUCT SPECIFICATIONS



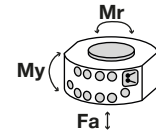
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	2000
My [Nm]	2200
Fa [N]	30000

▶ INCLUDED IN DELIVERY



10 [piece]
O-Ring
COR0070150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-4X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



ZUB088922
Piston position sensing



SENSORS



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



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



ALSR13160
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION

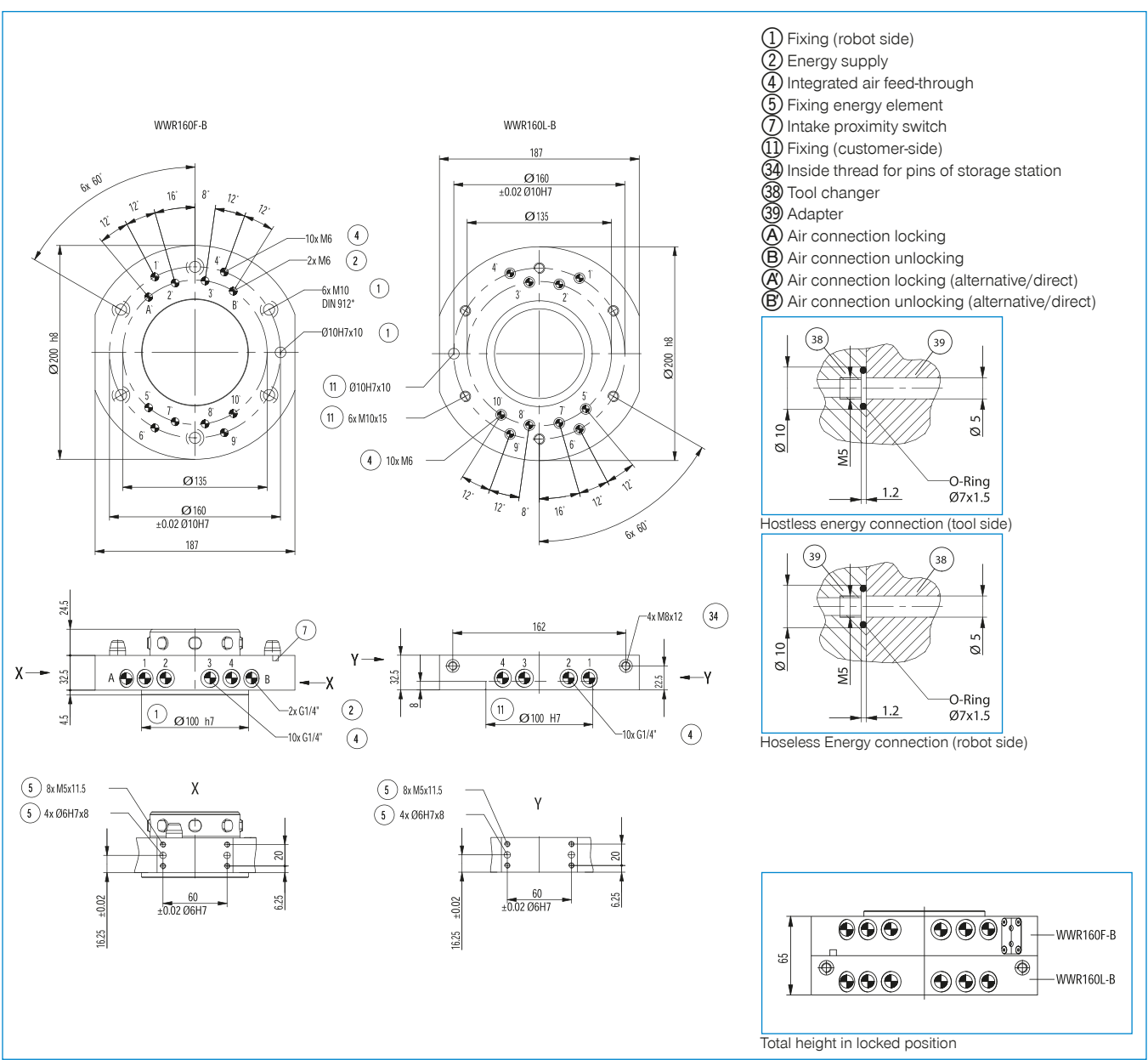


NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	Technical data	
	WWR160F-B	WWR160L-B
Connecting flange according EN ISO 9409-1	TK 160	TK 160
Pneumatic energy transfer [Quantity]	10	10
Flow per connector [l/min]	500	500
Electrical energy transfer	optional	optional
Hydraulic energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1.3	
Repetition accuracy in Z [mm]	0.01	0.01
Repetition accuracy in X, Y [mm]	0.02	0.02
Joining force [N]	150	
Release force [N]	80	
Offset at coupling max. in X,Y [mm]	2.85	2.85
Operating pressure [bar]	4 ... 10	4 ... 10
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm³]	97	
Moment of inertia [kgcm²]	134	132
Weight [kg]	3.7	2.6



TOOL CHANGERS

SERIES WWR1000

▶ PRODUCT ADVANTAGES



▶ **Secure hold during pressure drop**

A redundant system, created by the combination of spring accumulator and a self locking mechanism, guarantees a safe machine

▶ **Handling weight from up to one tonne**

Automated changes can be carried out by this changer with process reliability even with the largest robots

▶ **Inexhaustible variety of media transfer systems**

No matter which medium you would like to transmit, we will draw from our wealth of experience in implementing projects and find a solution to suit your needs!

▶ THE BEST PRODUCT FOR YOUR APPLICATION



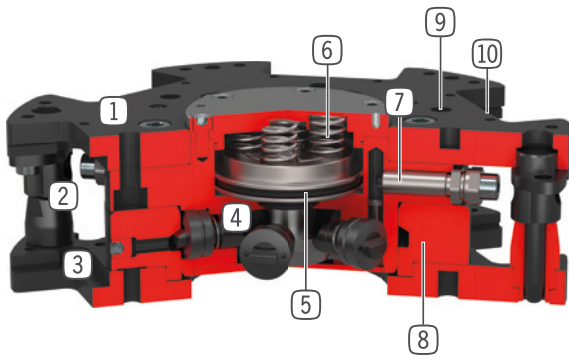
▶ **Our products welcome the challenge!**

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► **BENEFITS IN DETAIL**



- ① **Fix part**
- for robot side assembly
- ② **Centering bolts**
- twist protection and positioning for loose part
- ③ **Loose part**
- for tool side assembly
- ④ **Locking bolt**
- adapted to the clamping sleeve
- ⑤ **Drive**
- double-acting pneumatic cylinder
- ⑥ **Integrated spring**
- energy storage in case of drop in pressure
- ⑦ **Piston position sensing**
- via inductive proximity switch
- ⑧ **Locking sleeve**
- ⑨ **Robot flange**
- partial mounting circle in accordance with EN ISO 9409-1
- ⑩ **Mounting for energy element**

► **TECHNICAL DATA**

Installation size	Connecting flange according EN ISO 9409-1	Electrical energy transfer	Fluid energy transfer
WWR1160	TK 160	optional	optional
WWR1200	TK 200	optional	optional

► **FURTHER INFORMATION IS AVAILABLE ONLINE**



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

TOOL CHANGERS

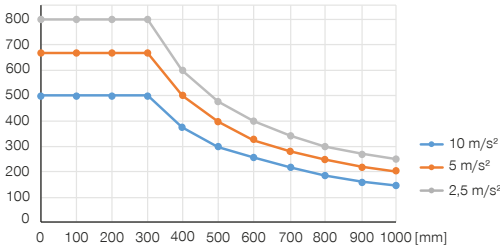
INSTALLATION SIZE WWR1160

▶ PRODUCT SPECIFICATIONS



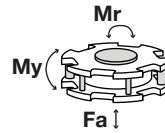
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.
[kg]



▶ Forces and moments

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



Mr [Nm]	6000
My [Nm]	6000
Fa [N]	35000

▶ INCLUDED IN DELIVERY



2 [piece]
Mounting bracket for proximity switch
ZUB0014

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



CONNECTIONS / OTHER



You can find energy elements and accessories
for tool changers from page 62



SENSORS



NJ8-E2S-17
Inductive proximity switch - Connector M8



KAG500
Plug-in connector Straight Cable 5m - Socket M8
(female)

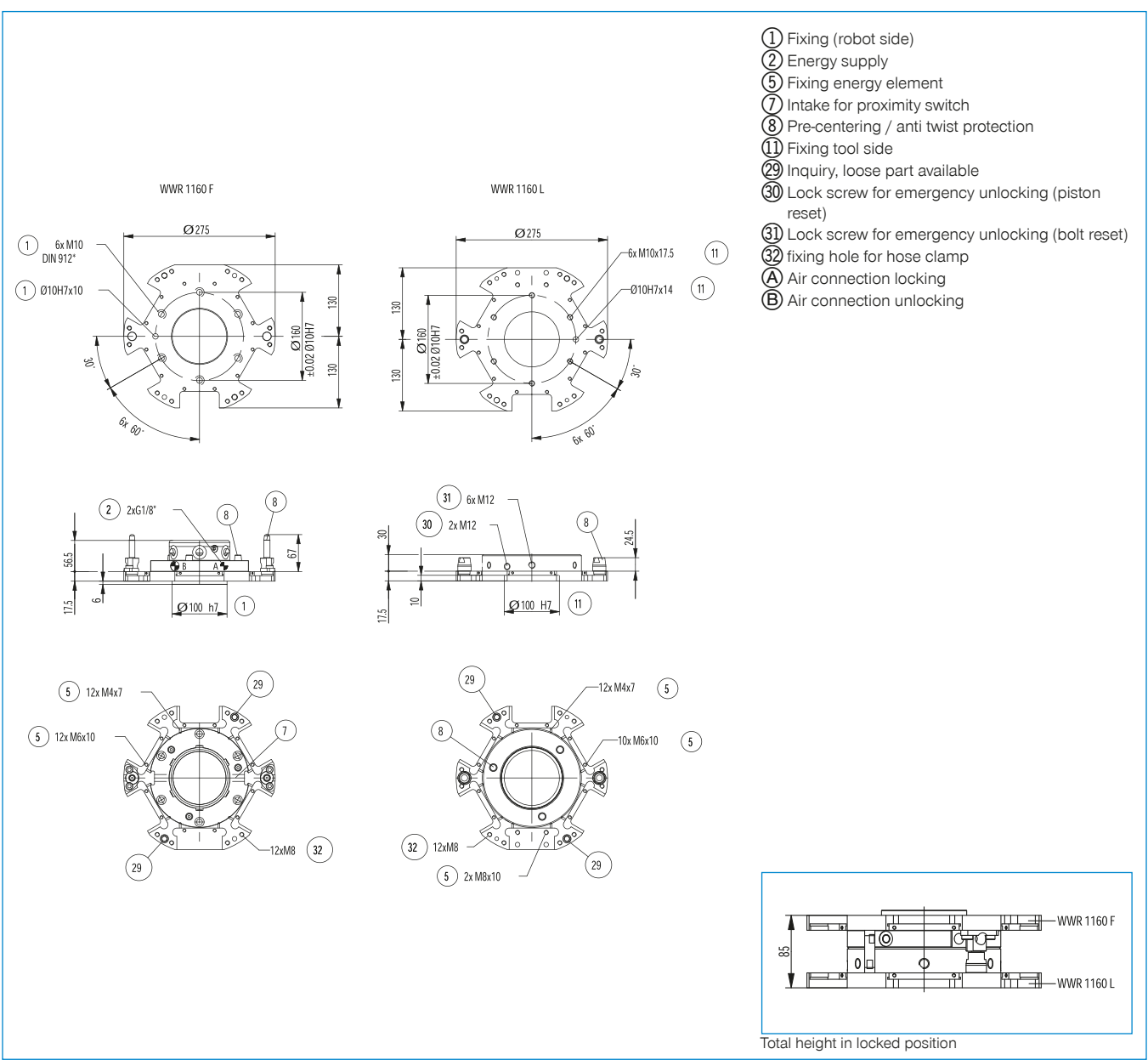


ZUB0022
Programming pins



ALSR1-1200
Storage station

Order no.	▶ Technical data	
	WWR1160F	WWR1160L
Connecting flange according EN ISO 9409-1	TK 160	TK 160
Electrical energy transfer	optional	optional
Fluid energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1	
Repetition accuracy +/- [mm]	0.02	0.02
Offset at coupling max. in X,Y [mm]	3.0	3.0
Operating pressure [bar]	6 ... 8	6 ... 8
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm³]	48	
Weight [kg]	9	6



TOOL CHANGERS

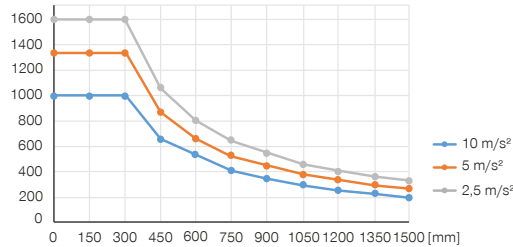
INSTALLATION SIZE WWR1200

▶ PRODUCT SPECIFICATIONS



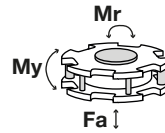
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.
[kg]



▶ Forces and moments

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



Mr [Nm]	12000
My [Nm]	12000
Fa [N]	75000

▶ INCLUDED IN DELIVERY



2 [piece]
Mounting bracket for proximity switch
ZUB0014

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



SENSORS



NJ8-E2S-17
Inductive proximity switch - Connector M8



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)

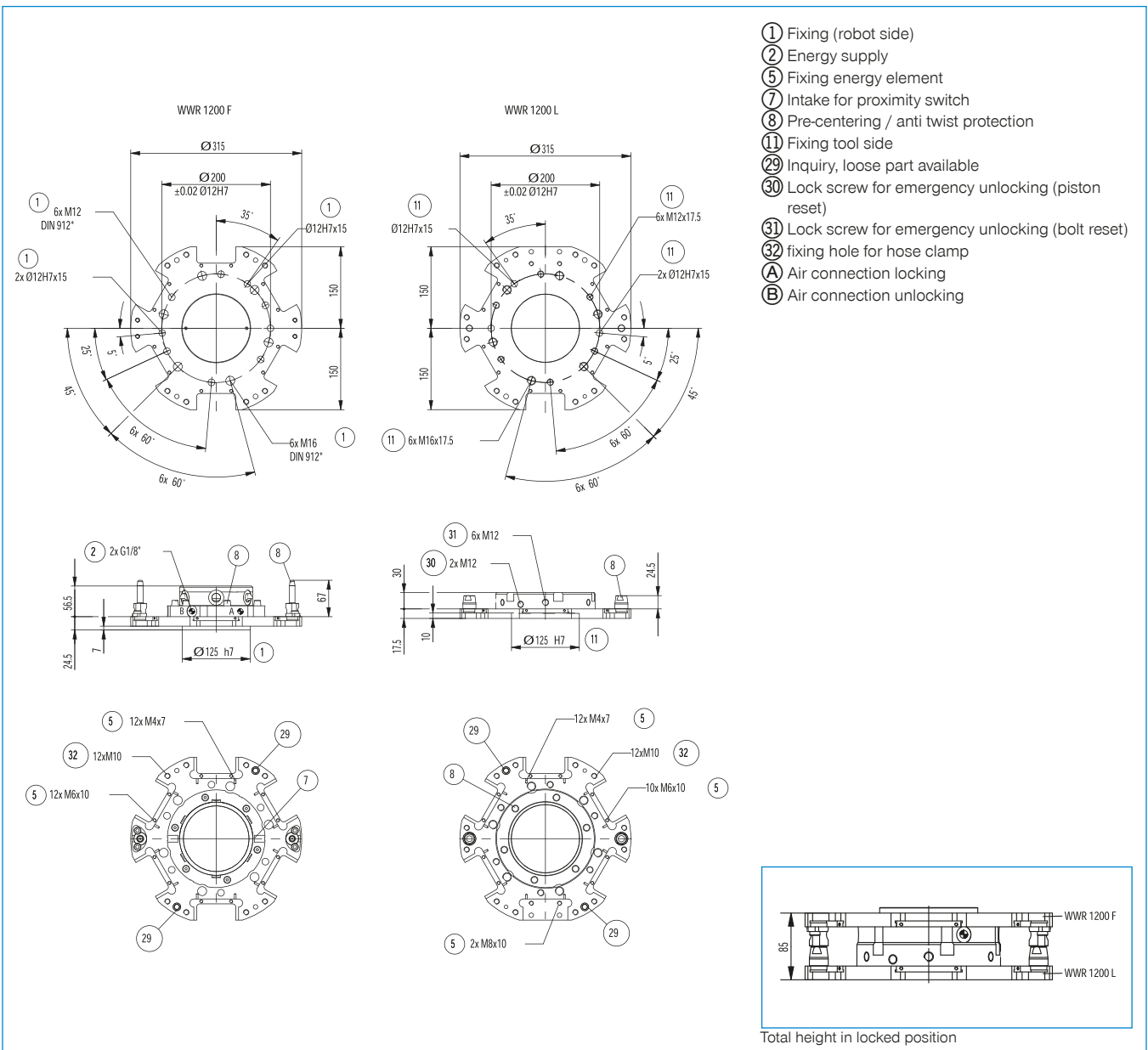


ZUB0022
Programming pins



ALSR1-1200
Storage station

Order no.	Technical data	
	WWR1200F	WWR1200L
Connecting flange according EN ISO 9409-1	TK 200	TK 200
Electrical energy transfer	optional	optional
Fluid energy transfer	optional	optional
Self locking mechanism when locking	mechanical	mechanical
Locking stroke [mm]	1	
Repetition accuracy +/- [mm]	0.02	0.02
Offset at coupling max. in X,Y [mm]	3.0	3.0
Operating pressure [bar]	6 ... 8	6 ... 8
Nominal operating pressure [bar]	6	6
Operating temperature [°C]	5 ... +80	5 ... +80
Air volume per cycle [cm³]	83	
Weight [kg]	15	8.5





TOOL CHANGERS AUTOMATIC

OVERVIEW OF SERIES



3 TOOL CHANGERS AUTOMATIC 48 - 59

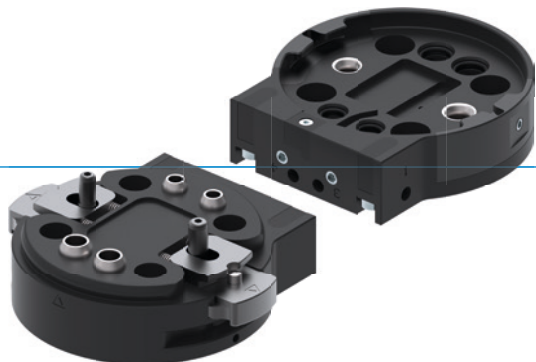
 Series FWR

50

TOOL CHANGERS

SERIES FWR

▶ PRODUCT ADVANTAGES



▶ Automated tool change without external activation

In interaction with the storage station, the changer is actuated mechanically during retraction. As a result, no additional power supply is required for the change operation.

▶ Manual tool change

The sizes FWR40 and FWR50 can be opened with just one hand. If this is not desired, you can lock the actuation manually.

▶ Optional media transmission

Adapt the tool changer to your application. With the energy elements of the WER1000 and WER2000 series, you can transmit a variety of media with standard connections!

▶ THE BEST PRODUCT FOR YOUR APPLICATION



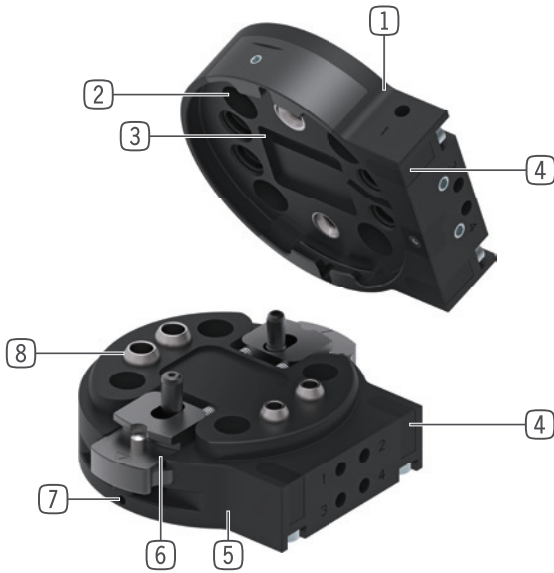
▶ Our products welcome the challenge!

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► **BENEFITS IN DETAIL**



- ① **Fix part**
- for robot side assembly
- ② **Connecting flange**
- partial mounting circle in accordance with EN ISO 9409-1
- ③ **Loose part presence sensing**
- via inductive proximity switch
- ④ **Mounting for energy element**
- Direct connection, without adapter plates
- ⑤ **Loose part**
- for tool side assembly
- ⑥ **Locking**
- Manual actuation
- Automatic actuation via a storage station
- ⑦ **Lock for manual actuation (optional)**
- Secure against inadvertent loosening
- ⑧ **Integrated air feed-through**
- Air / vacuum transfer
- hoseless control possible

► **TECHNICAL DATA**

Installation size	Connecting flange according EN ISO 9409-1	Handling weight max.	Tool weight max.	Pneumatic energy transfer
		[kg]	[kg]	[Quantity]
FWR40	TK 40	13	5	4
FWR50	TK 50	16	7	4
FWR63	TK 63	20	10	4
FWR80	TK 80	29	12	4

► **FURTHER INFORMATION IS AVAILABLE ONLINE**



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

TOOL CHANGERS

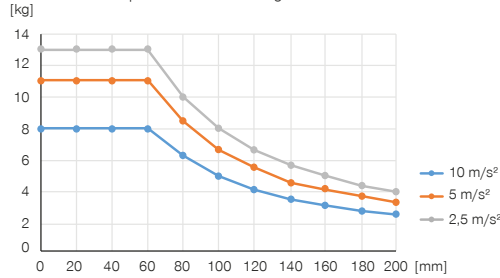
INSTALLATION SIZE FWR40

▶ PRODUCT SPECIFICATIONS



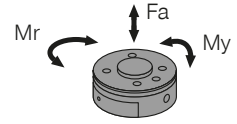
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	40
My [Nm]	40
Fa [N]	1000

▶ INCLUDED IN DELIVERY



2 [piece]
Mounting screw
C737903062



4 [piece]
O-Ring
COR0050100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



CONNECTIONS / OTHER



You can find energy elements and accessories for tool changers from page 62



SENSORS



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



AFWR1-40-A
Storage station

▶ RECOMMENDED ACCESSORY STORAGE STATION



NJ5-E2SK-01
Inductive Proximity Switch Cable 0,3 m - Connector M8

Order no.	▶ Technical data	
	FWR40F-00-A	FWR40L-00-A
Connecting flange according EN ISO 9409-1	TK 40	TK 40
Handling weight max. [kg]	13	13
Tool weight max. [kg]	5	5
Pneumatic energy transfer [Quantity]	4	4
Flow per connector M5 [l/min]	170	170
Electrical energy transfer	optional	optional
Locking stroke [mm]	0.6	
Repetition accuracy in Z [mm]	0.02	
Repetition accuracy in X, Y [mm]	0.03	
Joining force [N]	0	0
Release force [N]	0	0
Offset at coupling max. in X,Y [mm]	1.8	1.8
Offset at coupling max. in X,Y [°]	1.3	1.3
Tightening force [N]*	50	
Tightening torque [Nm]*	3	
Operating pressure for energy transmission [bar]	-0.6 ... 6	-0.6 ... 6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	0.95	1.19
Protection to IEC 60529	IP44**	IP44**
Weight [kg]	0.15	0.22

*Note the mating force of the energy elements!
 ** only in coupled state

FWR40F-00-A

FWR40L-00-A

- ① Fixing (robot side)
- ④ Integrated air feed-through
- ⑤ Fixing energy element
- ⑦ Intake proximity switch
- ⑪ Fixing (customer-side)
- ⑳ Tool changer
- ㉑ Adapter
- ㉕ Manual / automatic mode

Hostless energy connection (tool side)

FWR40F-00-A
FWR40L-00-A

TOOL CHANGERS

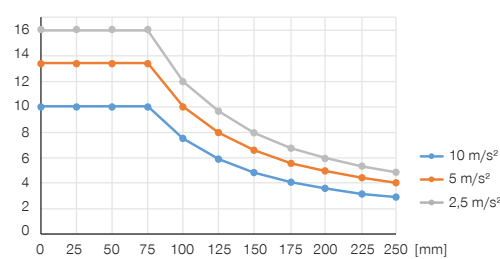
INSTALLATION SIZE FWR50

▶ PRODUCT SPECIFICATIONS



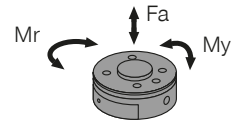
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



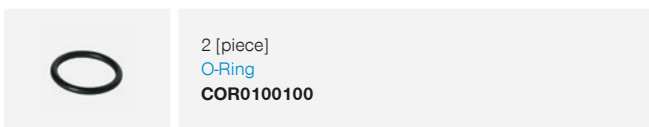
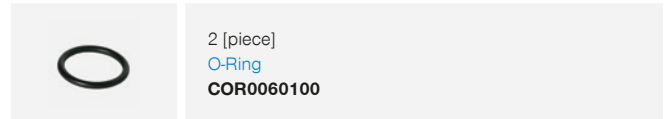
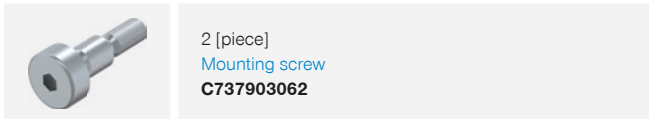
▶ Forces and moments

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



Mr [Nm]	60
My [Nm]	60
Fa [N]	1200

▶ INCLUDED IN DELIVERY

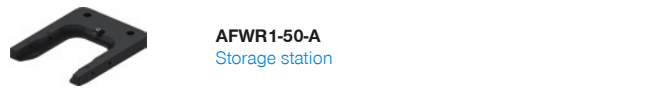
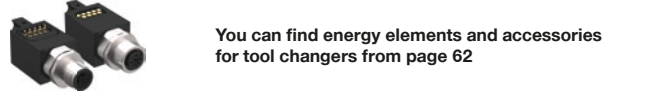


▶ RECOMMENDED ACCESSORIES

ENERGY SUPPLY



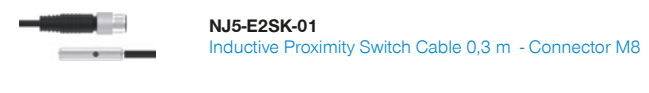
CONNECTIONS / OTHER



SENSORS



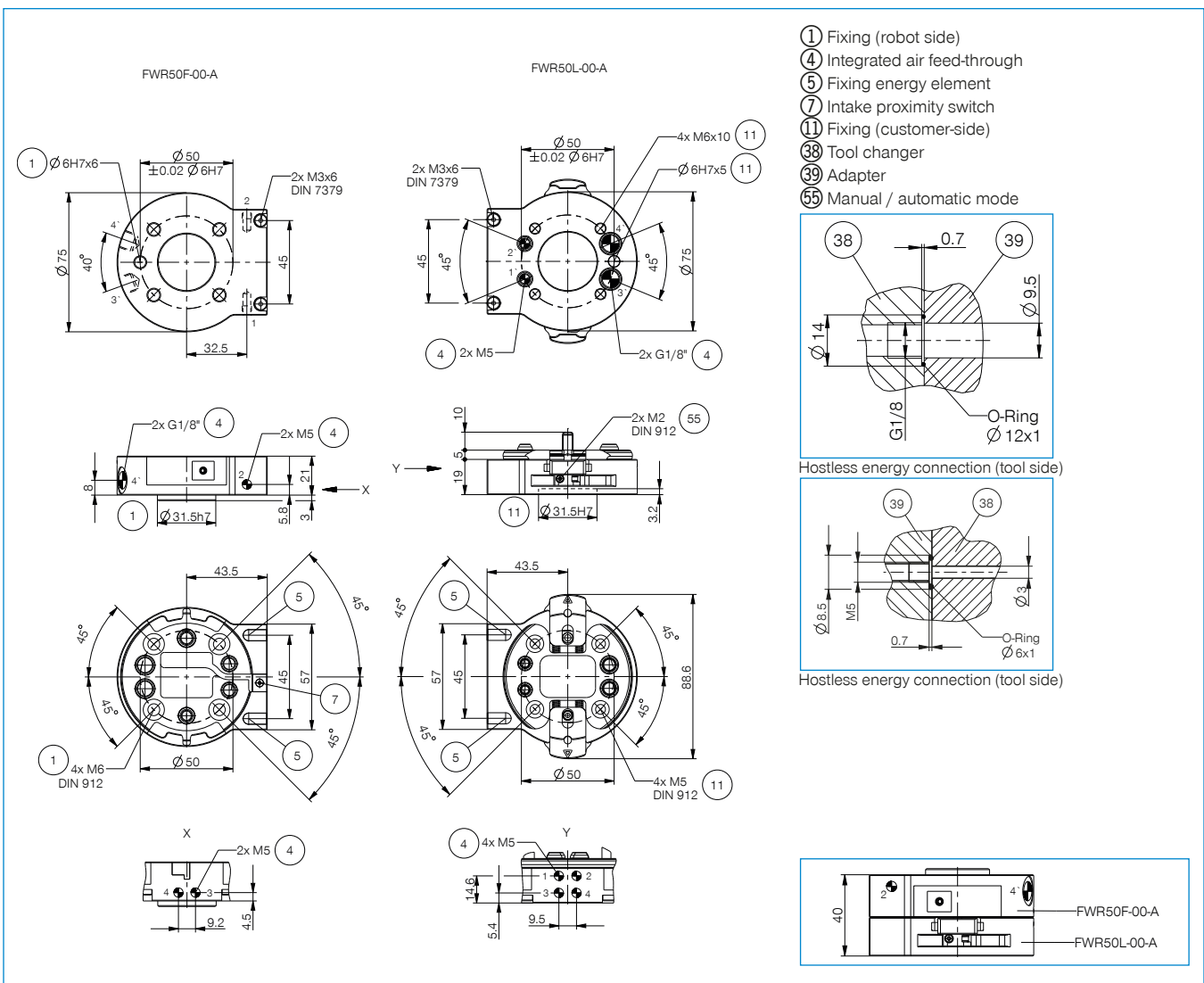
▶ RECOMMENDED ACCESSORY STORAGE STATION



Order no.	▶ Technical data	
	FWR50F-00-A	FWR50L-00-A
Connecting flange according EN ISO 9409-1	TK 50	TK 50
Handling weight max. [kg]	16	16
Tool weight max. [kg]	7	7
Pneumatic energy transfer [Quantity]	4	4
Flow per connector M5 [l/min]	170	170
Flow per connector G1/8" [l/min]	650	650
Electrical energy transfer	optional	optional
Locking stroke [mm]	0.6	
Repetition accuracy in Z [mm]	0.02	
Repetition accuracy in X, Y [mm]	0.03	
Joining force [N]	0	0
Release force [N]	0	0
Offset at coupling max. in X, Y [mm]	2.0	2.0
Offset at coupling max. in X, Y [°]	1.5	1.5
Tightening force [N]*	70	
Tightening torque [Nm]*	4	
Operating pressure for energy transmission [bar]	-0.6 ... 6	-0.6 ... 6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	2.41	2.67
Protection to IEC 60529	IP44**	IP44**
Weight [kg]	0.26	0.33

*Note the mating force of the energy elements!

**only in coupled state



TOOL CHANGERS

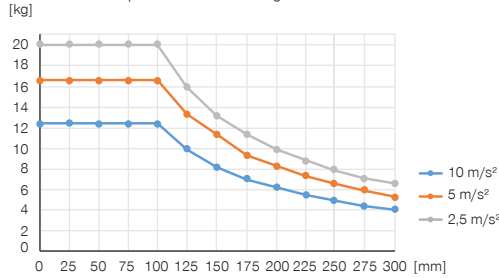
INSTALLATION SIZE FWR63

▶ PRODUCT SPECIFICATIONS



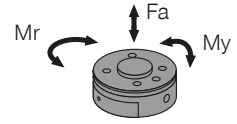
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

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



Mr [Nm]	100
My [Nm]	100
Fa [N]	1900

▶ INCLUDED IN DELIVERY

	2 [piece] Mounting screw C737903102		4 [piece] Mounting screw C0912025186
	2 [piece] O-Ring COR0050100		2 [piece] O-Ring COR0100100

▶ RECOMMENDED ACCESSORIES

ENERGY SUPPLY

	GVM5 Straight Fittings - Quick Connect Style
	WV1-8X8 Angled Fittings - Quick Connect Style

CONNECTIONS / OTHER

	You can find energy elements and accessories for tool changers from page 62
	AFWR1-63-A Storage station

SENSORS

	NJR04-E2SK Inductive Proximity Switch Cable 0,3 m - Connector M8
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▶ RECOMMENDED ACCESSORY STORAGE STATION

	NJ5-E2SK-01 Inductive Proximity Switch Cable 0,3 m - Connector M8
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Order no.	► Technical data	
	FWR63F-00-A	FWR63L-00-A
Connecting flange according EN ISO 9409-1	TK 63	TK 63
Handling weight max. [kg]	20	20
Tool weight max. [kg]	10	10
Pneumatic energy transfer [Quantity]	4	4
Flow per connector M5 [l/min]	170	170
Flow per connector G1/8" [l/min]	650	650
Electrical energy transfer	optional	optional
Locking stroke [mm]	1	
Repetition accuracy in Z [mm]	0.02	
Repetition accuracy in X, Y [mm]	0.03	
Joining force [N]	0	0
Release force [N]	0	0
Offset at coupling max. in X,Y [mm]	2.2	2.2
Offset at coupling max. in X,Y [°]	1.5	1.5
Tightening force [N]*	100	
Tightening torque [Nm]*	5	
Operating pressure for energy transmission [bar]	-0.6 ... 6	-0.6 ... 6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	5.98	7.25
Protection to IEC 60529	IP44**	IP44**
Weight [kg]	0.43	0.57

*Note the mating force of the energy elements!

**only in coupled state

① Fixing (robot side)
 ④ Integrated air feed-through
 ⑤ Fixing energy element
 ⑦ Intake proximity switch
 ⑪ Fixing (customer-side)
 ⑳ Tool changer
 ㉑ Adapter
 ㉕ Manual / automatic mode

Hostless energy connection (tool side)

Hostless energy connection (tool side)

TOOL CHANGERS

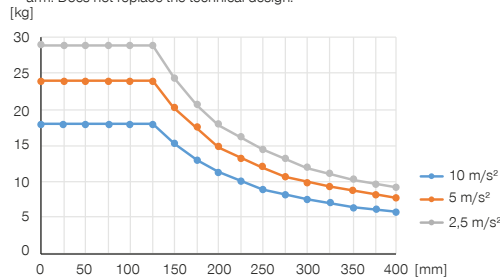
INSTALLATION SIZE FWR80

▶ PRODUCT SPECIFICATIONS



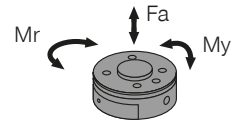
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.





▶ Forces and moments

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





Mr [Nm]	160
My [Nm]	160
Fa [N]	3200

▶ INCLUDED IN DELIVERY



	2 [piece] Mounting screw C737903102		4 [piece] Mounting screw C0912025186
	2 [piece] O-Ring COR0050100		2 [piece] O-Ring COR0100100

▶ RECOMMENDED ACCESSORIES


ENERGY SUPPLY

	GVM5 Straight Fittings - Quick Connect Style
	WV1-8X8 Angled Fittings - Quick Connect Style

CONNECTIONS / OTHER

	You can find energy elements and accessories for tool changers from page 62
	AFWR1-80-A Storage station

SENSORS

	NJR04-E2SK Inductive Proximity Switch Cable 0,3 m - Connector M8
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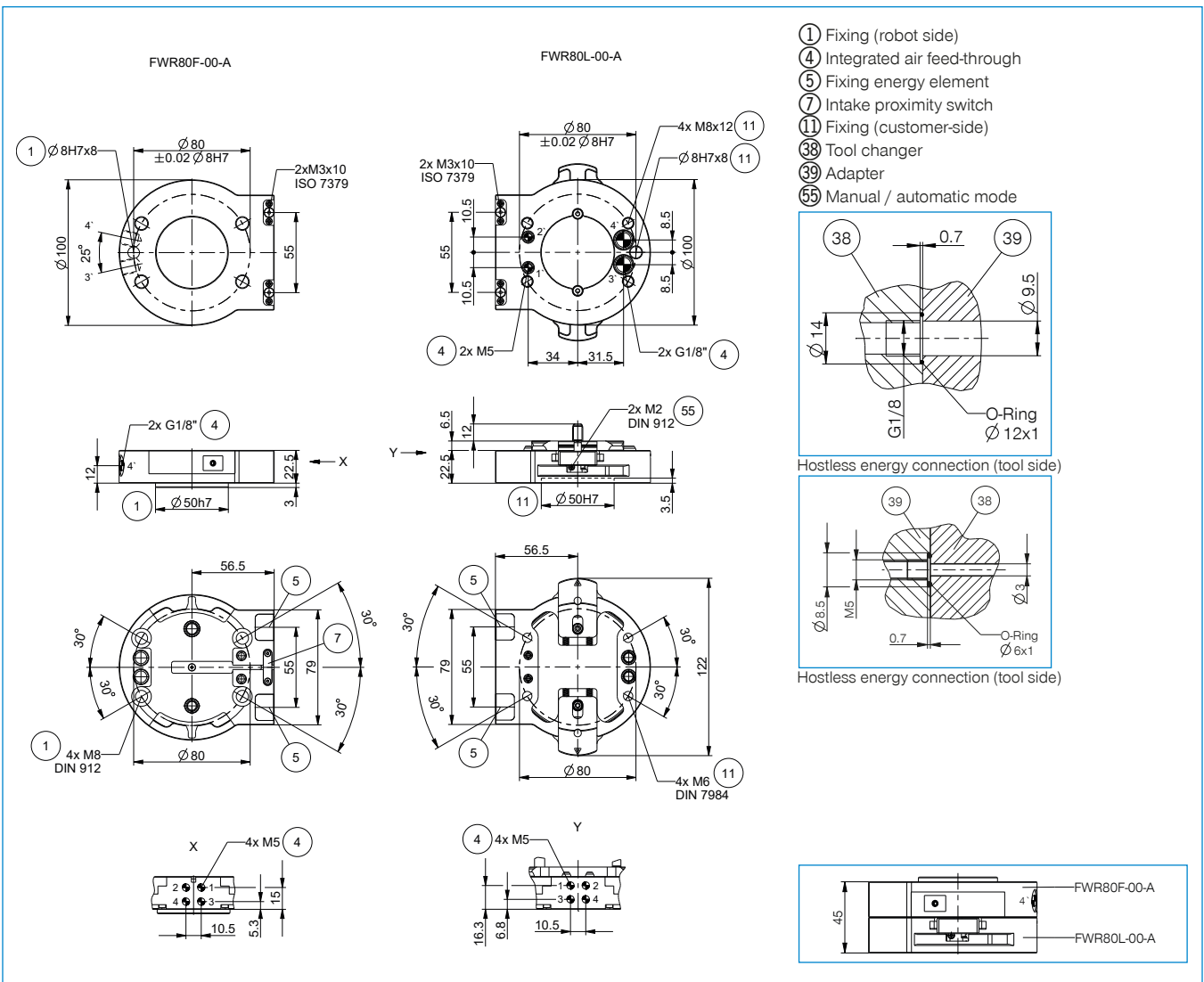
▶ RECOMMENDED ACCESSORY STORAGE STATION

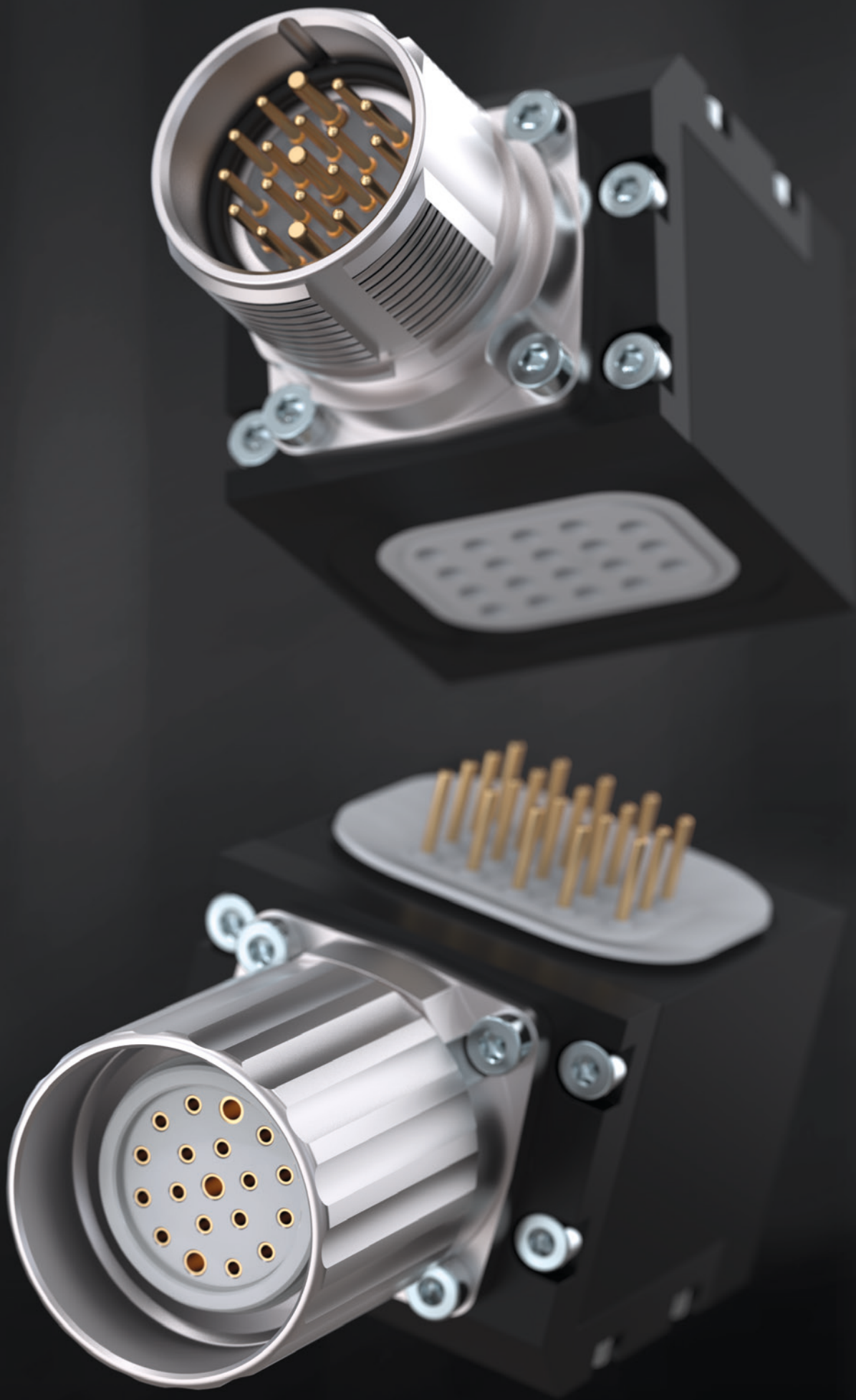
	NJ5-E2SK-01 Inductive Proximity Switch Cable 0,3 m - Connector M8
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Order no.	► Technical data	
	FWR80F-00-A	FWR80L-00-A
Connecting flange according EN ISO 9409-1	TK 80	TK 80
Handling weight max. [kg]	29	29
Tool weight max. [kg]	12	12
Pneumatic energy transfer [Quantity]	4	4
Flow per connector M5 [l/min]	170	170
Flow per connector G1/8" [l/min]	650	650
Electrical energy transfer	optional	optional
Locking stroke [mm]	1	
Repetition accuracy in Z [mm]	0.02	
Repetition accuracy in X, Y [mm]	0.03	
Joining force [N]	0	0
Release force [N]	0	0
Offset at coupling max. in X,Y [mm]	2.2	2.2
Offset at coupling max. in X,Y [°]	1.5	1.5
Tightening force [N]*	120	
Tightening torque [Nm]*	6	
Operating pressure for energy transmission [bar]	-0.6 ... 6	-0.6 ... 6
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	8.38	9.97
Protection to IEC 60529	IP44**	IP44**
Weight [kg]	0.52	0.68

*Note the mating force of the energy elements!

**only in coupled state



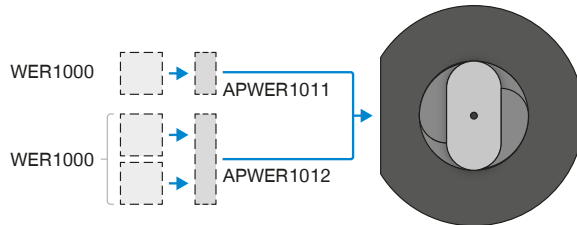


ENERGY ELEMENTS AND ACCESSORIES FOR TOOL CHANGER

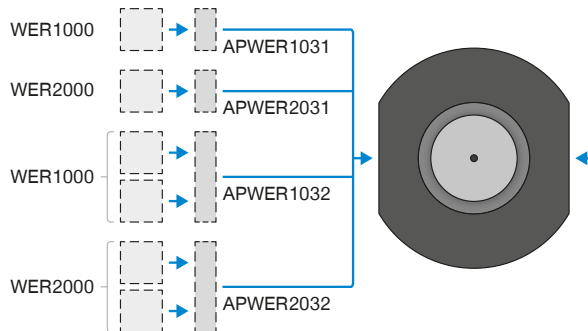


ENERGY ELEMENTS AND ACCESSORIES FOR TOOL CHANGER

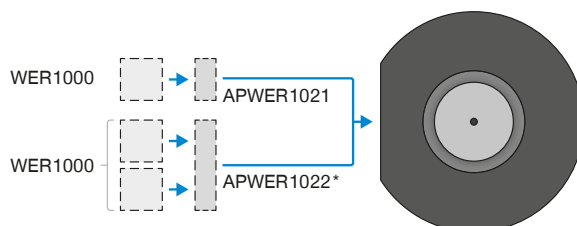
▶ CONNECTION DIAGRAM HWR2031 / HWR2040 / HWR2050



▶ CONNECTION DIAGRAM HWR63 / HWR80

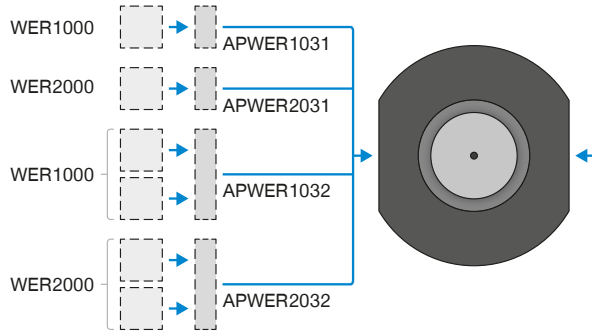


▶ CONNECTION DIAGRAM WWR40 / WWR50

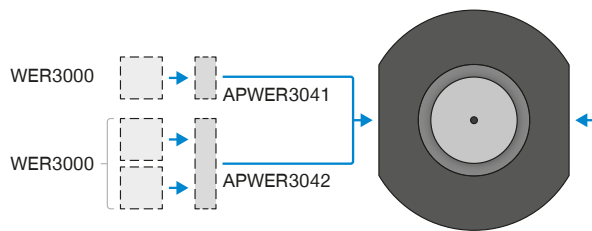


*when using APWER1022, ZUB152474 must be used to be able to use air connection 4 (only WVM5 possible).

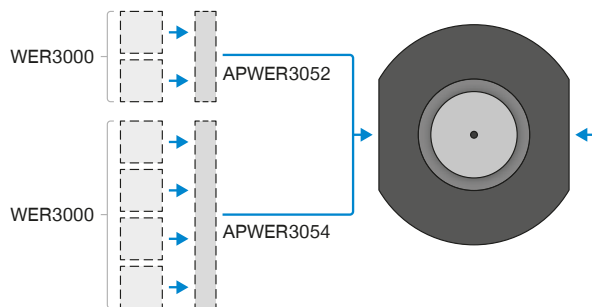
▶ CONNECTION DIAGRAM WWR63 / WWR80



▶ CONNECTION DIAGRAM WWR100

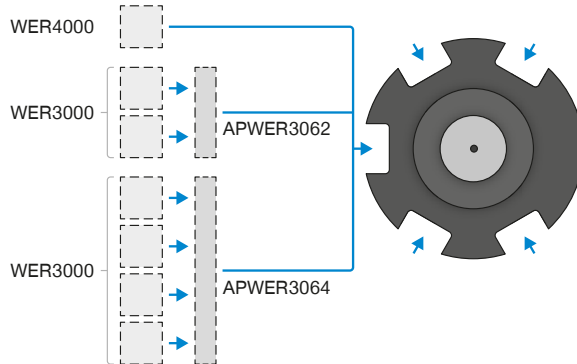


▶ CONNECTION DIAGRAM WWR125 / WWR160

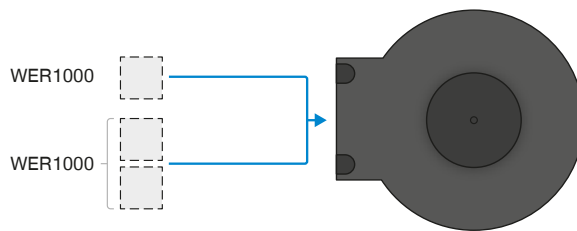


ENERGY ELEMENTS AND ACCESSORIES FOR TOOL CHANGER

▶ CONNECTION DIAGRAM WWR1160 / WWR1200

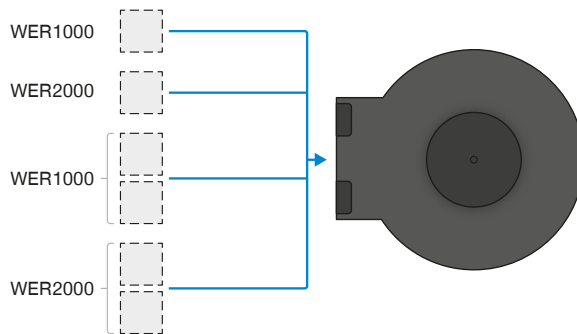


▶ CONNECTION DIAGRAM FWR40 / FWR50



Exception: WER1000FPL04-12-B or WER1000LPL04-12-B cannot be used!

▶ CONNECTION DIAGRAM FWR63 / FWR80



Exception: WER2000FPL02-06-B or WER1000LPL02-06-B cannot be used!

► WER1000 – ENERGY ELEMENTS

► Technical data - Signal current

Order no.	WER1000FSI04-00-B	WER1000LSI04-00-B	WER1000FSI08-00-B	WER1000LSI08-00-B	WER1000FSI08-10-B	WER1000LSI08-10-B
Compatible with	Fixed part	Loose part	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	4	4	8	8	8	8
Connection type	Spring contacts	Spring contacts	Spring contacts	Spring contacts	Spring contacts	Spring contacts
Nominal current [A]	3	3	2	2	1.5	1.5
Supply voltage [V]	60	60	30	30	30	30
Fixing thread	M8	M8	M12	M12	M8	M8
Connection type	Male	Socket	Male	Socket	Socket	Male
Connection type	Round plug	Round plug	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54	IP54	IP54

Order no.	WER1000FSI12-00-B	WER1000LSI12-00-B	WER1000FSI20-05-B	WER1000LSI20-05-B
Compatible with	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	12	12	20	20
Connection type	Spring contacts	Spring contacts	Spring contacts	Spring contacts
Nominal current [A]	1.5	1.5	3	3
Supply voltage [V]	30	30	60	60
Fixing thread	M12	M12		
Connection type	Male	Socket	Customizable	Customizable
Connection type	Round plug	Round plug	Exposed leads	Exposed leads
Protection to IEC 60529	IP54	IP54	IP40	IP40

► Technical data - Signal current with sensor connection on the tool side

Order no.	WER1000FSI08-00-B	WER1000FSI12-00-B	WER1000LSI04-15-B
Compatible with	Fixed part	Fixed part	Loose part
No. of contacts	8	12	2x4
Connection type	Spring contacts	Spring contacts	Spring contacts
Nominal current [A]	2	1.5	3
Supply voltage [V]	30	30	60
Fixing thread	M12	M12	M8
Connection type	Male	Male	Socket
Connection type	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54

► Technical data - Field bus

Order no.	WER1000FIL01-00-B	WER1000LIL01-00-B
Compatible with	Fixed part	Loose part
Data transmission	IO-Link	IO-Link
Connection type	Spring contacts	Spring contacts
Fixing thread	M12	M12
Connection type	Male	Socket
Connection type	Round plug	Round plug
Protection to IEC 60529	IP54	IP54

► Technical data - Pneumatic

Order no.	WER1000FPL02-12-B	WER1000LPL02-12-B	WER1000FPL04-12-B	WER1000LPL04-12-B
Compatible with	Fixed part	Loose part	Fixed part	Loose part
Number of fluid couplings	2	2	4	4
Fixing thread	M5	M5	M5	M5
Operating pressure [bar]	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10
Flow per connector [l/min]	150	150	150	150
Protection to IEC 60529	IP54	IP54	IP54	IP54

► Technical data - Protection for the fixed part

Order no.	WER1000LLN00-00-B
Compatible with	Loose part
Protection to IEC 60529	IP54

ENERGY ELEMENTS AND ACCESSORIES FOR TOOL CHANGER

► WER1000 – ADAPTER PLATES

		► Technical Data			
Order no.		APWER1011F	APWER1011L	APWER1012F	APWER1012L
Compatible with		Fixed part	Loose part	Fixed part	Loose part
Connection side 1		HWR2031 / HWR2040 / HWR2050	HWR2031 / HWR2040 / HWR2050	HWR2031 / HWR2040 / HWR2050	HWR2031 / HWR2040 / HWR2050
Connection side 2		WER1000	WER1000	WER1000	WER1000
Number of energy elements		1	1	2	2

		► Technical Data			
Order no.		APWER1021	APWER1022	APWER1031	APWER1032
Compatible with		Fixed part / loose part	Fixed part / loose part	Fixed part / loose part	Fixed part / loose part
Connection side 1		WWR40-B / WWR50-B	WWR40-B / WWR50-B	HWR63-B / HWR80-B / WWR63-B / WWR80-B	HWR63-B / HWR80-B / WWR63-B / WWR80-B
Connection side 2		WER1000	WER1000	WER1000	WER1000
Number of energy elements		1	2	1	2

► WER1000 – CABLE COMPATIBLE WITH FIXED PART

		► Technical Data			
Order no.		KAG500B4	CSTE01757	KAW500B4	CSTE01758
No. of contacts		4	8	4	8
Fixing thread		M8	M8	M8	M8
Connection type		Socket	Male / wire end	Socket	Male / wire end
Version [Type]		Straight	Straight	Angle	Angle
Cable length [m]		5	5	5	5
Protection to IEC 60529		IP67	IP67	IP67	IP67

		► Technical Data				
Order no.		KAG500IL	CSTE01751	CSTE01752	CSTE01753	CSTE01754
No. of contacts		5	8	12	8	12
Fixing thread		M12-M12	M12	M12	M12	M12
Connection type		Male / socket	Socket / wire end	Socket / wire end	Socket / wire end	Socket / wire end
Version [Type]		Straight/ straight	Straight	Straight	Angle	Angle
Cable length [m]		5	5	5	5	5
Protection to IEC 60529		IP67	IP67	IP67	IP67	IP67

► WER1000 – CABLE COMPATIBLE WITH LOOSE PART

		► Technical Data			
Order no.		CSTE01745	CSTE01755	CSTE01748	CSTE01756
No. of contacts		4	8	4	8
Fixing thread		M8	M8	M8	M8
Connection type		Male / wire end	Socket / wire end	Male / wire end	Socket / wire end
Version [Type]		Straight	Straight	Angle	Angle
Cable length [m]		2	2	2	2
Protection to IEC 60529		IP67	IP67	IP67	IP67

		► Technical Data				
Order no.		CSTE01746	CSTE01747	KAG500IL	CSTE01749	CSTE01750
No. of contacts		8	12	5	8	12
Fixing thread		M12	M12	M12-M12	M12	M12
Connection type		Male / wire end	Male / wire end	Male / socket	Male / wire end	Male / wire end
Version [Type]		Straight	Straight	Straight/ straight	Angle	Angle
Cable length [m]		2	2	5	2	2
Protection to IEC 60529		IP67	IP67	IP67	IP67	IP67

► WER1000 – ROUND PLUG COMPATIBLE WITH FIXED PART

Order no.	► Technical Data			
	B8-G-4	CSTE01048	B8-W-4	CSTE01765
No. of contacts	4	8	4	8
Fixing thread	M8	M12	M8	M12
Connection type	Screw-cut-terminal	Socket	Solder connection	Socket
Version [Type]	Straight	Straight	Angle	Angle
Protection to IEC 60529	IP67	IP67	IP67	IP67

► WER1000 – ROUND PLUG COMPATIBLE WITH LOOSE PART

Order no.	► Technical Data			
	S8-G-4	S12-G-8	S8-W-4	S12-W-8
No. of contacts	4	8	4	8
Fixing thread	M8	M12	M8	M12
Connection type	Screw-cut-terminal	Screw-cut-terminal	Solder connection	Screw displacement connection
Version [Type]	Straight	Straight	Angle	Angle
Protection to IEC 60529	IP67	IP67	IP67	IP67

► WER2000 – ENERGY ELEMENTS

Order no.	► Technical data - Signal current	
	WER2000FSI32-05-B	WER2000LSI32-05-B
Compatible with	Fixed part	Loose part
No. of contacts	32	32
Connection type	Spring contacts	Spring contacts
Nominal current [A]	3	3
Supply voltage [V]	60	60
Connection type	Customizable	Customizable
Connection type	Exposed leads	Exposed leads
Protection to IEC 60529	IP40	IP40

Order no.	► Technical data - Pneumatic					
	WER2000FPL01-03-B	WER2000LPL01-03-B	WER2000FPL02-06-B	WER2000LPL02-06-B	WER2000FPL06-12-B	WER2000LPL06-12-B
Compatible with	Fixed part	Loose part	Fixed part	Loose part	Fixed part	Loose part
Number of fluid couplings	1	1	2	2	6	6
Fixing thread	G1/4"	G1/4"	G1/8"	G1/8"	M5	M5
Operating pressure [bar]	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10
Flow per connector [l/min]	500	500	500	500	150	150
Protection to IEC 60529	IP54	IP54	IP54	IP54	IP54	IP54

► WER2000 – ADAPTER PLATES

Order no.	► Technical Data		
	APWER2021	APWER2031	APWER2032
Compatible with	Fixed part / loose part	Fixed part / loose part	Fixed part / loose part
Connection side 1	WWR40-B / WWR50-B	HWR63-B / HWR80-B / WWR63-B / WWR80-B	HWR63-B / HWR80-B / WWR63-B / WWR80-B
Connection side 2	WER2000	WER2000	WER2000
Number of energy elements	1	1	2

ENERGY ELEMENTS AND ACCESSORIES FOR TOOL CHANGER

► WER3000 – ENERGY ELEMENTS

Order no.	► Technical data - Load current					
	WER3000FLA01-00-A	WER3000LLA01-00-A	WER3000FLA06-00	WER3000LLA06-00	WER3000FLA08-00	WER3000LLA08-00
Compatible with	Fixed part	Loose part	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	1	1	5+PE	5+PE	(3+PE) / 4	(3+PE) / 4
Connection type	Plug-in Connector	Plug-in Connector	Plug-in Connector	Plug-in Connector	Plug-in Connector	Plug-in Connector
Nominal current [A]	140	140	15	15	15/6	15/6
Supply voltage [V]	58	58	630	630	630/125	630/125
Fixing thread	M8	M8	M23	M23	M23	M23
Connection type	Male	Male	Male	Socket	Male	Socket
Connection type	Cable lug	Cable lug	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529			IP54	IP54	IP54	IP54

Order no.	► Technical data - Signal current			
	WER3000FSI12-00	WER3000LSI12-00	WER3000FSI12-09-A	WER3000LSI12-09-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	12	12	12	12
Connection type	Plug-in Connector	Plug-in Connector	Spring contacts	Spring contacts
Nominal current [A]	6	6	3	3
Supply voltage [V]	150	150	60	60
Fixing thread	M23	M23	M23	M23
Connection type	Male	Socket	Male	Socket
Connection type	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54

Order no.	► Technical data - Signal current with screening			
	WER3000FSI19-00	WER3000LSI19-00	WER3000FSI19-09-A	WER3000LSI19-09-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	19	19	19	19
Connection type	Plug-in Connector	Plug-in Connector	Spring contacts	Spring contacts
Nominal current [A]	6	6	3	3
Supply voltage [V]	63	63	60	60
Fixing thread	M23	M23	M23	M23
Connection type	Male	Socket	Male	Socket
Connection type	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54

Order no.	► Technical data - Signal current with screening			
	WER3000FSI11-20-A	WER3000LSI11-20-A	WER3000FSI11-21-A	WER3000LSI11-21-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	11+1	11+1	11+1	11+1
Connection type	Plug-in Connector	Plug-in Connector	Spring contacts	Spring contacts
Nominal current [A]	6	6	3	3
Supply voltage [V]	150	150	60	60
Fixing thread	M23	M23	M23	M23
Connection type	Male	Socket	Male	Socket
Connection type	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54

Order no.	► Technical data - Signal current with screening			
	WER3000FSI18-20-A	WER3000LSI18-20-A	WER3000FSI18-21-A	WER3000LSI18-21-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	18+1	18+1	18+1	18+1
Connection type	Plug-in Connector	Plug-in Connector	Spring contacts	Spring contacts
Nominal current [A]	6	6	3	3
Supply voltage [V]	63	63	60	60
Fixing thread	M23	M23	M23	M23
Connection type	Male	Socket	Male	Socket
Connection type	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54

► **Technical data - Signal current and connection options for sensors of the WWR / Tool coding**

Order no.	WER3000FSI14-01-A	WER3000FSI14-02-A	WER3000LSI19-00	WER3000LSI13-11-A
Compatible with	Fixed part	Fixed part	Loose part	Loose part
No. of contacts	14+5 Sensoric	14+5 Sensoric	19	13+6
Connection type	Plug-in Connector	Plug-in Connector	Plug-in Connector	Plug-in Connector
Nominal current [A]	6	6	6	6
Supply voltage [V]	63	63	63	63
Fixing thread	M23	M23	M23	M23
Connection type	Male	Male	Socket	Socket
Connection type	Round plug	Round plug	Round plug	Round plug
Sensor linkage	Left	Right	No	
Protection to IEC 60529	IP54	IP54	IP54	IP54

Order no.	WER3000FSI14-16-A	WER3000FSI14-17-A	WER3000LSI19-09-A	WER3000LSI13-26-A
Compatible with	Fixed part	Fixed part	Loose part	Loose part
No. of contacts	14+5 Sensoric	14+5 Sensoric	19	13+6
Connection type	Spring contacts	Spring contacts	Spring contacts	Spring contacts
Nominal current [A]	3	3	3	3
Supply voltage [V]	60	60	60	60
Fixing thread	M23	M23	M23	M23
Connection type	Male	Male	Socket	Socket
Connection type	Round plug	Round plug	Round plug	Round plug
Sensor linkage	Left	Right		
Protection to IEC 60529	IP54	IP54	IP54	IP54

► **Technical data - Signal current with sensor connection on the tool side**

Order no.	WER3000FSI12-00	WER3000LSI04-14-A	WER3000LSI08-14-A	WER3000FSI12-09-A	WER3000LSI04-15-A	WER3000LSI08-15-A
Compatible with	Fixed part	Loose part	Loose part	Fixed part	Loose part	Loose part
No. of contacts	12	4x3	4x4	12	4x3	4x4
Connection type	Plug-in Connector	Plug-in Connector	Plug-in Connector	Spring contacts	Spring contacts	Spring contacts
Nominal current [A]	6	3	3	3	3	3
Supply voltage [V]	150	60	60	60	60	60
Fixing thread	M23	M8	M8	M23	M8	M8
Connection type	Male	Socket	Socket	Male	Socket	Socket
Connection type	Round plug	Round plug	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54	IP54	IP54

► **Technical data - Field bus**

Order no.	WER3000FIL01-00	WER3000LIL01-00	WER3000FIL01-09-A	WER3000LIL01-09-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part
Data transmission	IO-Link	IO-Link	IO-Link	IO-Link
Connection type	Plug-in Connector	Plug-in Connector	Spring contacts	Spring contacts
Fixing thread	M12	M12	M12	M12
Connection type	Male	Socket	Male	Socket
Connection type	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54

Order no.	WER3000FPN01-00	WER3000LPN01-00	WER3000FPN01-09-A	WER3000LPN01-09-A	WER3000FPB01-00	WER3000LPB01-00
Compatible with	Fixed part	Loose part	Fixed part	Loose part	Fixed part	Loose part
Data rate	100	100	100	100	12	12
Data transmission	Profinet/Industrial Ethernet	Profinet/Industrial Ethernet	Profinet/Industrial Ethernet	Profinet/Industrial Ethernet	Profibus	Profibus
Connection type	Plug-in Connector	Plug-in Connector	Spring contacts	Spring contacts	Plug-in Connector	Plug-in Connector
Fixing thread	M12	M12	M12	M12	M12	M12
Connection type	Socket	Socket	Socket	Socket	Male	Socket
Connection type	Round plug	Round plug	Round plug	Round plug	Round plug	Round plug
Protection to IEC 60529	IP54	IP54	IP54	IP54	IP54	IP54

ENERGY ELEMENTS AND ACCESSORIES FOR TOOL CHANGER

4 Energy elements and accessories for tool changer

► Technical data - Pneumatic

Order no.	WER3000FPL01-04	WER3000LPL01-04	WER3000FPL02-03	WER3000LPL02-03	WER3000FPL04-06-A	WER3000LPL04-06-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part	Fixed part	Loose part
Number of fluid couplings	1	1	2	2	4	4
Fixing thread	G3/8"	G3/8"	G1/4"	G1/4"	G1/8"	G1/8"
Operating pressure [bar]	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10
Flow per connector [l/min]	1100	1100	750	750	270	270
Protection to IEC 60529	IP54	IP54	IP54	IP54	IP54	IP54

► Technical data - Protection for the fixed part

Order no.	WER3000LLN00-00-A
Compatible with	Loose part
Protection to IEC 60529	IP54

► WER3000 – ADAPTER PLATES

► Technical Data

Order no.	APWER3041	APWER3042	APWER3052	APWER3054	APWER3062	APWER3064
Compatible with	Fixed part / loose part	Fixed part / loose part	Fixed part / loose part	Fixed part / loose part	Fixed part / loose part	Fixed part / loose part
Connection side 1	WWR100-B	WWR100-B	WWR125-B / WWR160-B	WWR125-B / WWR160-B	WWR1160 / WWR1200	WWR1160 / WWR1200
Connection side 2	WER3000	WER3000	WER3000	WER3000	WER3000	WER3000
Number of energy elements	1	2	2	4	2	4

► WER3000 – CABLE COMPATIBLE WITH FIXED PART

► Technical Data

Order no.	KAG500IL
No. of contacts	5
Fixing thread	M12-M12
Connection type	Male / socket
Version [Type]	Straight / straight
Cable length [m]	5
Protection to IEC 60529	IP67

► WER3000 – CABLE COMPATIBLE WITH LOOSE PART

► Technical Data

Order no.	CSTE01745	KAG500IL	CSTE01748
No. of contacts	4	5	4
Fixing thread	M8	M12-M12	M8
Connection type	Male / wire end	Male / socket	Male / wire end
Version [Type]	Straight	Straight / straight	Angle
Cable length [m]	2	5	2
Protection to IEC 60529	IP67	IP67	IP67

► WER3000 – ROUND PLUG COMPATIBLE WITH FIXED PART

► Technical Data

Order no.	RSTVLM23G06B-B	RSTVLM23W06B-B	RSTVLM23G08B-B	RSTVLM23W08B-B
No. of contacts	6	6	8	8
Fixing thread	M23	M23	M23	M23
Connection type	Socket	Socket	Socket	Socket
Version [Type]	Straight	Angle	Straight	Angle
Protection to IEC 60529	IP67	IP67	IP67	IP67

Order no.	RSTVSM23G12B-B	RSTVSM23W12B-B	RSTVSM23G19B-B	RSTVSM23W19B-B	CSTE01156	CSTE01157
No. of contacts	12	12	19	19	4	4
Fixing thread	M23	M23	M23	M23	M12	M12
Connection type	Socket	Socket	Socket	Socket	Male	Male
Version [Type]	Straight	Angle	Straight	Angle	Straight	Angle
Protection to IEC 60529	IP67	IP67	IP67	IP67	IP67	IP67

► WER3000 – ROUND PLUG COMPATIBLE WITH LOOSE PART

► Technical Data

Order no.	RSTVLM23G06S-B	RSTVLM23W06S-B	RSTVLM23G08S-B	RSTVLM23W08S-B
No. of contacts	6	6	8	8
Fixing thread	M23	M23	M23	M23
Connection type	Male	Male	Male	Male
Version [Type]	Straight	Angle	Straight	Angle
Protection to IEC 60529	IP67	IP67	IP67	IP67

Order no.	RSTVSM23G12S-B	RSTVSM23W12S-B	RSTVSM23G19S-B	RSTVSM23W19S-B	CSTE01156	CSTE01157
No. of contacts	12	12	19	19	4	4
Fixing thread	M23	M23	M23	M23	M12	M12
Connection type	Male	Male	Male	Male	Male	Male
Version [Type]	Straight	Angle	Straight	Angle	Straight	Angle
Protection to IEC 60529	IP67	IP67	IP67	IP67	IP67	IP67

► WER4000 – ENERGY ELEMENTS

► Technical data - Load current

Order no.	WER3000FLA08-00	WER3000LLA08-00	WER4000FLA03-05-A	WER4000LLA03-05-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part
No. of contacts	(3+PE) / 4	(3+PE) / 4	3	3
Connection type	Plug-in Connector	Plug-in Connector	Plug-in Connector	Plug-in Connector
Nominal current [A]	15/6	15/6	150	150
Supply voltage [V]	630/125	630/125	630	630
Fixing thread	M23	M23		
Connection type	Male	Socket	Customizable	Customizable
Connection type	Round plug	Round plug	Exposed leads	Exposed leads
Protection to IEC 60529	IP54	IP54		

► Technical data - Pneumatic

Order no.	WER4000FPL06-06-A	WER4000LPL06-06-A	WER4000FPL15-12-A	WER4000LPL15-12-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part
Number of fluid couplings	6	6	15	15
Fixing thread	G1/8"	G1/8"	M5	M5
Operating pressure [bar]	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10	-0.6 ... 10
Flow per connector [l/min]	500	500	150	150
Protection to IEC 60529	IP54	IP54	IP54	IP54

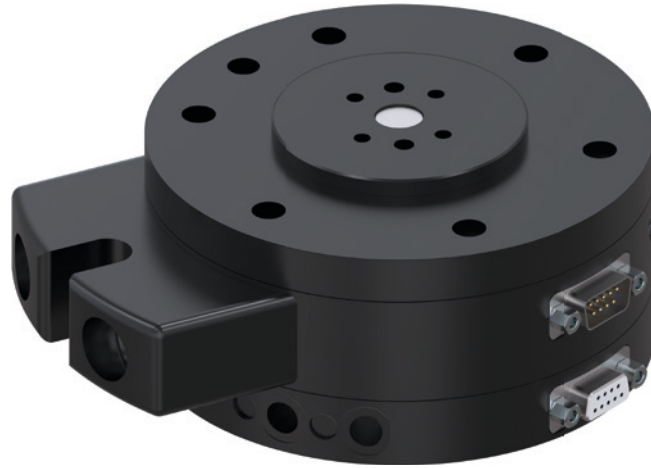
► Technical data - Fluidic

Order no.	WER4000FFL01-13-A	WER4000LFL01-13-A	WER4000FFL02-13-A	WER4000LFL02-13-A	WER4000FFL04-13-A	WER4000LFL04-13-A
Compatible with	Fixed part	Loose part	Fixed part	Loose part	Fixed part	Loose part
Number of fluid couplings	1	1	2	2	4	4
Fixing thread	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"
Operating pressure max. [bar]	250	250	250	250	250	250
Flow per connector max. [l/min]	25	25	25	25	25	25
Protection to IEC 60529	IP54	IP54	IP54	IP54	IP54	IP54



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OVERVIEW OF SERIES



5 ROTARY DISTRIBUTORS

72 - 93



Series DVR

74



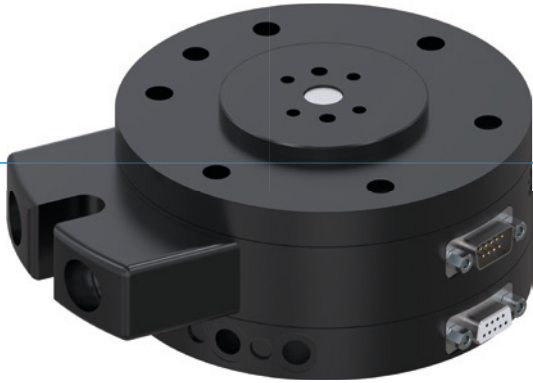
Series DVR1000

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SERIES DVR

▶ PRODUCT ADVANTAGES



▶ **Compact media transfer system**

This D1 media exchanger makes cable breaks and undefined interference contours through the power supply line a thing of the past

▶ **Flat design**

This structure reduces the moment load for your robot to a minimum and makes it possible to use smaller and more affordable sizes

▶ **Gold contact**

Allows flexibility for transmission because you can transfer everything from the smallest flows up to 250 volts and 6 amps with process reliability

▶ THE BEST PRODUCT FOR YOUR APPLICATION



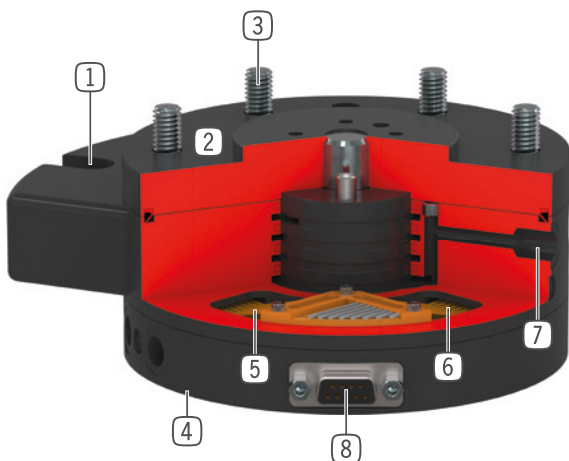
▶ **Our products welcome the challenge!**

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► BENEFITS IN DETAIL



- ① **Torque brace**
 - supports the rotor during rotation (movement)
- ② **Robust, lightweight housing**
 - Hard-coated aluminum alloy
 - nitrated steel
- ③ **Robot flange**
 - partial mounting circle in accordance with EN ISO 9409-1
- ④ **Direct air connection**
 - to WWR series
- ⑤ **Spring system**
 - from size DVR63 double fitting
- ⑥ **Collector ring**
 - hard gold coated
 - transferable to finest currents
- ⑦ **Up to 8 way integrated air feed-through**
 - for hoseless air transfer
 - hose package does not have to be pivoted
- ⑧ **Up to 12 pole energy transfer**
 - for cable-free signal transfer
 - no cables are subjected to torsion

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Pneumatic energy transfer	Electrical energy transfer
		[Quantity]	
DVR40	TK 40	4	4-pole
DVR50	TK 50	4	4-pole
DVR63	TK 63	6	6-pole
DVR80	TK 80	6	6-pole
DVR100	TK 100	4 / 8	8-pole
DVR125	TK 125	4 / 8	12-pole
DVR160	TK 160	4 / 8	12-pole

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

ROTARY DISTRIBUTORS

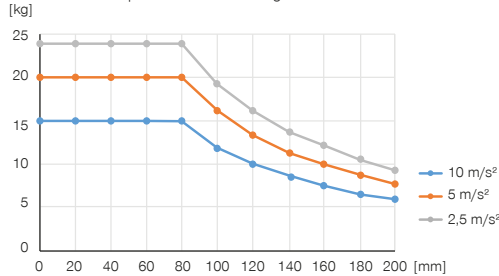
INSTALLATION SIZE DVR40

▶ PRODUCT SPECIFICATIONS



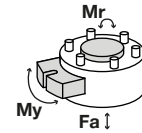
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	60
My [Nm]	60
Fa [N]	800

▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060129



4 [piece]
O-Ring
COR0025100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500B4
Plug-in connector Straight Cable 5m - Socket M8 (female)



CONNECTIONS / OTHER



KAG500S4
Plug-in Connector Straight Cable 5m - Connector M8



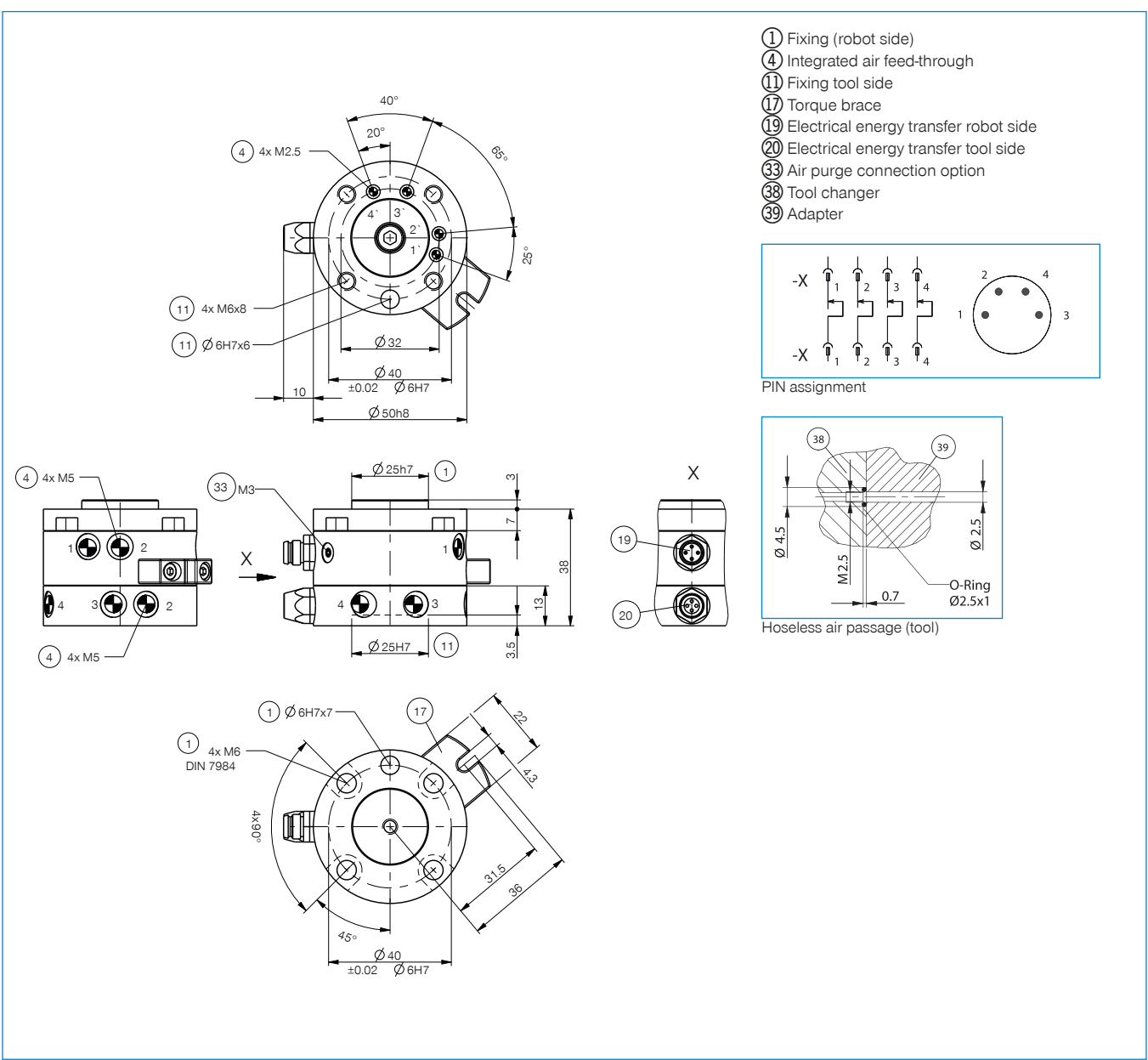
KAW500B4
Plug-in connector Angled Cable 5m - Socket M8 (female)



KAW500S4
Plug-in Connector Angled Cable 5m - Connector M8

► Technical data	
Order no.	DVR40I4
Connecting flange according EN ISO 9409-1	TK 40
Pneumatic energy transfer [Quantity]*	4
Electrical energy transfer	4-pole
Max. current [A]	3
Max. voltage [V]	24
Maximum acceleration [m/s ²]	22
Maximum speed [1/min.]	120
Maximum speed [°/s]	720
Radial run out +/- [mm]	0.02
Axial run out +/- [mm]	0.02
Constant torque [Nm]	1
Loose torque [Nm]	1.5
Operating pressure max. [bar]	10
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm ²]	0.7
Protection to IEC 60529	IP40
Weight [kg]	0.2

*Vacuum possible



ROTARY DISTRIBUTORS

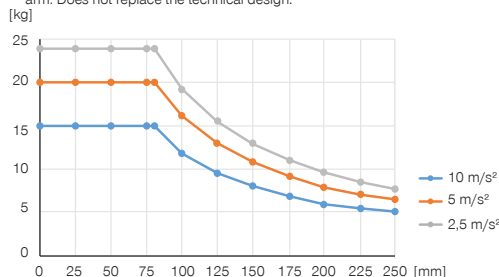
INSTALLATION SIZE DVR50

▶ PRODUCT SPECIFICATIONS



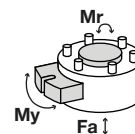
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	60
My [Nm]	60
Fa [N]	800

▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060129



4 [piece]
O-Ring
COR0025100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500B4
Plug-in connector Straight Cable 5m - Socket M8 (female)



CONNECTIONS / OTHER



KAG500S4
Plug-in Connector Straight Cable 5m - Connector M8



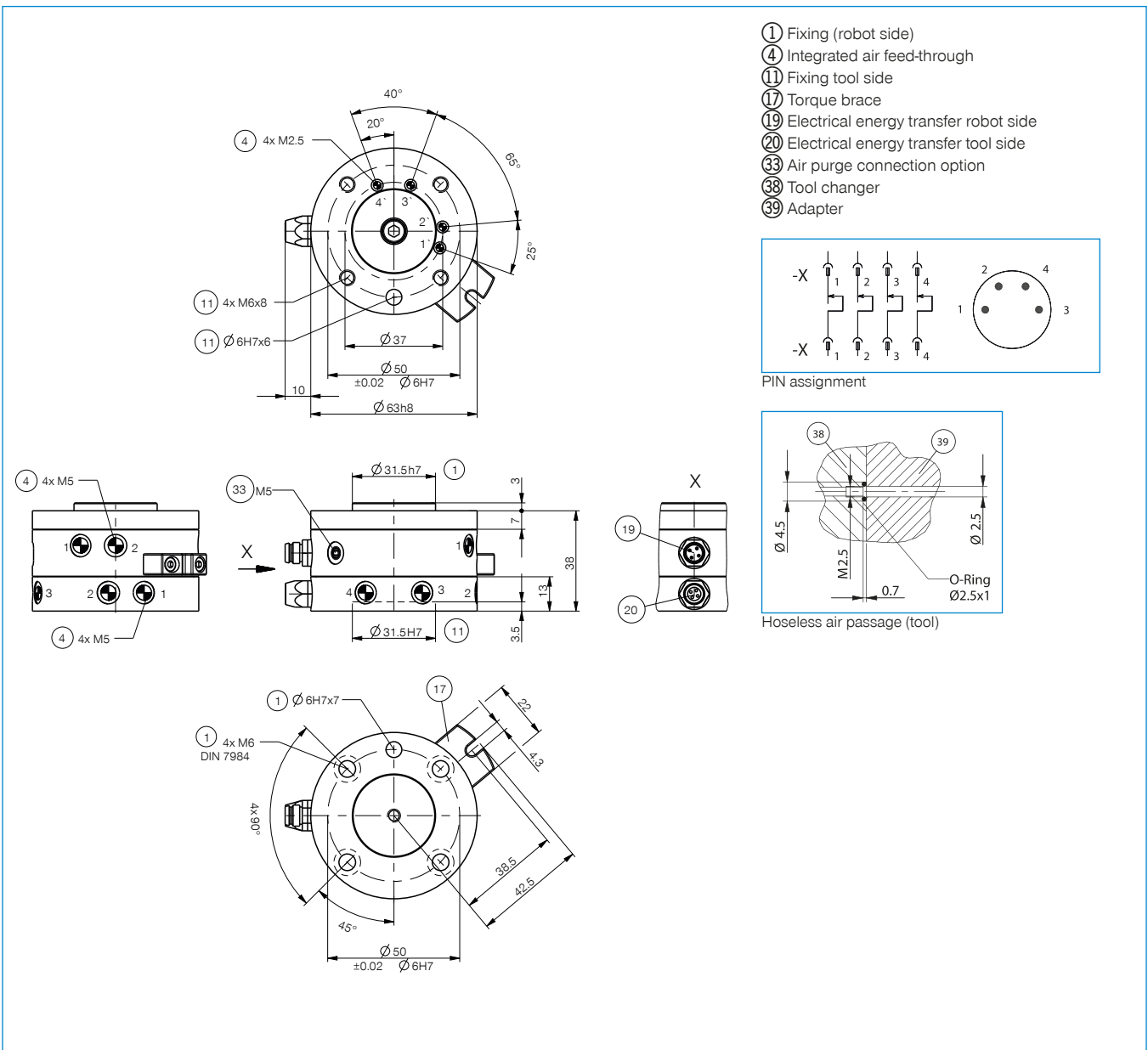
KAW500B4
Plug-in connector Angled Cable 5m - Socket M8 (female)



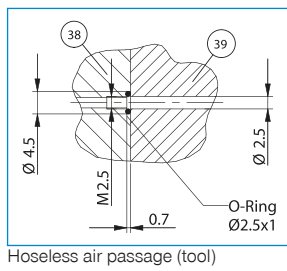
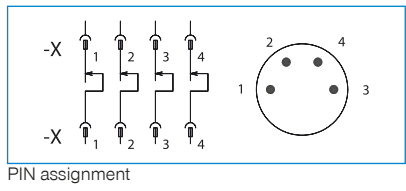
KAW500S4
Plug-in Connector Angled Cable 5m - Connector M8

► Technical data	
Order no.	DVR50I4
Connecting flange according EN ISO 9409-1	TK 50
Pneumatic energy transfer [Quantity]*	4
Electrical energy transfer	4-pole
Max. current [A]	3
Max. voltage [V]	24
Maximum acceleration [m/s ²]	22
Maximum speed [1/min.]	120
Maximum speed [°/s]	720
Radial run out +/- [mm]	0.02
Axial run out +/- [mm]	0.02
Constant torque [Nm]	1
Loose torque [Nm]	1.5
Operating pressure max. [bar]	10
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm ²]	8.1
Protection to IEC 60529	IP40
Weight [kg]	0.6

*Vacuum possible



- ① Fixing (robot side)
- ④ Integrated air feed-through
- ⑪ Fixing tool side
- ⑰ Torque brace
- ⑱ Electrical energy transfer robot side
- ⑳ Electrical energy transfer tool side
- ⑳ Air purge connection option
- ⑳ Tool changer
- ⑳ Adapter



ROTARY DISTRIBUTORS

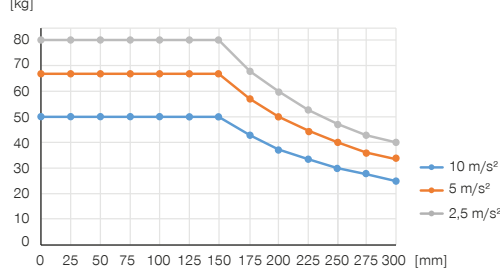
INSTALLATION SIZE DVR63

▶ PRODUCT SPECIFICATIONS



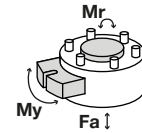
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	300
My [Nm]	300
Fa [N]	1500

▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060129



6 [piece]
O-Ring
COR0030100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



ENERGY SUPPLY



WVM5
Angled Fittings - Quick Connect Style

Order no.		▶ Technical data
		DVR6316
Connecting flange according EN ISO 9409-1	TK 63	
Pneumatic energy transfer [Quantity]*	6	
Electrical energy transfer	6-pole	
Max. current [A]	6	
Max. voltage [V]	250	
Maximum acceleration [m/s ²]	22	
Maximum speed [1/min.]	120	
Maximum speed [°/s]	720	
Radial run out +/- [mm]	0.03	
Axial run out +/- [mm]	0.03	
Constant torque [Nm]	2	
Loose torque [Nm]	3	
Operating pressure max. [bar]	10	
Operating temperature [°C]	5 ... +80	
Moment of inertia [kgcm ²]	10.5	
Protection to IEC 60529	IP64	
Weight [kg]	1.2	

*Vacuum possible

- ① Fixing (robot side)
- ④ Integrated air feed-through
- ⑪ Fixing tool side
- ⑰ Torque brace
- ⑱ Electrical energy transfer robot side
- ⑳ Electrical energy transfer tool side
- ⑳ Air purge connection option
- ⑳ Tool changer
- ⑳ Adapter

PIN assignment

Hoseless air passage (tool)

ROTARY DISTRIBUTORS

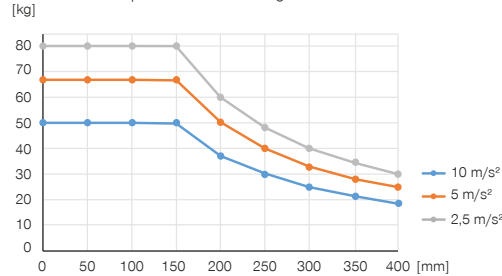
INSTALLATION SIZE DVR80

▶ PRODUCT SPECIFICATIONS



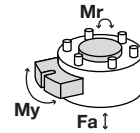
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	300
My [Nm]	300
Fa [N]	1500

▶ INCLUDED IN DELIVERY



6 [piece]
Cylinder Screw
C7984080169



6 [piece]
O-Ring
COR0030100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



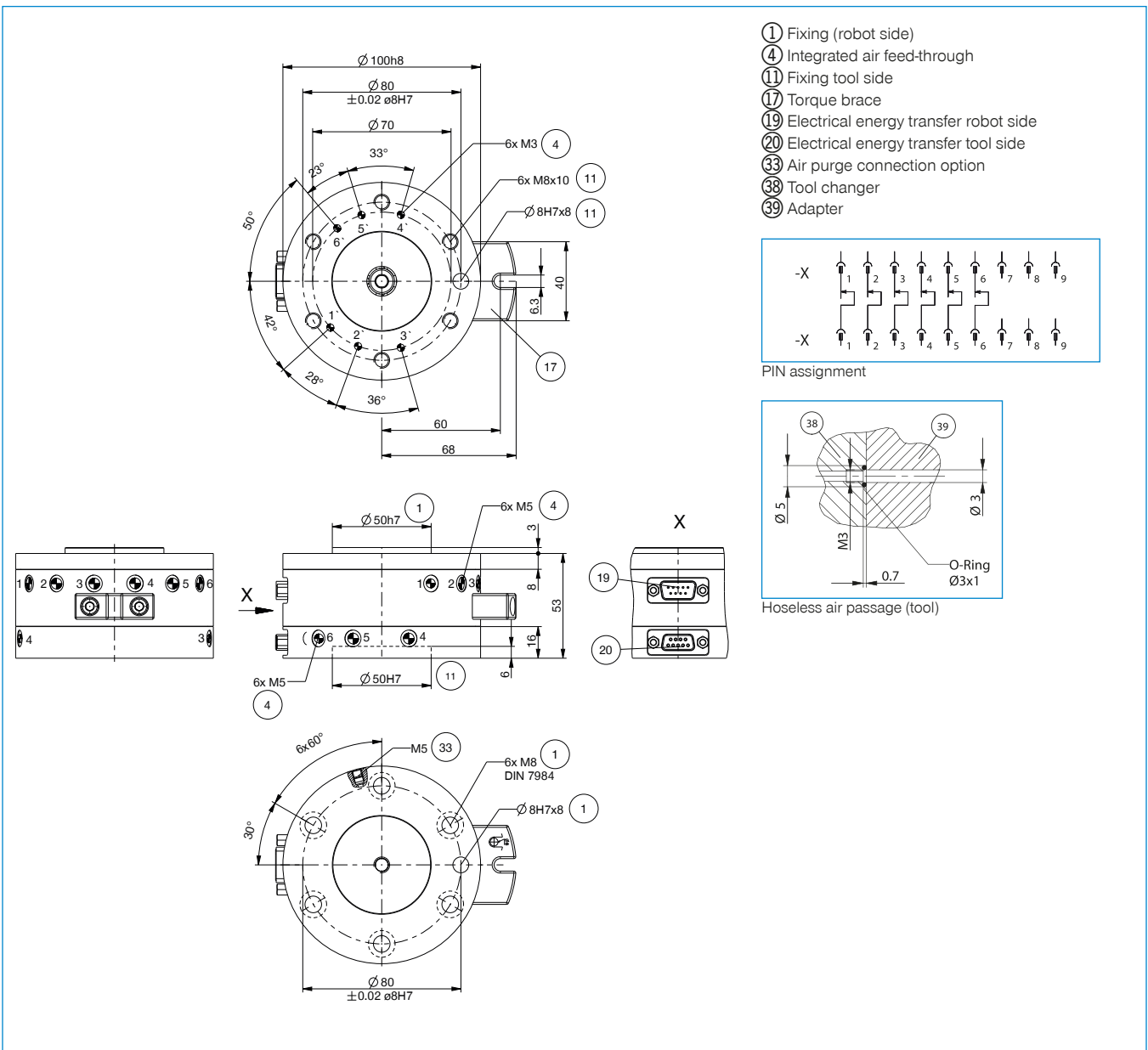
ENERGY SUPPLY



WVM5
Angled Fittings - Quick Connect Style

► Technical data	
Order no.	DVR8016
Connecting flange according EN ISO 9409-1	TK 80
Pneumatic energy transfer [Quantity]*	6
Electrical energy transfer	6-pole
Max. current [A]	6
Max. voltage [V]	250
Maximum acceleration [m/s ²]	22
Maximum speed [1/min.]	120
Maximum speed [°/s]	720
Radial run out +/- [mm]	0.03
Axial run out +/- [mm]	0.03
Constant torque [Nm]	2
Loose torque [Nm]	3
Operating pressure max. [bar]	10
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm ²]	27
Protection to IEC 60529	IP64
Weight [kg]	2

*Vacuum possible



ROTARY DISTRIBUTORS

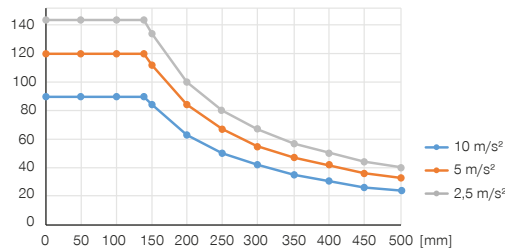
INSTALLATION SIZE DVR100

▶ PRODUCT SPECIFICATIONS



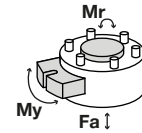
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.
[kg]



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	500
My [Nm]	500
Fa [N]	2100

▶ INCLUDED IN DELIVERY



6 [piece]
Cylinder Screw
C0912080169



4 [piece]
O-Ring
COR0070150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



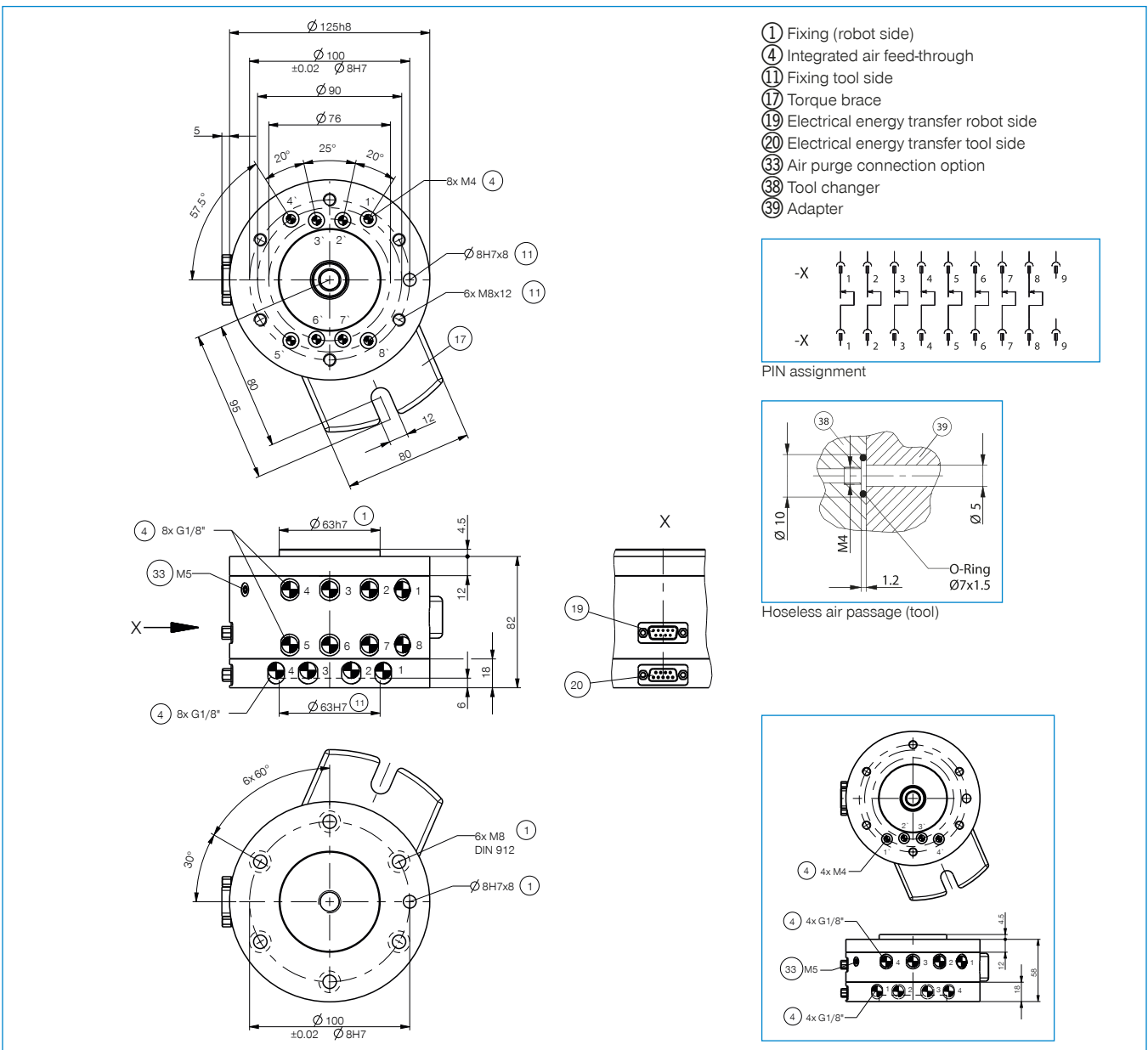
ENERGY SUPPLY



WV1-8X8
Angled Fittings - Quick Connect Style

Order no.	Technical data	
	DVR100I4	DVR100I8
Connecting flange according EN ISO 9409-1	TK 100	TK 100
Pneumatic energy transfer [Quantity]*	4	8
Electrical energy transfer	8-pole	8-pole
Max. current [A]	6	6
Max. voltage [V]	250	250
Maximum acceleration [m/s ²]	20	20
Maximum speed [1/min.]	100	100
Maximum speed [°/s]	600	600
Radial run out +/- [mm]	0.04	0.04
Axial run out +/- [mm]	0.04	0.04
Constant torque [Nm]	2	4
Loose torque [Nm]	4	6
Operating pressure max. [bar]	10	10
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	86	100
Protection to IEC 60529	IP64	IP64
Weight [kg]	3.8	4.5

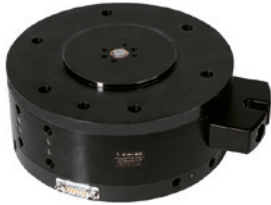
*Vacuum possible



ROTARY DISTRIBUTORS

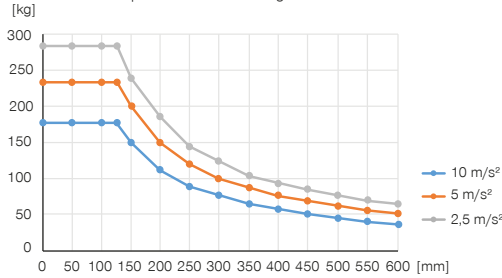
INSTALLATION SIZE DVR125

▶ PRODUCT SPECIFICATIONS



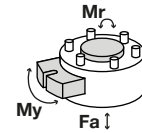
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	900
My [Nm]	900
Fa [N]	7000

▶ INCLUDED IN DELIVERY



6 [piece]
Cylinder Screw
C7984100209



4 [piece]
O-Ring
COR0070150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



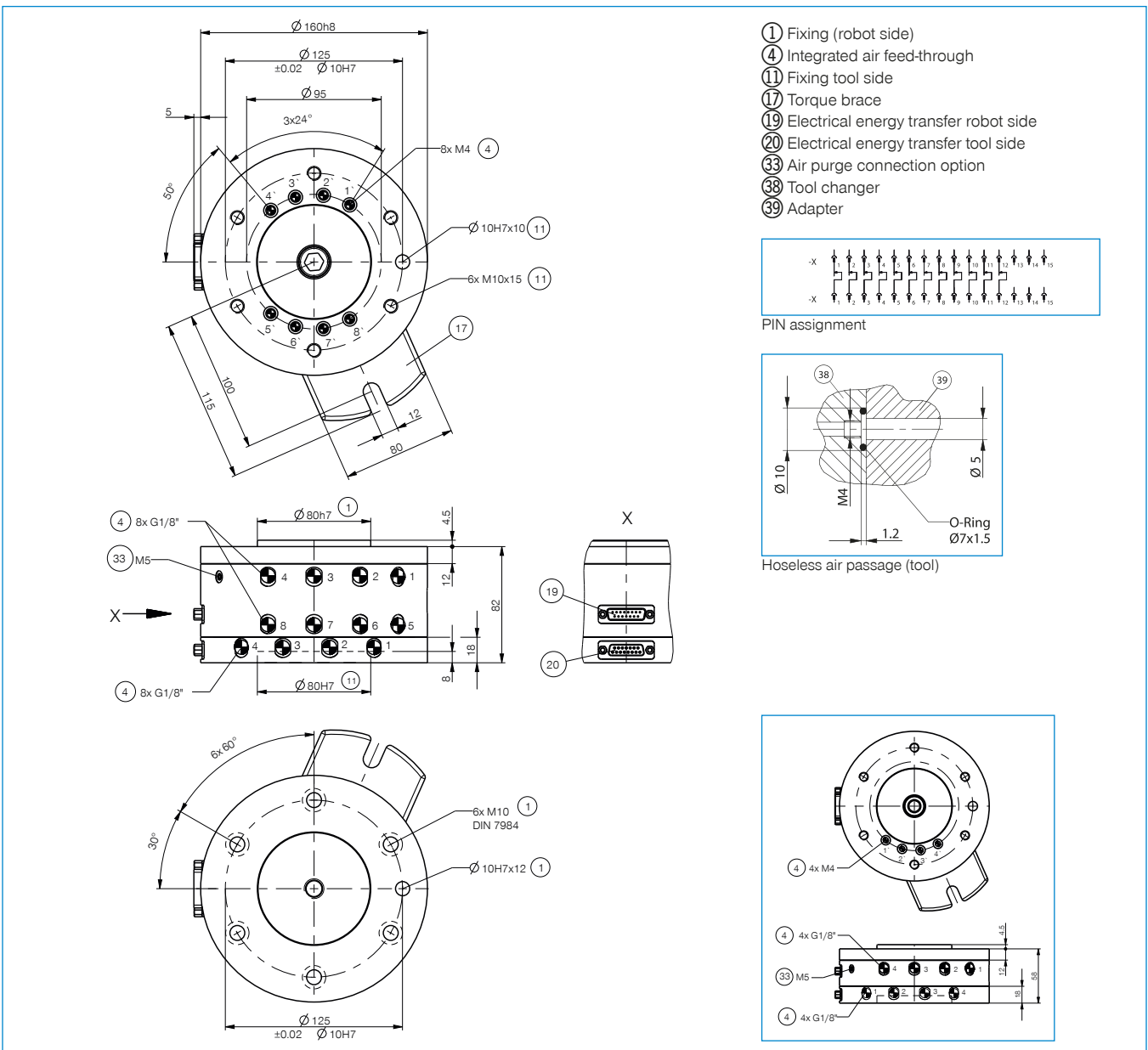
ENERGY SUPPLY



WV1-8X8
Angled Fittings - Quick Connect Style

Order no.	Technical data	
	DVR125I4	DVR125I8
Connecting flange according EN ISO 9409-1	TK 125	TK 125
Pneumatic energy transfer [Quantity]*	4	8
Electrical energy transfer	12-pole	12-pole
Max. current [A]	6	6
Max. voltage [V]	250	250
Maximum acceleration [m/s ²]	20	20
Maximum speed [1/min.]	100	100
Maximum speed [°/s]	600	600
Radial run out +/- [mm]	0.05	0.05
Axial run out +/- [mm]	0.05	0.05
Constant torque [Nm]	4	5
Loose torque [Nm]	5	6
Operating pressure max. [bar]	10	10
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	220	225
Protection to IEC 60529	IP64	IP64
Weight [kg]	5.9	7

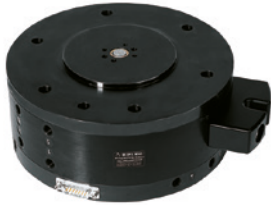
*Vacuum possible



ROTARY DISTRIBUTORS

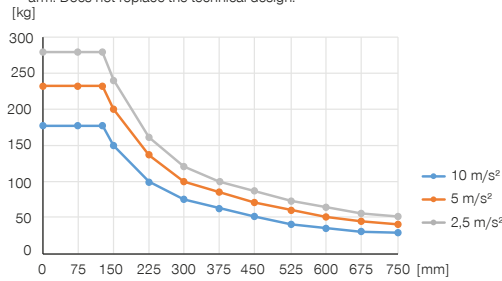
INSTALLATION SIZE DVR160

▶ PRODUCT SPECIFICATIONS



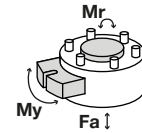
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	900
My [Nm]	900
Fa [N]	7000

▶ INCLUDED IN DELIVERY



6 [piece]
Cylinder Screw
C7984100209



4 [piece]
O-Ring
COR0070150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



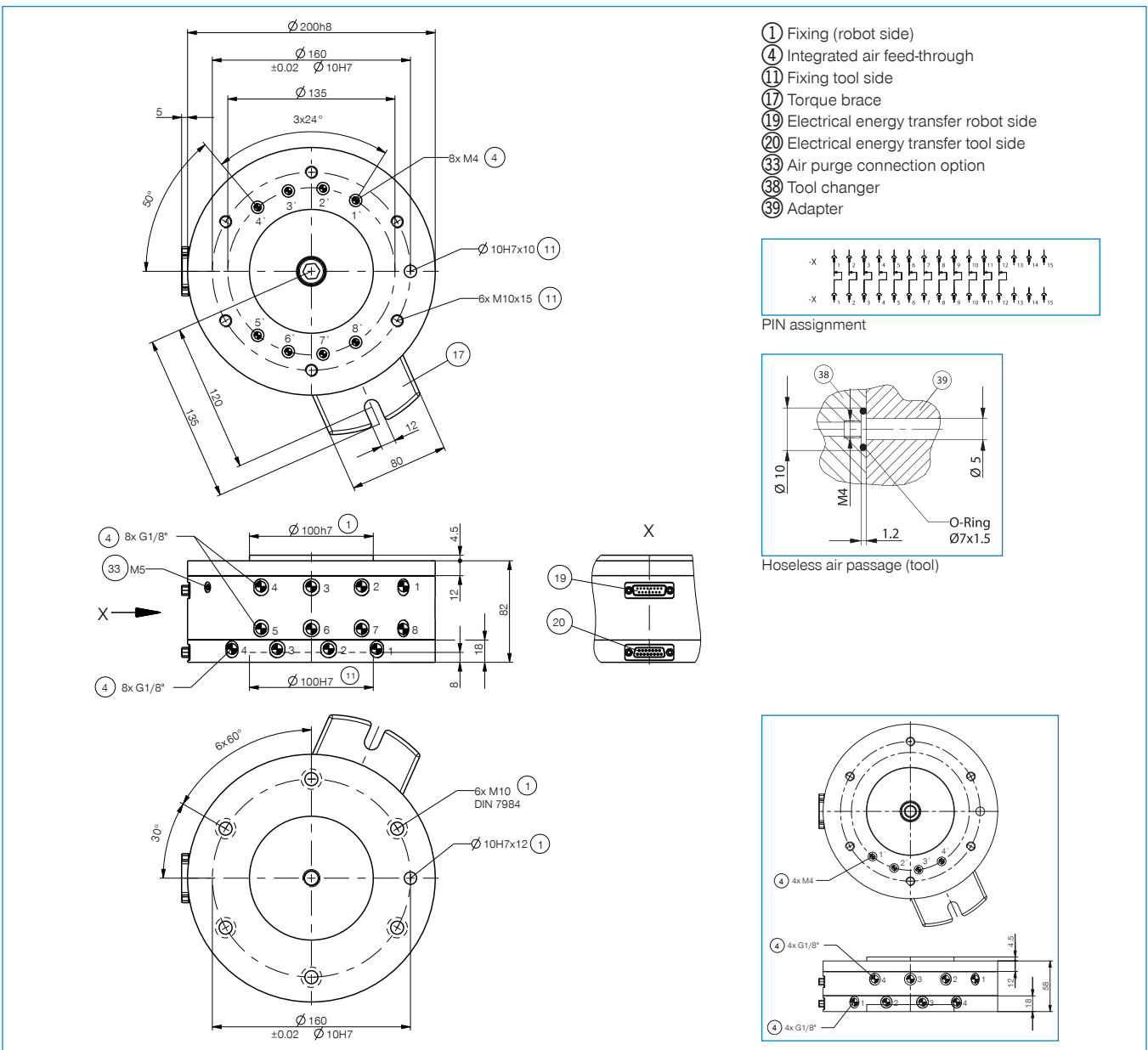
ENERGY SUPPLY



WV1-8X8
Angled Fittings - Quick Connect Style

Order no.	Technical data	
	DVR160I4	DVR160I8
Connecting flange according EN ISO 9409-1	TK 160	TK 160
Pneumatic energy transfer [Quantity]*	4	8
Electrical energy transfer	12-pole	12-pole
Max. current [A]	6	6
Max. voltage [V]	250	250
Maximum acceleration [m/s ²]	20	20
Maximum speed [1/min.]	100	100
Maximum speed [°/s]	600	600
Radial run out +/- [mm]	0.05	0.05
Axial run out +/- [mm]	0.05	0.05
Constant torque [Nm]	4	5
Loose torque [Nm]	5	6
Operating pressure max. [bar]	10	10
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	480	580
Protection to IEC 60529	IP64	IP64
Weight [kg]	9.1	11

*Vacuum possible



ROTARY DISTRIBUTORS

SERIES DVR1000

▶ PRODUCT ADVANTAGES



▶ Rotary distributor with Industrial Ethernet

The integrated slip ring lets you transmit future-ready Industrial Ethernet to your machine for the first time with complete process reliability

▶ 8x integrated air-feed-through

Keep wear to a minimum and eliminate undefined interference contours from your hose package in order to use your machine's installation space more effectively

▶ Double bearings

The integrated roller bearings provide high stiffness and allows you to maximize the operational dynamics of your robot, improving your cycle times

▶ THE BEST PRODUCT FOR YOUR APPLICATION



▶ Our products welcome the challenge!

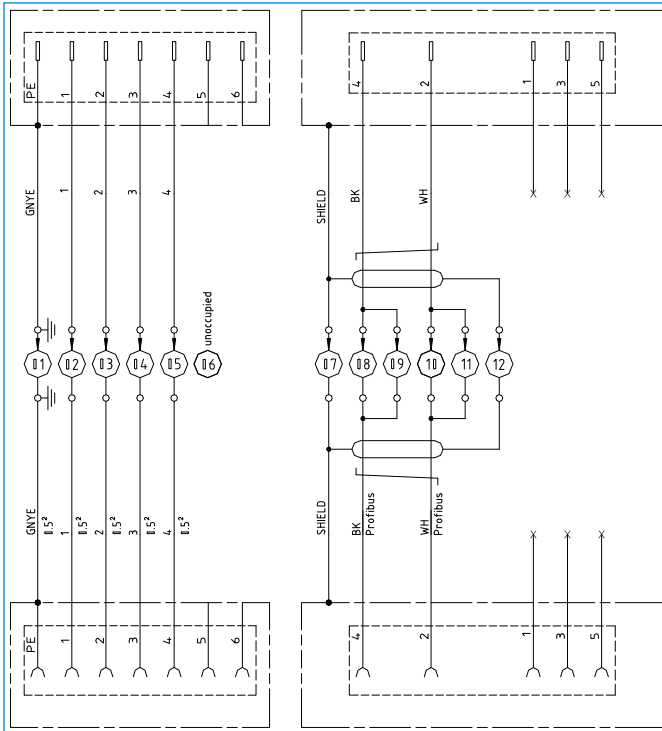
Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

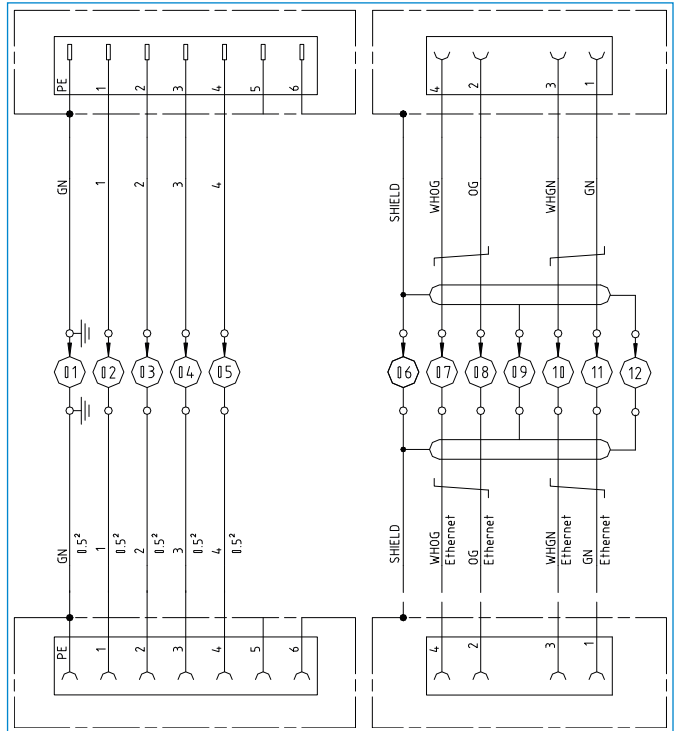
www.zimmer-group.com

CONNECTION DIAGRAM

DVR1125PB



DVR1125PN



TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Pneumatic energy transfer	Electrical energy transfer
		[Quantity]	
DVR1125	TK 125	8	4-pole + PE

FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

ROTARY DISTRIBUTORS

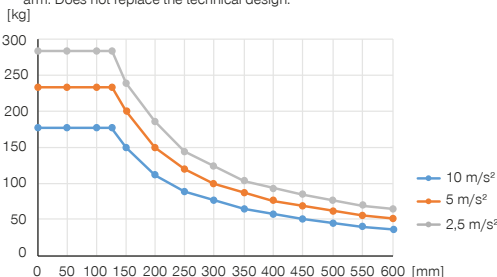
INSTALLATION SIZE DVR1125

▶ PRODUCT SPECIFICATIONS



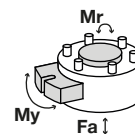
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

Shows static forces and moments which may impact on the rotary distributor.



Mr [Nm]	900
My [Nm]	900
Fa [N]	7000

▶ INCLUDED IN DELIVERY

	6 [piece] Cylinder Screw C7984100209
	1 [piece] O-ring 145x2.5 COR1450250

	8 [piece] O-Ring COR0070150
--	--

▶ RECOMMENDED ACCESSORIES

ENERGY SUPPLY

GV1-8X8
Straight Fittings - Quick Connect Style

ENERGY SUPPLY

WV1-8X8
Angled Fittings - Quick Connect Style

▶ RECOMMENDED ACCESSORY DVR1125PB

CONNECTIONS / OTHER

RSTVLM17G07B-B
Round connector straight - female M17

CONNECTIONS / OTHER

RSTVLM17G07S-B
Round connector straight - pin M17

▶ RECOMMENDED ACCESSORY DVR1125PN

CONNECTIONS / OTHER

CSTE01156
Plug-in connector straight - pin M12

CONNECTIONS / OTHER

RSTVLM17G07B-B
Round connector straight - female M17

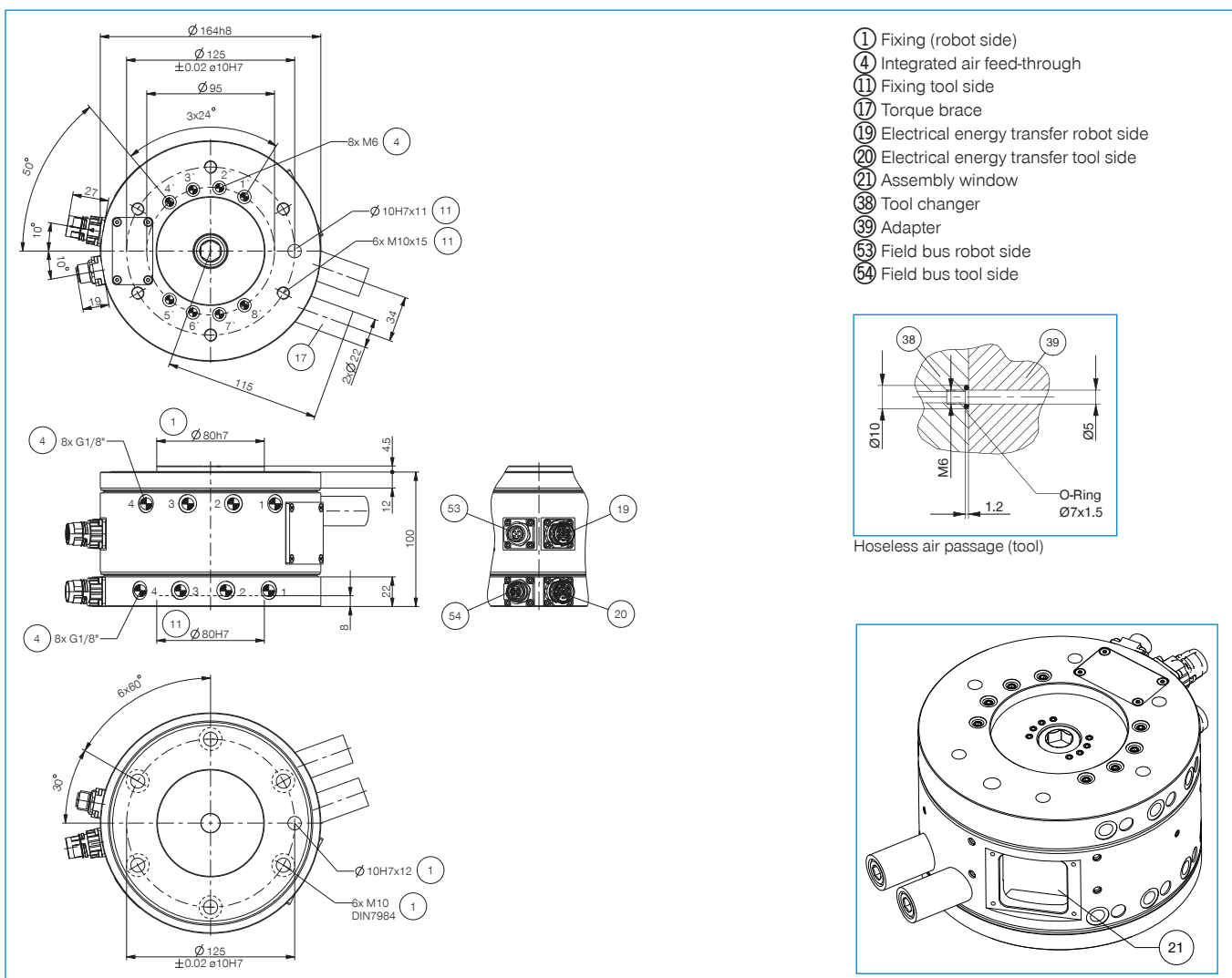
CONNECTIONS / OTHER

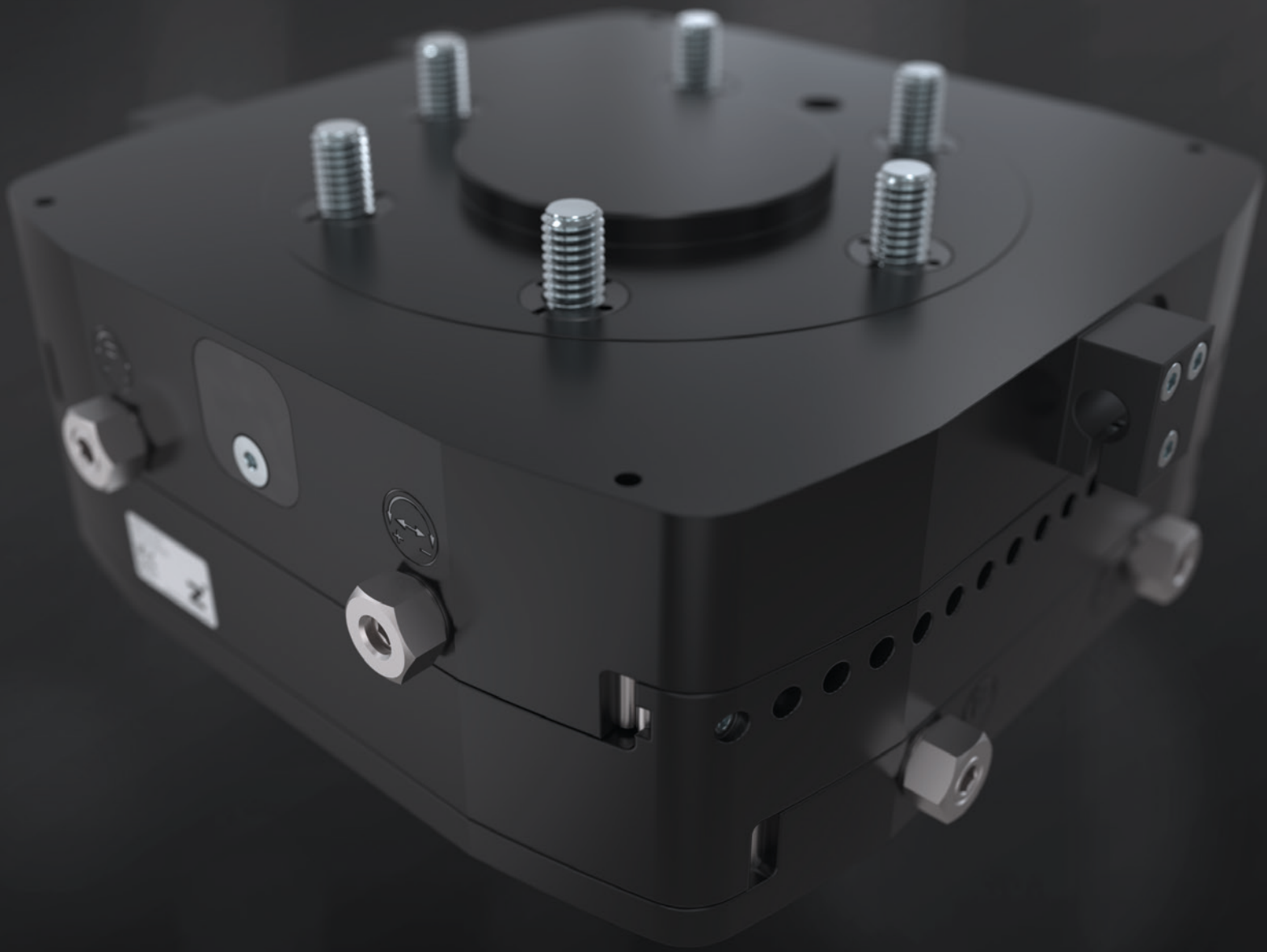
CSTE01157
Plug-in connector angled - pin M12

CONNECTIONS / OTHER

RSTVLM17G07S-B
Round connector straight - pin M17

Order no.	► Technical data	
	DVR1125PB	DVR1125PN
Connecting flange according EN ISO 9409-1	TK 125	TK 125
Pneumatic energy transfer [Quantity]	8	8
Flow per connector [l/min]	290	290
Bus protocol	Profibus	Industrial Ethernet
Data rate	12	100
Fieldbus connection 53	Pin, M12, 5-pin, B-coded	Socket, M12, 4-pin, D-coded
Connection fieldbus 54	Socket, M12, 5-pin, B-coded	Socket, M12, 4-pin, D-coded
Electrical energy transfer	4-pole + PE	4-pole + PE
Power supply connection 19	Pin, M17, 7-pin	Pin, M17, 7-pin
Power supply connection 20	Socket, M17, 7-pin	Socket, M17, 7-pin
Max. current [A]	9	9
Max. voltage [V]	250	250
Maximum acceleration [m/s ²]	20	20
Maximum speed [1/min.]	100	100
Maximum speed [°/s]	600	600
Radial run out +/- [mm]	0.05	0.05
Axial run out +/- [mm]	0.05	0.05
Constant torque [Nm]	4	4
Loose torque [Nm]	5	5
Operating pressure max. [bar]	10	10
Operating temperature [°C]	5 ... +80	5 ... +80
Moment of inertia [kgcm ²]	370	370
Protection to IEC 60529	IP64	IP64
Weight [kg]	8.5	8.5









AXIS COMPENSATION MODULES

OVERVIEW OF SERIES



6 AXIS COMPENSATION MODULES

94 - 153

	Series FGR	96
	Series XYR1000	102
	Series ZR1000	120
	Series ARP	138

AXIS COMPENSATION MODULES

SERIES FGR

▶ PRODUCT ADVANTAGES



▶ Effortless joining process

The ease of movement makes it possible to carry out even the finest joining processes in the shortest amount of time

▶ Single-acting pneumatic cylinder

For easy control and a reduced amount of piping required

▶ Can be fixed in place centrally or de-centrally

For the optimal process sequence, depending on the requirement, you can clamp or centrally lock the equalizer position

▶ THE BEST PRODUCT FOR YOUR APPLICATION



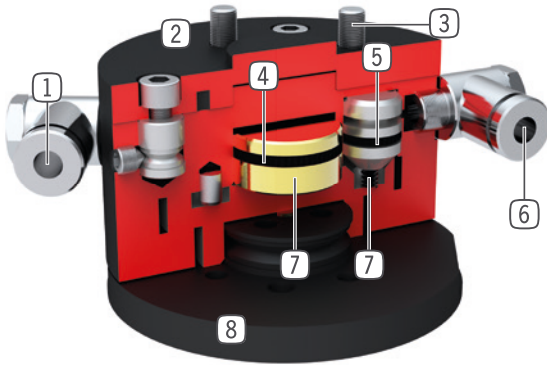
▶ Our products welcome the challenge!

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

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► BENEFITS IN DETAIL



- ① **Energy supply**
- centering
- ② **Robust, lightweight housing**
- Hard-coated aluminum alloy
- ③ **Robot flange**
- partial mounting circle in accordance with EN ISO 9409-1
- ④ **Drive eccentric mounting**
- single-acting pneumatic cylinder with friction disc
- ⑤ **Drive centering**
- three single-acting pneumatic cylinders with cone pistons at 120° distance
- ⑥ **Energy supply**
- eccentric clamping
- ⑦ **Force transfer**
- direct and low-loss via cone/friction disc
- ⑧ **Compensation**
- force-free compensation of position inaccuracies
- up to +/- 4 mm compensating stroke

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Retention force centred	Retention force decentred
		[N]	[N]
FGR1040	TK 40	120	50
FGR1050	TK 50	250	140

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

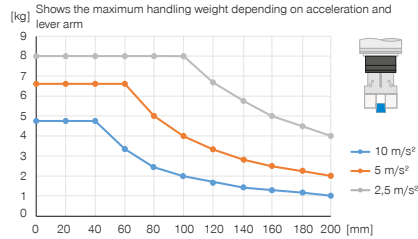
AXIS COMPENSATION MODULES

INSTALLATION SIZE FGR1040

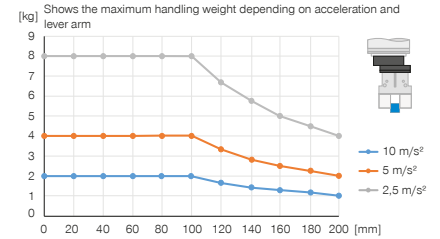
▶ PRODUCT SPECIFICATIONS



▶ Vertical design with centered holding force

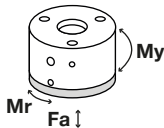


▶ Vertical design with decentered holding force



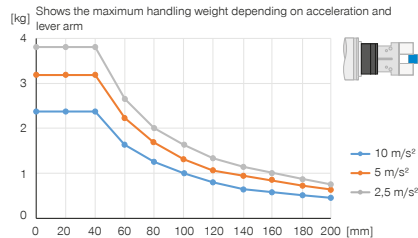
▶ Forces and moments

Shows static forces and moments

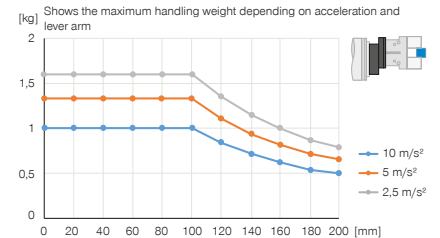


Mr [Nm]	5
My [Nm]	10
Fa [N]	1000

▶ Horizontal design with centered holding force



▶ Horizontal design with decentered holding force



▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060129

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style

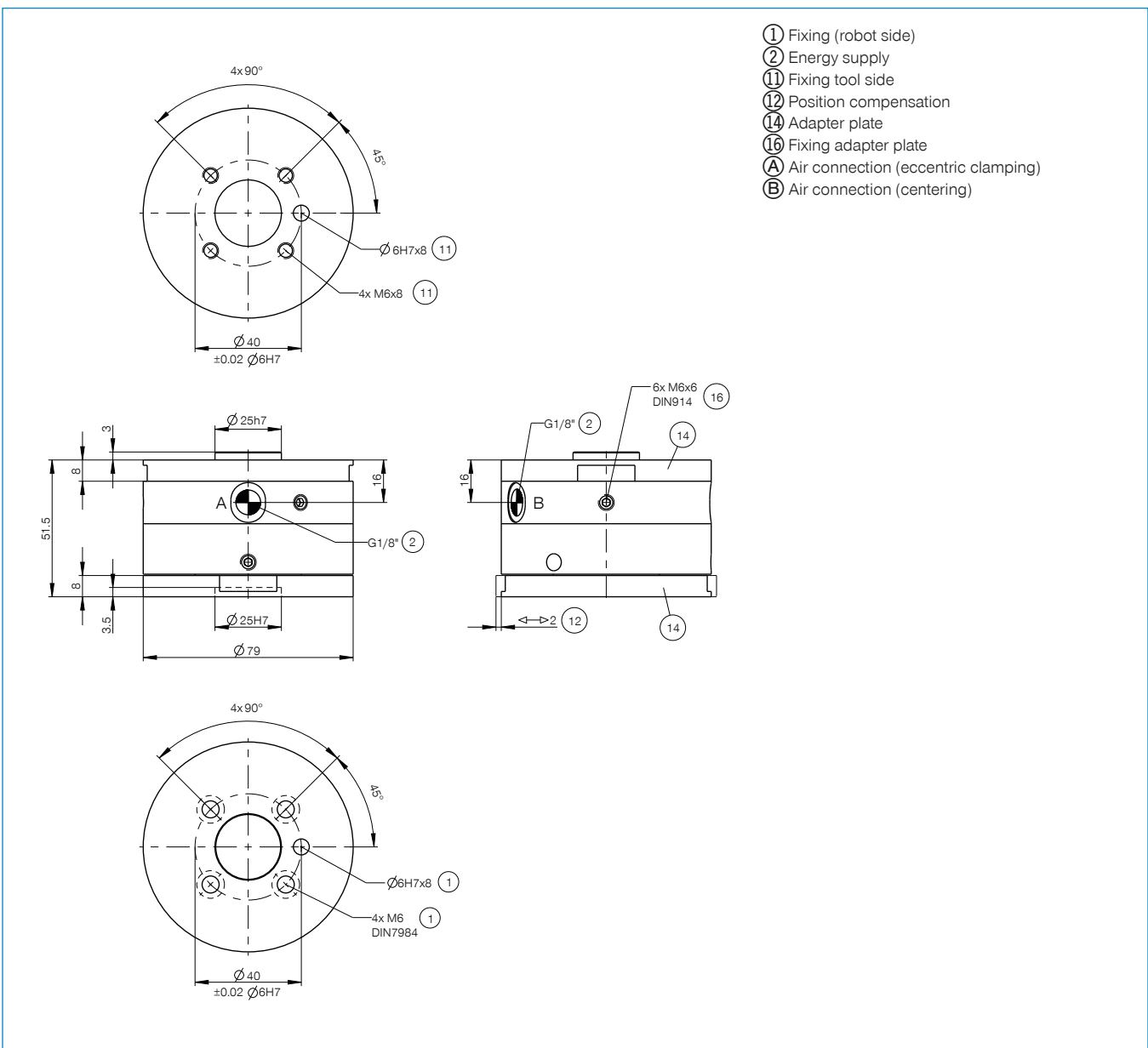


ENERGY SUPPLY



WV1-8X8
Angled Fittings - Quick Connect Style

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 40
Horizontal deviation +/- [mm]	2
Rotation angle max. [°]	12
Retention force centred [N]	120
Retention force decentred [N]	50
Operating pressure [bar]	4 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	0.9



AXIS COMPENSATION MODULES

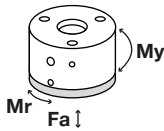
INSTALLATION SIZE FGR1050

▶ PRODUCT SPECIFICATIONS



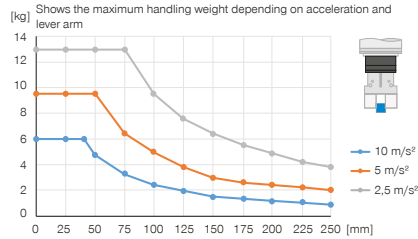
▶ Forces and moments

Shows static forces and moments

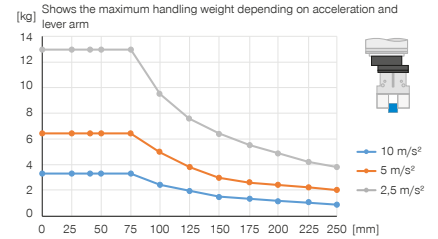


Mr [Nm]	6
My [Nm]	13
Fa [N]	1000

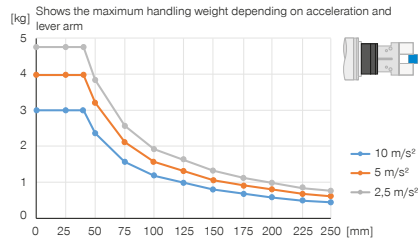
▶ Vertical design with centered holding force



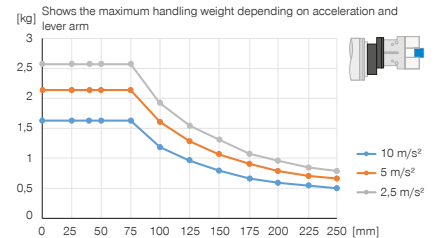
▶ Vertical design with decentered holding force



▶ Horizontal design with centered holding force



▶ Horizontal design with decentered holding force



▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C0912060149

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style

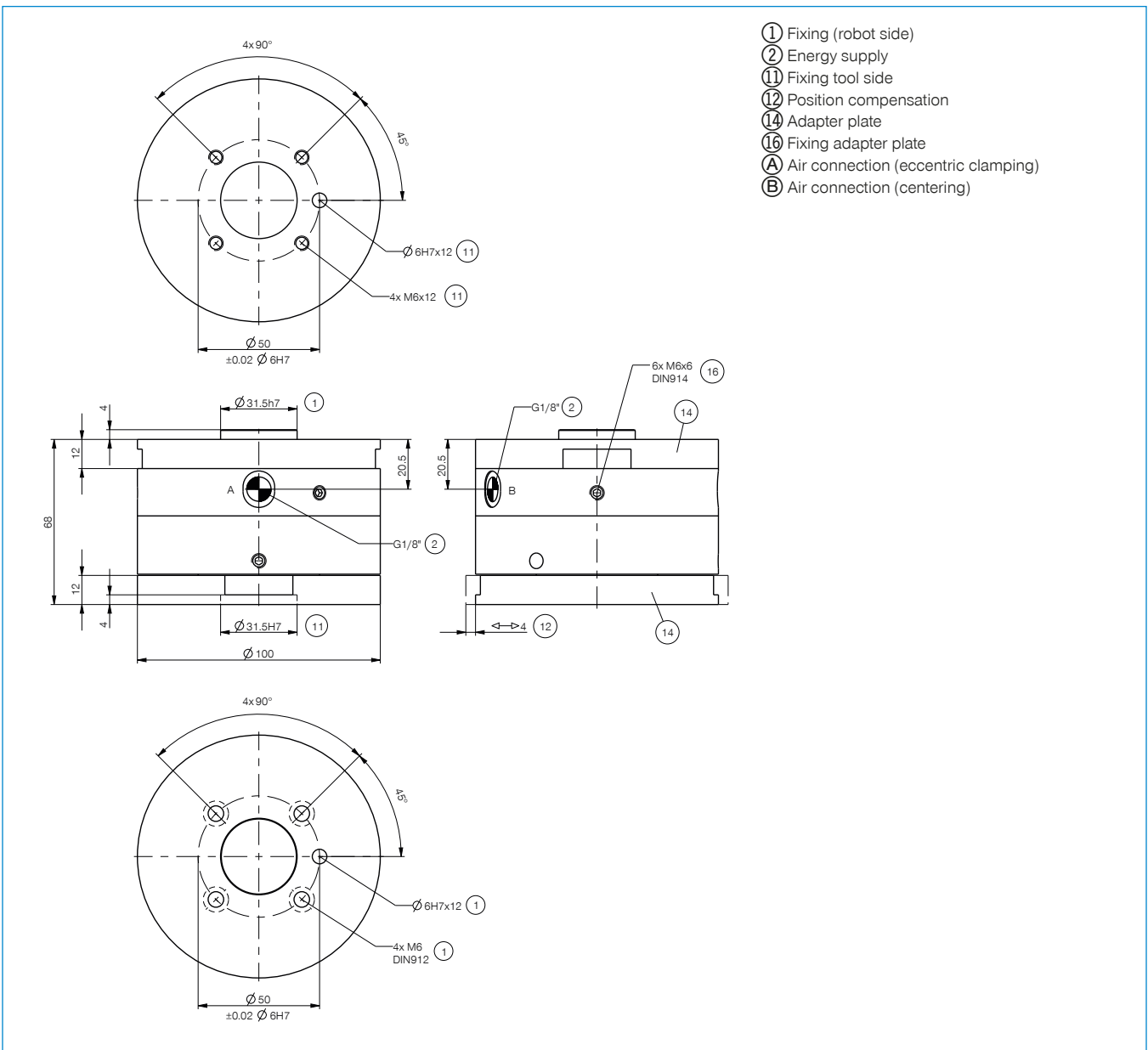


ENERGY SUPPLY



WV1-8X8
Angled Fittings - Quick Connect Style

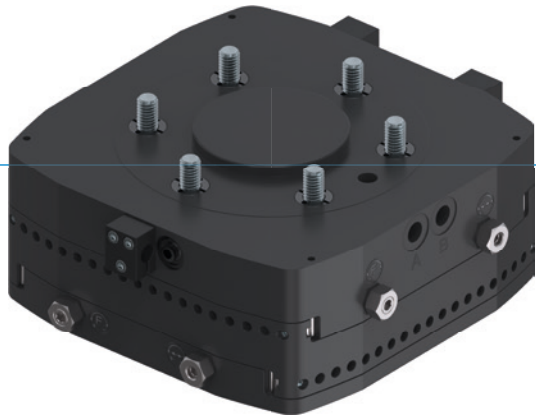
Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 50
Horizontal deviation +/- [mm]	4
Rotation angle max. [°]	9
Retention force centred [N]	250
Retention force decentred [N]	140
Operating pressure [bar]	4 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	1.7



AXIS COMPENSATION MODULES

SERIES XYR1000

▶ PRODUCT ADVANTAGES



▶ Adjustable balancing force and stroke

Using adjusting screws, you can adjust the properties of the equalizer optimally to your application in the shortest amount of time

▶ Flat design

This structure reduces the moment load for your robot to a minimum and makes it possible to use smaller and more affordable sizes

▶ Can be fixed in place centrally or de-centrally

Depending on the requirement, you can clamp or centrally lock the equalizer position. An aid for optimal processes

▶ THE BEST PRODUCT FOR YOUR APPLICATION



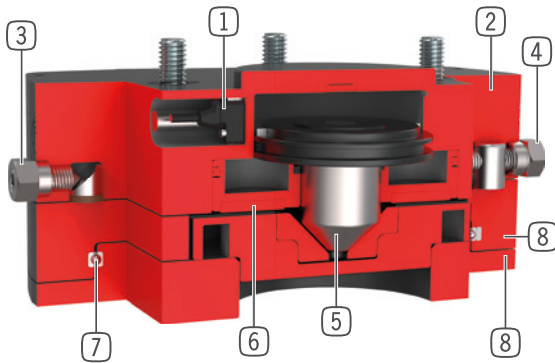
▶ Our products welcome the challenge!

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

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► BENEFITS IN DETAIL



- ① **Piston position sensing**
 - via magnetic field sensor
 - included in scope of delivery
- ② **Robust, lightweight housing**
 - Hard-coated aluminum alloy
 - partial mounting circle in accordance with EN ISO 9409-1
 - lowest overall height
- ③ **Compensation force**
 - adjustable via adjustment screw
- ④ **Compensation stroke**
 - infinitely variable (from size 1063 upwards)
- ⑤ **Locking piston**
 - central via cone
- ⑥ **Eccentric locking**
 - via pneumatic piston with frictional contact
- ⑦ **Linear guide**
 - for highest force and moments capacity
- ⑧ **Compensation plate**
 - to balance position errors in XY- direction

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Stroke X/Y level +/-	Retention force centred	Retention force decentred
		[mm]	[N]	[N]
XYR1040	TK 40	3	150	30
XYR1050	TK 50	3.5	250	50
XYR1063	TK 63	4.5	400	125
XYR1080	TK 80	5.5	600	250
XYR1100	TK 100	6.0	900	450
XYR1125	TK 125	8.0	1500	600
XYR1160	TK 160	10.0	2000	1000
XYR1200	TK 200	12.5	3000	1250

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

AXIS COMPENSATION MODULES

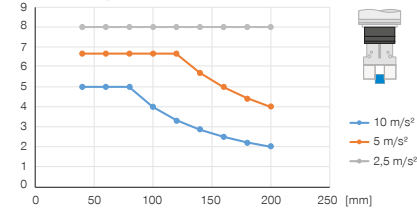
INSTALLATION SIZE XYR1040

▶ PRODUCT SPECIFICATIONS



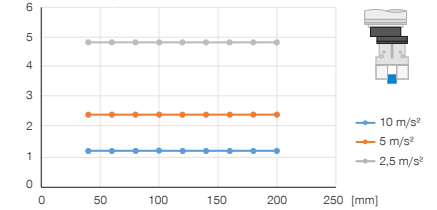
▶ Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



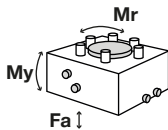
▶ Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Forces and moments

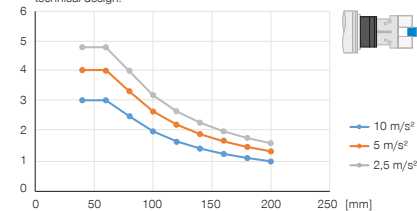
Shows static forces and moments



Mr [Nm]	10
My [Nm]	10
Fa [N]	250

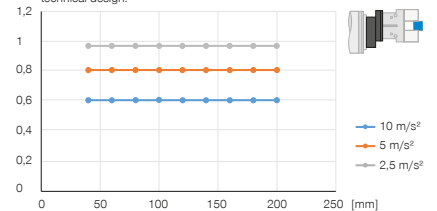
▶ Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060149

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



SENSORS

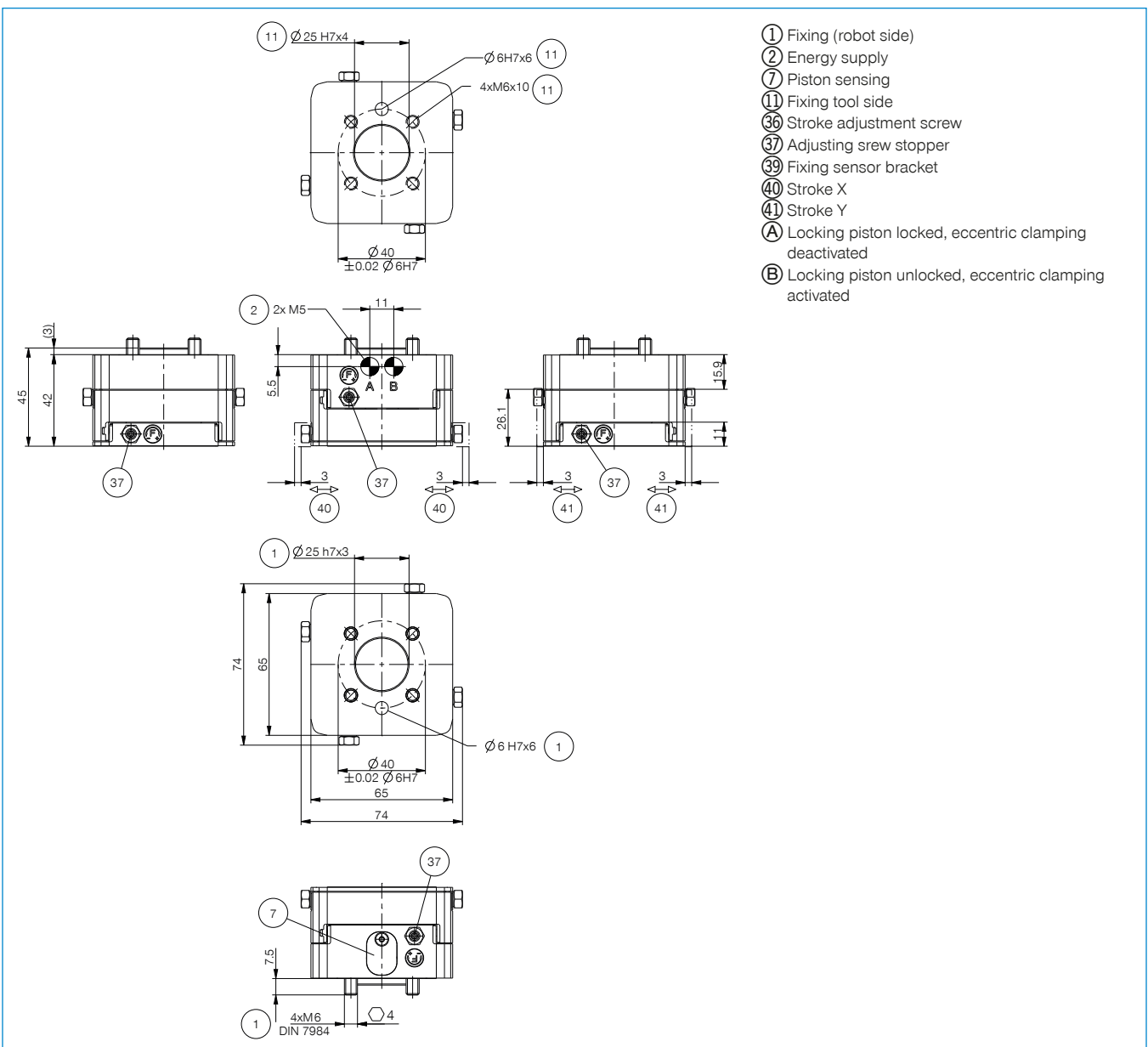


ZUB109817
Piston position sensing



WVM5
Angled Fittings - Quick Connect Style

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 40
Stroke X/Y level +/- [mm]	3
Retention force centred [N]	150
Retention force decentred [N]	30
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	6
Air volume per cycle decentred [cm ³]	3
Moment of inertia [kgcm ²]	3.4
Weight [kg]	0.49



AXIS COMPENSATION MODULES

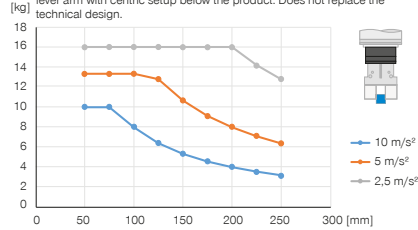
INSTALLATION SIZE XYR1050

▶ PRODUCT SPECIFICATIONS



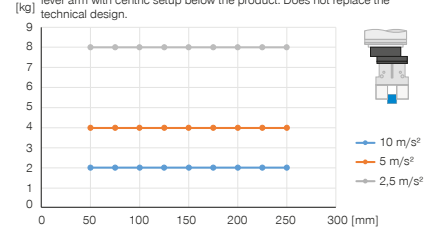
▶ Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



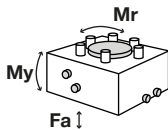
▶ Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Forces and moments

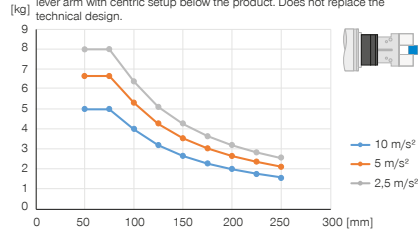
Shows static forces and moments



Mr [Nm]	20
My [Nm]	20
Fa [N]	500

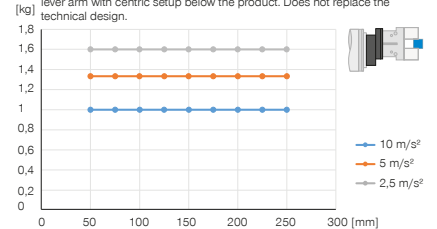
▶ Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060149

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style

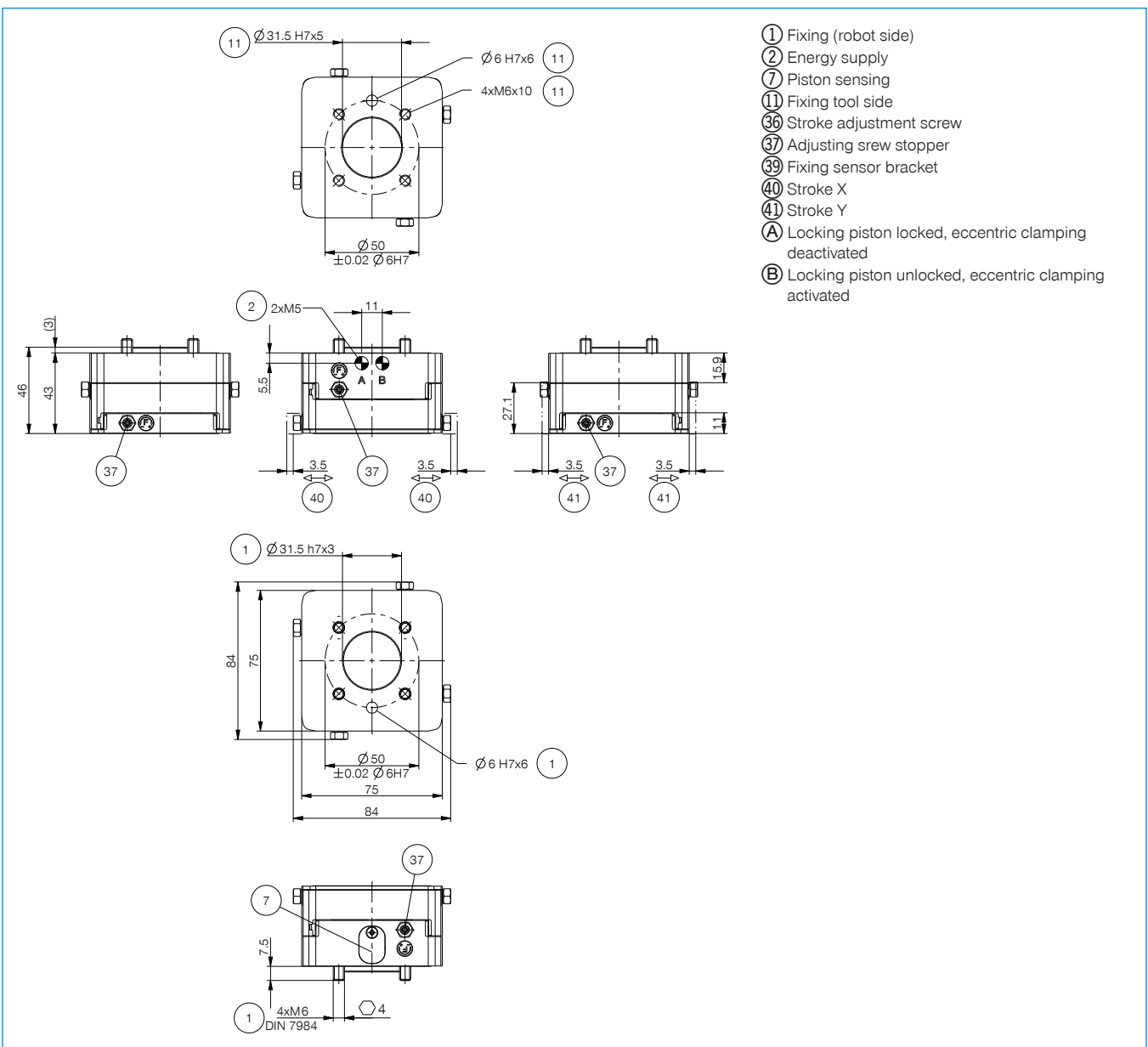


SENSORS



ZUB109835
Piston position sensing

Order no.	Technical data
	XYR1050-B
Connecting flange according EN ISO 9409-1	TK 50
Stroke X/Y level +/- [mm]	3.5
Retention force centred [N]	250
Retention force decentred [N]	50
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	8
Air volume per cycle decentred [cm ³]	4
Moment of inertia [kgcm ²]	6.2
Weight [kg]	0.65



AXIS COMPENSATION MODULES

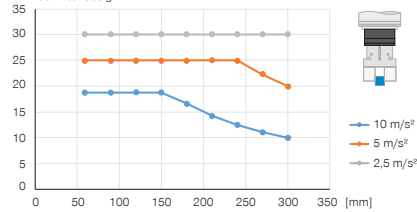
INSTALLATION SIZE XYR1063

PRODUCT SPECIFICATIONS



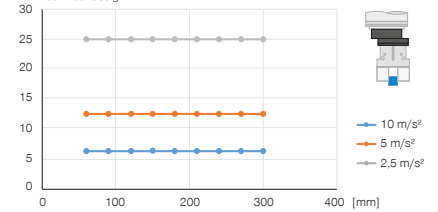
Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



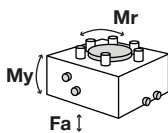
Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



Forces and moments

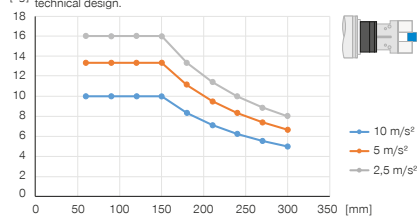
Shows static forces and moments



Mr [Nm]	60
My [Nm]	60
Fa [N]	750

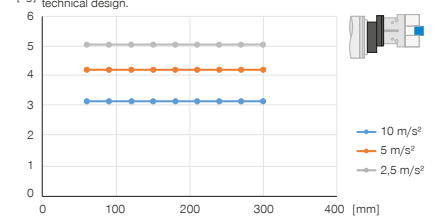
Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



INCLUDED IN DELIVERY



3 [piece]
Mounting block
KB8K



4 [piece]
Cylinder Screw
C7984060149

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



SENSORS

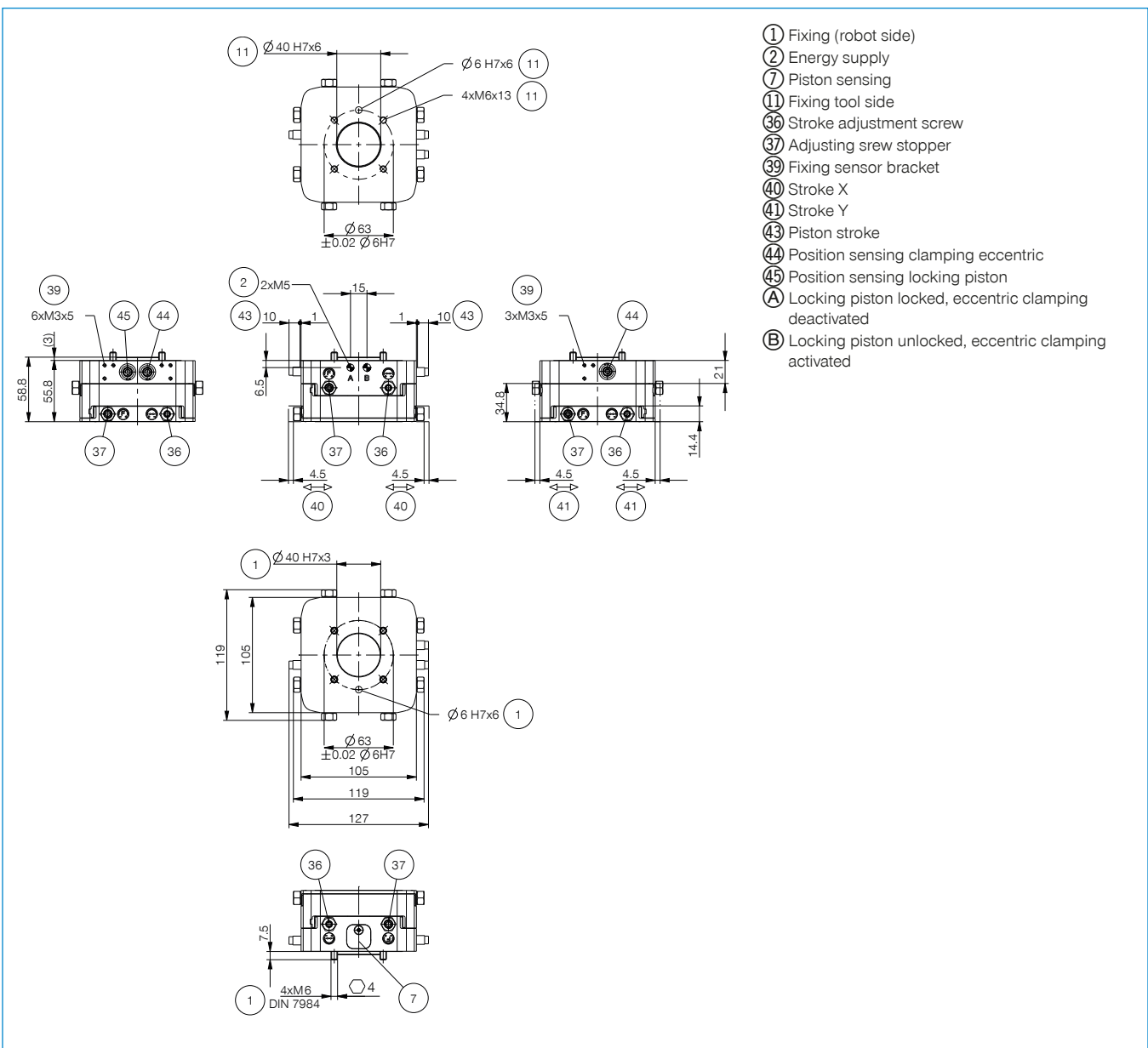


KHA1000-8
Alternate proximity bracket



ZUB109833
Piston position sensing

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 63
Stroke X/Y level +/- [mm]	4.5
Retention force centred [N]	400
Retention force decentred [N]	125
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	16
Air volume per cycle decentred [cm ³]	9
Moment of inertia [kgcm ²]	32.8
Weight [kg]	1.7



AXIS COMPENSATION MODULES

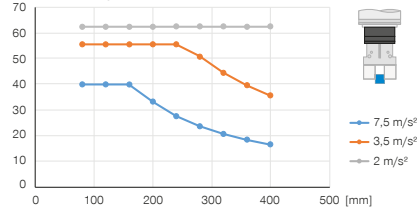
INSTALLATION SIZE XYR1080

▶ PRODUCT SPECIFICATIONS



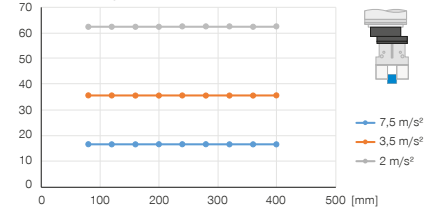
▶ Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



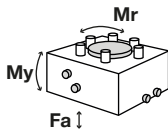
▶ Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Forces and moments

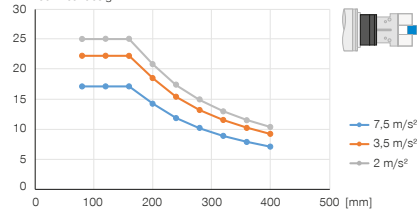
Shows static forces and moments



Mr [Nm]	100
My [Nm]	100
Fa [N]	1500

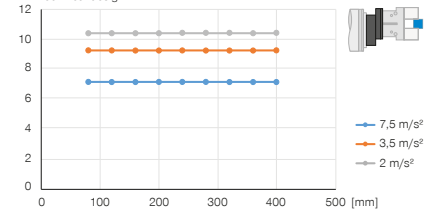
▶ Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ INCLUDED IN DELIVERY



3 [piece]
Mounting block
KB8K



6 [piece]
Cylinder Screw
C7984080229

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



SENSORS

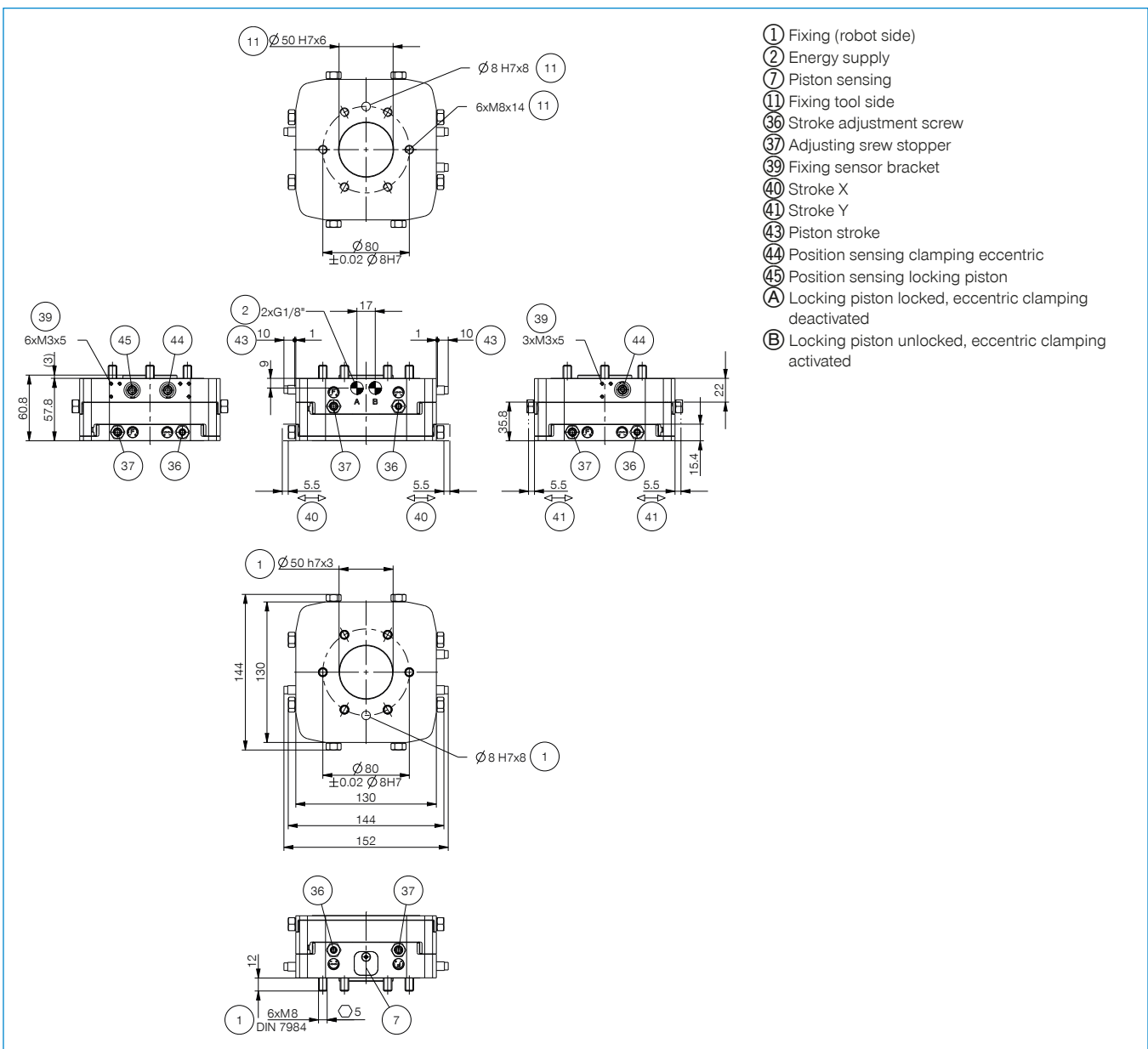


KHA1000-8
Alternate proximity bracket



ZUB109831
Piston position sensing

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 80
Stroke X/Y level +/- [mm]	5.5
Retention force centred [N]	600
Retention force decentred [N]	250
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	36
Air volume per cycle decentred [cm ³]	21
Moment of inertia [kgcm ²]	73.9
Weight [kg]	2.6



AXIS COMPENSATION MODULES

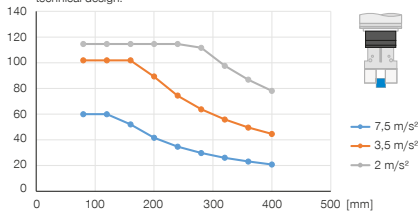
INSTALLATION SIZE XYR1100

PRODUCT SPECIFICATIONS



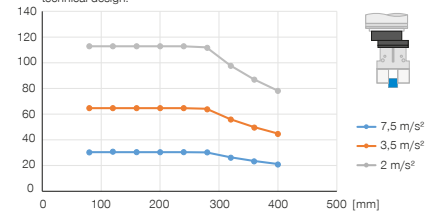
Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



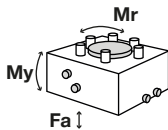
Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



Forces and moments

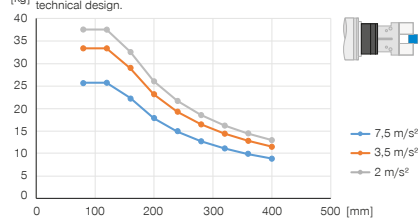
Shows static forces and moments



Mr [Nm]	125
My [Nm]	125
Fa [N]	2750

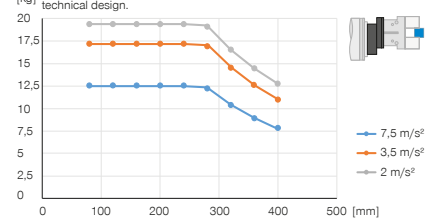
Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



INCLUDED IN DELIVERY



3 [piece]
Mounting block
KB8K



6 [piece]
Cylinder Screw
C7984080229

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



SENSORS

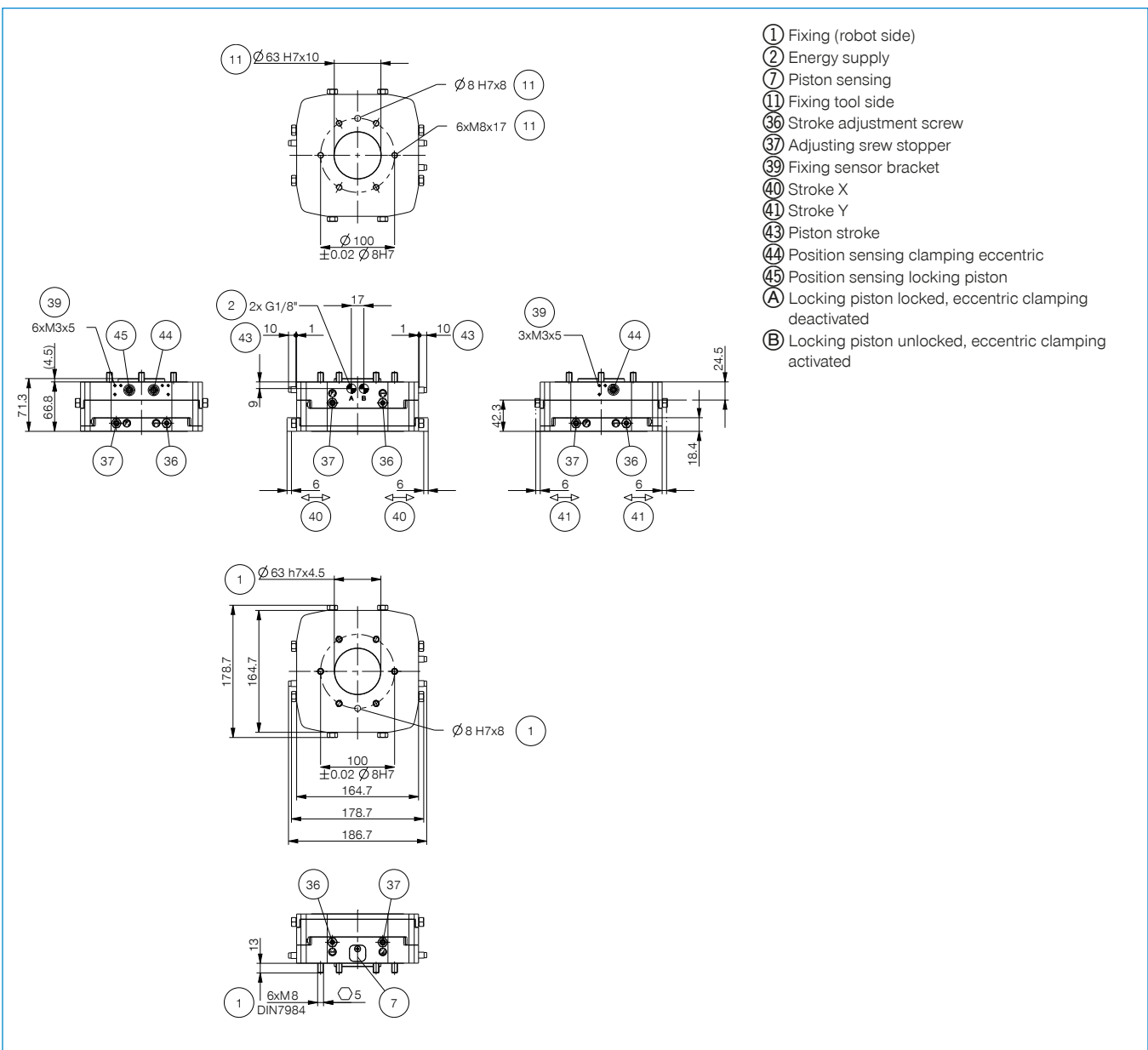


KHA1000-8
Alternate proximity bracket



ZUB109829
Piston position sensing

Order no.	Technical data
	XYR1100-B
Connecting flange according EN ISO 9409-1	TK 100
Stroke X/Y level +/- [mm]	6.0
Retention force centred [N]	900
Retention force decentred [N]	450
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	65
Air volume per cycle decentred [cm ³]	42
Moment of inertia [kgcm ²]	204.0
Weight [kg]	4.5



AXIS COMPENSATION MODULES

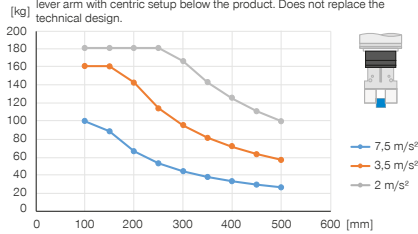
INSTALLATION SIZE XYR1125

▶ PRODUCT SPECIFICATIONS



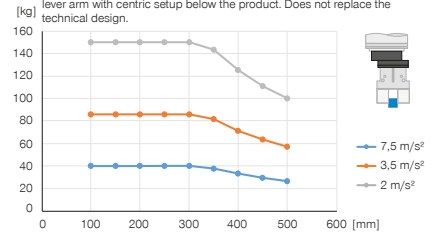
▶ Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



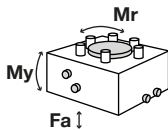
▶ Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Forces and moments

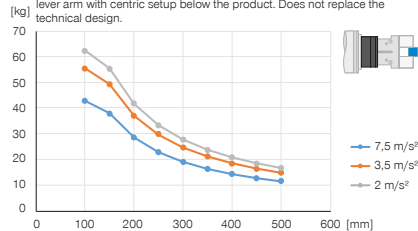
Shows static forces and moments



Mr [Nm]	200
My [Nm]	200
Fa [N]	4350

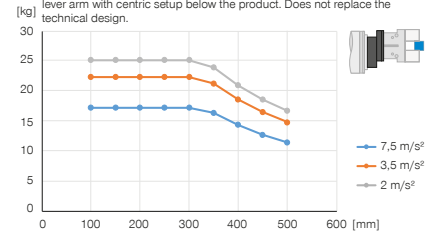
▶ Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ INCLUDED IN DELIVERY



3 [piece]
Mounting block
KB8K



6 [piece]
Cylinder Screw
C7984100309

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



SENSORS

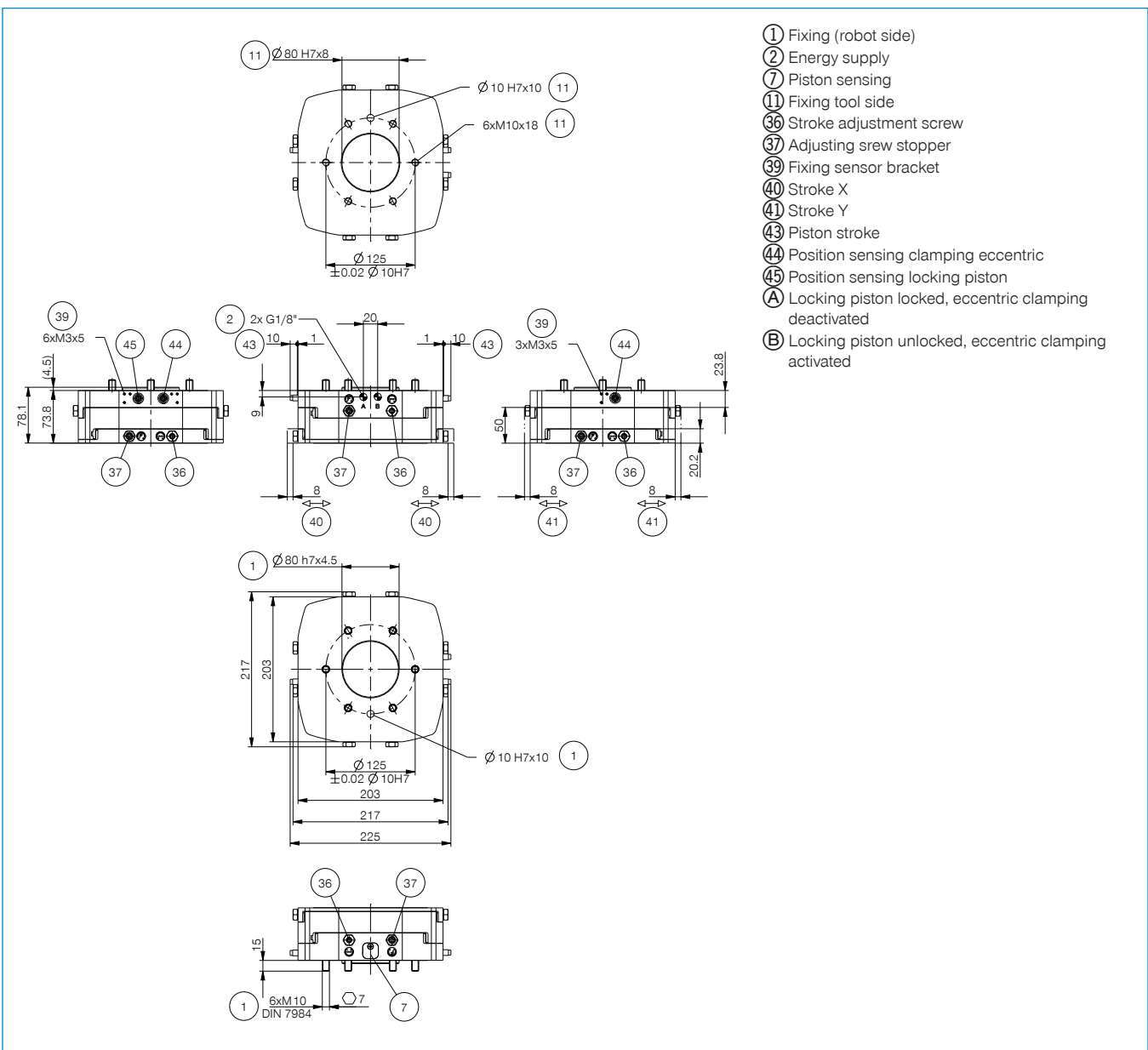


KHA1000-8
Alternate proximity bracket



ZUB109826
Piston position sensing

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 125
Stroke X/Y level +/- [mm]	8.0
Retention force centred [N]	1500
Retention force decentred [N]	600
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	113
Air volume per cycle decentred [cm ³]	64
Moment of inertia [kgcm ²]	506.0
Weight [kg]	7.8



AXIS COMPENSATION MODULES

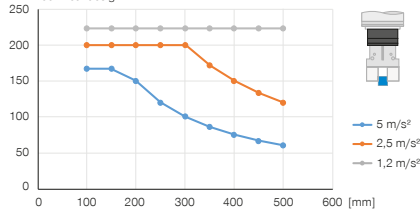
INSTALLATION SIZE XYR1160

▶ PRODUCT SPECIFICATIONS



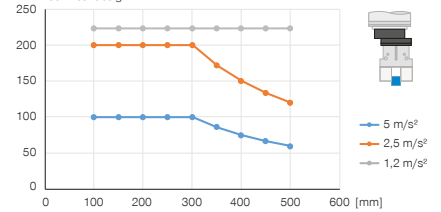
▶ Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



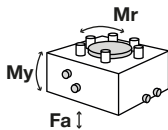
▶ Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Forces and moments

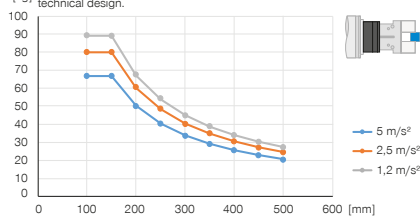
Shows static forces and moments



Mr [Nm]	300
My [Nm]	300
Fa [N]	5000

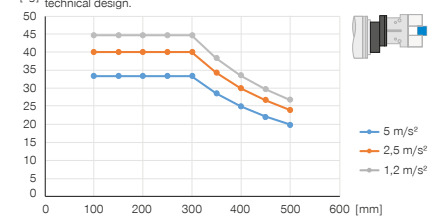
▶ Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ INCLUDED IN DELIVERY



3 [piece]
Mounting block
KB8K



6 [piece]
Cylinder Screw
C7984100309

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



SENSORS

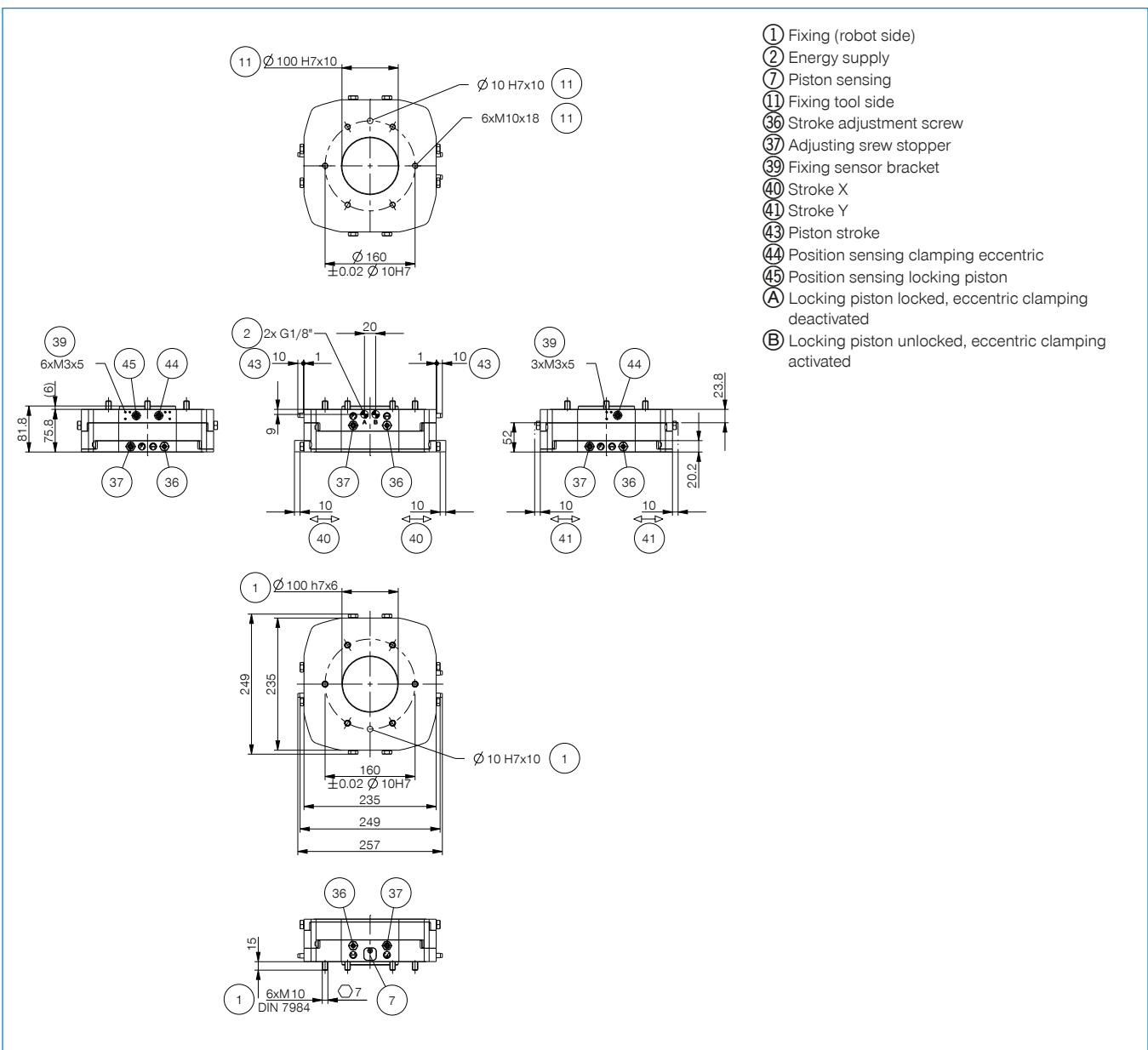


KHA1000-8
Alternate proximity bracket



ZUB109824
Piston position sensing

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 160
Stroke X/Y level +/- [mm]	10.0
Retention force centred [N]	2000
Retention force decentred [N]	1000
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	189
Air volume per cycle decentred [cm ³]	111
Moment of inertia [kgcm ²]	891.0
Weight [kg]	10.3



AXIS COMPENSATION MODULES

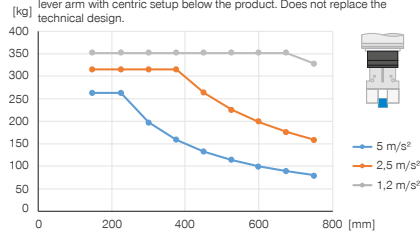
INSTALLATION SIZE XYR1200

▶ PRODUCT SPECIFICATIONS



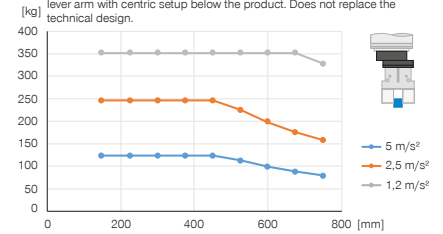
▶ Vertical design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



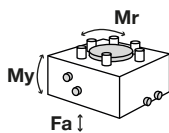
▶ Vertical design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Forces and moments

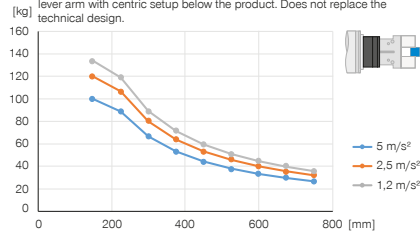
Shows static forces and moments



Mr [Nm]	600
My [Nm]	600
Fa [N]	8000

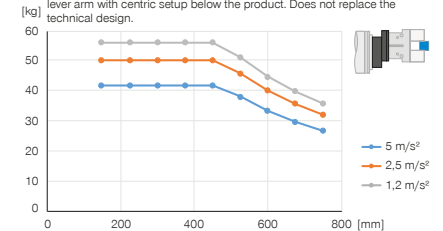
▶ Horizontal design with centered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ Horizontal design with decentered holding force

Shows the maximum handling weight as a function of acceleration and lever arm with centric setup below the product. Does not replace the technical design.



▶ INCLUDED IN DELIVERY



3 [piece]
Mounting block
KB8K



6 [piece]
Cylinder Screw
C7984120309

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



SENSORS

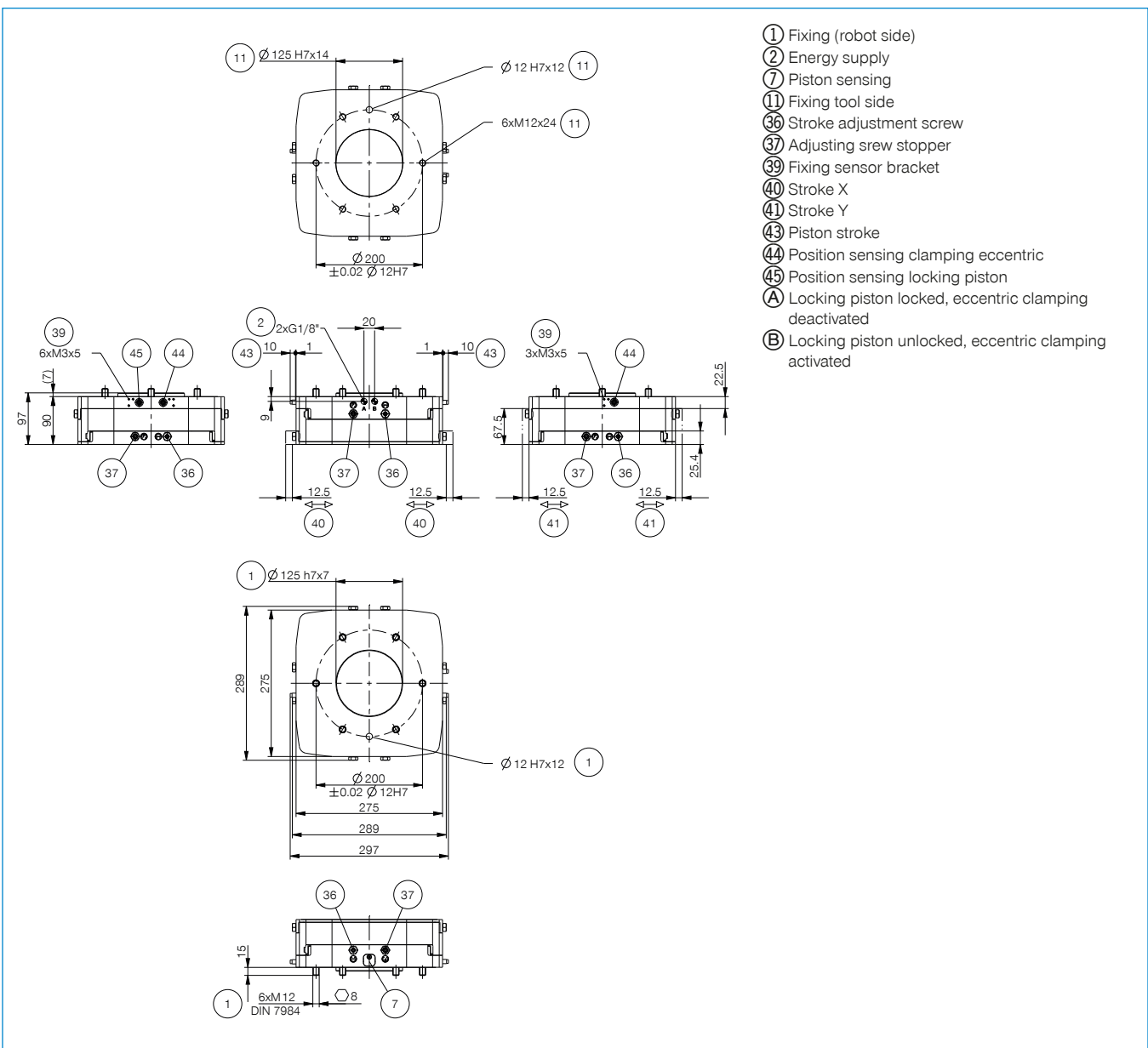


KHA1000-8
Alternate proximity bracket



ZUB109821
Piston position sensing

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 200
Stroke X/Y level +/- [mm]	12.5
Retention force centred [N]	3000
Retention force decentred [N]	1250
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle centred [cm ³]	323
Air volume per cycle decentred [cm ³]	173
Moment of inertia [kgcm ²]	2217.0
Weight [kg]	17.7



AXIS COMPENSATION MODULES

SERIES ZR1000

▶ PRODUCT ADVANTAGES



▶ Adjustable trigger sensitivity

By controlling the air pressure, you can optimally adjust the sensitivity to your application.






▶ Integrated sensors

When deflection occurs in the Z direction, the optionally available sensor sends two teachable signals to the controller.

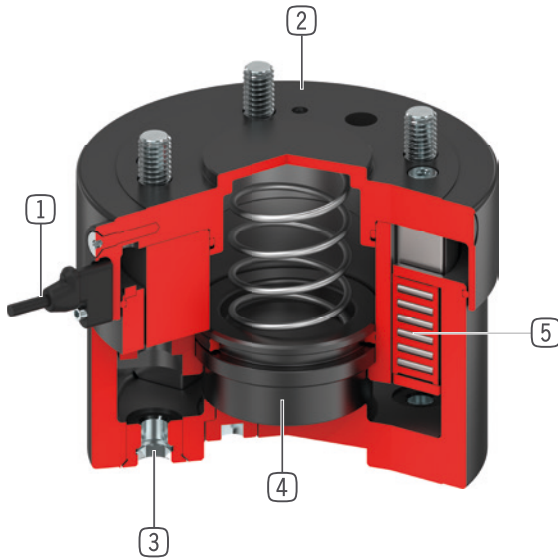
▶ Pneumatic locking

After pneumatic actuation, the axis compensation is locked in a defined end position and can be subjected to high dynamic loads.

▶ SERIES CHARACTERISTICS

Installation size	Version
ZR1XXX	-A
 1 million maintenance-free cycles (max.)	●
 Magnetic field sensor	●
 Protected against corrosion	●
 Purged air	●
 IP 40	●

► BENEFITS IN DETAIL



- ① **Piston position sensing**
 - via magnetic field sensor
 - optionally available as accessories
- ② **Robust, lightweight housing**
 - Hard-coated aluminum alloy
 - lowest overall height
 - IP40 protection class in standard
- ③ **Connecting flange**
 - partial mounting circle in accordance with EN ISO 9409-1
- ④ **Locking piston**
 - single-acting pneumatic cylinder
 - with integrated spring
 - locks the Z-axis
- ⑤ **Linear guide**
 - for highest force and moments capacity
 - Steel/steel guide stands for lasting precision

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Stroke in Z axis [mm]	Holding force [N]	Weight [kg]
ZR1040	TK 40	8	250	0.52
ZR1050	TK 50	8	500	0.67
ZR1063	TK 63	10	1000	1.1
ZR1080	TK 80	10	1500	1.8
ZR1100	TK 100	15	3000	3.1
ZR1125	TK 125	15	4500	5.1
ZR1160	TK 160	20	6500	8.8
ZR1200	TK 200	20	11500	13

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

AXIS COMPENSATION MODULES

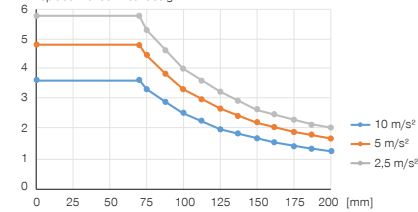
INSTALLATION SIZE ZR1040

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position

Shows the maximum handling weight as a function of acceleration and the center of gravity distance from the center of the bolt-on surface. Does not replace the technical design.



▶ Forces and moments

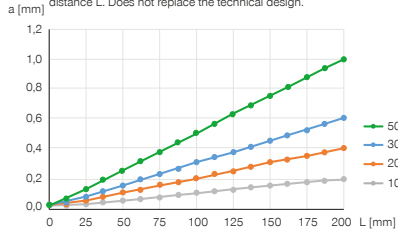
Shows static forces and moments



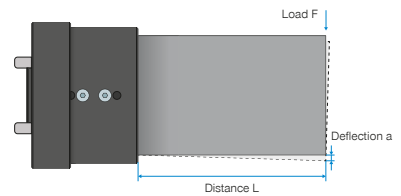
Mr [Nm]	20
My [Nm]	10
Fa [N]	250

▶ Variable installation position

Shows the maximum deflection a as a function of the load F and the distance L. Does not replace the technical design.



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000035

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

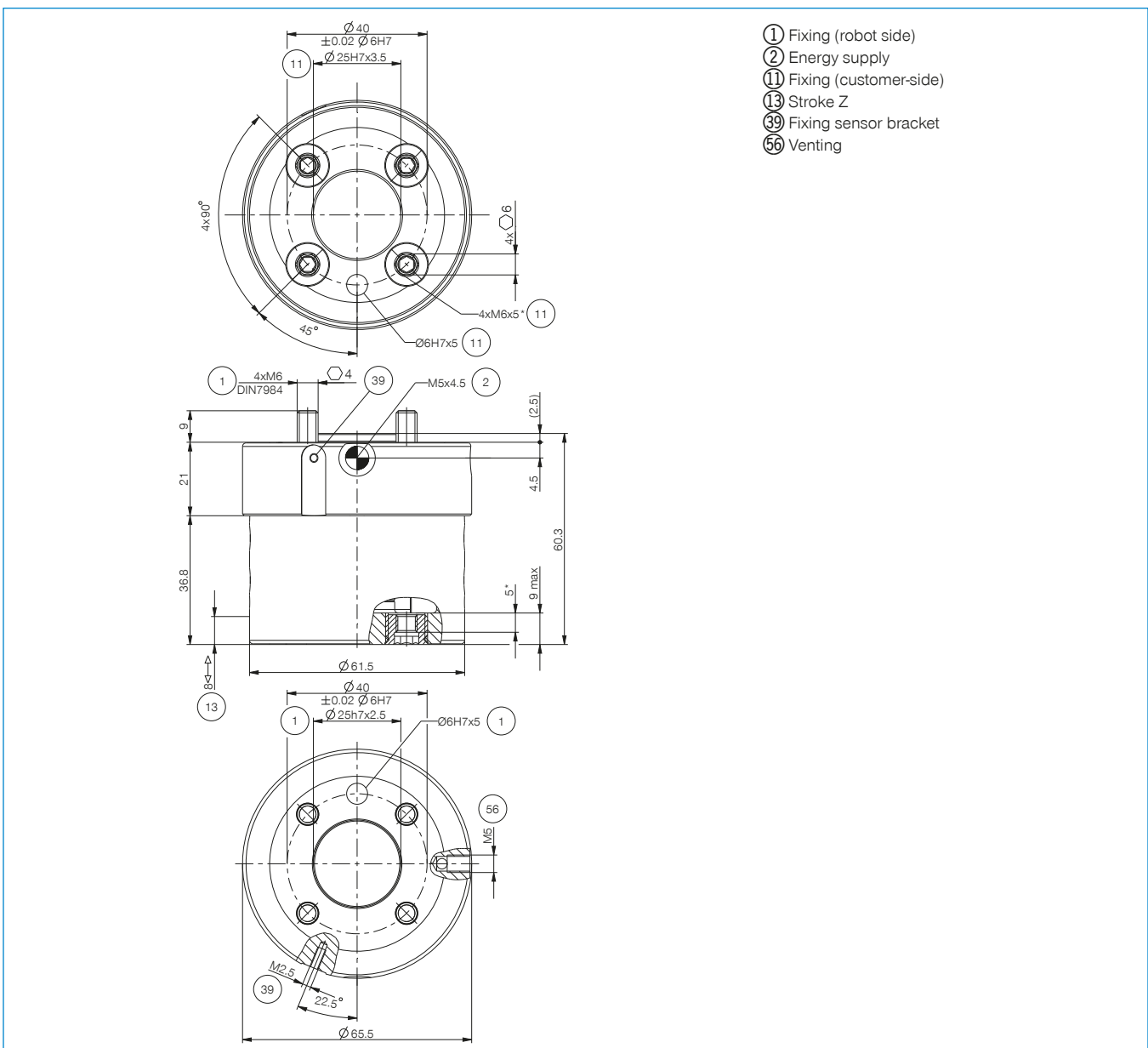


SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector

Order no.	Technical data
	ZR1040-A
Connecting flange according EN ISO 9409-1	TK 40
Stroke in Z axis [mm]	8
Holding force [N]	250
Spring force [N]	22 ... 29
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	11
Mass moment of inertia around Z-axis [kgcm ²]	4
Protection to IEC 60529	IP40
Weight [kg]	0.52



AXIS COMPENSATION MODULES

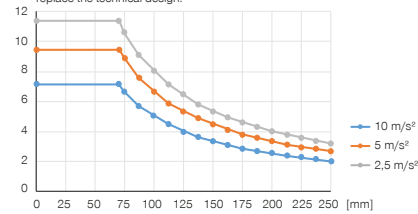
INSTALLATION SIZE ZR1050

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position

Shows the maximum handling weight as a function of acceleration and the center of gravity distance from the center of the bolt-on surface. Does not replace the technical design.



▶ Forces and moments

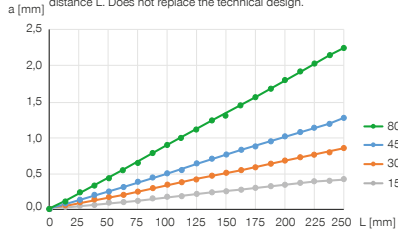
Shows static forces and moments



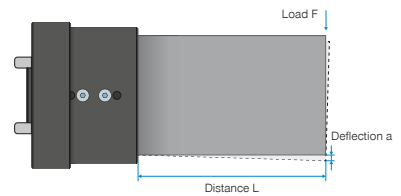
Mr [Nm]	40
My [Nm]	20
Fa [N]	500

▶ Variable installation position

Shows the maximum deflection a as a function of the load F and the distance L. Does not replace the technical design.



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000035

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

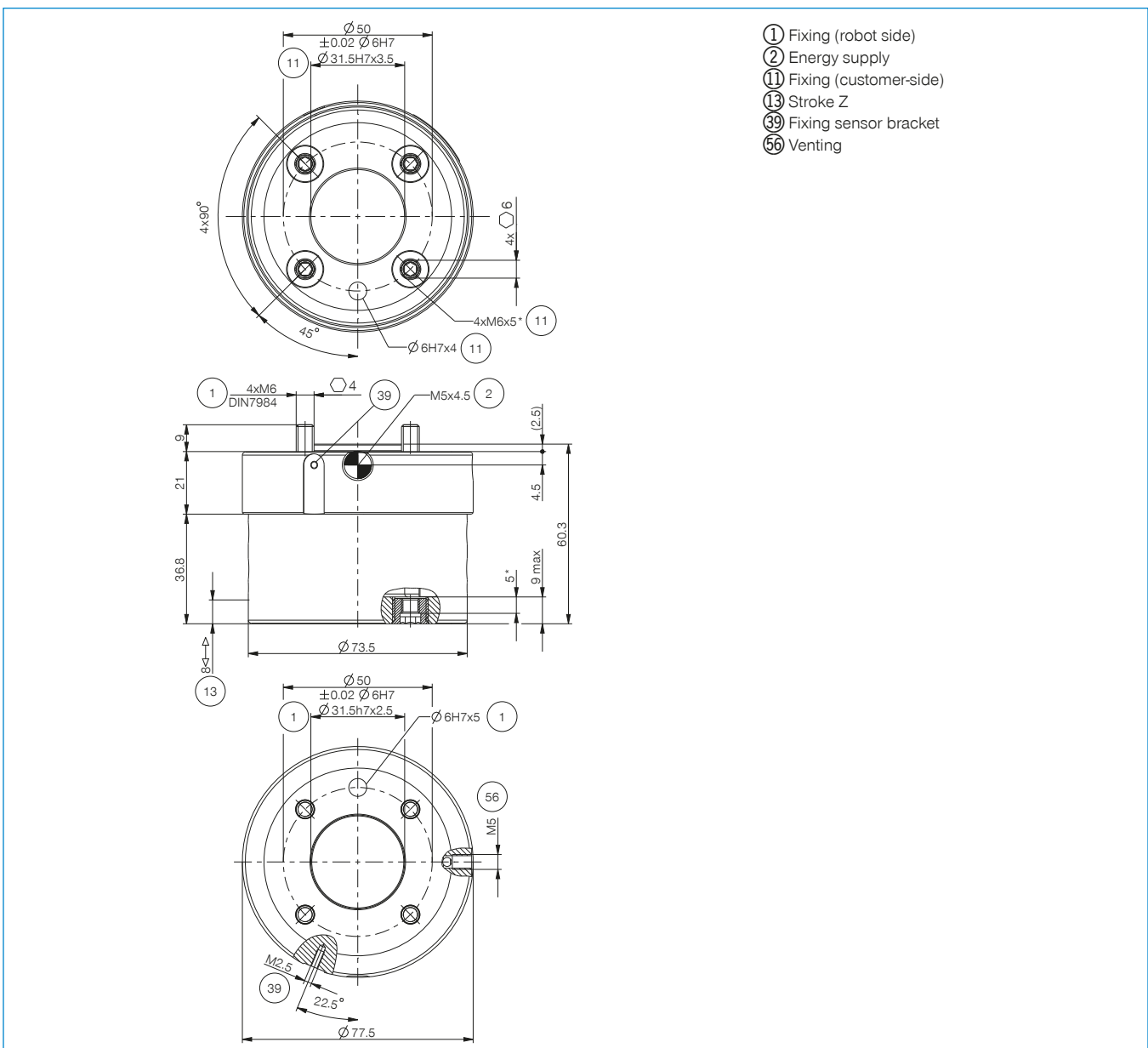


SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector

Order no.	Technical data
	ZR1050-A
Connecting flange according EN ISO 9409-1	TK 50
Stroke in Z axis [mm]	8
Holding force [N]	500
Spring force [N]	25 ... 37
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	25
Mass moment of inertia around Z-axis [kgcm ²]	7
Protection to IEC 60529	IP40
Weight [kg]	0.67



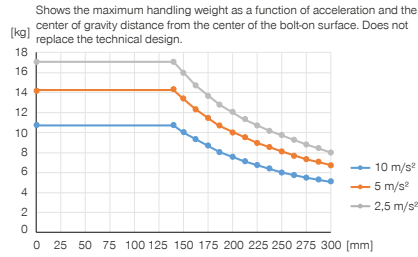
AXIS COMPENSATION MODULES

INSTALLATION SIZE ZR1063

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position



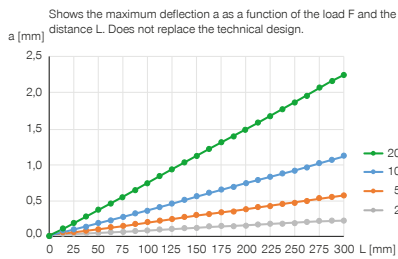
▶ Forces and moments

Shows static forces and moments

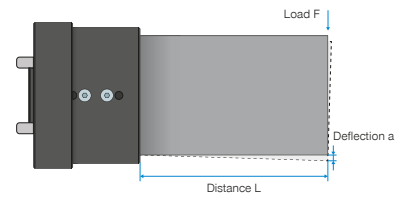


Mr [Nm]	120
My [Nm]	60
Fa [N]	750

▶ Variable installation position



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000035

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

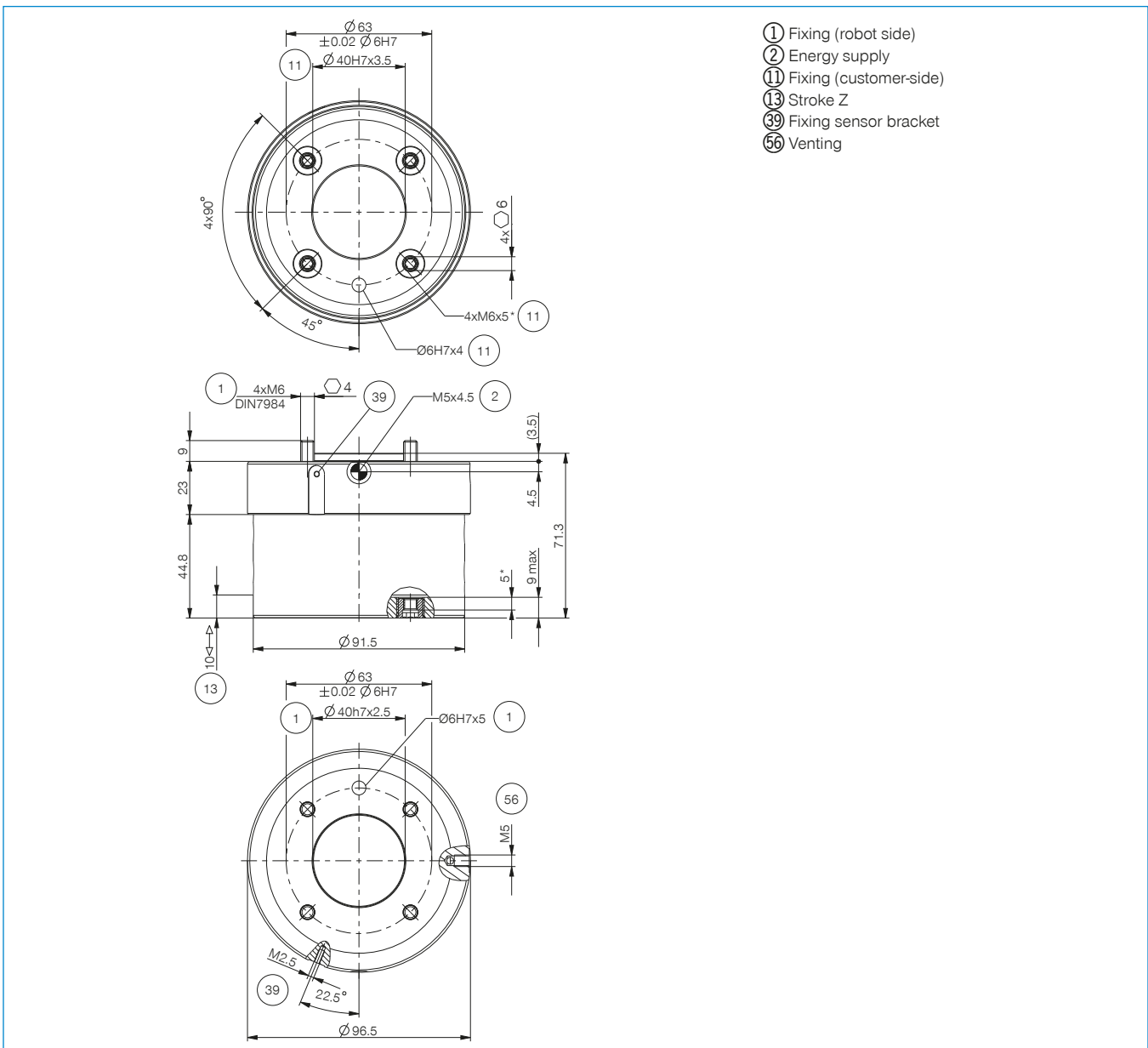


SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector

Order no.	Technical data
	ZR1063-A
Connecting flange according EN ISO 9409-1	TK 63
Stroke in Z axis [mm]	10
Holding force [N]	1000
Spring force [N]	50 ... 62
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	45
Mass moment of inertia around Z-axis [kgcm ²]	17
Protection to IEC 60529	IP40
Weight [kg]	1.1



AXIS COMPENSATION MODULES

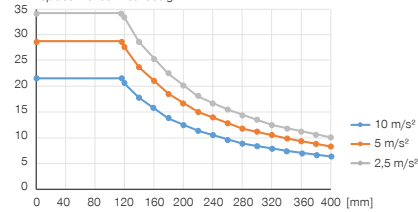
INSTALLATION SIZE ZR1080

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position

Shows the maximum handling weight as a function of acceleration and the center of gravity distance from the center of the bolt-on surface. Does not replace the technical design.



▶ Forces and moments

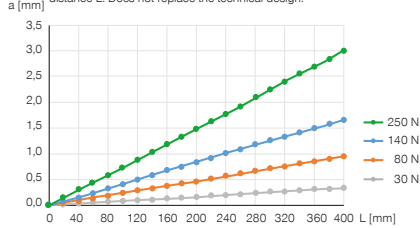
Shows static forces and moments



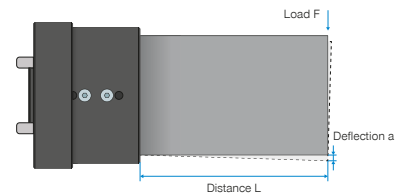
Mr [Nm]	200
My [Nm]	100
Fa [N]	1500

▶ Variable installation position

Shows the maximum deflection a as a function of the load F and the distance L. Does not replace the technical design.



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000035

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

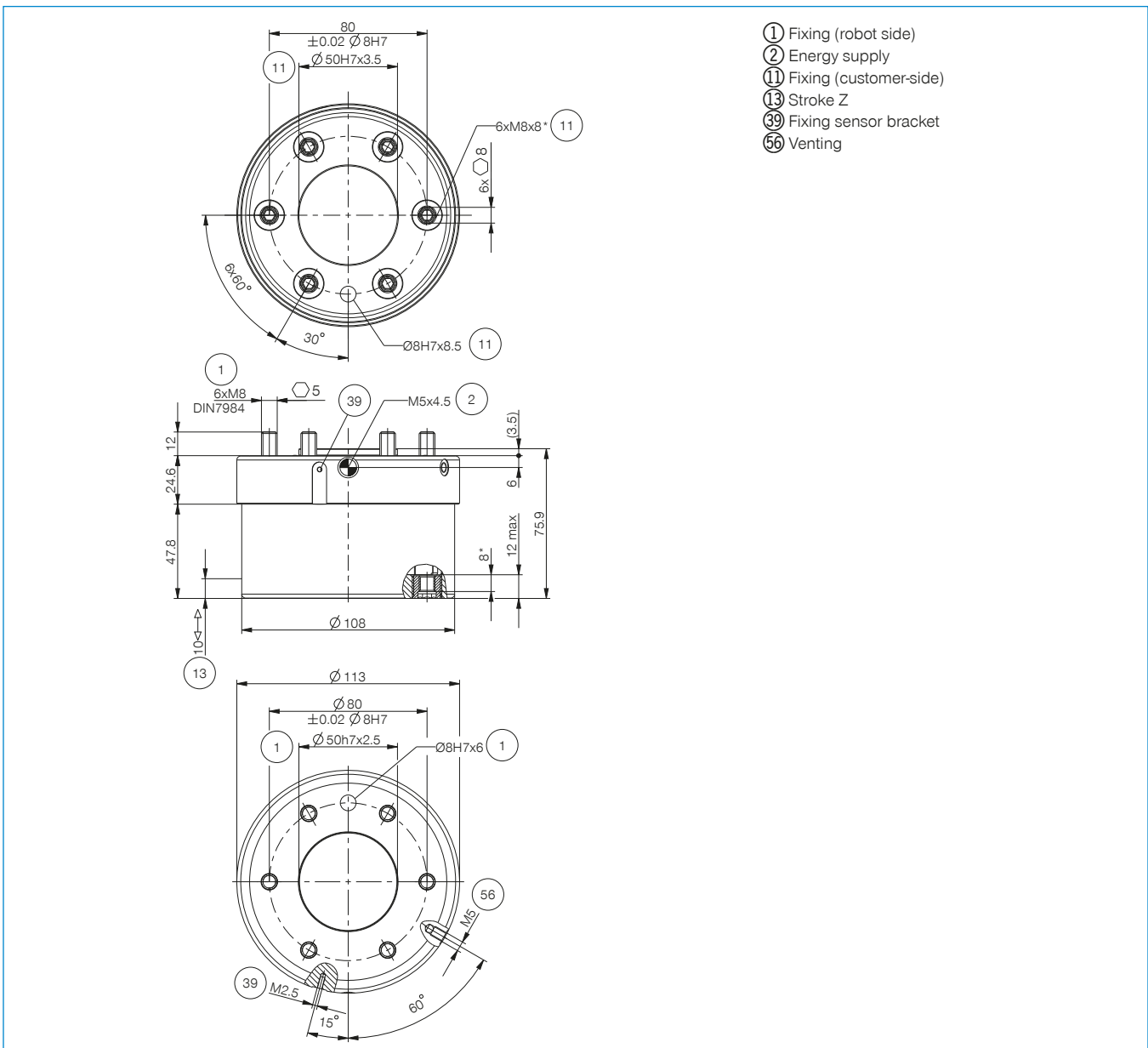


SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 80
Stroke in Z axis [mm]	10
Holding force [N]	1500
Spring force [N]	60 ... 70
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	85
Mass moment of inertia around Z-axis [kgcm ²]	35
Protection to IEC 60529	IP40
Weight [kg]	1.8



AXIS COMPENSATION MODULES

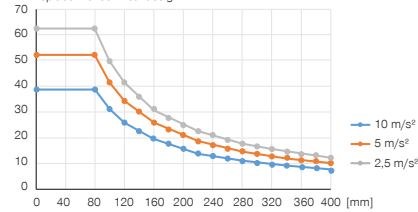
INSTALLATION SIZE ZR1100

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position

Shows the maximum handling weight as a function of acceleration and the center of gravity distance from the center of the bolt-on surface. Does not replace the technical design.



▶ Forces and moments

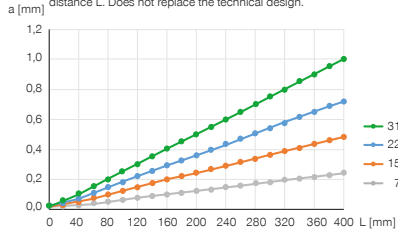
Shows static forces and moments



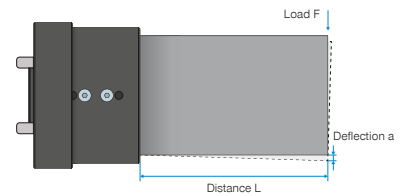
Mr [Nm]	250
My [Nm]	125
Fa [N]	2750

▶ Variable installation position

Shows the maximum deflection a as a function of the load F and the distance L. Does not replace the technical design.



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000036

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



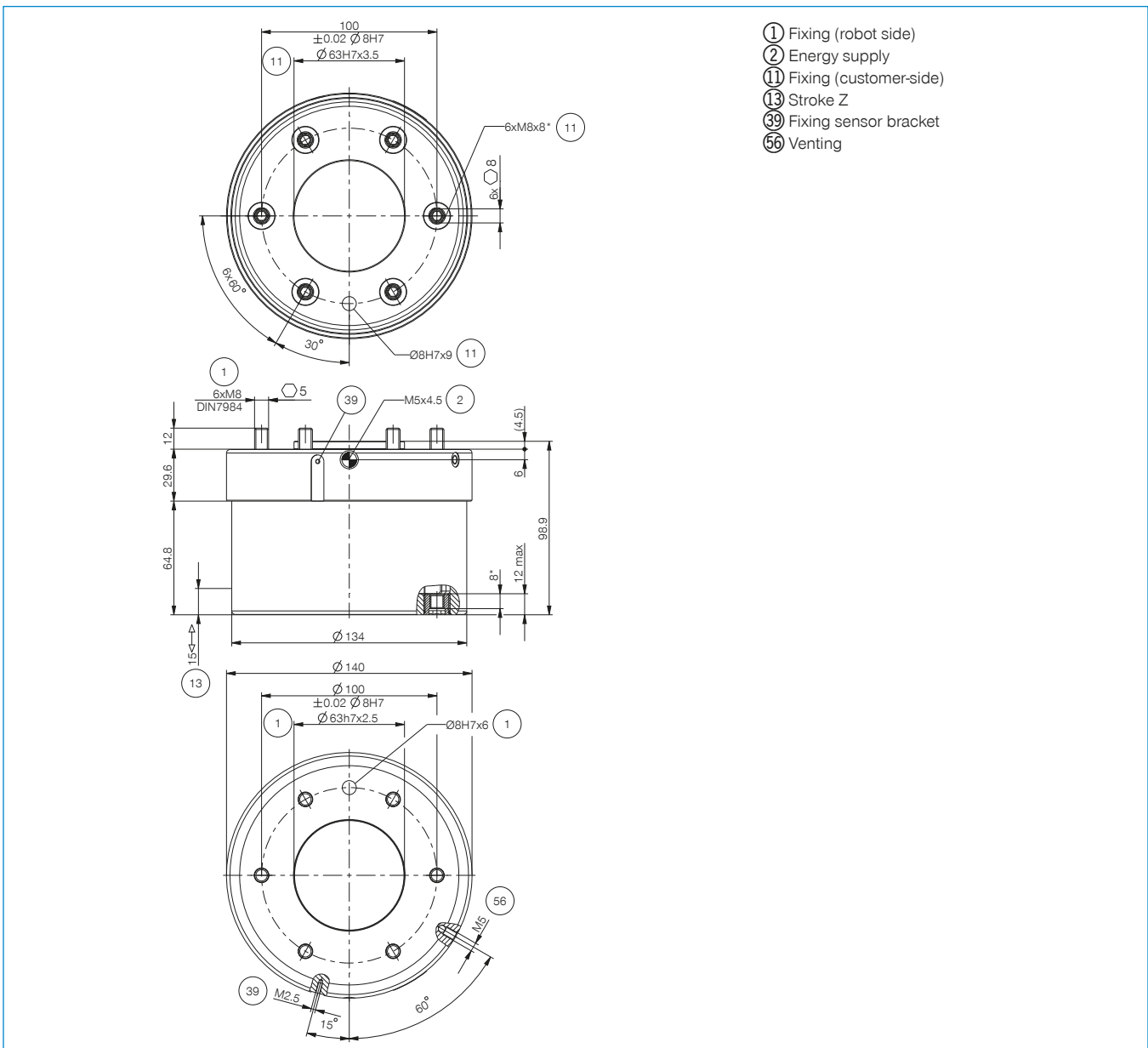
SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector



Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 100
Stroke in Z axis [mm]	15
Holding force [N]	3000
Spring force [N]	75 ... 97
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	230
Mass moment of inertia around Z-axis [kgcm ²]	90
Protection to IEC 60529	IP40
Weight [kg]	3.1



AXIS COMPENSATION MODULES

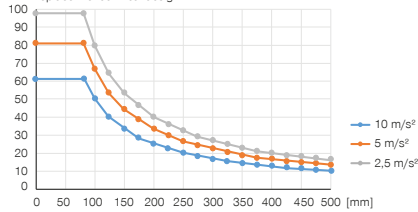
INSTALLATION SIZE ZR1125

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position

Shows the maximum handling weight as a function of acceleration and the center of gravity distance from the center of the bolt-on surface. Does not replace the technical design.



▶ Forces and moments

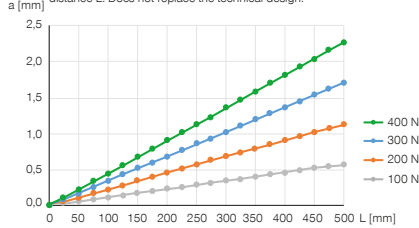
Shows static forces and moments



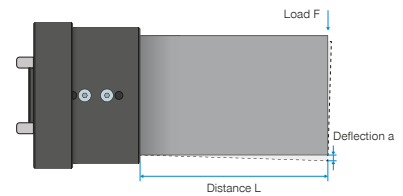
Mr [Nm]	400
My [Nm]	200
Fa [N]	4350

▶ Variable installation position

Shows the maximum deflection a as a function of the load F and the distance L. Does not replace the technical design.



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000036

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

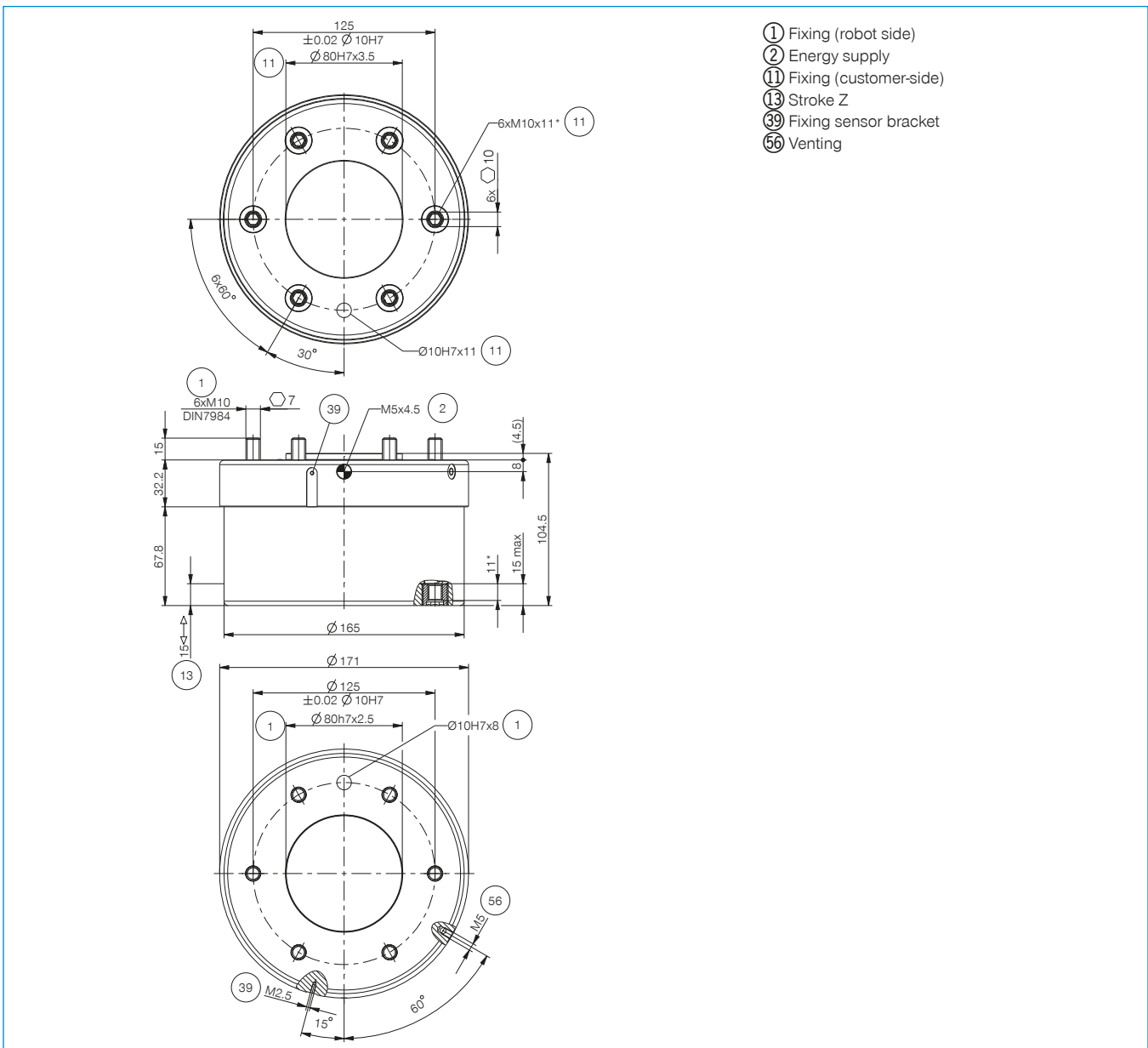


SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 125
Stroke in Z axis [mm]	15
Holding force [N]	4500
Spring force [N]	125 ... 160
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	265
Mass moment of inertia around Z-axis [kgcm ²]	205
Protection to IEC 60529	IP40
Weight [kg]	5.1



AXIS COMPENSATION MODULES

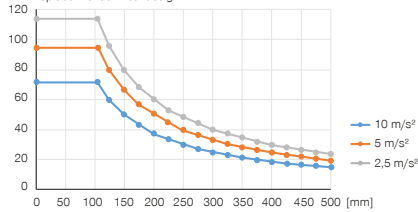
INSTALLATION SIZE ZR1160

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position

Shows the maximum handling weight as a function of acceleration and the center of gravity distance from the center of the bolt-on surface. Does not replace the technical design.



▶ Forces and moments

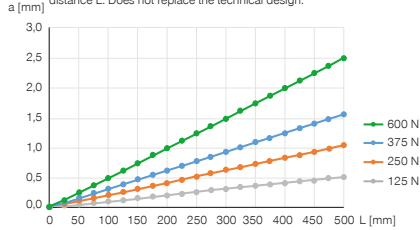
Shows static forces and moments



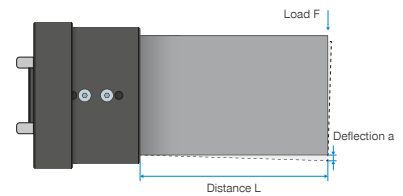
Mr [Nm]	600
My [Nm]	300
Fa [N]	5000

▶ Variable installation position

Shows the maximum deflection a as a function of the load F and the distance L. Does not replace the technical design.



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000036

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



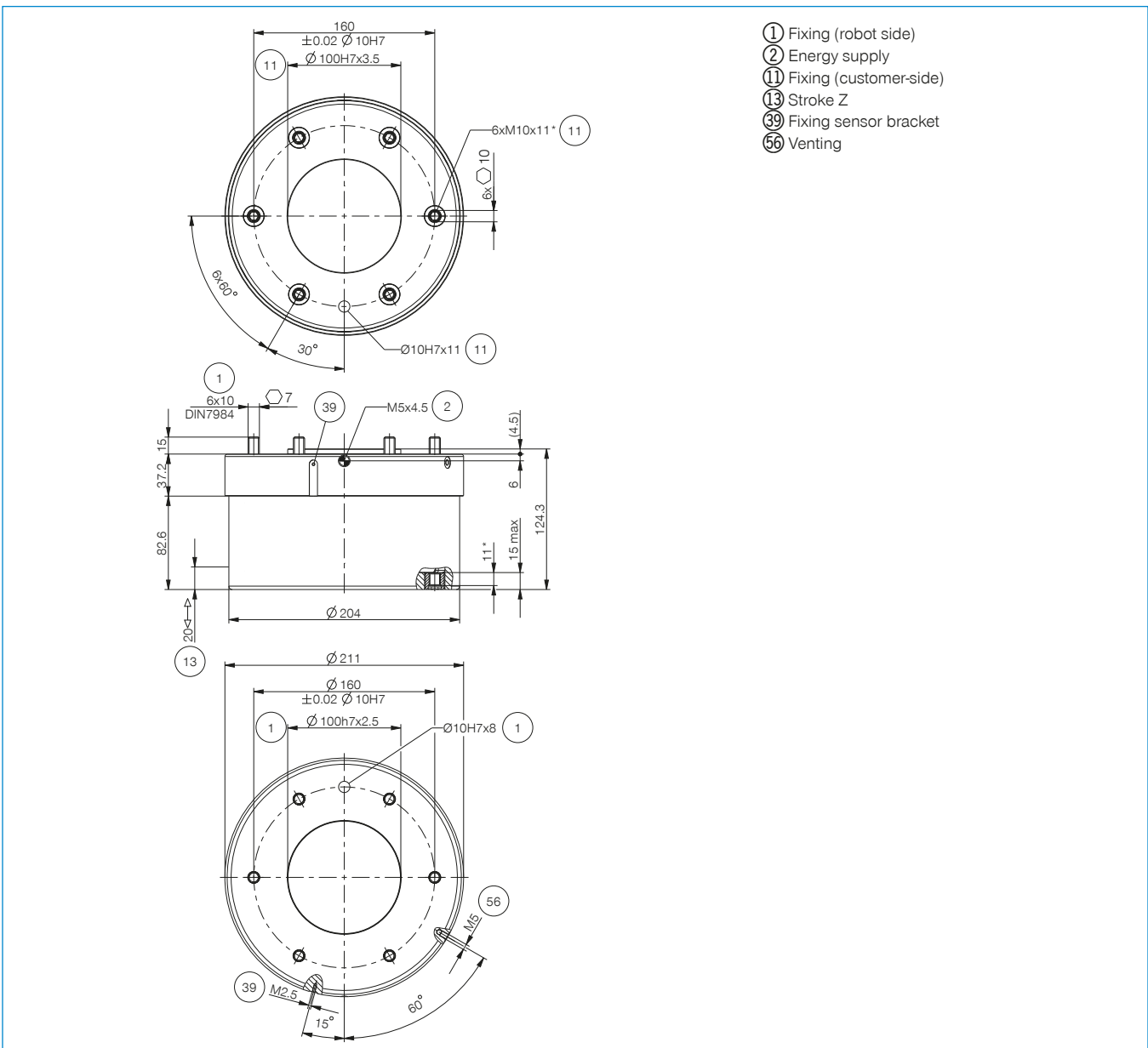
SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector



Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 160
Stroke in Z axis [mm]	20
Holding force [N]	6500
Spring force [N]	150 ... 220
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	620
Mass moment of inertia around Z-axis [kgcm ²]	550
Protection to IEC 60529	IP40
Weight [kg]	8.8



AXIS COMPENSATION MODULES

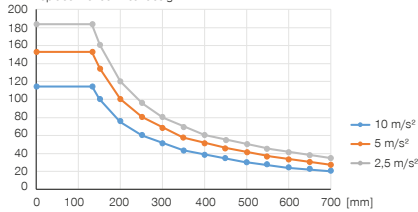
INSTALLATION SIZE ZR1200

▶ PRODUCT SPECIFICATIONS



▶ Variable installation position

Shows the maximum handling weight as a function of acceleration and the center of gravity distance from the center of the bolt-on surface. Does not replace the technical design.



▶ Forces and moments

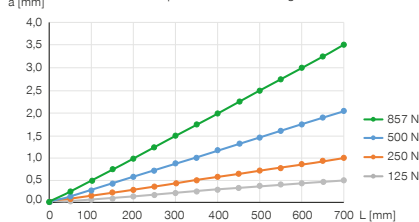
Shows static forces and moments



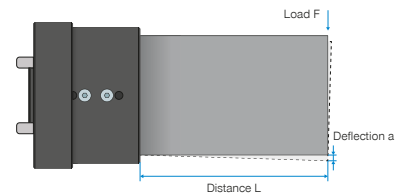
Mr [Nm]	1200
My [Nm]	600
Fa [N]	8000

▶ Variable installation position

Shows the maximum deflection a as a function of the load F and the distance L. Does not replace the technical design.



▶ Deflection



▶ INCLUDED IN DELIVERY



1 [piece]
Sensor holder
ZUB000036

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

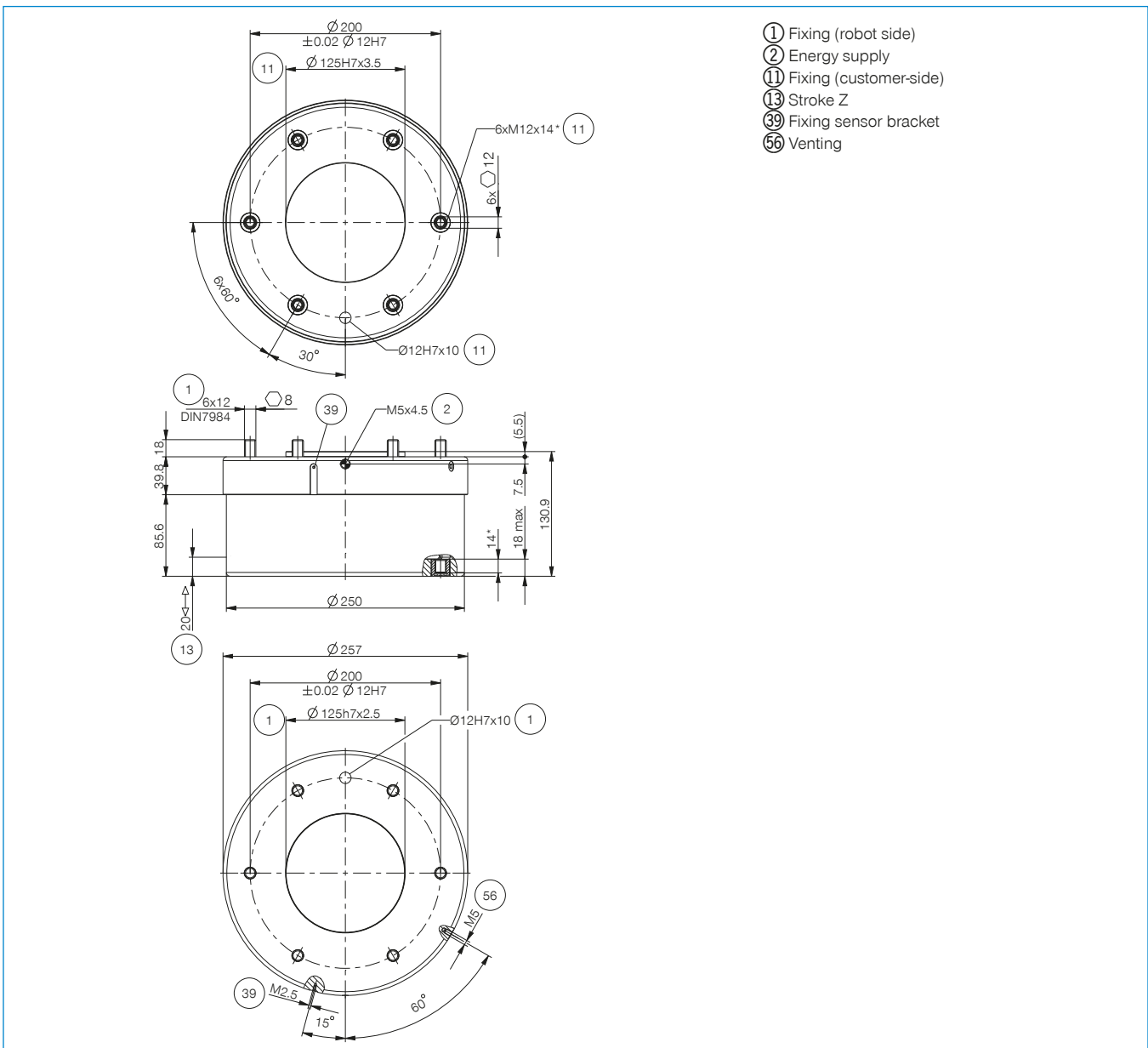


SENSORS



MFS01-S-KHC-P2-PNP
2-point sensor angled, cable 0.3 m - M8 connector

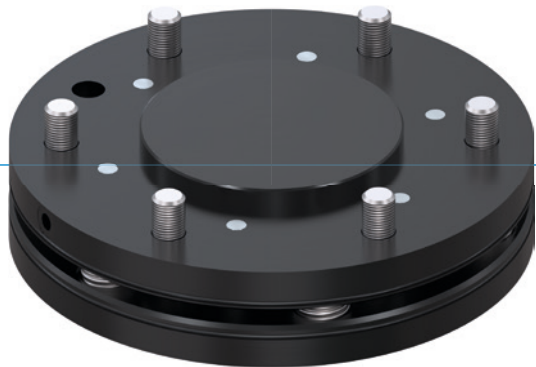
Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 200
Stroke in Z axis [mm]	20
Holding force [N]	11500
Spring force [N]	250 ... 320
Repetition accuracy +/- [mm]	0.01
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	1200
Mass moment of inertia around Z-axis [kgcm ²]	1240
Protection to IEC 60529	IP40
Weight [kg]	13



AXIS COMPENSATION MODULES

SERIES ARP

▶ PRODUCT ADVANTAGES



▶ Lockable centre placement

When moving your robot, you can fix the equalizer in place so that uncontrolled movements of the workpiece do not take place

▶ Extremely flat design

This structure reduces the moment load for your robot to a minimum and makes it possible to use smaller and more affordable sizes

▶ Variable balancing force and moment

Adjust the equaliser to your handling weight by mounting a spring package based on desired rigidity

▶ THE BEST PRODUCT FOR YOUR APPLICATION



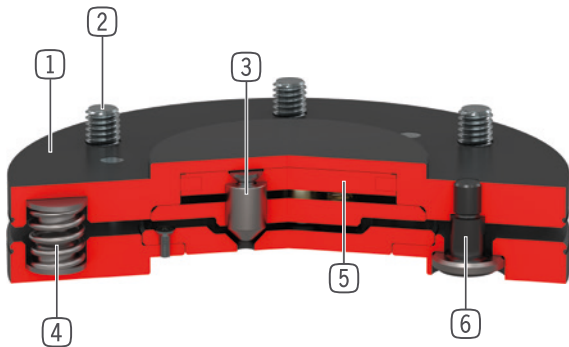
▶ Our products welcome the challenge!

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► BENEFITS IN DETAIL



- ① **Robust, lightweight housing**
 - Hard-coated aluminum alloy
- ② **Robot flange**
 - partial mounting circle in accordance with EN ISO 9409-1
- ③ **Locking**
 - 3 locking pistons
 - nitrated steel
- ④ **Spring package**
 - version size 63, stronger one is available
 - version size 100, 3 springs can be removed
- ⑤ **Locking drive**
 - single-acting pneumatic cylinder
- ⑥ **Guiding bolts with ball cup**

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Deflection horizontal +/-	Deflection vertical +/-
		[mm/°]	[mm/°]
AR40P	TK 40	2 / 1	2 / 1
AR50P	TK 50	2 / 1	2 / 1
AR63P	TK 63	2 / 1	2 / 1
AR80P	TK 80	2 / 1	2 / 1
AR100P	TK 100	2 / 1	2 / 1
AR125P	TK 125	2 / 1	2 / 1
AR160P	TK 160	2 / 1	2 / 1

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

AXIS COMPENSATION MODULES

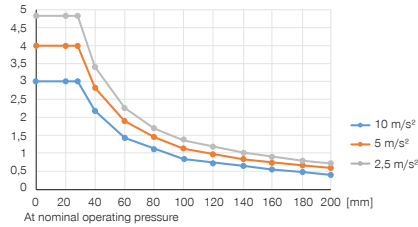
INSTALLATION SIZE AR40P

▶ PRODUCT SPECIFICATIONS



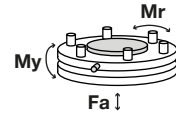
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



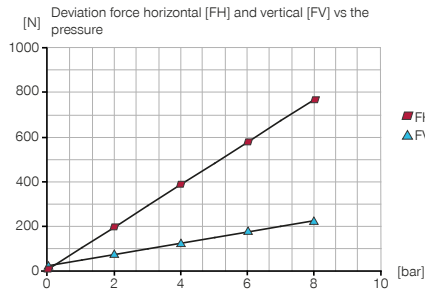
▶ Forces and moments

Shows static forces and moments which may impact on the axis compensation module.

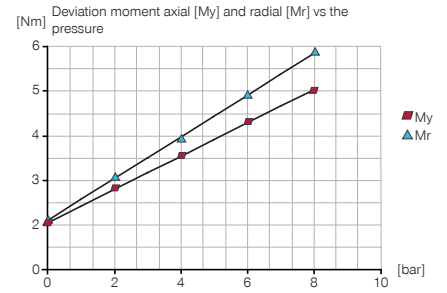


Mr [Nm]	60
My [Nm]	60
Fa [N]	800

▶ Spring Pack 1 (pre-assembled)



▶ Spring Pack 1 (pre-assembled)



▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060129



4 [piece]
Spring Pack 1 (pre-assembled)
CFED11180

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



WVM3
Angled Fittings - Barb Style Connection

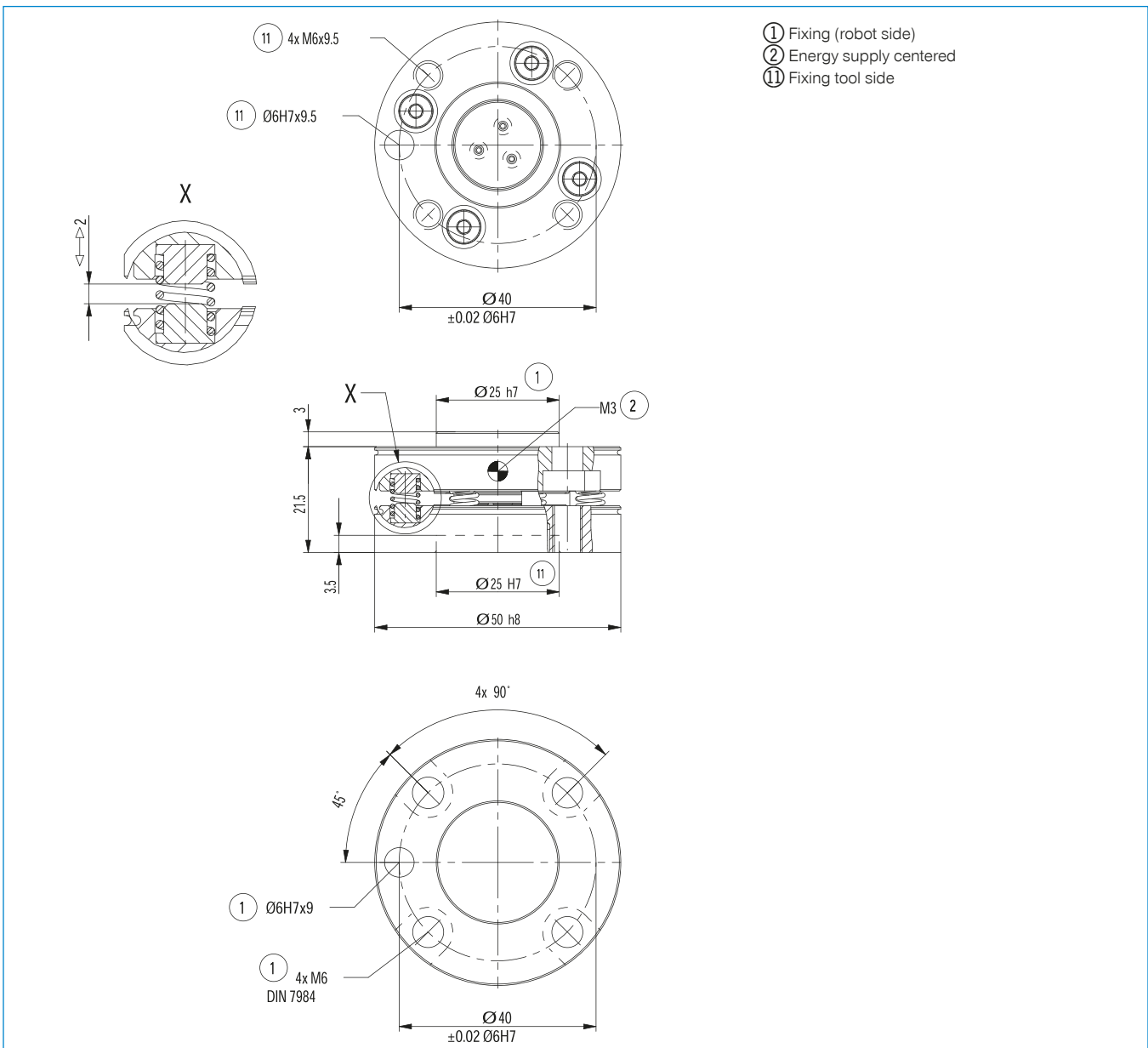


ENERGY SUPPLY



GVM3
Straight Fittings - Barb Style Connection

Order no.	AR40P
Connecting flange according EN ISO 9409-1	TK 40
Installation Height [mm]	21.5
Horizontal deviation +/- [mm]	2
Horizontal deviation +/- [°]	1
Vertical deviation +/- [mm]	2
Vertical deviation +/- [°]	1
Centering force when locking [N]	170
Repetition accuracy Horizontal +/- [mm/°]	0.05
Repetition accuracy Vertical +/- [mm/°]	0.05
Air volume per cycle [cm ³]	2
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm ²]	0.5
Weight [kg]	0.15



AXIS COMPENSATION MODULES

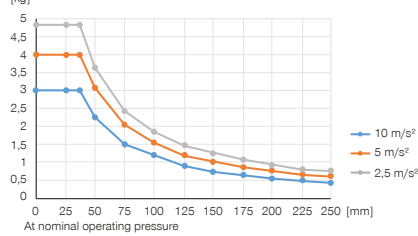
INSTALLATION SIZE AR50P

▶ PRODUCT SPECIFICATIONS



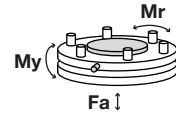
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



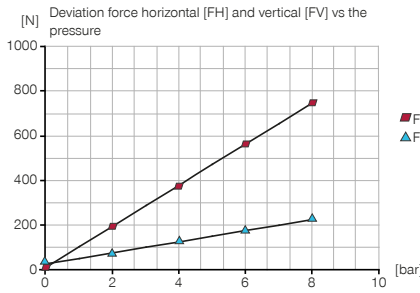
▶ Forces and moments

Shows static forces and moments which may impact on the axis compensation module.

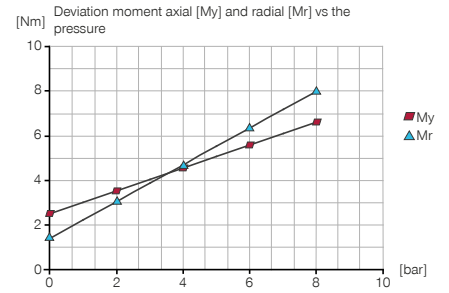


Mr [Nm]	60
My [Nm]	60
Fa [N]	800

▶ Spring Pack 1 (pre-assembled)



▶ Spring Pack 1 (pre-assembled)



▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060129



4 [piece]
Spring Pack 1 (pre-assembled)
CFED11180

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



WVM3
Angled Fittings - Barb Style Connection

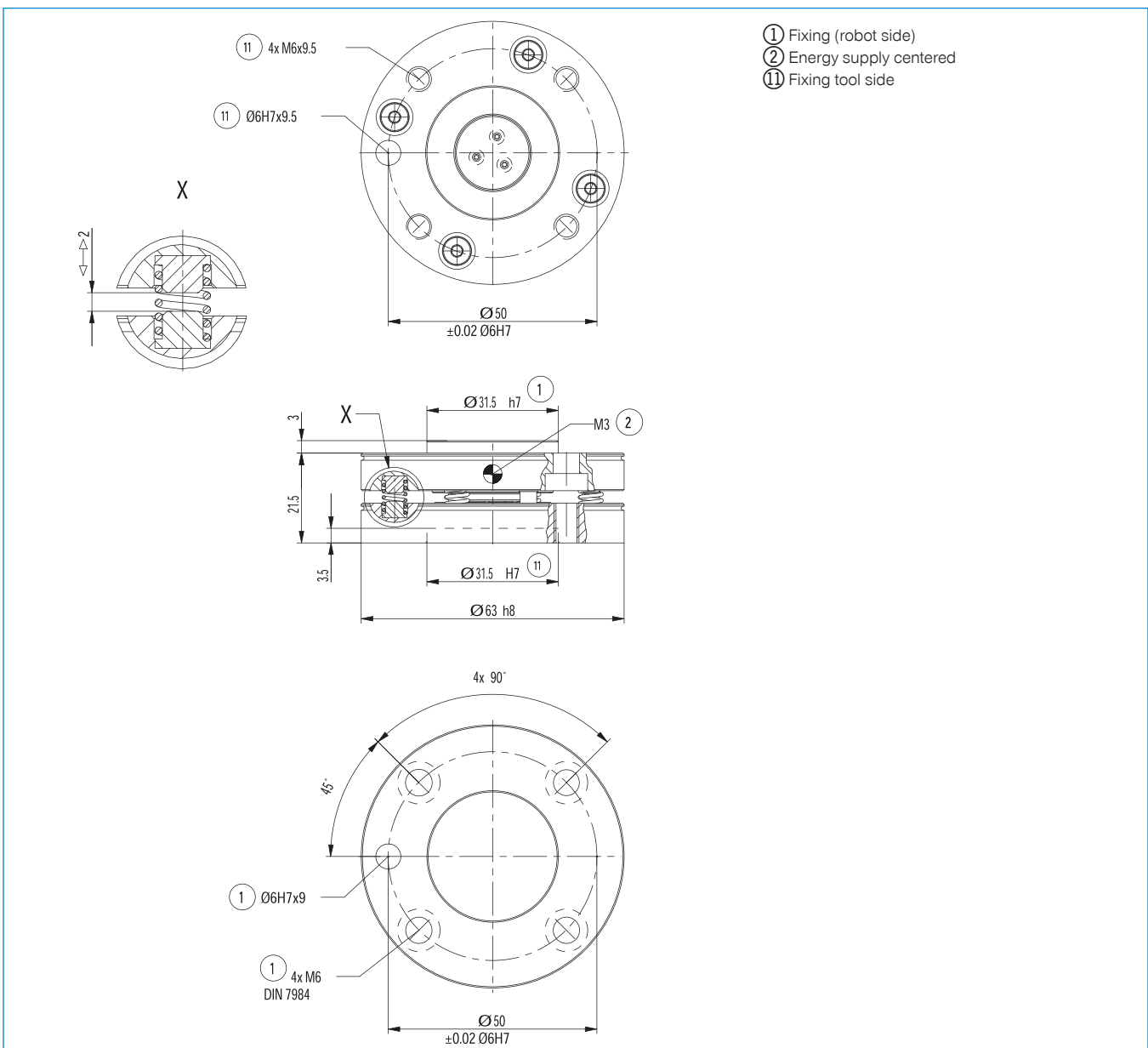


ENERGY SUPPLY



GVM3
Straight Fittings - Barb Style Connection

Order no.	Technical data
	AR50P
Connecting flange according EN ISO 9409-1	TK 50
Installation Height [mm]	21.5
Horizontal deviation +/- [mm]	2
Horizontal deviation +/- [°]	1
Vertical deviation +/- [mm]	2
Vertical deviation +/- [°]	1
Centering force when locking [N]	170
Repetition accuracy Horizontal +/- [mm/°]	0.05
Repetition accuracy Vertical +/- [mm/°]	0.05
Air volume per cycle [cm ³]	2
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm ²]	1.1
Weight [kg]	0.22



AXIS COMPENSATION MODULES

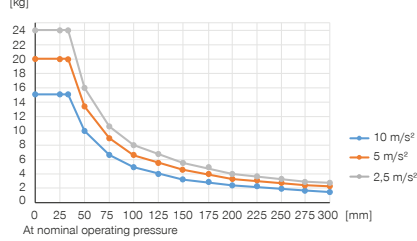
INSTALLATION SIZE AR63P

▶ PRODUCT SPECIFICATIONS



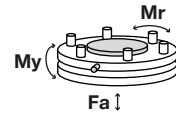
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

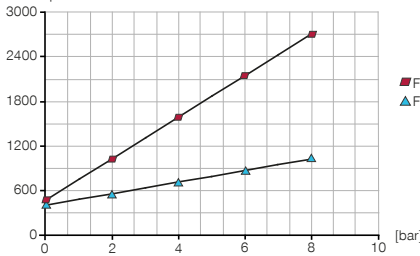
Shows static forces and moments which may impact on the axis compensation module.



Mr [Nm]	300
My [Nm]	300
Fa [N]	1500

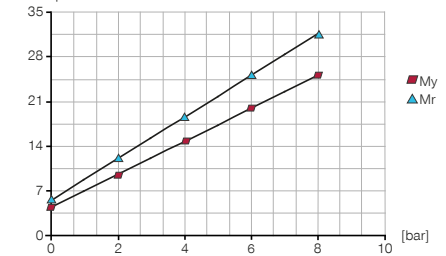
▶ Spring Pack 1 (pre-assembled)

Deviation force horizontal [FH] and vertical [FV] vs the pressure



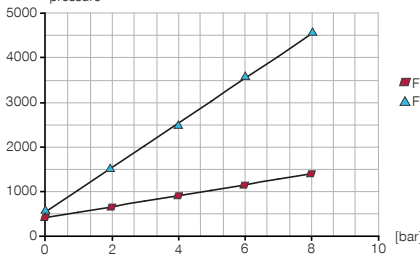
▶ Spring Pack 1 (pre-assembled)

Deviation moment axial [My] and radial [Mr] vs the pressure



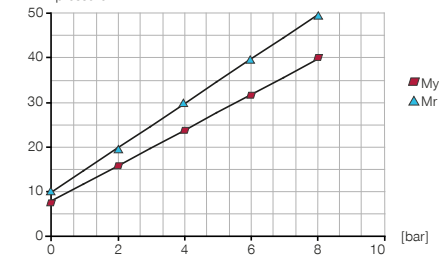
▶ Spring Pack 2

Deviation force horizontal [FH] and vertical [FV] vs the pressure




▶ Spring Pack 2


Deviation moment axial [My] and radial [Mr] vs the pressure




▶ INCLUDED IN DELIVERY



4 [piece]
Cylinder Screw
C7984060149



4 [piece]
Spring Pack 1 (pre-assembled)
CFED63000



4 [piece]
Spring Pack 2
CFED63010

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



ENERGY SUPPLY

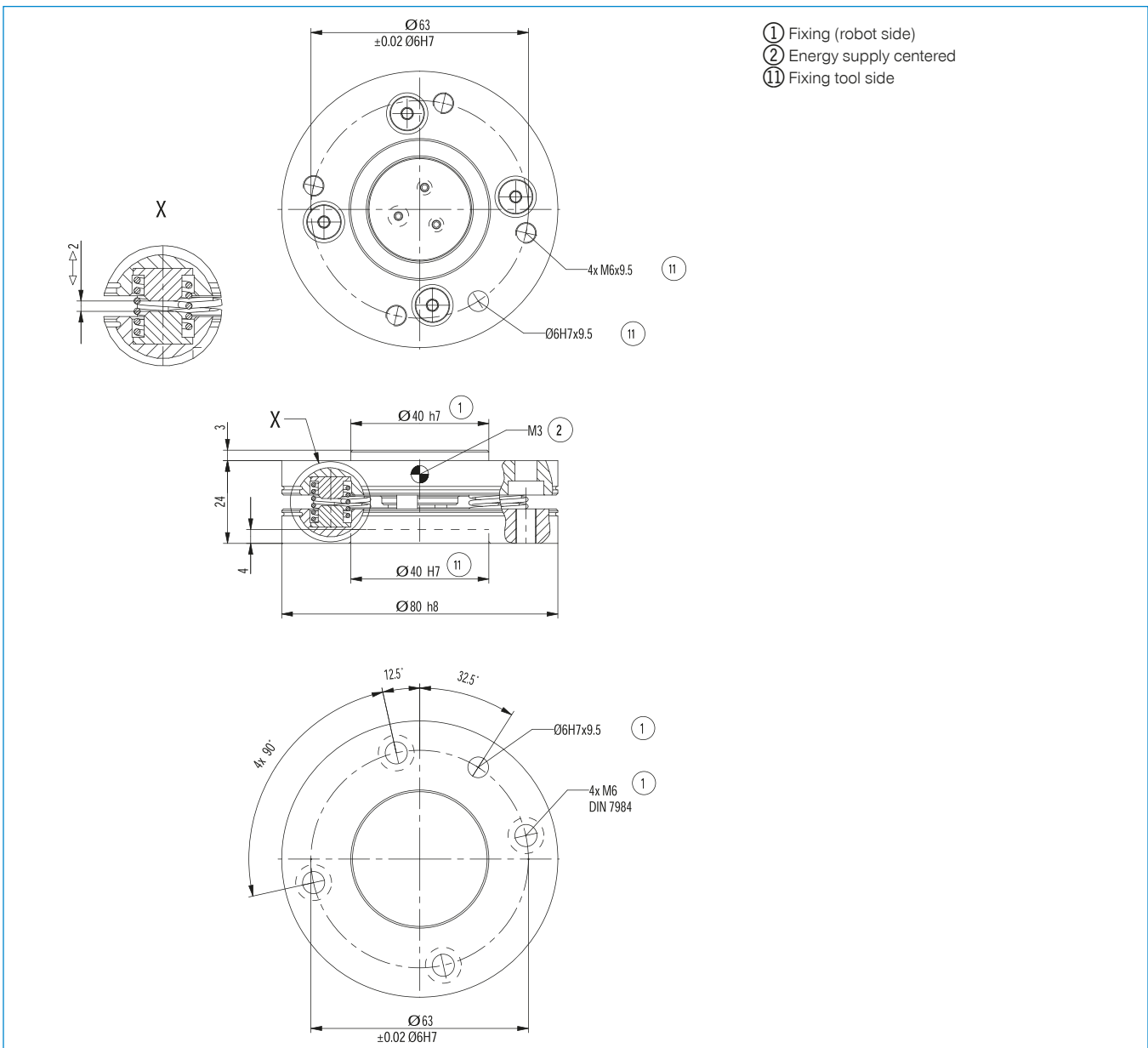


WVM3
Angled Fittings - Barb Style Connection



GVM3
Straight Fittings - Barb Style Connection

Order no.	Technical data
	AR63P
Connecting flange according EN ISO 9409-1	TK 63
Installation Height [mm]	24
Horizontal deviation +/- [mm]	2
Horizontal deviation +/- [°]	1
Vertical deviation +/- [mm]	2
Vertical deviation +/- [°]	1
Centering force when locking [N]	600
Repetition accuracy Horizontal +/- [mm/°]	0.05
Repetition accuracy Vertical +/- [mm/°]	0.05
Air volume per cycle [cm³]	3.6
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm²]	2.8
Weight [kg]	0.36



AXIS COMPENSATION MODULES

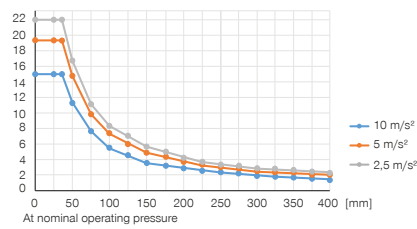
INSTALLATION SIZE AR80P

PRODUCT SPECIFICATIONS



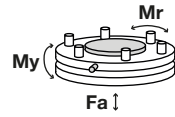
Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



Forces and moments

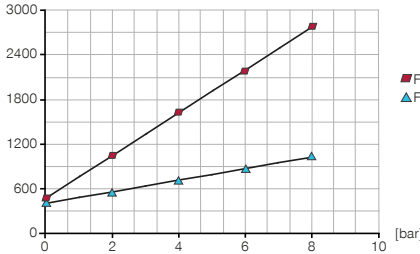
Shows static forces and moments which may impact on the axis compensation module.



Mr [Nm]	300
My [Nm]	300
Fa [N]	1500

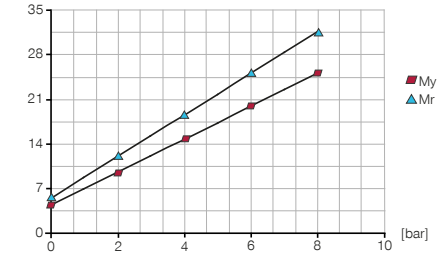
Spring Pack 1 (pre-assembled)

Deviation force horizontal [FH] and vertical [FV] vs the pressure



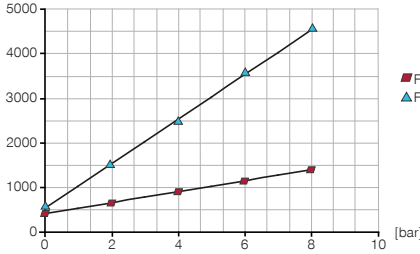
Spring Pack 1 (pre-assembled)

Deviation moment axial [My] and radial [Mr] vs the pressure



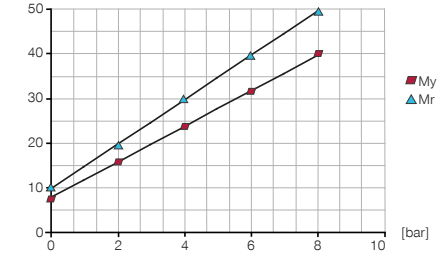
Spring Pack 2

Deviation force horizontal [FH] and vertical [FV] vs the pressure



Spring Pack 2

Deviation moment axial [My] and radial [Mr] vs the pressure



INCLUDED IN DELIVERY

6 [piece]
Cylinder Screw
C7984080169

6 [piece]
Spring Pack 1 (pre-assembled)
CFED63000

6 [piece]
Spring Pack 2
CFED63010

RECOMMENDED ACCESSORIES

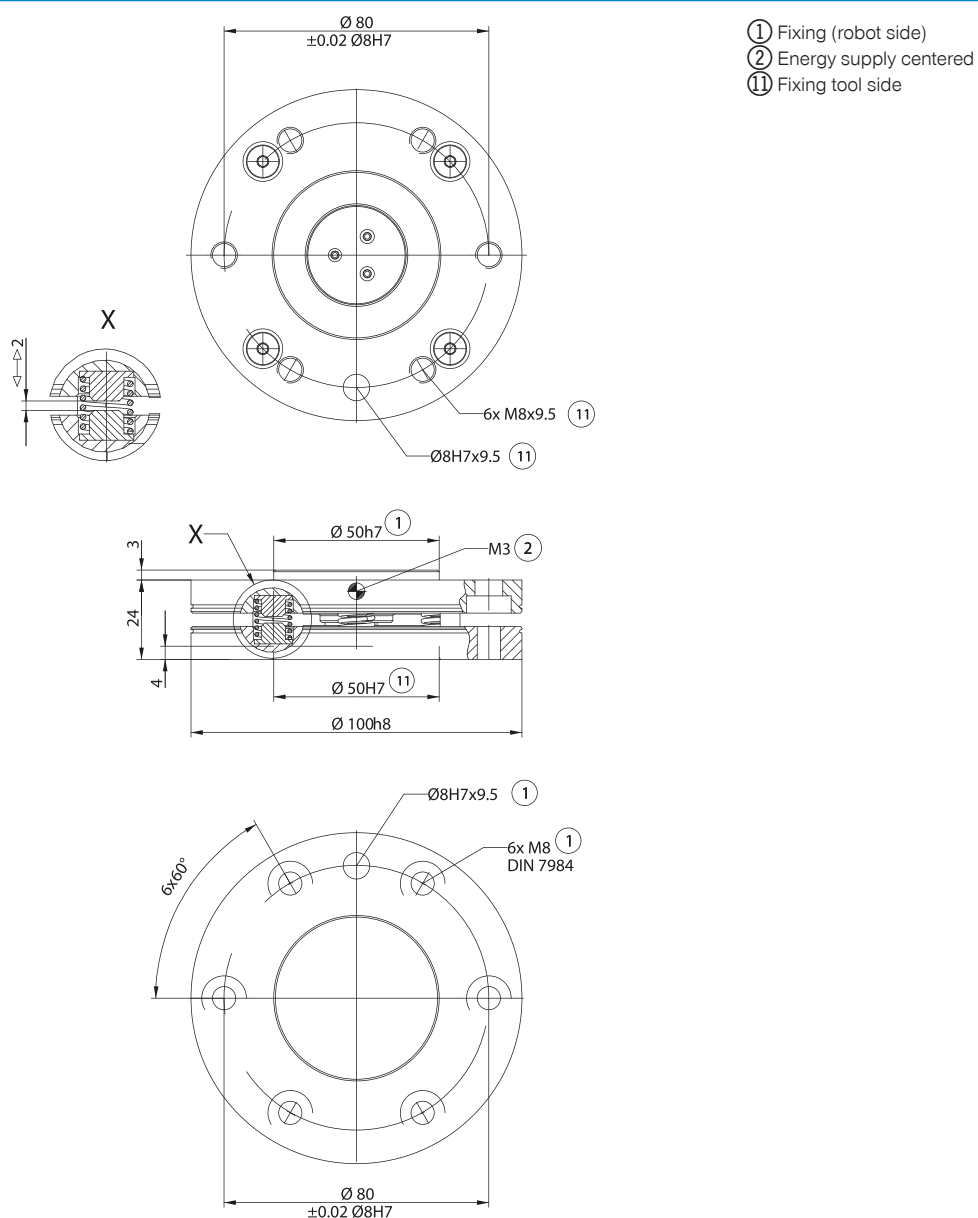
ENERGY SUPPLY

ENERGY SUPPLY

WVM3
Angled Fittings - Barb Style Connection

GVM3
Straight Fittings - Barb Style Connection

Order no.	Technical data
	AR80P
Connecting flange according EN ISO 9409-1	TK 80
Installation Height [mm]	24
Horizontal deviation +/- [mm]	2
Horizontal deviation +/- [°]	1
Vertical deviation +/- [mm]	2
Vertical deviation +/- [°]	1
Centering force when locking [N]	600
Repetition accuracy Horizontal +/- [mm/°]	0.05
Repetition accuracy Vertical +/- [mm/°]	0.05
Air volume per cycle [cm ³]	3.6
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm ²]	6.2
Weight [kg]	0.5



AXIS COMPENSATION MODULES

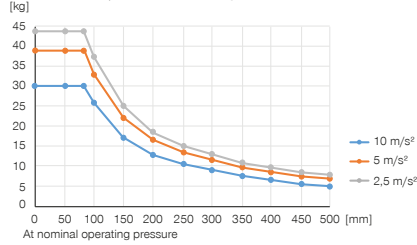
INSTALLATION SIZE AR100P

▶ PRODUCT SPECIFICATIONS



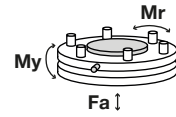
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



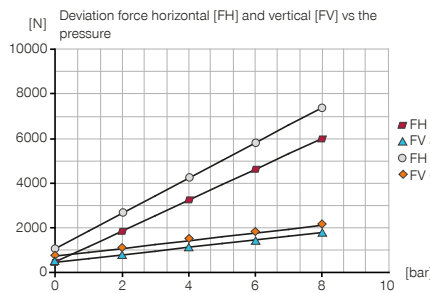
▶ Forces and moments

Shows static forces and moments which may impact on the axis compensation module.

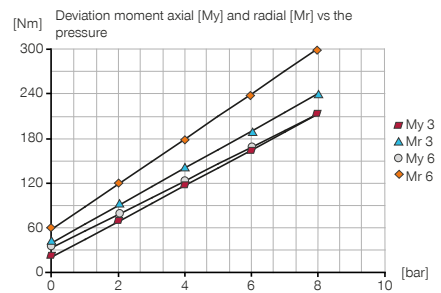


Mr [Nm]	500
My [Nm]	500
Fa [N]	2100

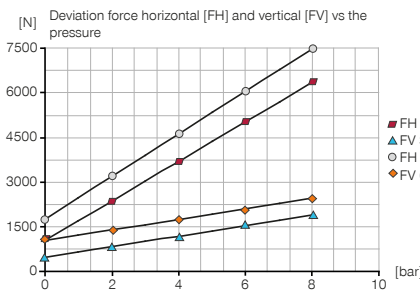
▶ Spring Pack 1 (pre-assembled)



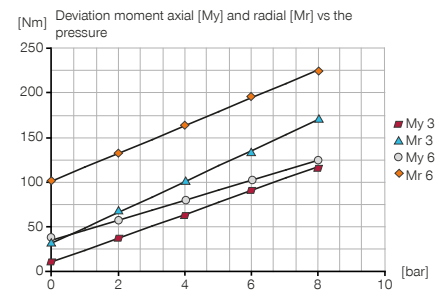
▶ Spring Pack 1 (pre-assembled)




▶ Spring Pack 2




▶ Spring Pack 2




▶ INCLUDED IN DELIVERY



6 [piece]
Cylinder Screw
C7984080169



6 [piece]
Spring Pack 1 (pre-assembled)
CFED10050



6 [piece]
Spring Pack 2
CFED10060

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



ENERGY SUPPLY

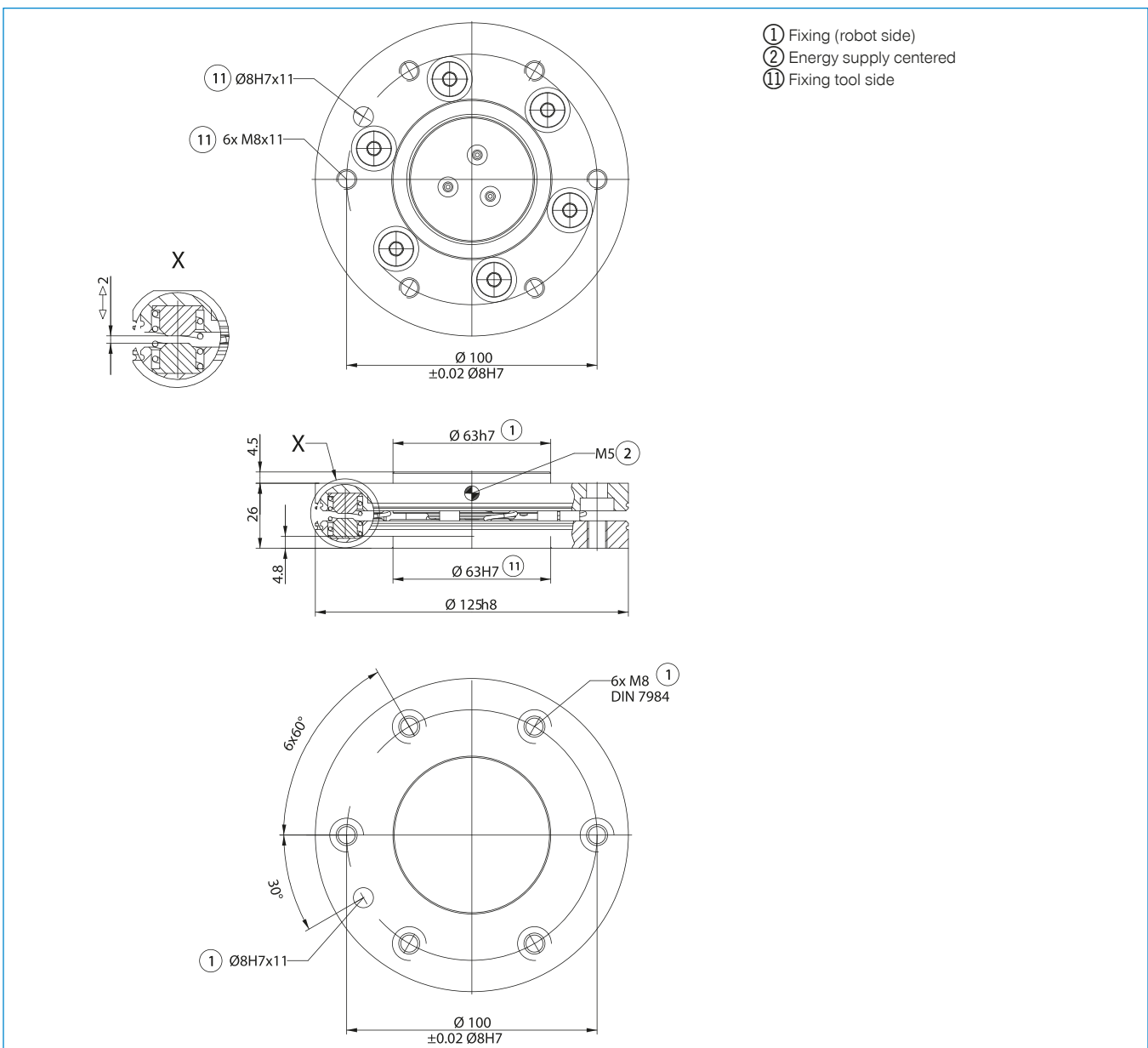


GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style

Order no.	Technical data
	AR100P
Connecting flange according EN ISO 9409-1	TK 100
Installation Height [mm]	26
Horizontal deviation +/- [mm]	2
Horizontal deviation +/- [°]	1
Vertical deviation +/- [mm]	2
Vertical deviation +/- [°]	1
Centering force when locking [N]	1400
Repetition accuracy Horizontal +/- [mm/°]	0.05
Repetition accuracy Vertical +/- [mm/°]	0.05
Air volume per cycle [cm ³]	8.5
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm ²]	17
Weight [kg]	0.85



AXIS COMPENSATION MODULES

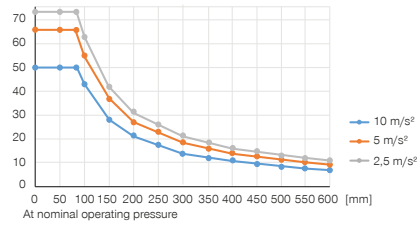
INSTALLATION SIZE AR125P

▶ PRODUCT SPECIFICATIONS



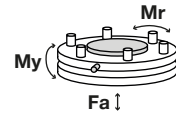
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

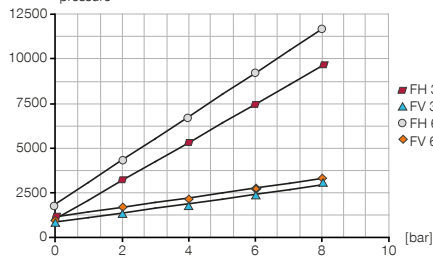
Shows static forces and moments which may impact on the axis compensation module.



Mr [Nm]	900
My [Nm]	900
Fa [N]	7000

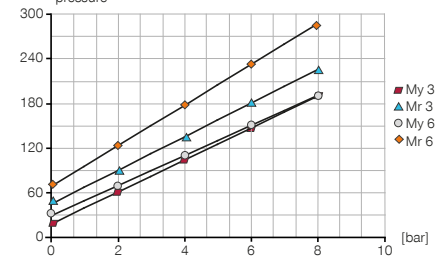
▶ Spring Pack 1 (pre-assembled)

Deviation force horizontal [FH] and vertical [FV] vs the pressure



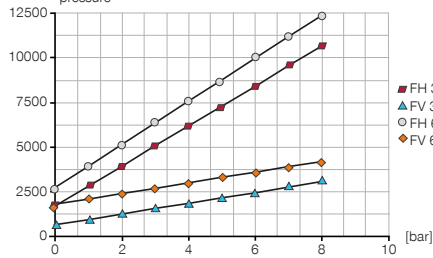
▶ Spring Pack 1 (pre-assembled)

Deviation moment axial [My] and radial [Mr] vs the pressure



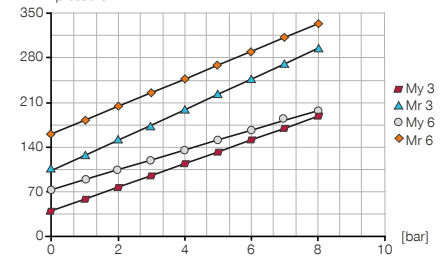
▶ Spring Pack 2

Deviation force horizontal [FH] and vertical [FV] vs the pressure




▶ Spring Pack 2


Deviation moment axial [My] and radial [Mr] vs the pressure




▶ INCLUDED IN DELIVERY



6 [piece]
Cylinder Screw
C7984080169



6 [piece]
Spring Pack 1 (pre-assembled)
CFED12500



6 [piece]
Spring Pack 2
CFED12510

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



ENERGY SUPPLY

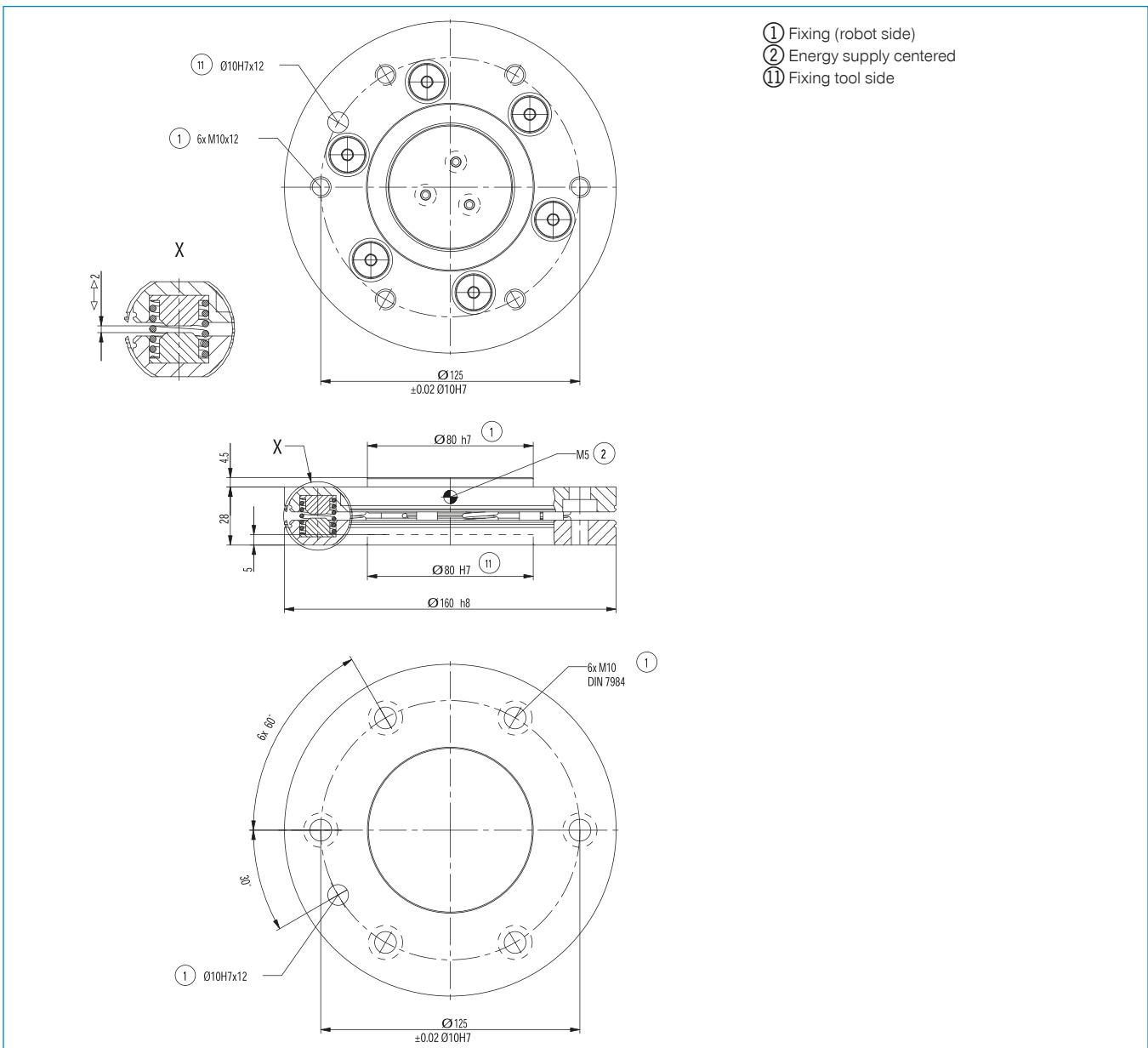


GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 125
Installation Height [mm]	28
Horizontal deviation +/- [mm]	2
Horizontal deviation +/- [°]	1
Vertical deviation +/- [mm]	2
Vertical deviation +/- [°]	1
Centering force when locking [N]	3000
Repetition accuracy Horizontal +/- [mm/°]	0.05
Repetition accuracy Vertical +/- [mm/°]	0.05
Air volume per cycle [cm³]	14
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm²]	61
Weight [kg]	1.9



AXIS COMPENSATION MODULES

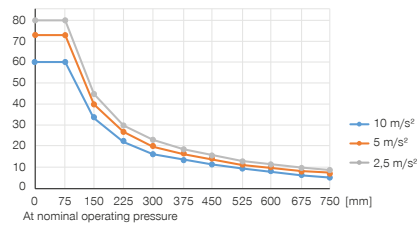
INSTALLATION SIZE AR160P

▶ PRODUCT SPECIFICATIONS



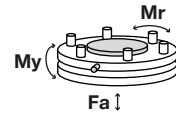
▶ Variable installation position

Shows the maximum handling weight depending on acceleration and lever arm. Does not replace the technical design.



▶ Forces and moments

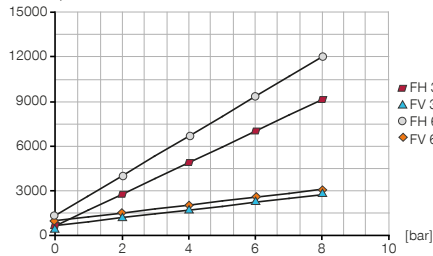
Shows static forces and moments which may impact on the axis compensation module.



Mr [Nm]	900
My [Nm]	900
Fa [N]	7000

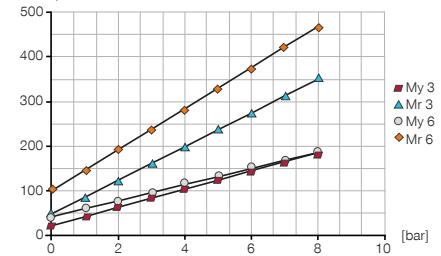
▶ Spring Pack 1 (pre-assembled)

Deviation force horizontal [FH] and vertical [FV] vs the pressure



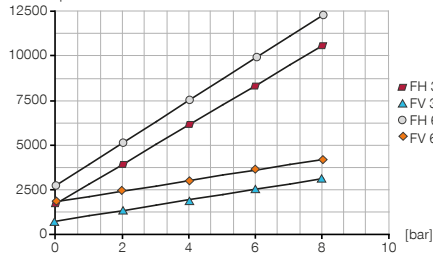
▶ Spring Pack 1 (pre-assembled)

Deviation moment axial [My] and radial [Mr] vs the pressure



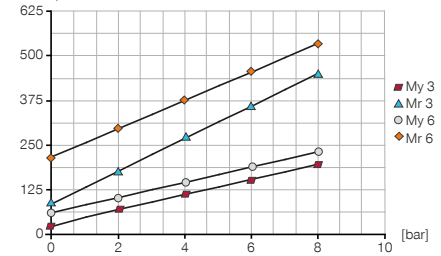
▶ Spring Pack 2

Deviation force horizontal [FH] and vertical [FV] vs the pressure




▶ Spring Pack 2


Deviation moment axial [My] and radial [Mr] vs the pressure




▶ INCLUDED IN DELIVERY



6 [piece]
Cylinder Screw
C7984100209



6 [piece]
Spring Pack 1 (pre-assembled)
CFED12500



6 [piece]
Spring Pack 2
CFED12510

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



ENERGY SUPPLY

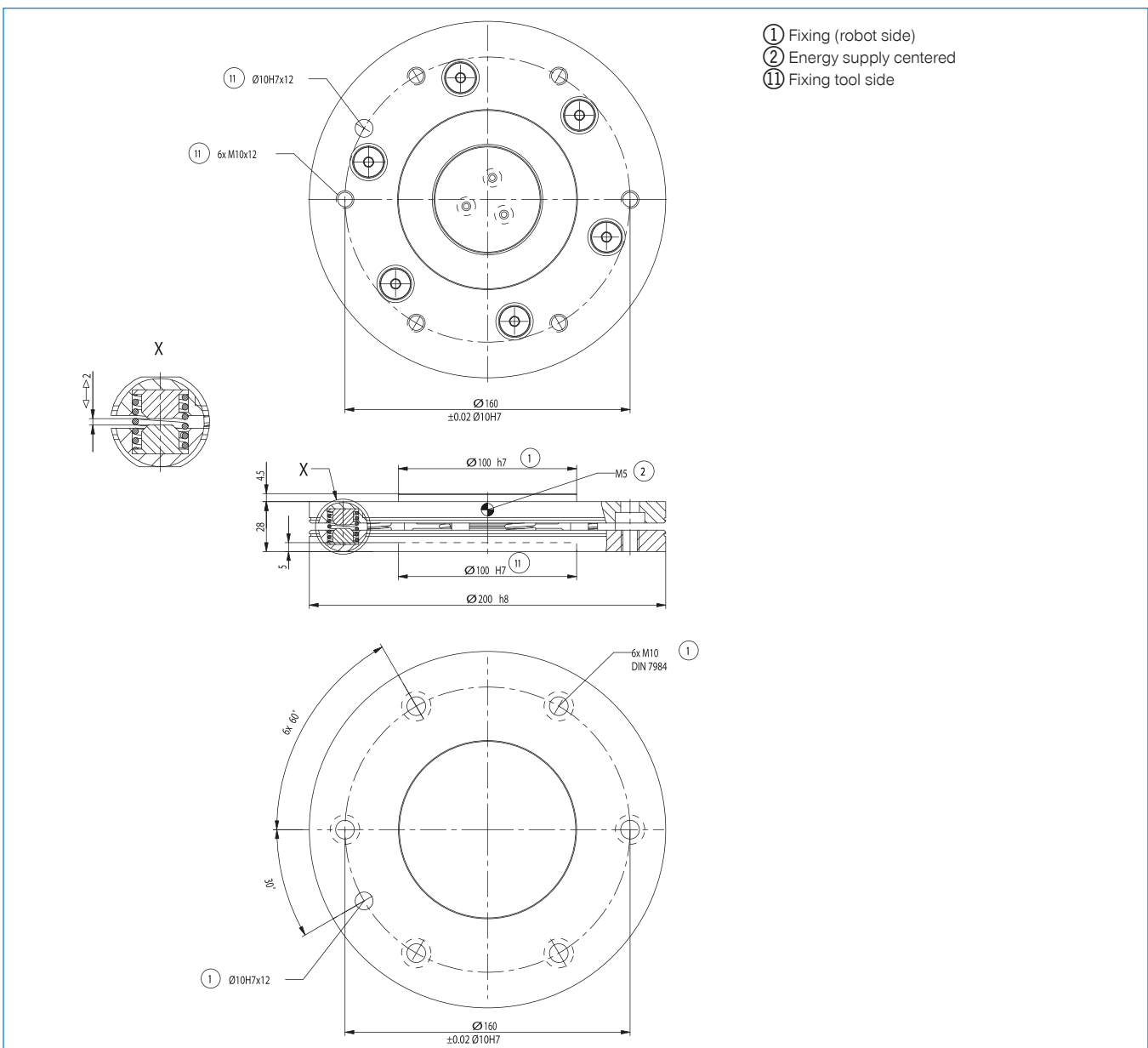


GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style

Order no.	Technical data
	AR160P
Connecting flange according EN ISO 9409-1	TK 160
Installation Height [mm]	28
Horizontal deviation +/- [mm]	2
Horizontal deviation +/- [°]	1
Vertical deviation +/- [mm]	2
Vertical deviation +/- [°]	1
Centering force when locking [N]	3000
Repetition accuracy Horizontal +/- [mm/°]	0.05
Repetition accuracy Vertical +/- [mm/°]	0.05
Air volume per cycle [cm³]	14
Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Moment of inertia [kgcm²]	115
Weight [kg]	5.6





CRASH PROTECTION

OVERVIEW OF SERIES



7

CRASH PROTECTION

154 - 177



Series CSR

156



Series CRR

170

CRASH PROTECTION SERIES CSR

▶ PRODUCT ADVANTAGES



▶ Adjustable triggering sensitivity

By controlling the air pressure, you can optimally match the sensitivity to your application.

▶ Integrated sensors

If there is a collision, the integrated sensor gives a signal to the control system to trigger an emergency stop.

▶ Manual reset

To ensure that the machine and the reason for the emergency stop are examined, the manual reset is suitable.

▶ THE BEST PRODUCT FOR YOUR APPLICATION



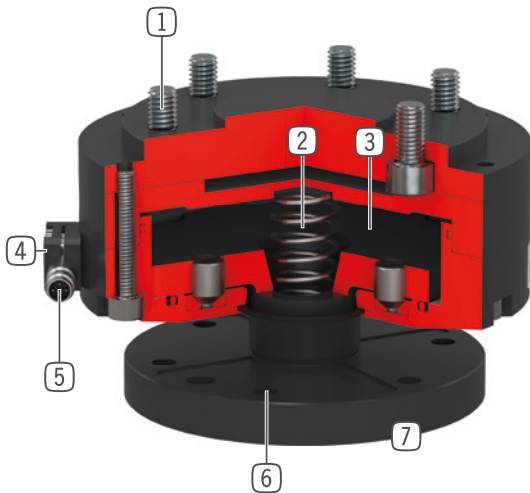
▶ Our products welcome the challenge!

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► BENEFITS IN DETAIL



- ① **Robot connecting flange**
 - partial mounting circle in accordance with EN ISO 9409-1
- ② **Drive**
 - single-acting pneumatic cylinder
 - response sensitivity adjustable via operating pressure
 - with integrated spring
- ③ **Force transfer**
 - direct and low-loss at piston surface
- ④ **Pressure differential switch**
 - indirect overload recognition
- ⑤ **Sensors**
 - inductive proximity switch generates a signal which can be used to recognise an overload situation
 - generates an automatic emergency off system situation
 - included in the delivery inductive proximity switch Ø 8 mm with cable connection M8x1
- ⑥ **Connecting flange**
- ⑦ **Overload recognition and compensation**
 - in Z-direction up to 28 mm stroke
 - angular deflection up to 12.5°
 - on rotation around the Z-axis 360°

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Z-axis deviation	Horizontal deviation +/-
		[mm]	[°]
CSR50	TK 50	12.5	12.5
CSR63	TK 63	10.5	12.5
CSR80	TK 80	14	9
CSR100	TK 100	18	9
CSR125	TK 125	23	9
CSR160	TK 160	28	9

► FURTHER INFORMATION IS AVAILABLE ONLINE

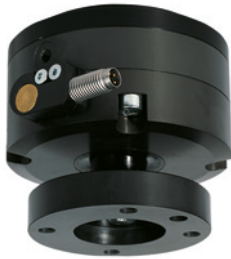


All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

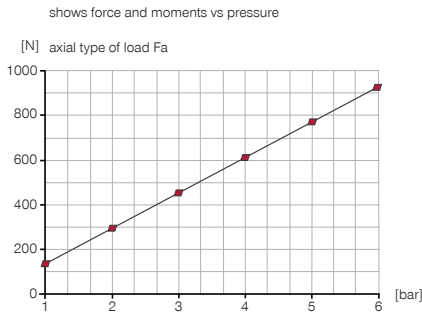
CRASH PROTECTION

INSTALLATION SIZE CSR50

▶ PRODUCT SPECIFICATIONS

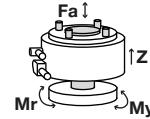


▶ Air pressurization

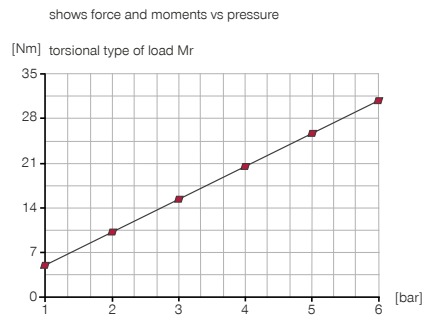


▶ Forces and moments

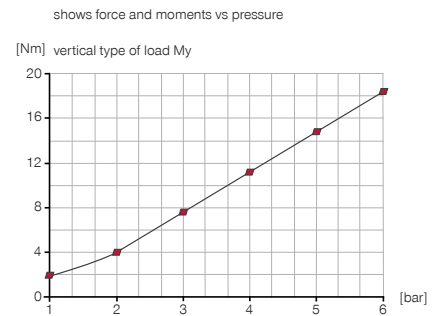
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Inductive proximity switch - Connector M8
NJ8-E2S-05



4 [piece]
Cylinder Screw
C0912060169

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER

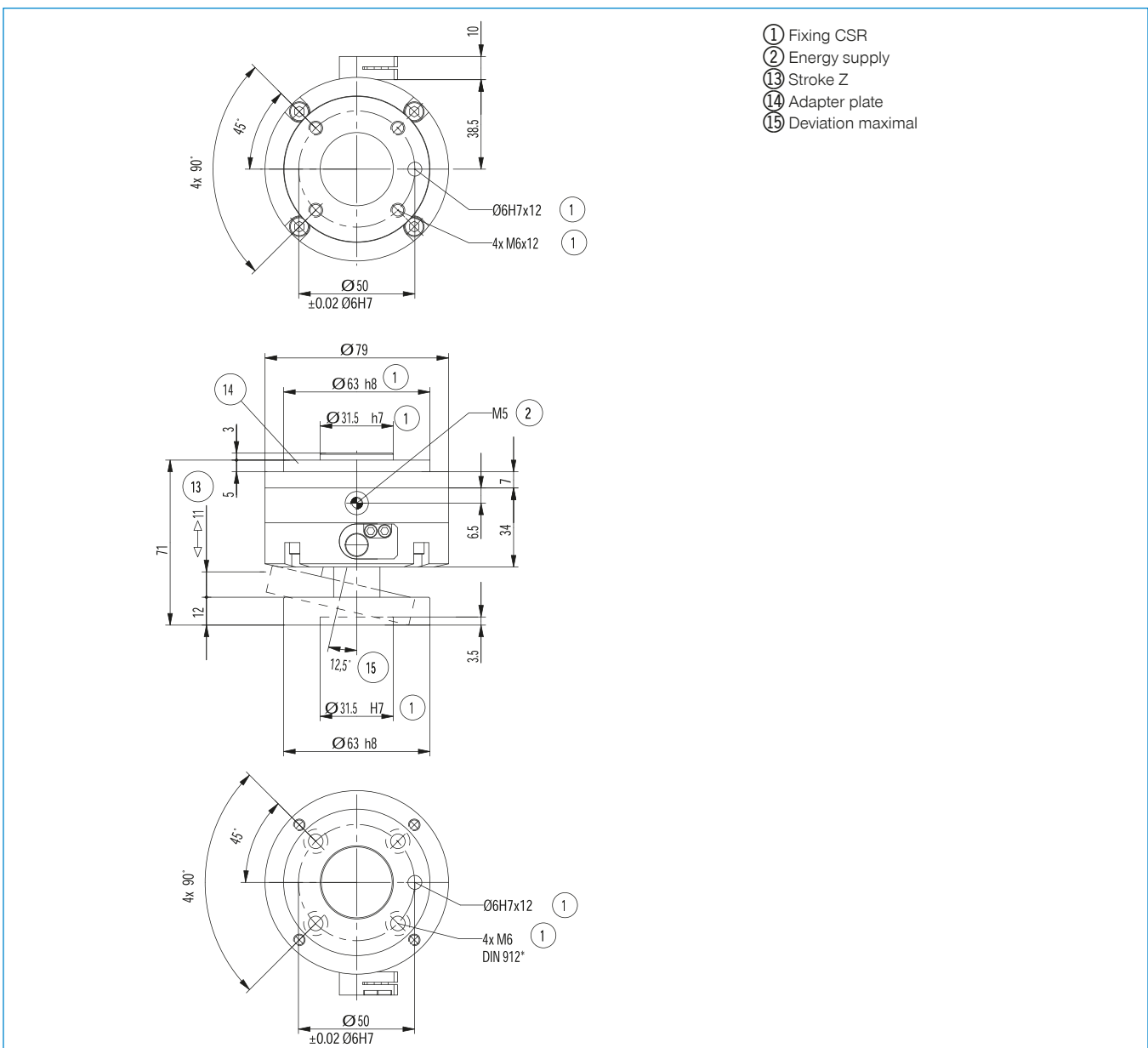


KAG500
Plug-in connector Straight Cable 5m - Socket M8
(female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8
(female)

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 50
Installation Height [mm]	71
Z-axis deviation [mm]	12.5
Repetition accuracy axial +/- [mm]	0.05
Horizontal deviation +/- [°]	12.5
Repetition accuracy radial +/- [mm]	0.05
Operating pressure [bar]	1 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	0.7



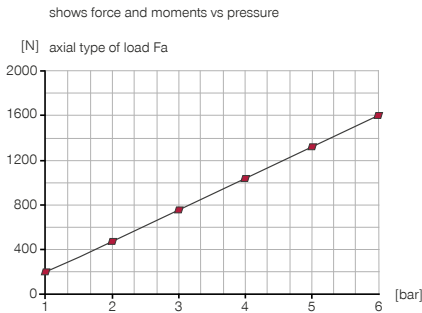
CRASH PROTECTION

INSTALLATION SIZE CSR63

▶ PRODUCT SPECIFICATIONS

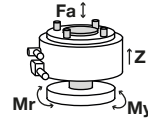


▶ Air pressurization

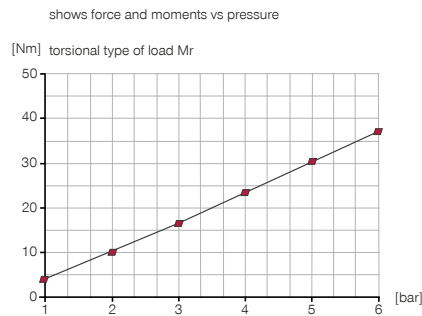


▶ Forces and moments

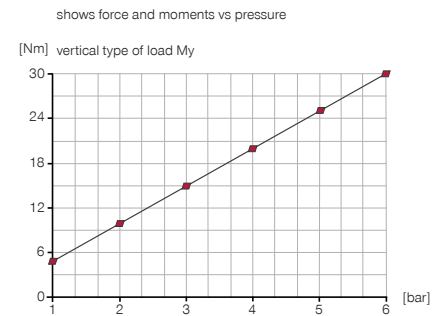
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Inductive proximity switch - Connector M8
NJ8-E2S-05



4 [piece]
Cylinder Screw
C0912060169

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER

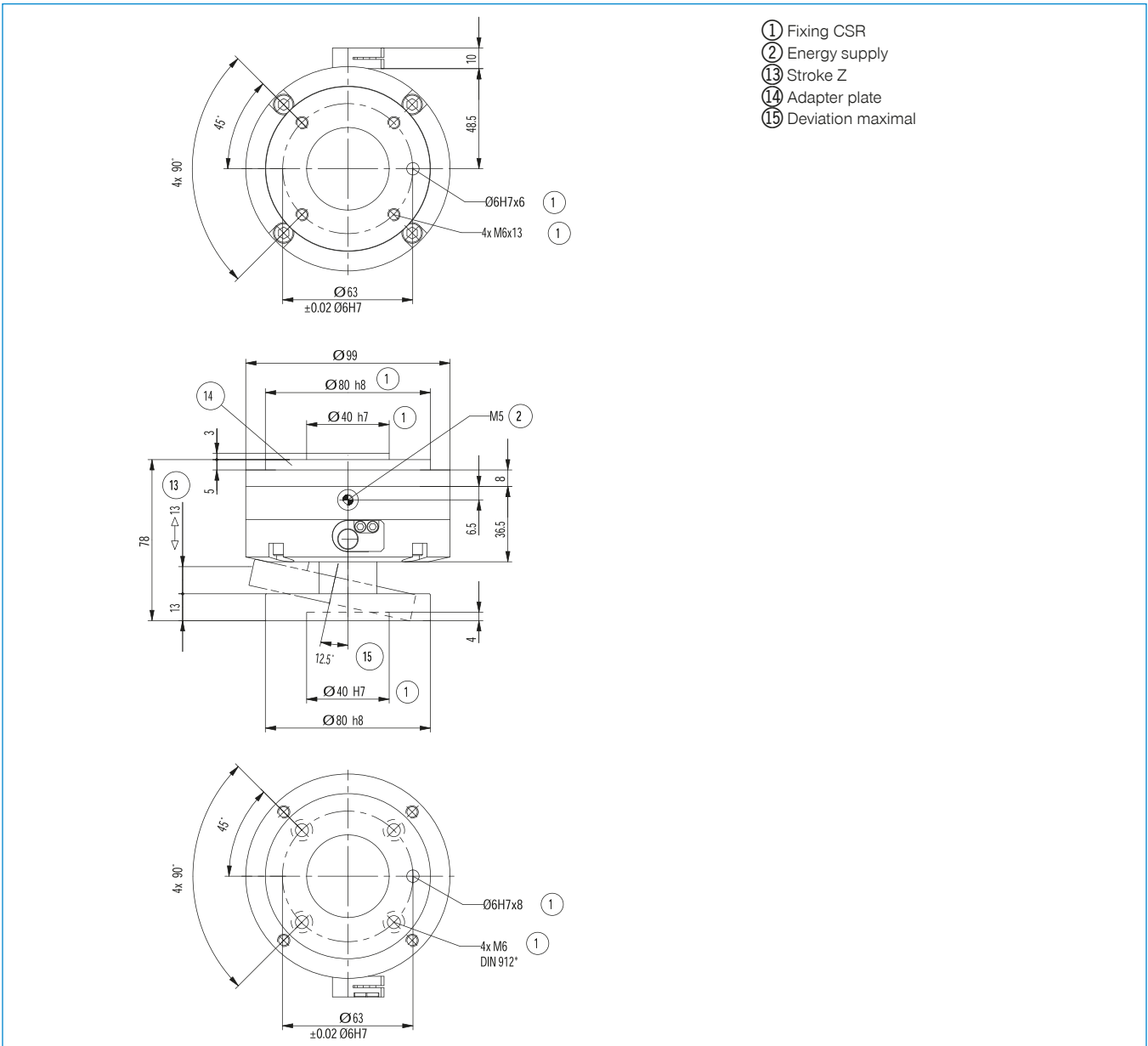


KAG500
Plug-in connector Straight Cable 5m - Socket M8
(female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8
(female)

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 63
Installation Height [mm]	78
Z-axis deviation [mm]	10.5
Repetition accuracy axial +/- [mm]	0.05
Horizontal deviation +/- [°]	12.5
Repetition accuracy radial +/- [mm]	0.05
Operating pressure [bar]	1 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	1.1



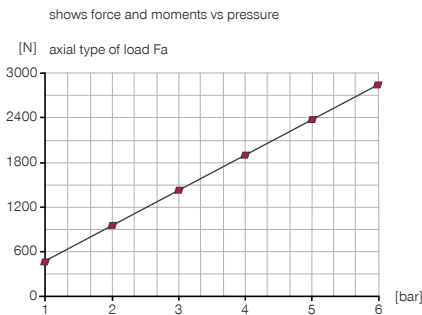
CRASH PROTECTION

INSTALLATION SIZE CSR80

▶ PRODUCT SPECIFICATIONS

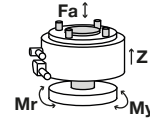


▶ Air pressurization

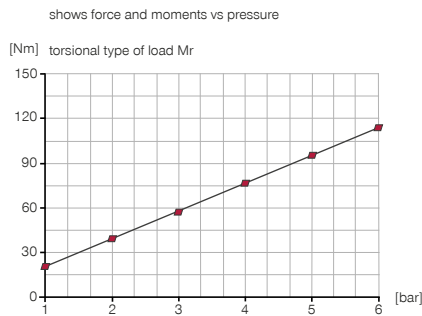


▶ Forces and moments

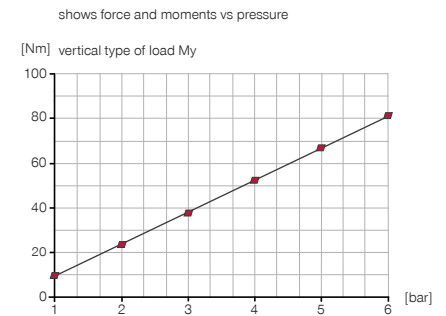
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Inductive proximity switch - Connector M8
NJ8-E2S-05



6 [piece]
Cylinder Screw
C0912080169

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER

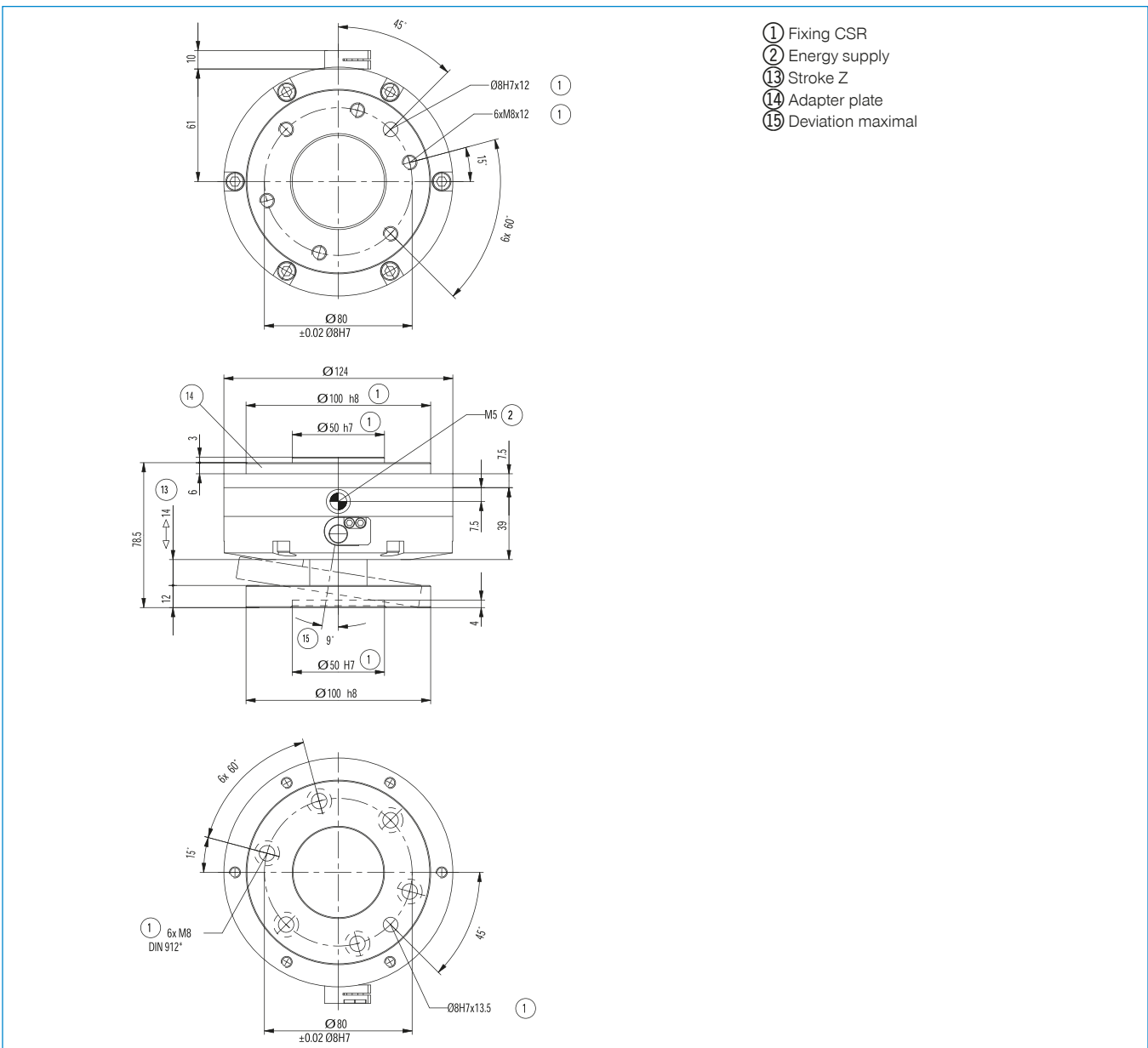


KAG500
Plug-in connector Straight Cable 5m - Socket M8
(female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8
(female)

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 80
Installation Height [mm]	78.5
Z-axis deviation [mm]	14
Repetition accuracy axial +/- [mm]	0.05
Horizontal deviation +/- [°]	9
Repetition accuracy radial +/- [mm]	0.05
Operating pressure [bar]	1 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	1.5



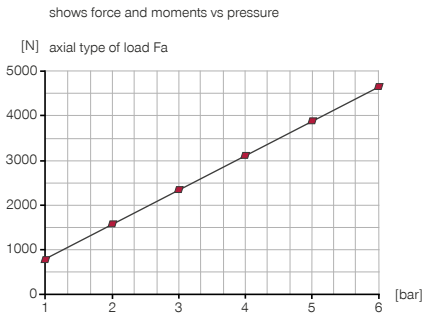
CRASH PROTECTION

INSTALLATION SIZE CSR100

▶ PRODUCT SPECIFICATIONS

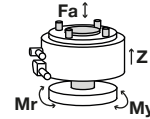


▶ Air pressurization

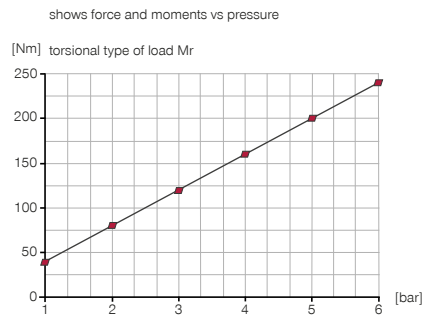


▶ Forces and moments

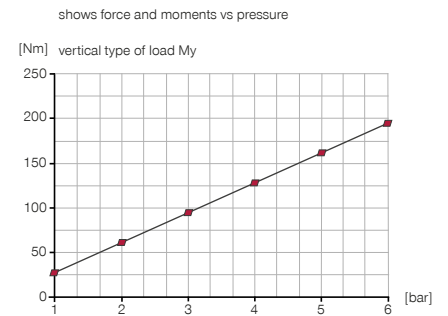
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Inductive proximity switch - Connector M8
NJ8-E2S-05



6 [piece]
Cylinder Screw
C0912080209

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER

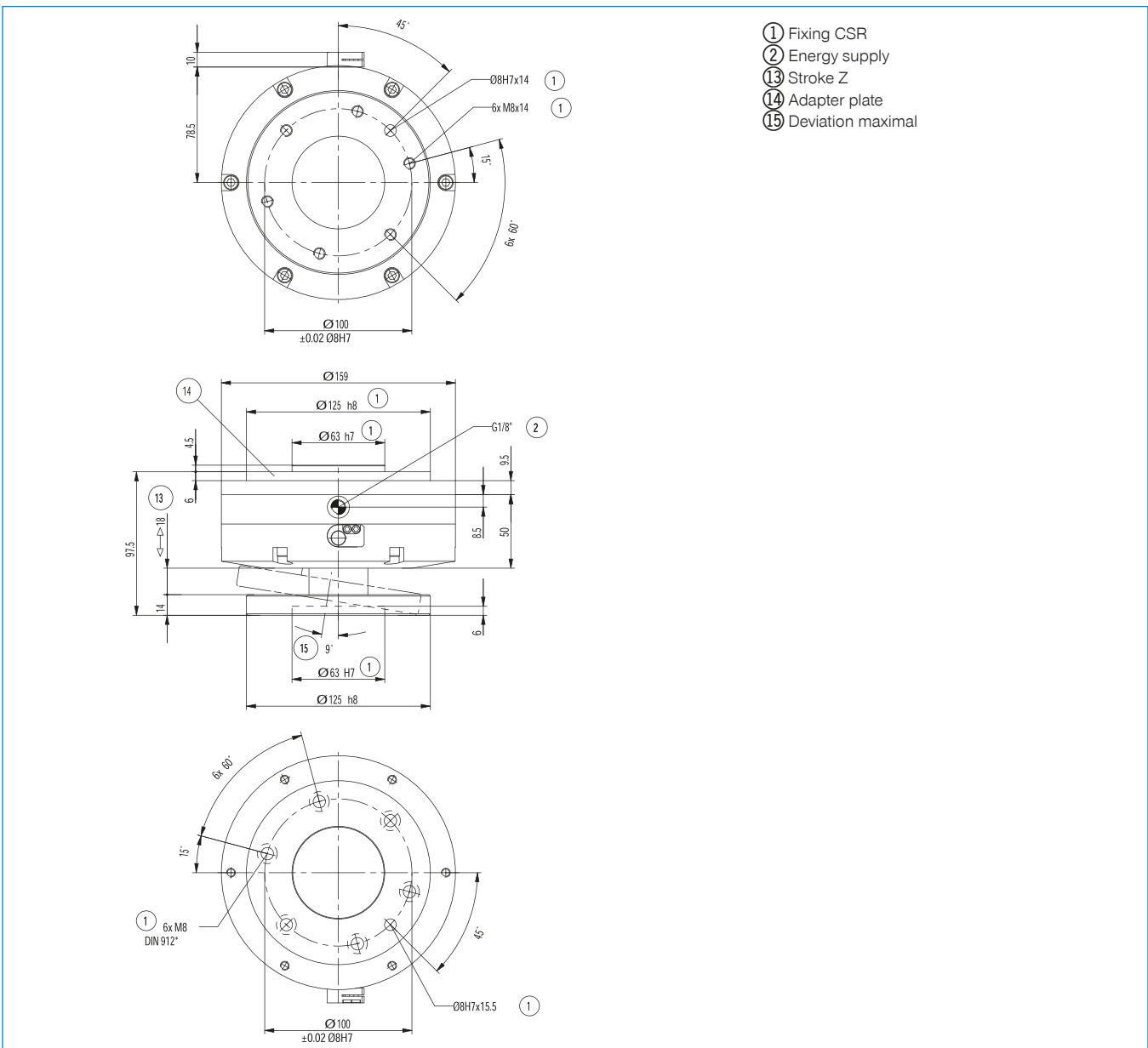


KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

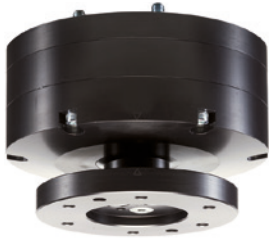
Order no.	Technical data
	CSR100
Connecting flange according EN ISO 9409-1	TK 100
Installation Height [mm]	97.5
Z-axis deviation [mm]	18
Repetition accuracy axial +/- [mm]	0.05
Horizontal deviation +/- [°]	9
Repetition accuracy radial +/- [mm]	0.05
Operating pressure [bar]	1 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	3.3



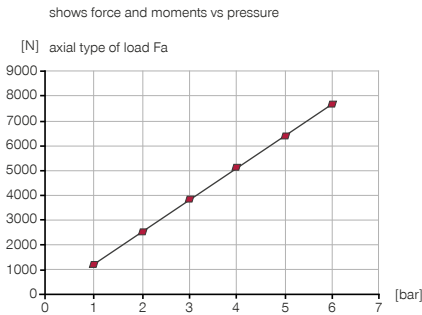
CRASH PROTECTION

INSTALLATION SIZE CSR125

▶ PRODUCT SPECIFICATIONS

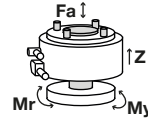


▶ Air pressurization

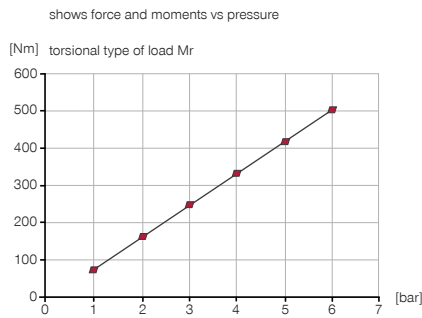


▶ Forces and moments

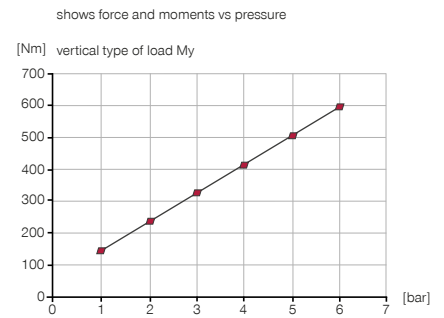
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Inductive proximity switch - Connector M8
NJ8-E2S-05



6 [piece]
Cylinder Screw
C0912100309

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER

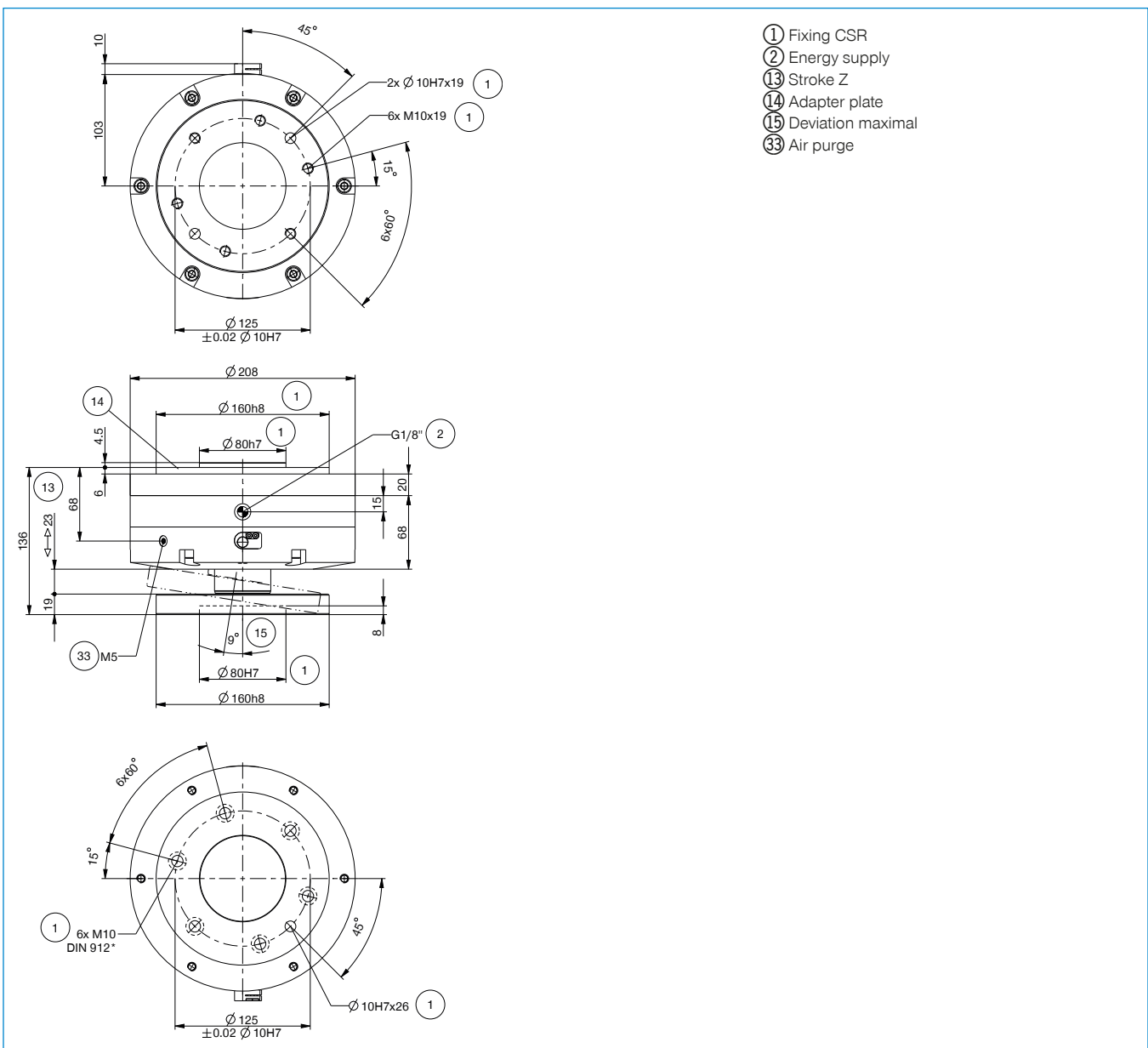


KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

Order no.	Technical data
	CSR125
Connecting flange according EN ISO 9409-1	TK 125
Installation Height [mm]	136
Z-axis deviation [mm]	23
Repetition accuracy axial +/- [mm]	0.05
Horizontal deviation +/- [°]	9
Repetition accuracy radial +/- [mm]	0.05
Operating pressure [bar]	1 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	8



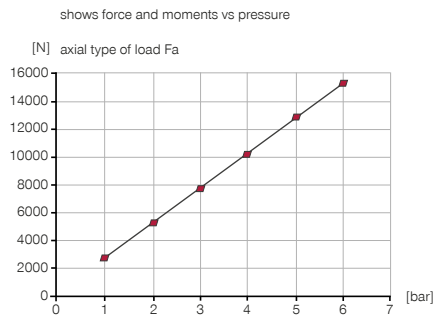
CRASH PROTECTION

INSTALLATION SIZE CSR160

▶ PRODUCT SPECIFICATIONS

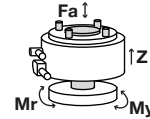


▶ Air pressurization

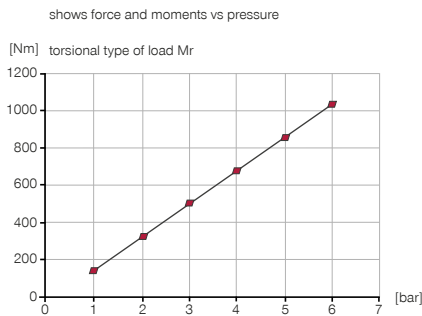


▶ Forces and moments

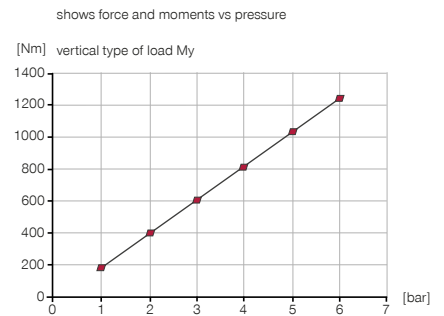
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Inductive proximity switch - Connector M8
NJ8-E2S-05



6 [piece]
Cylinder Screw
C0912100309

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GV1-8X8
Straight Fittings - Quick Connect Style



WV1-8X8
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER

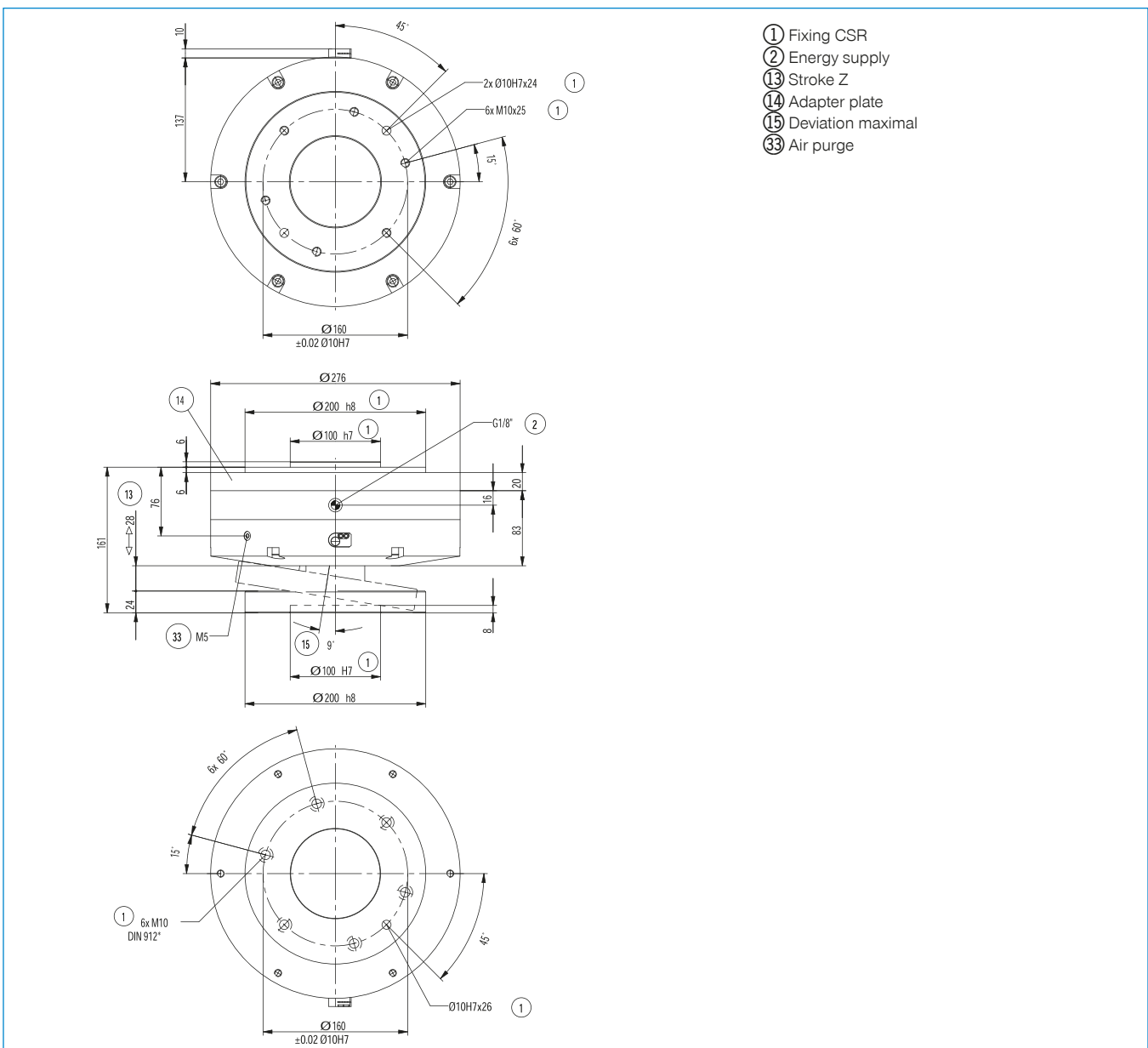


KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)

Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 160
Installation Height [mm]	161
Z-axis deviation [mm]	28
Repetition accuracy axial +/- [mm]	0.05
Horizontal deviation +/- [°]	9
Repetition accuracy radial +/- [mm]	0.05
Operating pressure [bar]	1 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Weight [kg]	15.2



CRASH PROTECTION SERIES CRR

▶ PRODUCT ADVANTAGES



▶ Adjustable triggering sensitivity

By controlling the air pressure, you can optimally match the sensitivity to your application.

▶ Integrated sensors

If there is a collision, the integrated sensor gives a signal to the control system to trigger an emergency stop.

▶ Automated reset

After an emergency stop, you can reset the collision protection from a safe distance. This is an advantage primarily when entering the system is undesirable, dangerous or is possible only with difficulty.

▶ THE BEST PRODUCT FOR YOUR APPLICATION



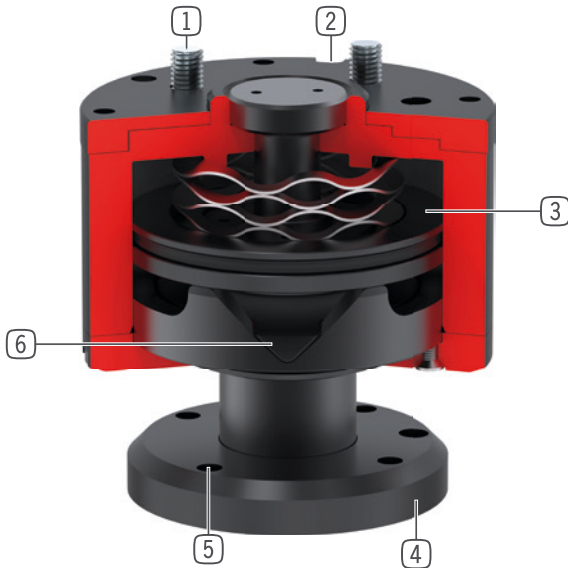
▶ Our products welcome the challenge!

Extreme conditions, all over the world—our tried and tested components and systems give you endless possibilities.

Find the best product for your specific use:

www.zimmer-group.com

► BENEFITS IN DETAIL



- ① **Robot connecting flange**
 - partial mounting circle in accordance with EN ISO 9409-1
- ② **Piston position sensing**
 - The sensor generates a signal that can be evaluated to recognize an overload.
 - Magnetic field sensor included in delivery
- ③ **Drive**
 - single-acting pneumatic cylinder
 - response sensitivity adjustable via operating pressure
 - with integrated spring
- ④ **Overload recognition and compensation**
 - In Z direction
 - Tilting in horizontal direction
 - Rotation around the Z-axis
- ⑤ **Connecting flange**
 - partial mounting circle in accordance with EN ISO 9409-1
- ⑥ **Reset**
 - Pistons are used to move the connecting flange to its initial position.

► TECHNICAL DATA

Installation size	Connecting flange according EN ISO 9409-1	Z-axis deviation	Repetition accuracy axial +/-
		[mm]	[mm]
CRR40	TK 40	8	0.01
CRR50	TK 50	12	0.01
CRR63	TK 63	15	0.01

► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

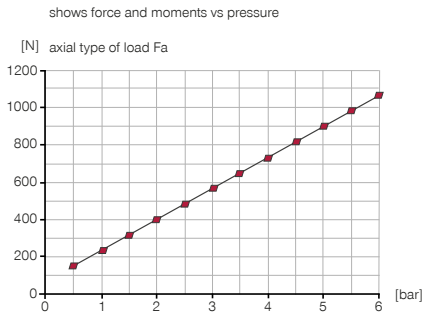
CRASH PROTECTION

INSTALLATION SIZE CRR40

▶ PRODUCT SPECIFICATIONS

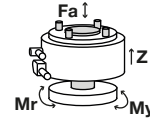


▶ Air pressurization

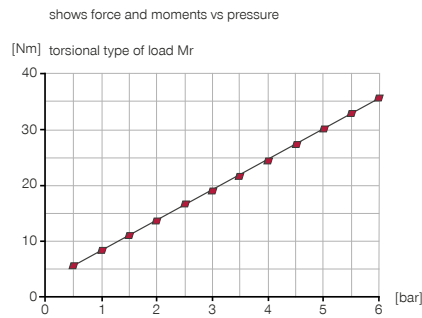


▶ Forces and moments

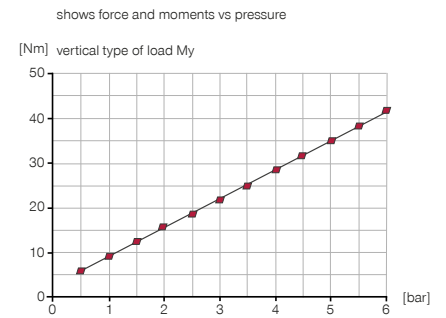
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Magnetic field sensor straight, cable 0.3 m - M8 connector
MFS02-S-KHC-P1-PNP

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



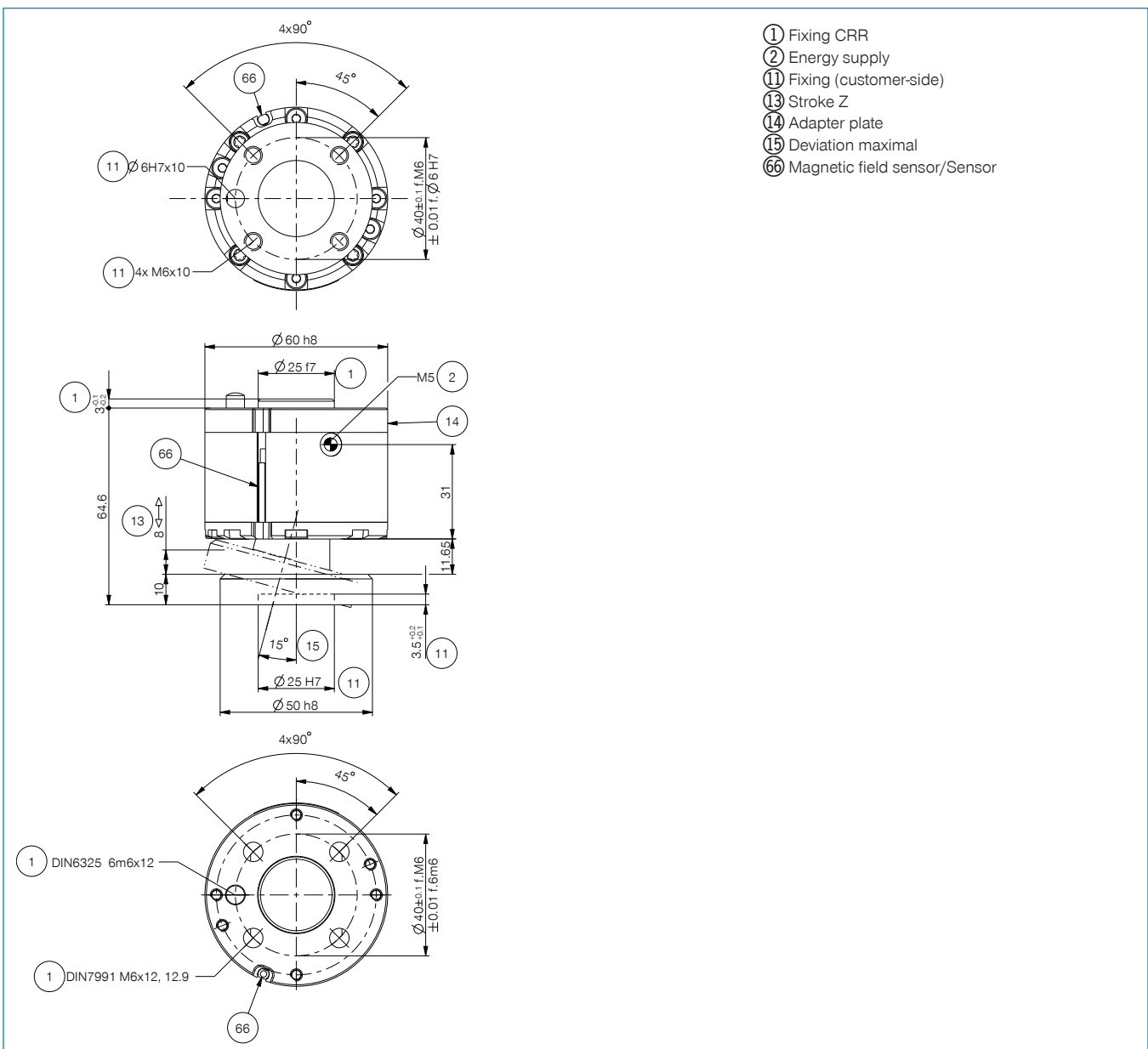
KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 40
Z-axis deviation [mm]	8
Repetition accuracy axial +/- [mm]	0.01
Axial response sensitivity [mm]	0.5
Horizontal deviation +/- [°]	14.0
Repetition accuracy Radial +/- [min]	4
Radial response sensitivity [°]	1.5
Z-axis rotation [°]	21
Repetition accuracy rotatory +/- [min]	4
Response sensitivity rotatory [°]	1
Operating pressure [bar]	0.5 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	14.60
Mass moment of inertia around Z-axis [kgcm ²]	2.64
Weight [kg]	0.61



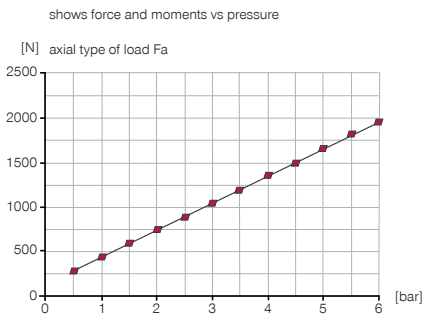
CRASH PROTECTION

INSTALLATION SIZE CRR50

▶ PRODUCT SPECIFICATIONS

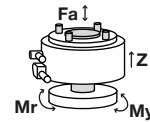


▶ Air pressurization

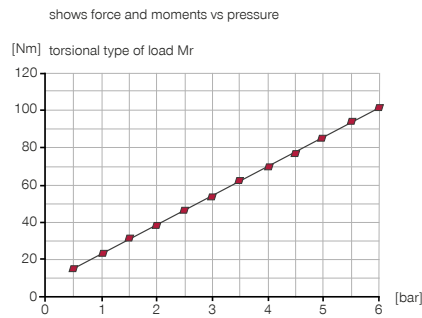


▶ Forces and moments

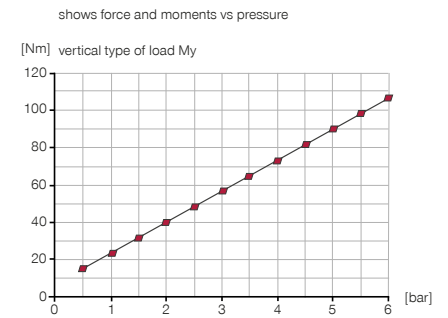
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Magnetic field sensor straight, cable 0.3 m - M8 connector
MFS02-S-KHC-P1-PNP

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



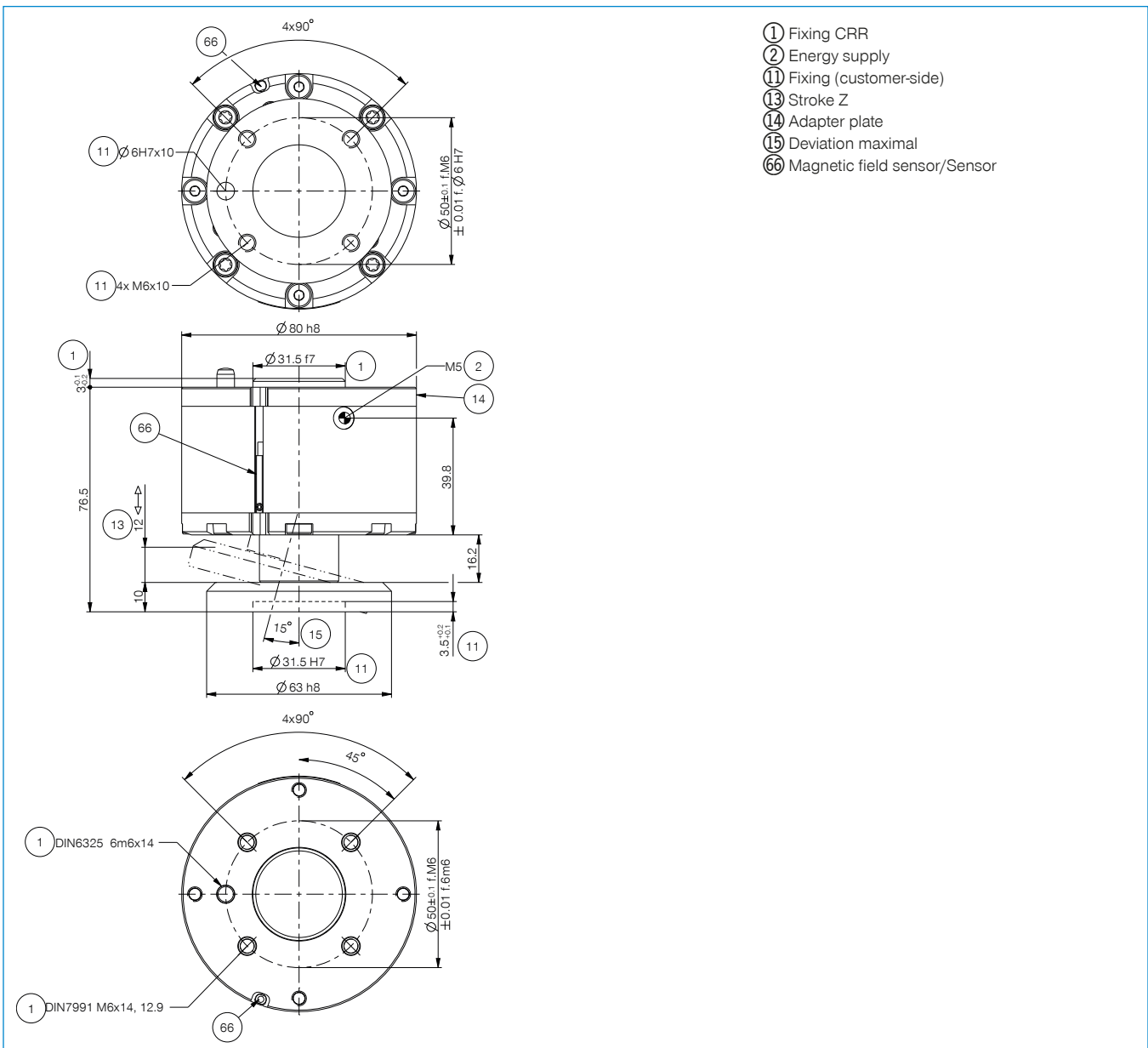
KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 50
Z-axis deviation [mm]	12
Repetition accuracy axial +/- [mm]	0.01
Axial response sensitivity [mm]	0.5
Horizontal deviation +/- [°]	14.0
Repetition accuracy Radial +/- [min]	4
Radial response sensitivity [°]	1.5
Z-axis rotation [°]	22
Repetition accuracy rotatory +/- [min]	4
Response sensitivity rotatory [°]	1
Operating pressure [bar]	0.5 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	37.40
Mass moment of inertia around Z-axis [kgcm ²]	7.69
Weight [kg]	1.1



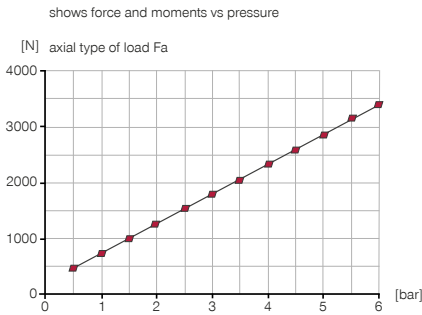
CRASH PROTECTION

INSTALLATION SIZE CRR63

▶ PRODUCT SPECIFICATIONS

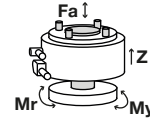


▶ Air pressurization

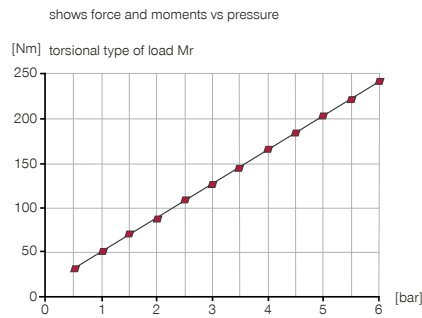


▶ Forces and moments

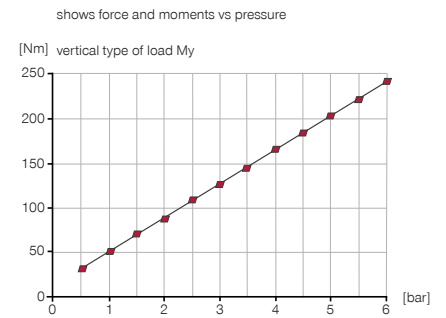
See diagram for max. forces and torques



▶ Air pressurization



▶ Air pressurization



▶ INCLUDED IN DELIVERY



1 [piece]
Magnetic field sensor straight, cable 0.3 m - M8 connector
MFS02-S-KHC-P1-PNP

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



GVM5
Straight Fittings - Quick Connect Style



WVM5
Angled Fittings - Quick Connect Style



CONNECTIONS / OTHER



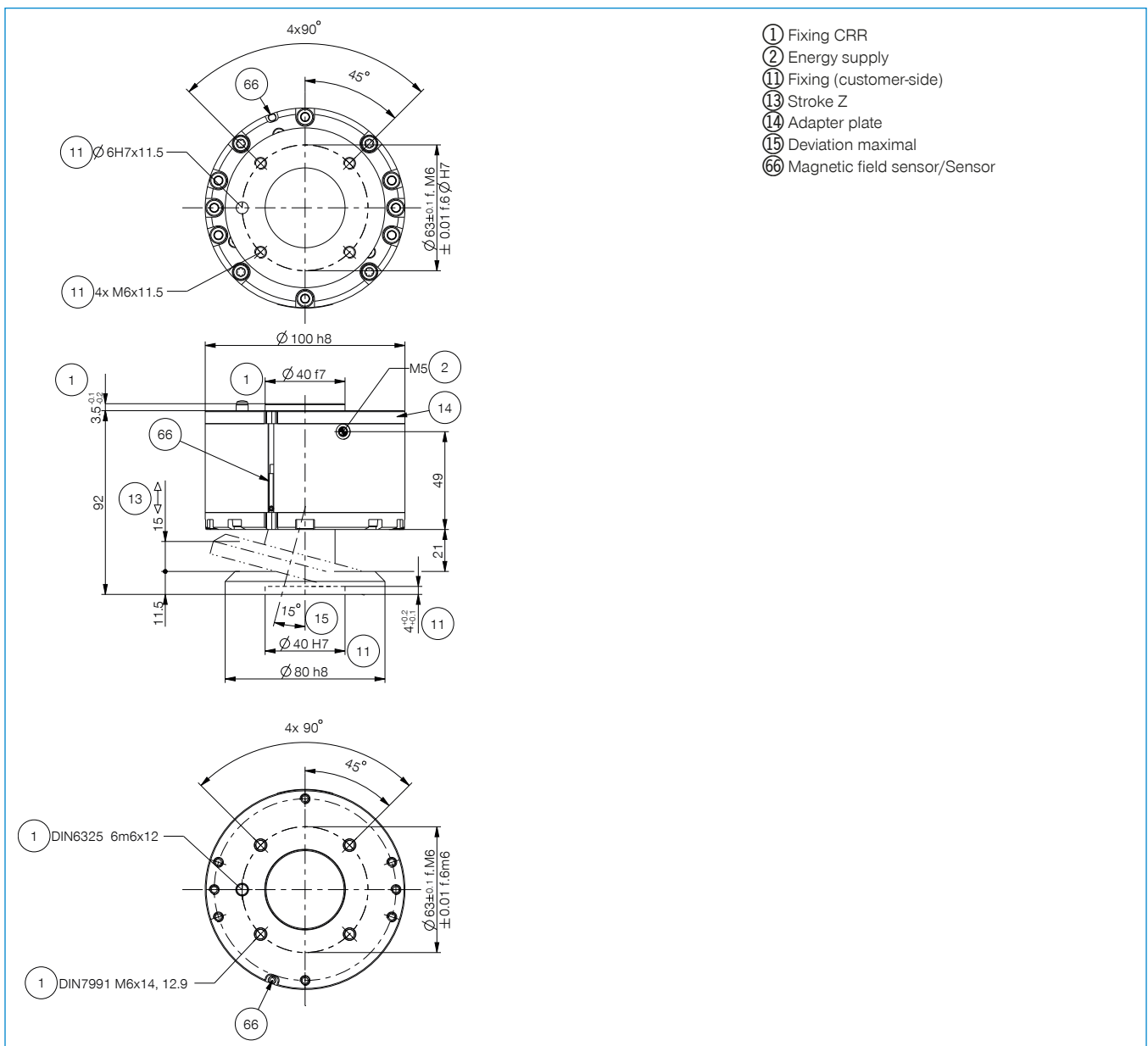
KAG500
Plug-in connector Straight Cable 5m - Socket M8 (female)



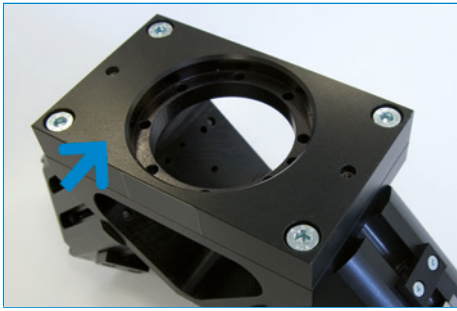
KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



Order no.	Technical data
Connecting flange according EN ISO 9409-1	TK 63
Z-axis deviation [mm]	15
Repetition accuracy axial +/- [mm]	0.01
Axial response sensitivity [mm]	0.5
Horizontal deviation +/- [°]	13.0
Repetition accuracy Radial +/- [min]	4
Radial response sensitivity [°]	1.5
Z-axis rotation [°]	22
Repetition accuracy rotatory +/- [min]	4
Response sensitivity rotatory [°]	1
Operating pressure [bar]	0.5 ... 6
Nominal operating pressure [bar]	6
Operating temperature [°C]	5 ... +80
Air volume per cycle [cm ³]	82.80
Mass moment of inertia around Z-axis [kgcm ²]	21.30
Weight [kg]	1.8



ANGLE FLANGE SERIES WFR



Flexible connection to your robot

The adapter plates are manufactured in accordance with EN ISO 9409-1 and therefore fit most robot types from a wide range of manufacturers.

Step 1: Select adapter plate

Simply determine the pitch circle diameter of the robot flange and you will receive the appropriate adapter plate.



Over 50 different variants

Adapter plate and angular flange can be combined with 13 different grippers - resulting in over 50 different variants. Select your suitable gripper from our main catalog. There you will find a wide variety of designs, with or without gripping force safety device, with different protection classes or temperature-resistant.

Step 2: Select angular flange

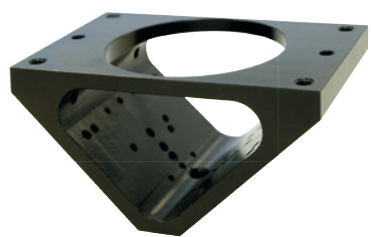
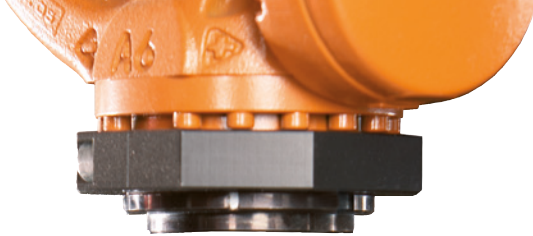
Select the gripper and this will result in the right angle flange.



Extend the functionality of your Angle flange

Cover plate, discharge nozzle or programming pins, with the extensive accessory, you can quickly and individually integrate additional functions.

3rd step: Select accessories



▶ STEP 1: ADAPTER PLATE

Order no.	▶ Technical Data			
	APR01	APR02	APR03	APR05
Connecting flange according EN ISO 9409-1	TK 40	TK 50	TK 100	TK 31.5

▶ STEP 2: ANGLE FLANGE

Order no.	▶ Technical Data	
	WFR03	WFR04
Compatible with installation size	GPP5004 / GPP5006 / GEP5006 / GPD5004 / GPD5006 / GED5006	GPP5008 / GPP5010 / GEP5008 / GPD5008 / GPD5010 / GED5008 / GPW5008

▶ STEP 3: ACCESSORIES

Order no.	▶ Technical Data	
	ABWFR01	ABWFR02
Design	cover plate	cover plate
Compatible with	WFR03	WFR04

Order no.	DUWFR01
Design	outlet nozzle
Compatible with	WFR03 / WFR04

Order no.	SPWFR01
Design	programming tip
Compatible with	WFR03 / WFR04

USAGE NOTE

GENERAL

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USAGE NOTE

INDIVIDUAL

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.

