

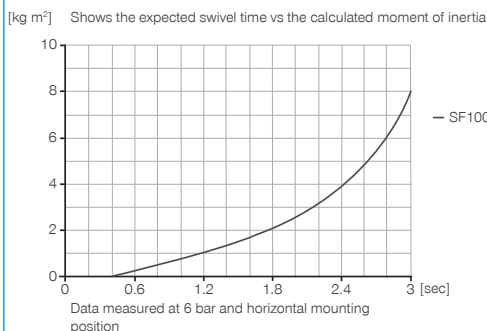
FLAT SWIVEL UNITS

INSTALLATION SIZE SF100ML-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-8X6



1 [piece]
Attachment Kit
ANS0071



1 [piece]
Commissioning USB
052650

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

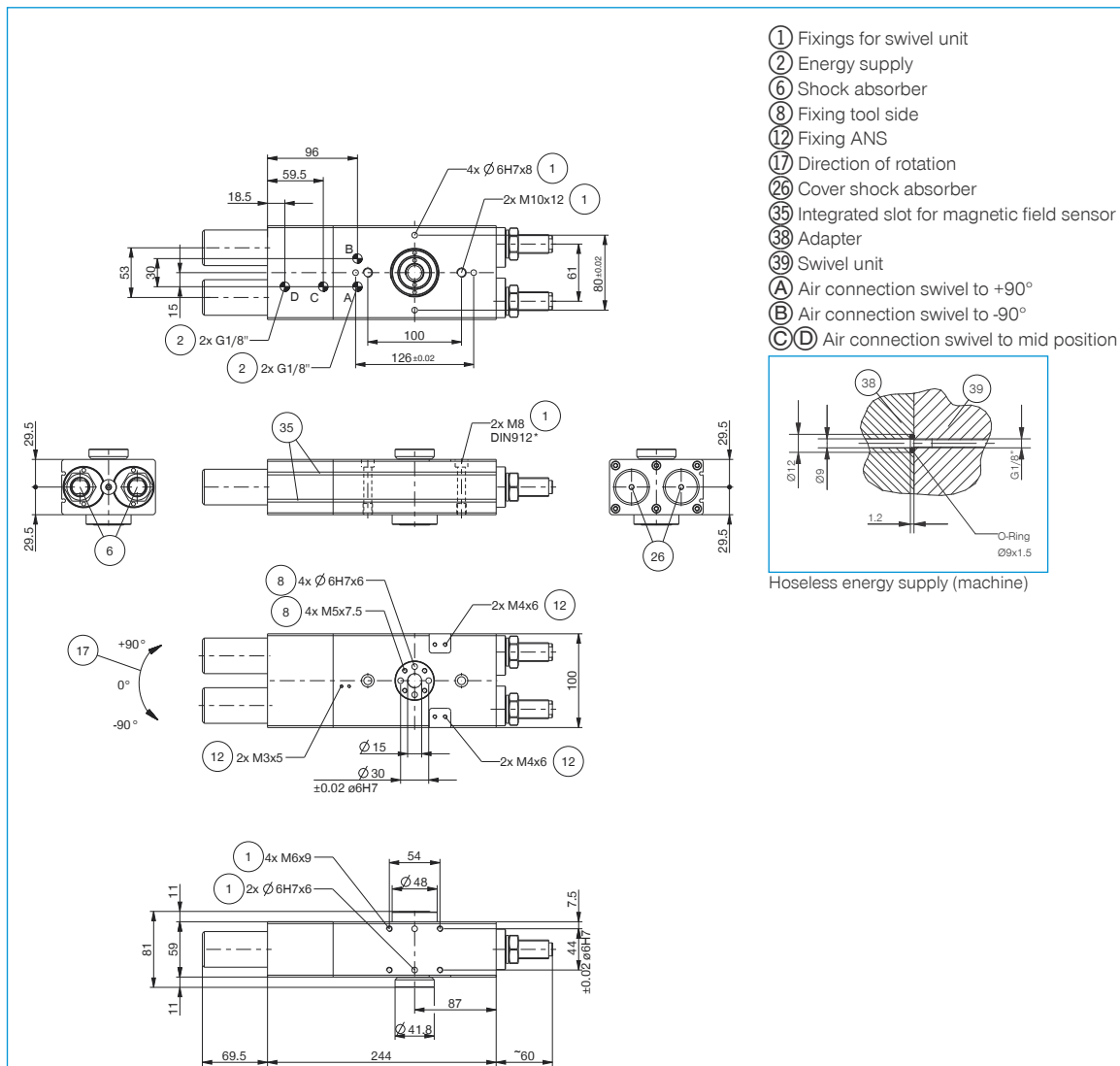


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ8-E2S
Inductive proximity switch - Connector M8

	► Technical data
Order no.	SF100ML-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	20
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	15
Axial bearing load [N]	2500
Radial bearing load [Nm]	155
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	304
Weight [kg]	5.4



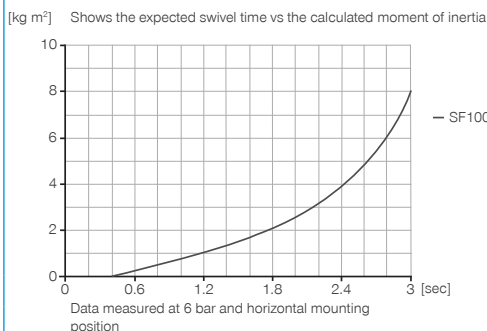
FLAT SWIVEL UNITS

INSTALLATION SIZE SF100MLD4-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-8X6



4 [piece]
O-Ring
COR0030100



1 [piece]
Attachment Kit
ANS0072



1 [piece]
Commissioning USB
052650

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m



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



NJ8-E2S
Inductive proximity switch - Connector M8

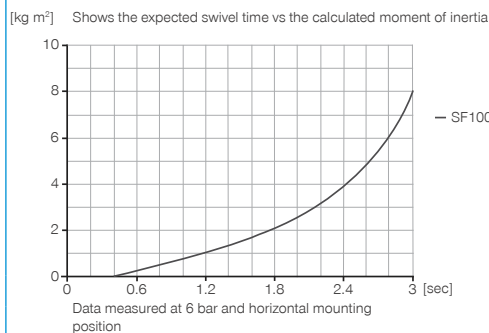
FLAT SWIVEL UNITS

INSTALLATION SIZE SF100MLD6-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-8X6



6 [piece]
O-Ring
COR0030100



1 [piece]
Attachment Kit
ANS0073



1 [piece]
Commissioning USB
052650

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

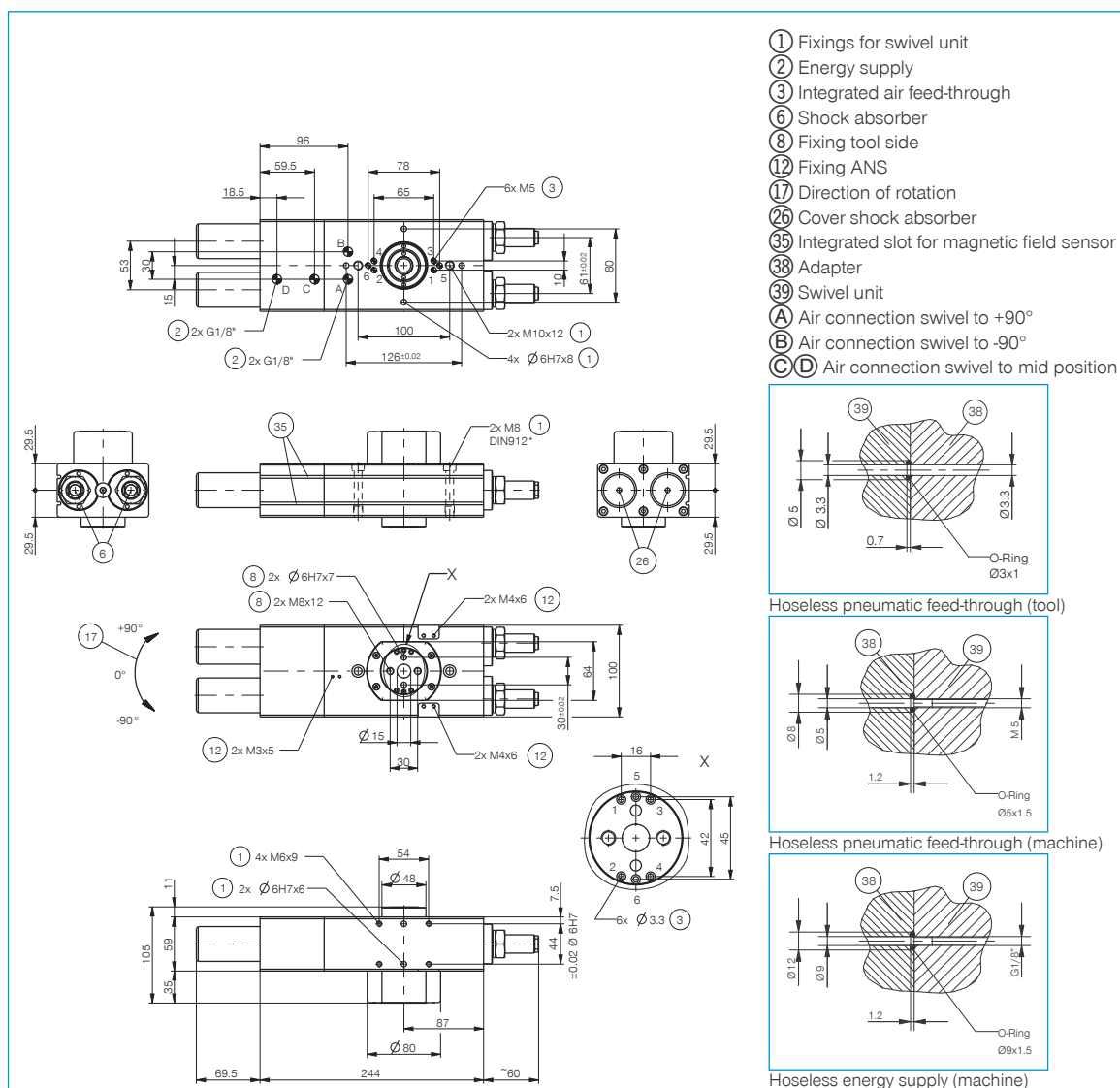


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	Technical data
	SF100MLD6-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	13
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	15
Pneumatic energy transfer [Quantity]	6
Axial bearing load [N]	2500
Radial bearing load [Nm]	155
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	304
Weight [kg]	5.8



FLAT SWIVEL UNITS

INSTALLATION SIZE SF125N-C

► PRODUCT SPECIFICATIONS



► Moment of inertia

[kg m²] Shows the expected swivel time vs the calculated moment of inertia



► INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8

► RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0035
Attachment Kit



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

► RECOMMENDED ACCESSORY ATTACHMENT KIT

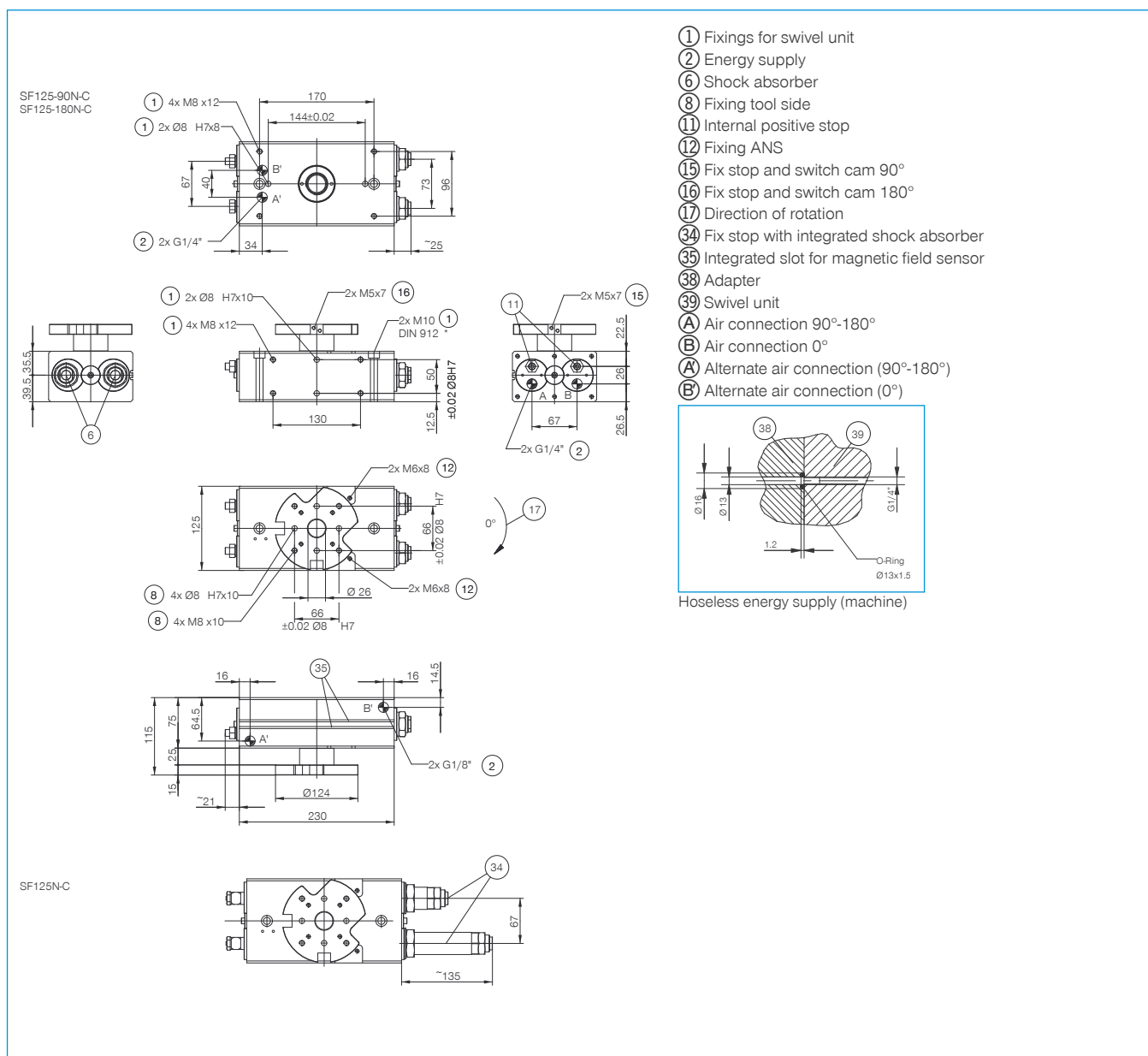


NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data		
	SF125-90N-C	SF125-180N-C	SF125N-C
Swivel angle [°]	90	180	0-180
Torque [Nm]	38	38	38
Swivel angle regulable +/- [°]	3	3	180
Passage bore Ø [mm]	26	26	26
Axial bearing load [N]	3400	3400	3400
Radial bearing load [Nm]	391	391	391
Repetition accuracy +/- [°]	0.01	0.01	0.01
Operating pressure min. [bar]	3	3	3
Operating pressure max. [bar]	8	8	8
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	220	440	440
Weight [kg]	8.8	8.8	9.8



FLAT SWIVEL UNITS

INSTALLATION SIZE SF125D4-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia

[kg m²] Shows the expected swivel time vs the calculated moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
O-Ring
COR0040150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0036
Attachment Kit



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m

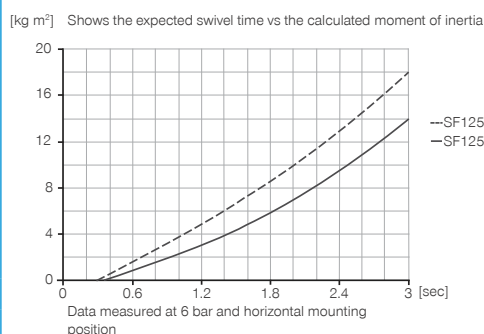
FLAT SWIVEL UNITS

INSTALLATION SIZE SF125D8-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
 Flow Control Valves - with Swivel joint
DRV1-4X8



8 [piece]
 O-Ring
COR0040150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
 Pressure safety valve



DSV1-8E
 Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
 Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
 Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0037
 Attachment Kit



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



S8-G-3
 Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
 Inductive proximity switch - Cable 5 m



NJ12-E2
 Inductive proximity switch - Cable 5 m

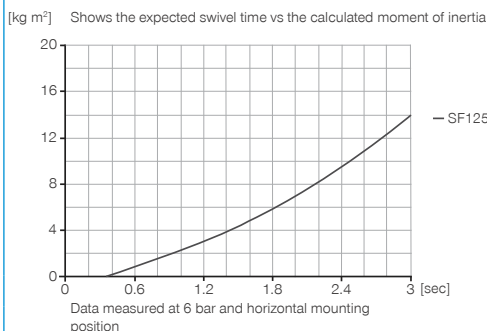
FLAT SWIVEL UNITS

INSTALLATION SIZE SF125M-C

PRODUCT SPECIFICATIONS



Moment of inertia



INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



1 [piece]
Attachment Kit
ANS0074



1 [piece]
Commissioning USB
052650

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m

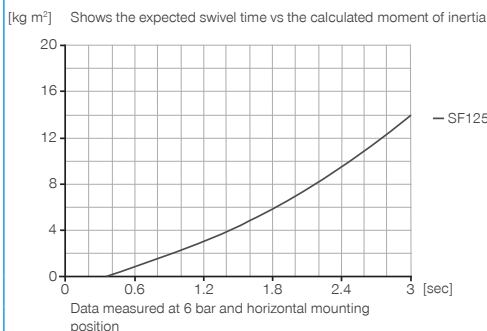
FLAT SWIVEL UNITS

INSTALLATION SIZE SF125MD4-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
O-Ring
COR0040150



1 [piece]
Attachment Kit
ANS0075



1 [piece]
Commissioning USB
052650

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Con-
nector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Con-
nector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT

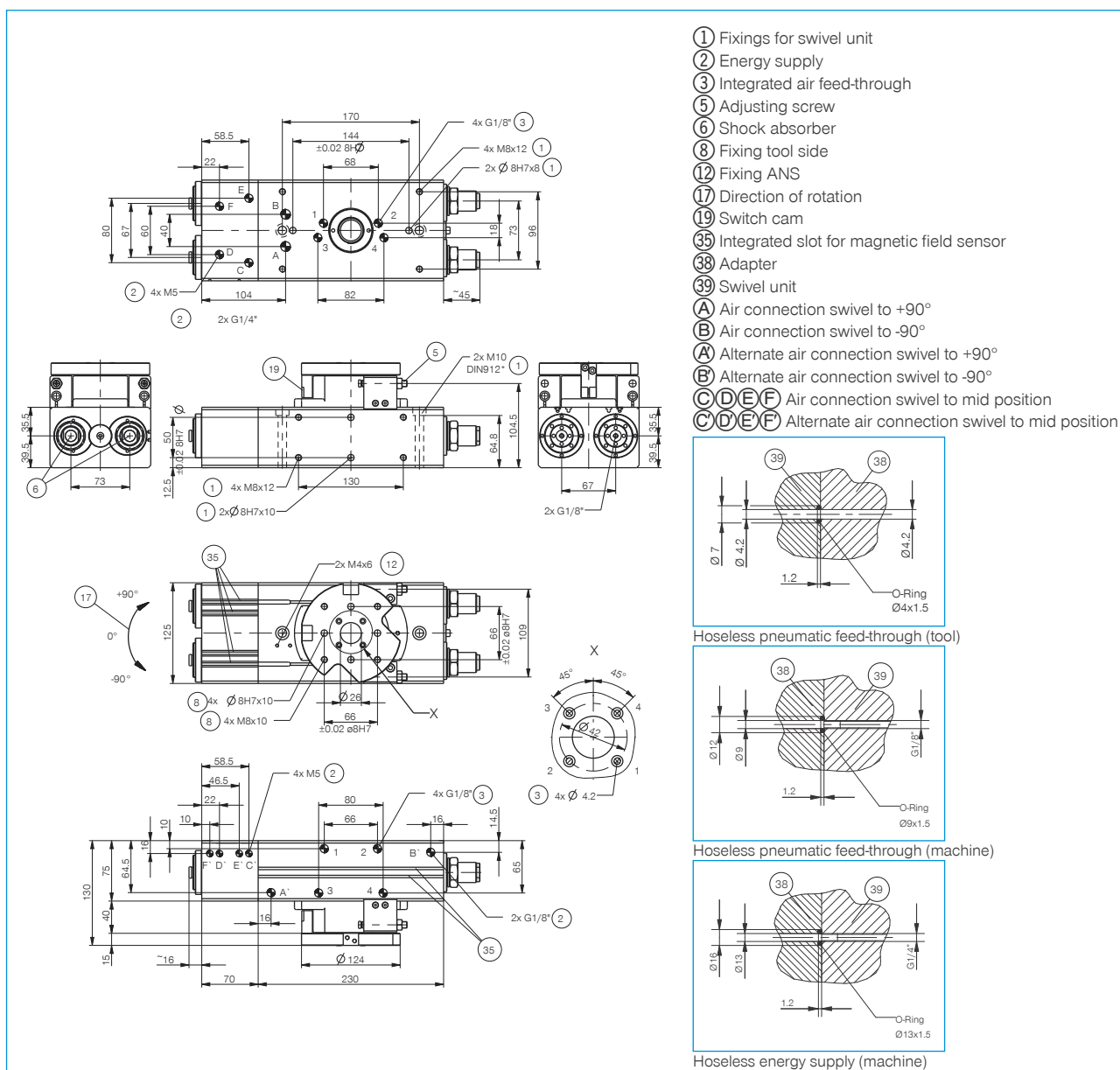


NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data
	SF125MD4-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	34
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	26
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	3400
Radial bearing load [Nm]	391
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	540
Weight [kg]	12.9



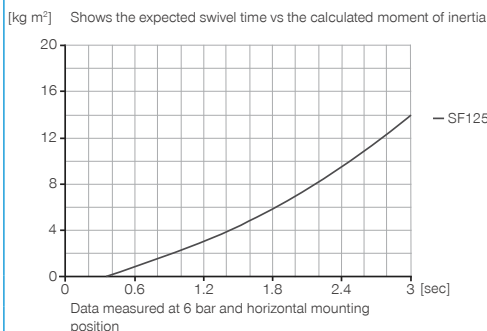
FLAT SWIVEL UNITS

INSTALLATION SIZE SF125MD8-C

PRODUCT SPECIFICATIONS



Moment of inertia



INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



8 [piece]
O-Ring
COR0040150



1 [piece]
Attachment Kit
ANS0076



1 [piece]
Commissioning USB
052650

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

RECOMMENDED ACCESSORY ATTACHMENT KIT

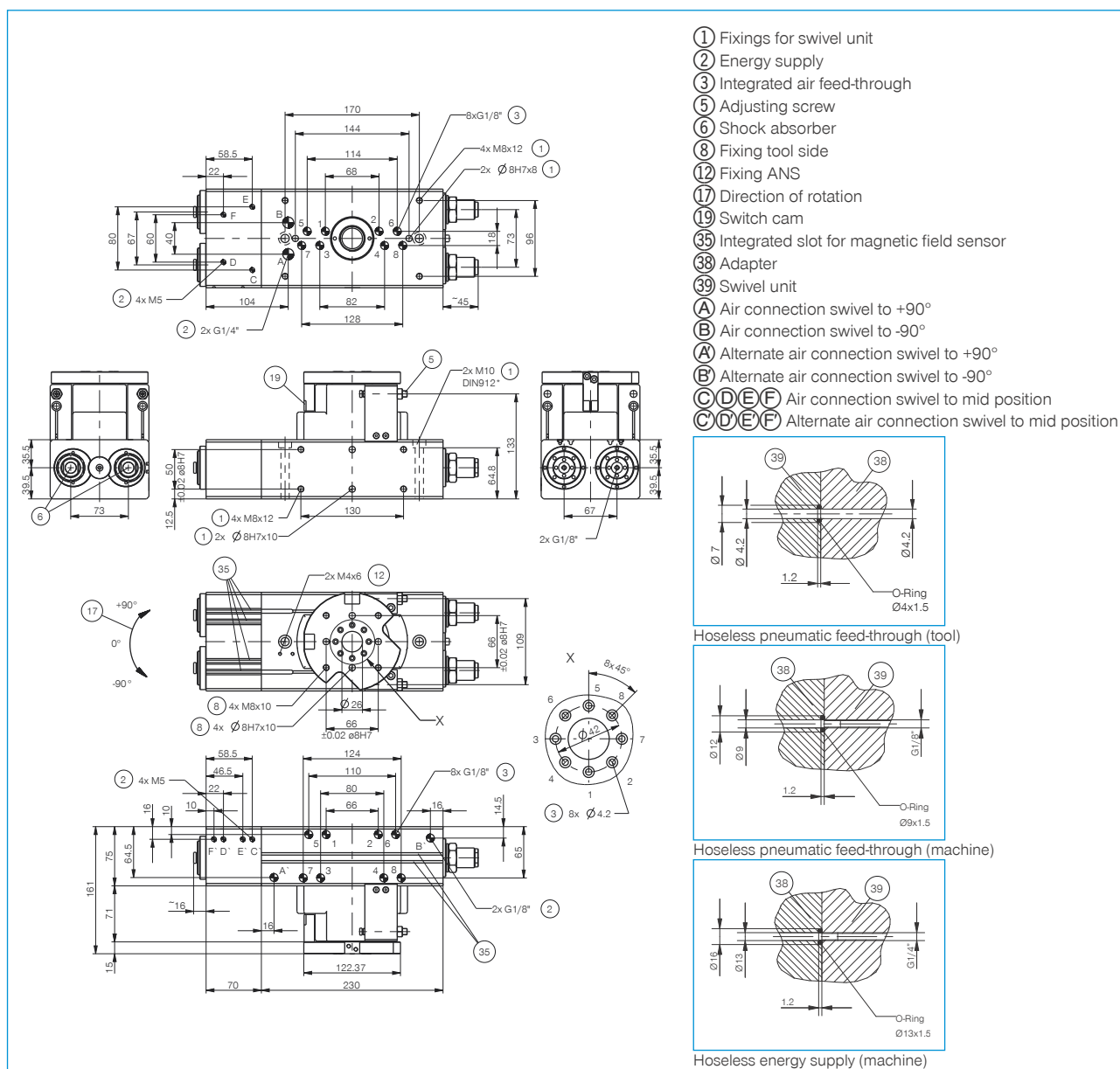


NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data
	SF125MD8-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	32
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	26
Pneumatic energy transfer [Quantity]	8
Axial bearing load [N]	3400
Radial bearing load [Nm]	391
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	540
Weight [kg]	12.9



FLAT SWIVEL UNITS

INSTALLATION SIZE SF155N-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia

[kg m²] Shows the expected swivel time vs the calculated moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0038
Attachment Kit



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

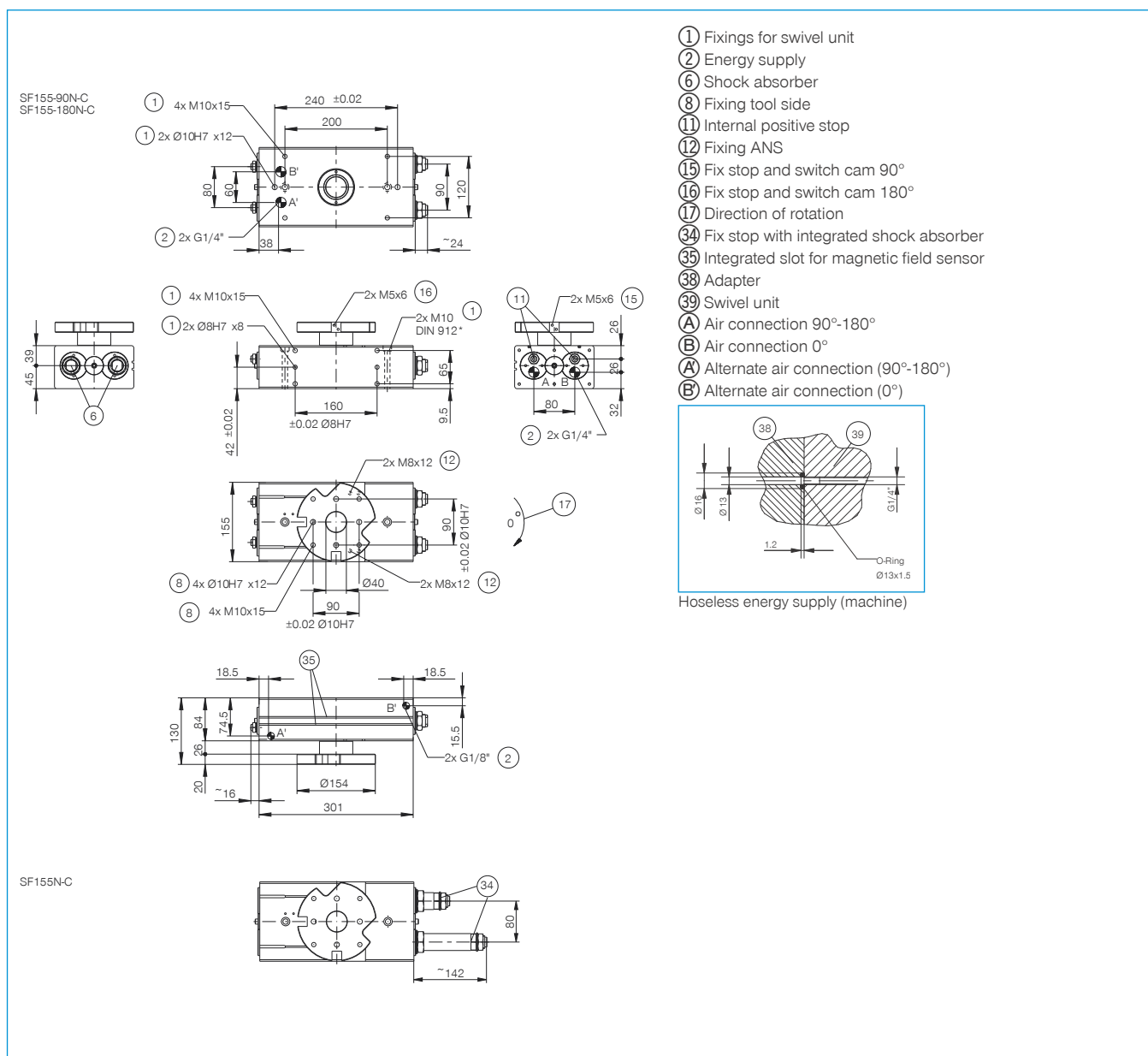


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

	► Technical data		
Order no.	SF155-90N-C	SF155-180N-C	SF155N-C
Swivel angle [°]	90	180	0-180
Torque [Nm]	62	62	62
Swivel angle regulable +/- [°]	3	3	180
Passage bore Ø [mm]	40	40	40
Axial bearing load [N]	5900	5900	5900
Radial bearing load [Nm]	761	761	761
Repetition accuracy +/- [°]	0.01	0.01	0.01
Operating pressure min. [bar]	3	3	3
Operating pressure max. [bar]	8	8	8
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	350	700	700
Weight [kg]	15	15	16.5



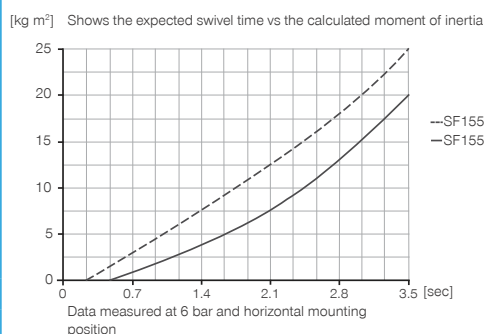
FLAT SWIVEL UNITS

INSTALLATION SIZE SF155D4-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
 Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
 O-Ring
COR0040150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
 Pressure safety valve



DSV1-8E
 Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
 Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
 Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0039
 Attachment Kit



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



S8-G-3
 Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
 Inductive proximity switch - Cable 5 m

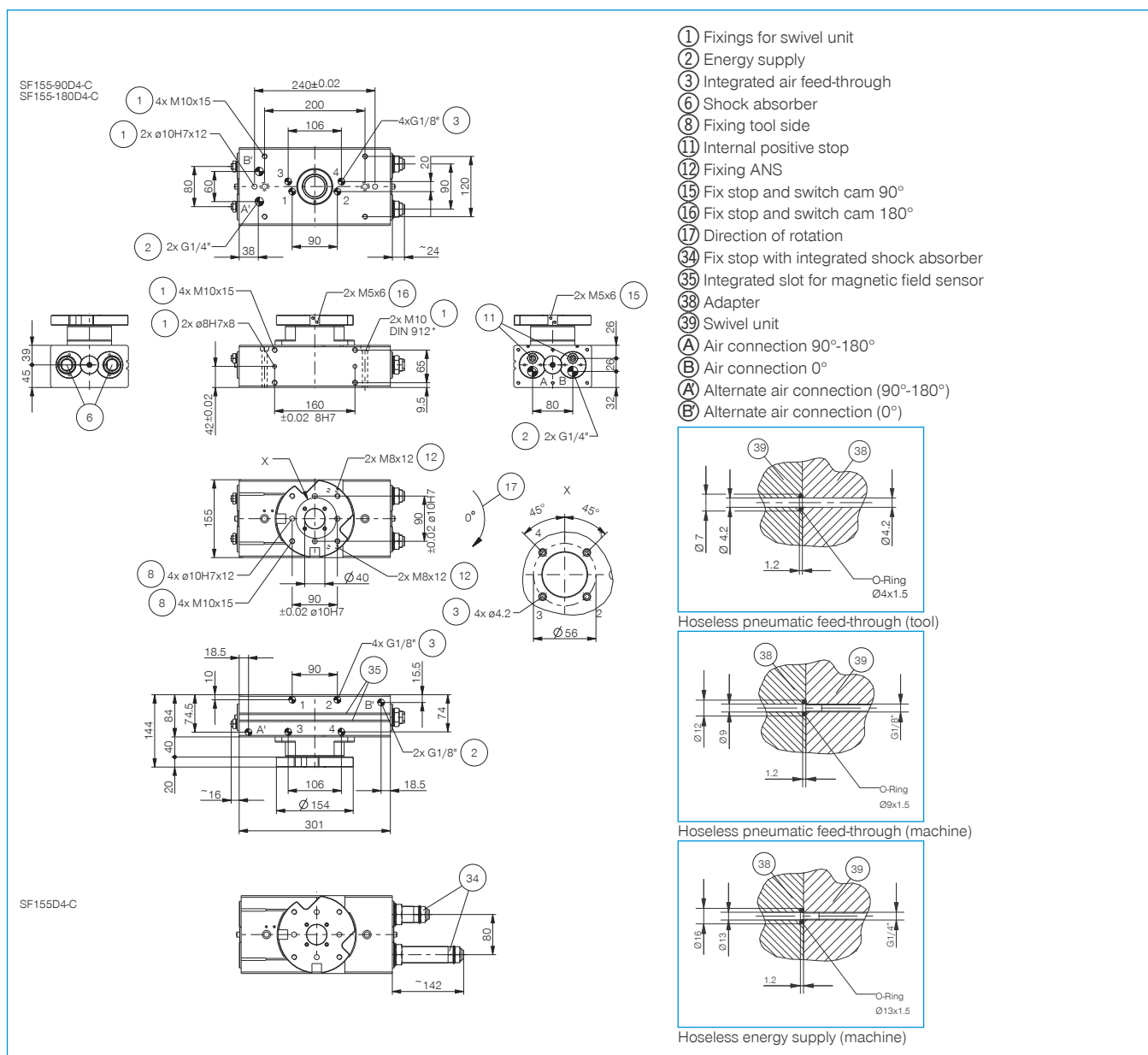


KAW500
 Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
 Inductive proximity switch - Cable 5 m

Order no.	Technical data		
	SF155-90D4-C	SF155-180D4-C	SF155D4-C
Swivel angle [°]	90	180	0-180
Torque [Nm]	58	58	58
Swivel angle regulable +/- [°]	3	3	180
Passage bore Ø [mm]	40	40	40
Pneumatic energy transfer [Quantity]	4	4	4
Axial bearing load [N]	5900	5900	5900
Radial bearing load [Nm]	761	761	761
Repetition accuracy +/- [°]	0.01	0.01	0.01
Operating pressure min. [bar]	3	3	3
Operating pressure max. [bar]	8	8	8
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	350	700	700
Weight [kg]	16	16	17.5



FLAT SWIVEL UNITS

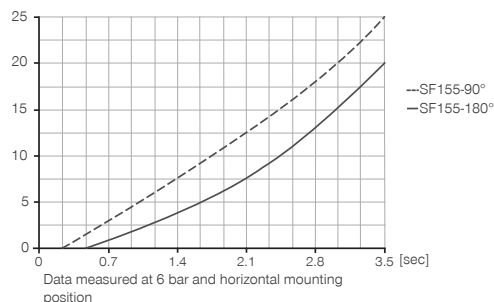
INSTALLATION SIZE SF155D8-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia

[kg m²] Shows the expected swivel time vs the calculated moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



8 [piece]
O-Ring
COR0040150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0040
Attachment Kit



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

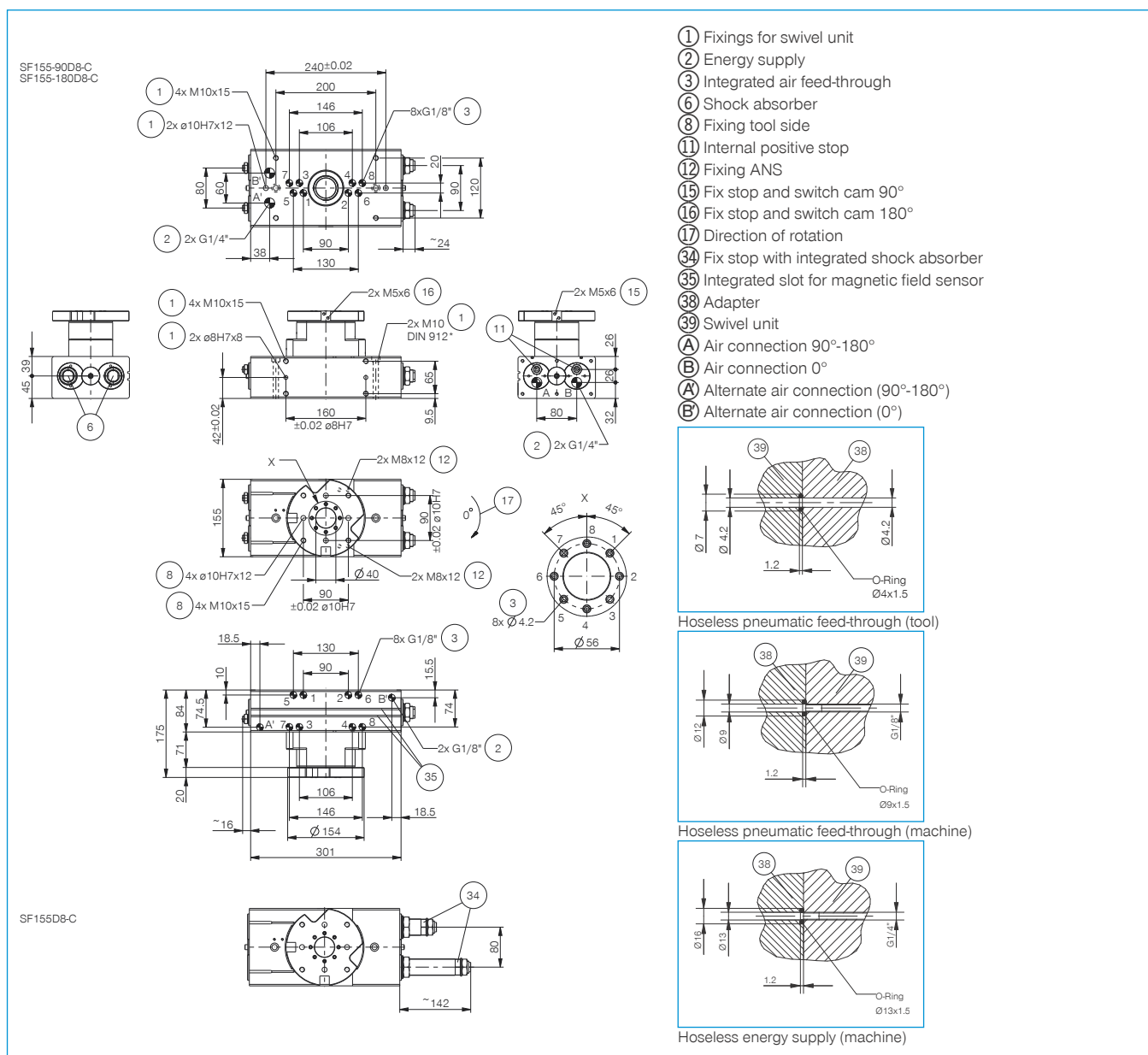


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data		
	SF155-90D8-C	SF155-180D8-C	SF155D8-C
Swivel angle [°]	90	180	0-180
Torque [Nm]	54	54	54
Swivel angle regulable +/- [°]	3	3	180
Passage bore Ø [mm]	40	40	40
Pneumatic energy transfer [Quantity]	8	8	8
Axial bearing load [N]	5900	5900	5900
Radial bearing load [Nm]	761	761	761
Repetition accuracy +/- [°]	0.01	0.01	0.01
Operating pressure min. [bar]	3	3	3
Operating pressure max. [bar]	8	8	8
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	350	700	700
Weight [kg]	17.5	17.5	19



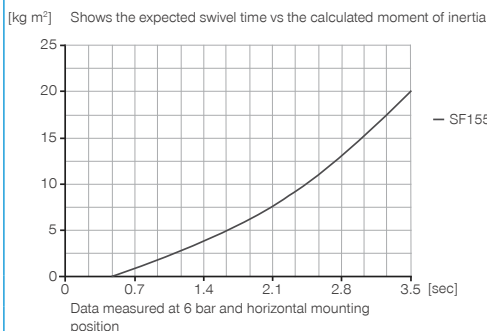
FLAT SWIVEL UNITS

INSTALLATION SIZE SF155M-C

PRODUCT SPECIFICATIONS



Moment of inertia



INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



1 [piece]
Attachment Kit
ANS0077



1 [piece]
Commissioning USB
052650

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

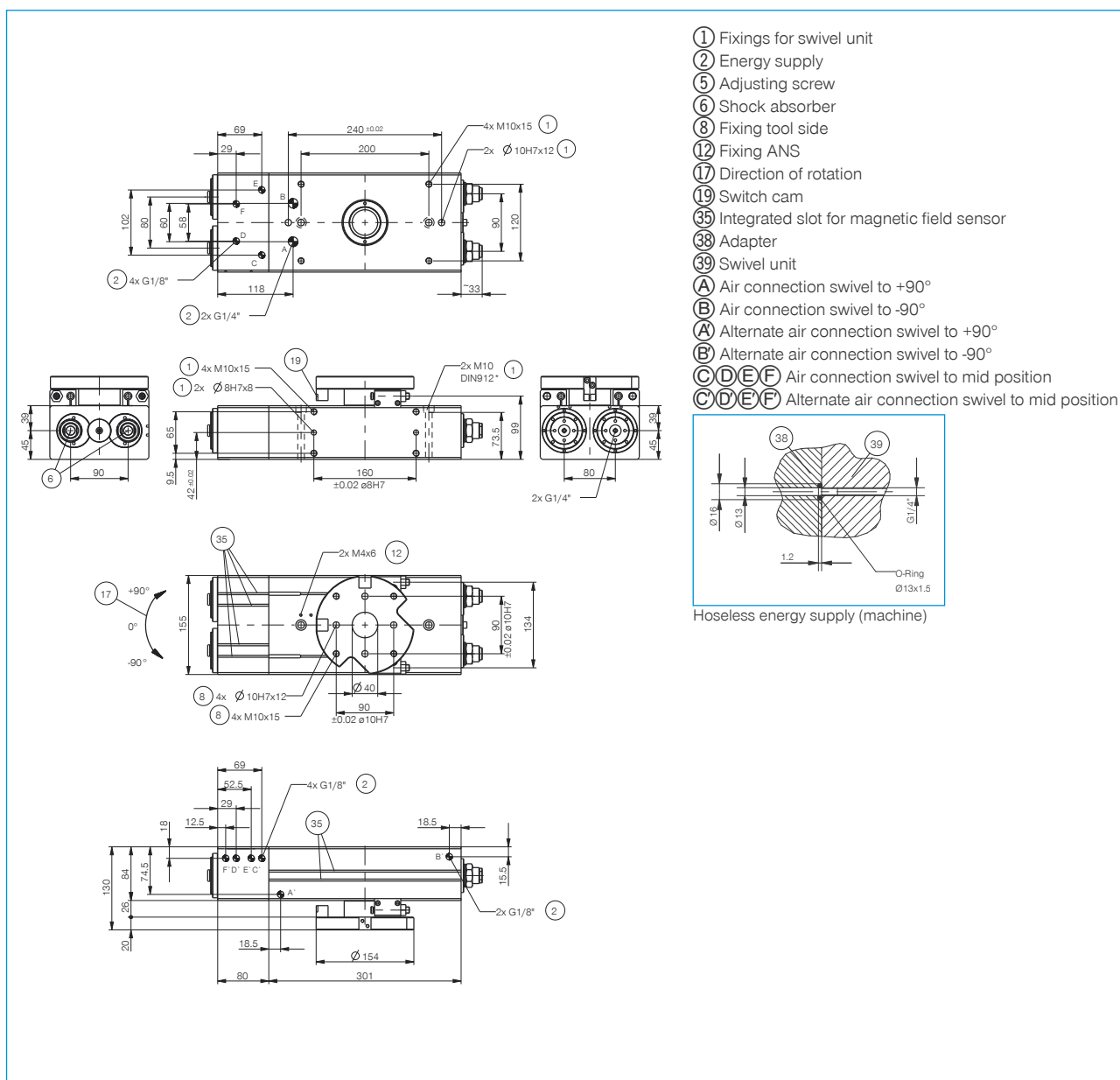


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data
	SF155M-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	62
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	40
Axial bearing load [N]	5900
Radial bearing load [Nm]	761
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm ³]	1010
Weight [kg]	19.3



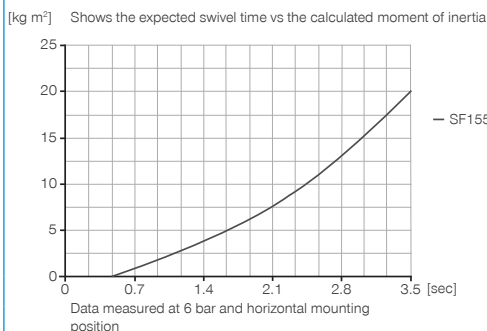
FLAT SWIVEL UNITS

INSTALLATION SIZE SF155MD4-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
O-Ring
COR0040150



1 [piece]
Attachment Kit
ANS0078



1 [piece]
Commissioning USB
052650

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

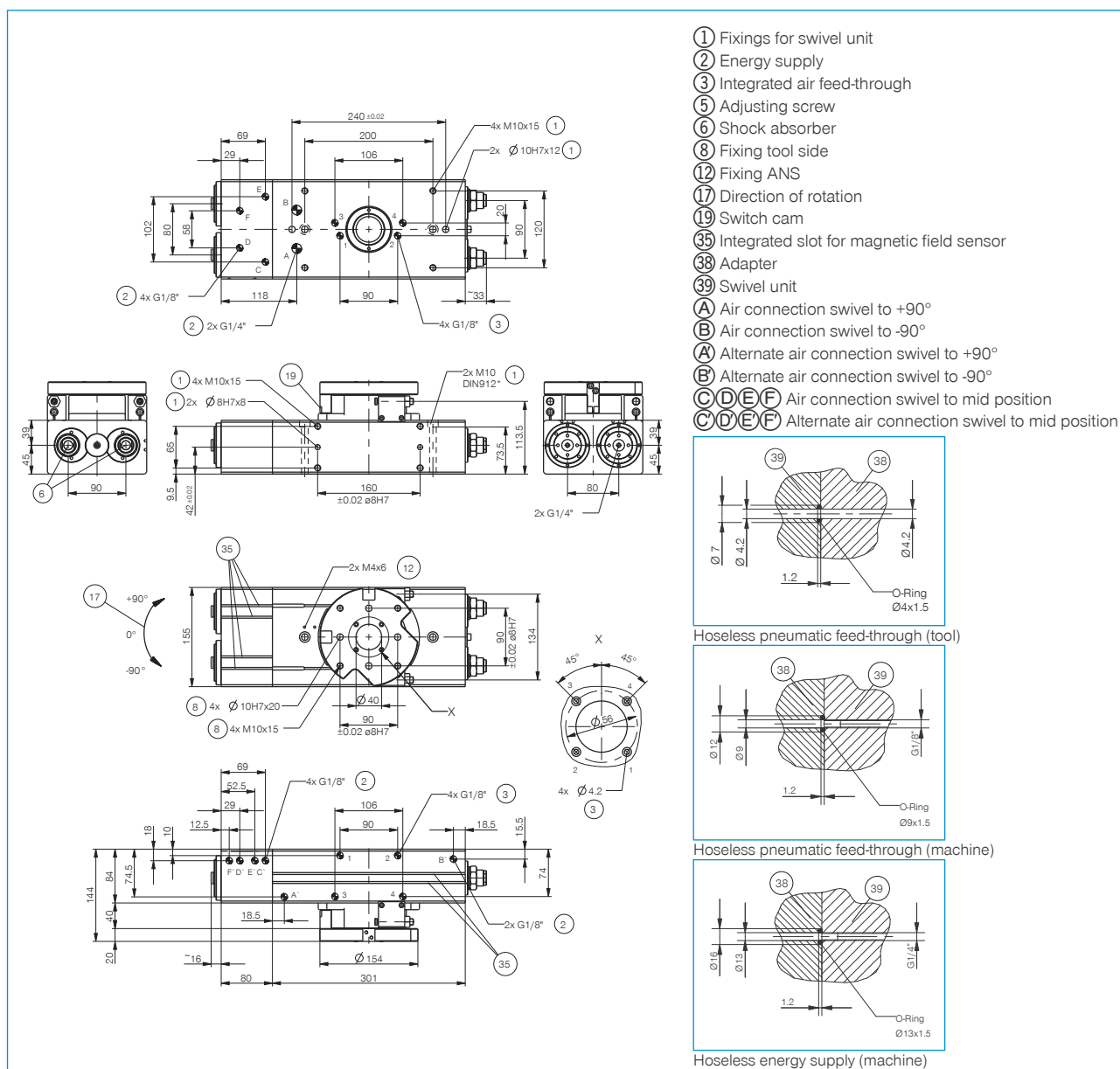


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data
	SF155MD4-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	58
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	40
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	5900
Radial bearing load [Nm]	761
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	1010
Weight [kg]	20.3



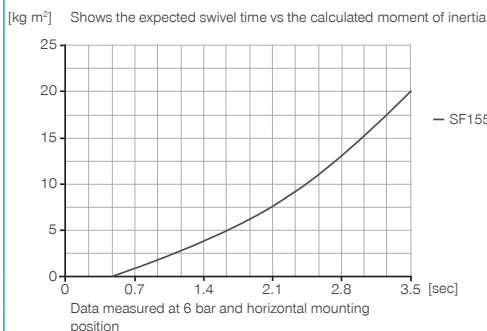
FLAT SWIVEL UNITS

INSTALLATION SIZE SF155MD8-C

PRODUCT SPECIFICATIONS



Moment of inertia



INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



8 [piece]
O-Ring
COR0040150



1 [piece]
Attachment Kit
ANS0079



1 [piece]
Commissioning USB
052650

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

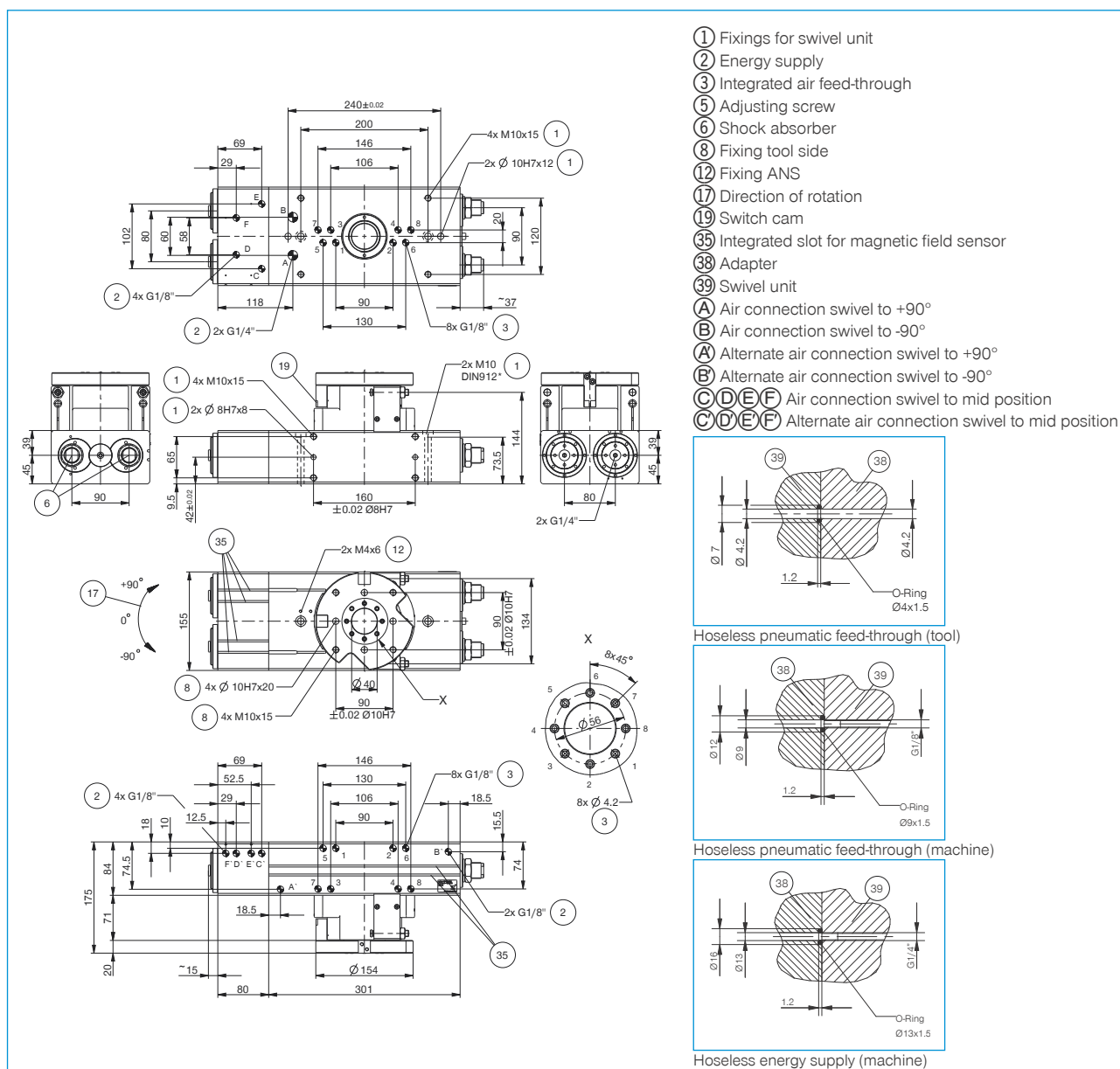


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data
	SF155MD8-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	54
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	40
Pneumatic energy transfer [Quantity]	8
Axial bearing load [N]	5900
Radial bearing load [Nm]	761
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	1010
Weight [kg]	21.8



FLAT SWIVEL UNITS

INSTALLATION SIZE SF195N-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia

[kg m²] Shows the expected swivel time vs the calculated moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0041
Attachment Kit



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

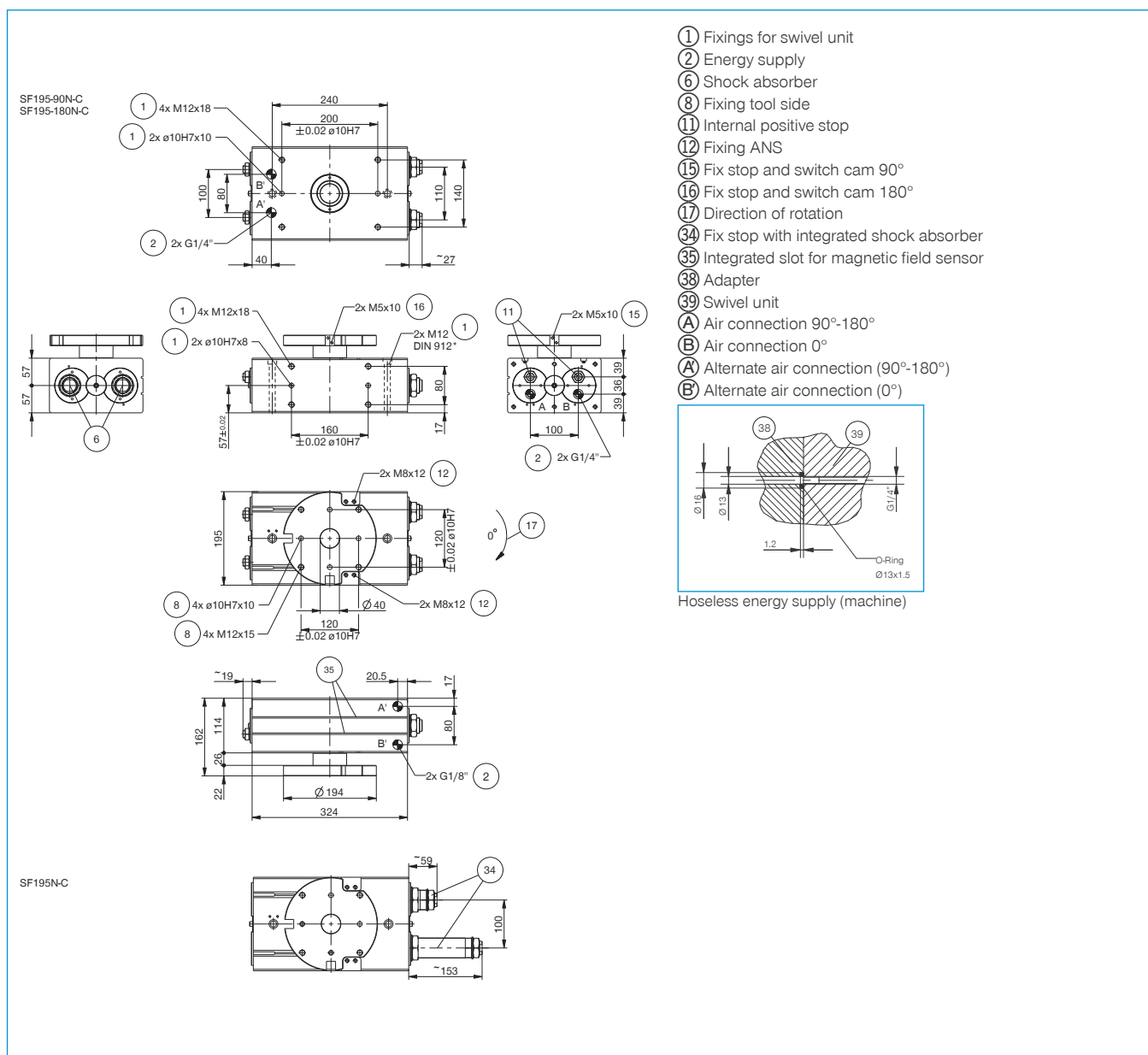


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	► Technical data		
	SF195-90N-C	SF195-180N-C	SF195N-C
Swivel angle [°]	90	180	0-180
Torque [Nm]	130	130	130
Swivel angle regulable +/- [°]	3	3	180
Passage bore Ø [mm]	40	40	40
Axial bearing load [N]	7000	7000	7000
Radial bearing load [Nm]	1253	1253	1253
Repetition accuracy +/- [°]	0.01	0.01	0.01
Operating pressure min. [bar]	3	3	3
Operating pressure max. [bar]	8	8	8
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	740	1480	1480
Weight [kg]	27.5	27.5	29.5



FLAT SWIVEL UNITS

INSTALLATION SIZE SF195D4-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia

[kg m²] Shows the expected swivel time vs the calculated moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
O-Ring
COR0050100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0042
Attachment Kit



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

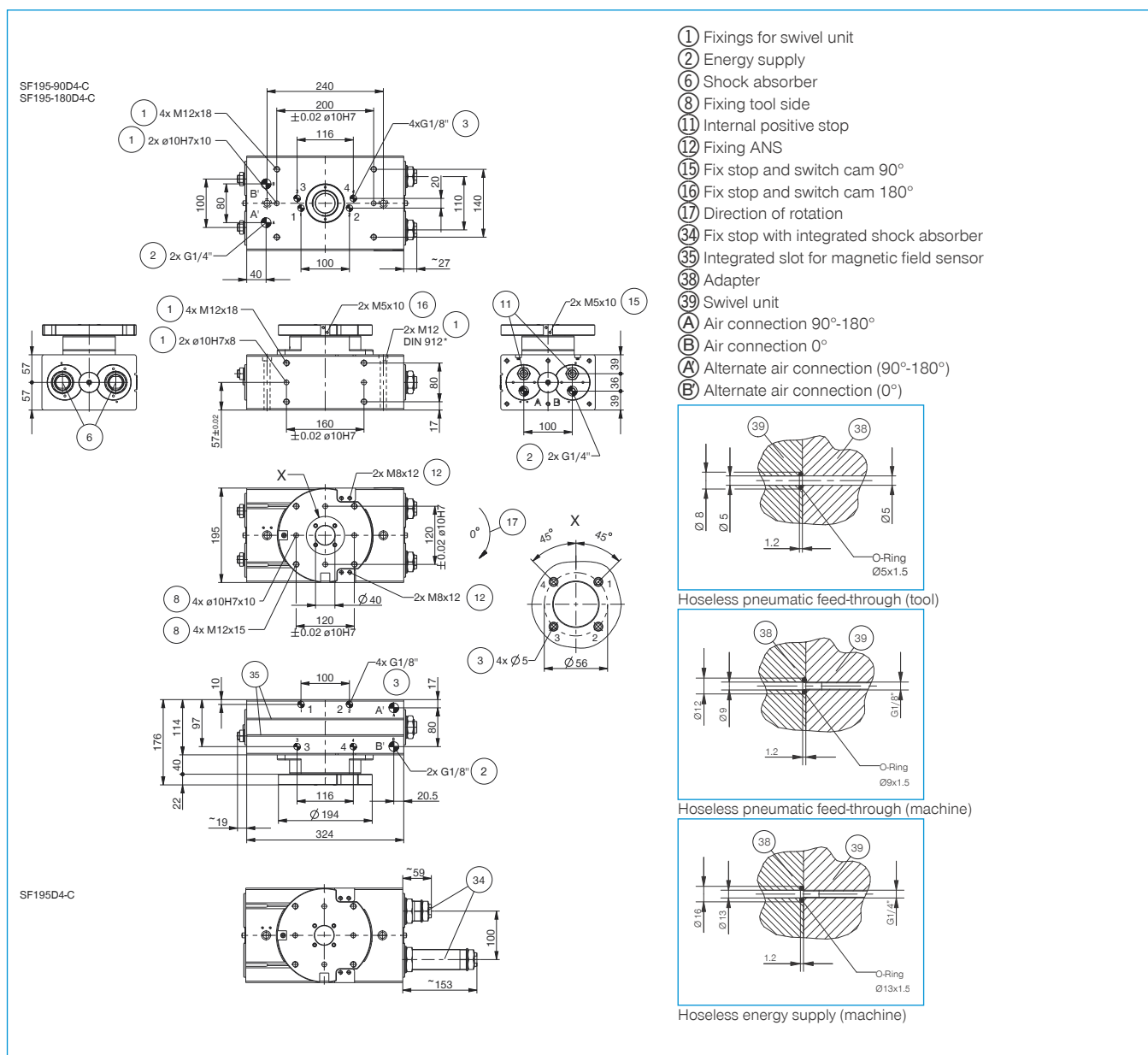


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data		
	SF195-90D4-C	SF195-180D4-C	SF195D4-C
Swivel angle [°]	90	180	0-180
Torque [Nm]	125	125	125
Swivel angle regulable +/- [°]	3	3	180
Passage bore Ø [mm]	40	40	40
Pneumatic energy transfer [Quantity]	4	4	4
Axial bearing load [N]	7000	7000	7000
Radial bearing load [Nm]	1253	1253	1253
Repetition accuracy +/- [°]	0.01	0.01	0.01
Operating pressure min. [bar]	3	3	3
Operating pressure max. [bar]	8	8	8
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	740	1480	1480
Weight [kg]	29	29	31



FLAT SWIVEL UNITS

INSTALLATION SIZE SF195D8-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia

[kg m²] Shows the expected swivel time vs the calculated moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



8 [piece]
O-Ring
COR0050100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0043
Attachment Kit



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m



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



NJ12-E2
Inductive proximity switch - Cable 5 m

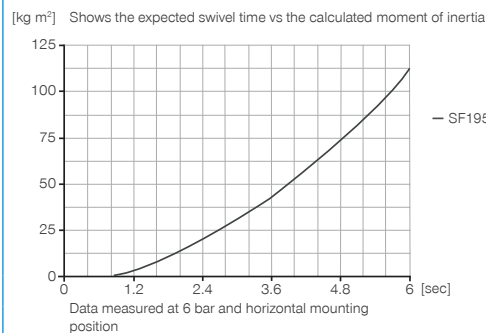
FLAT SWIVEL UNITS

INSTALLATION SIZE SF195M-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



1 [piece]
Attachment Kit
ANS0088



1 [piece]
Commissioning USB
052650

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m

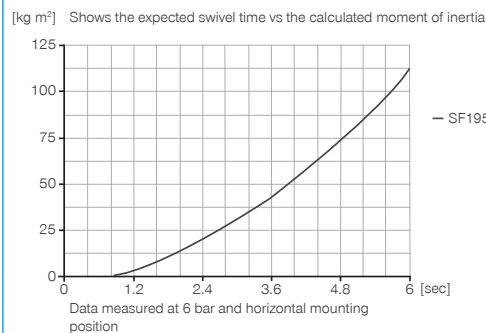
FLAT SWIVEL UNITS

INSTALLATION SIZE SF195MD4-C

PRODUCT SPECIFICATIONS



Moment of inertia



INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
O-Ring
COR0050100



1 [piece]
Attachment Kit
ANS0081



1 [piece]
Commissioning USB
052650

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m

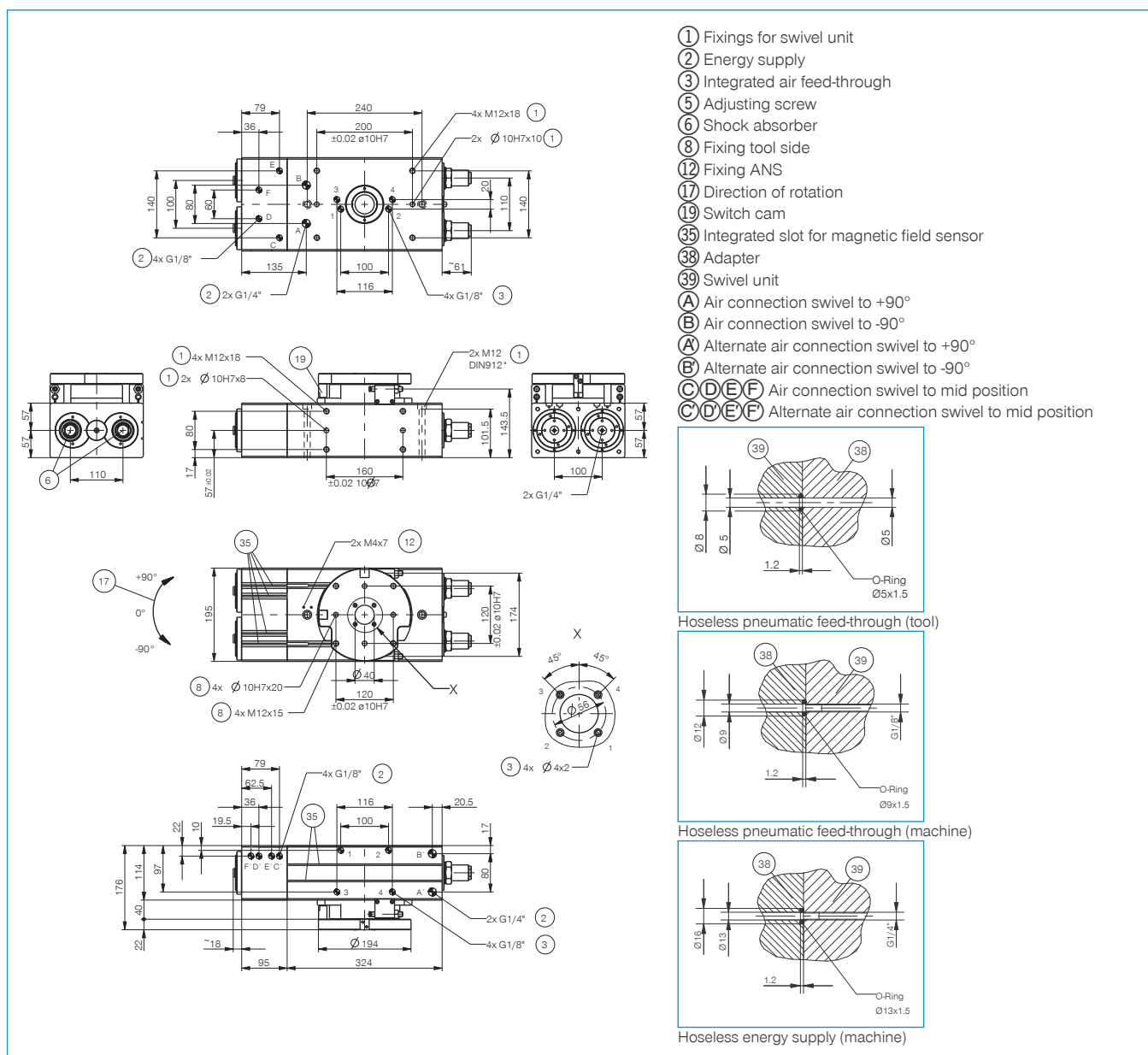


KAW500
Plug-in connector Angled Cable 5m - Socket M8 (female)



NJ12-E2
Inductive proximity switch - Cable 5 m

Order no.	Technical data
	SF195MD4-C
Swivel angle [°]	-90 / 0 / +90
Torque [Nm]	125
Swivel angle regulable +/- [°]	3
Passage bore Ø [mm]	40
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	7000
Radial bearing load [Nm]	1253
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	2035
Weight [kg]	41.1



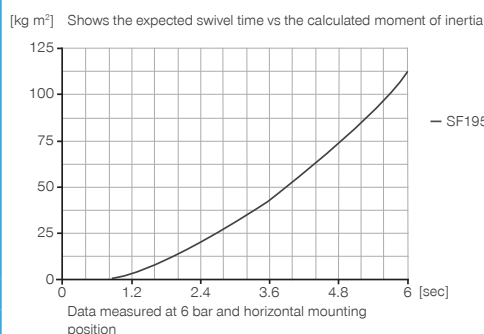
FLAT SWIVEL UNITS

INSTALLATION SIZE SF195MD8-C

▶ PRODUCT SPECIFICATIONS



▶ Moment of inertia



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



8 [piece]
O-Ring
COR0050100



1 [piece]
Attachment Kit
ANS0082



1 [piece]
Commissioning USB
052650

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



NJ8-E2
Inductive proximity switch - Cable 5 m



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



NJ12-E2
Inductive proximity switch - Cable 5 m

FLAT SWIVEL UNITS

SERIES MSF

▶ PRODUCT ADVANTAGES



“The unique”

▶ Decide for yourself!

Flange connection or journal shaft, with or without shock absorbers: The multitude of variants ensure you always find what you need

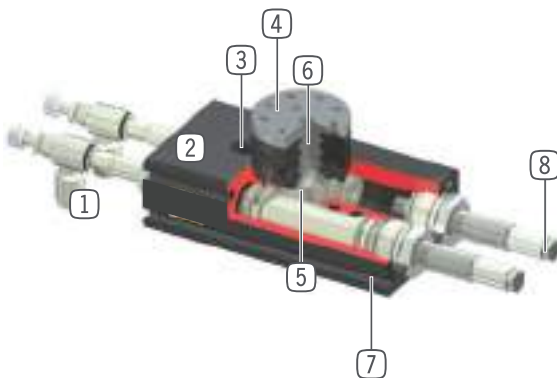
▶ Flat structure

Thanks to the reverse double piston drive, the unit can work in operations requiring flat conditions. This is how you can build your application to save more space

▶ Infinitely adjustable swivel angle

Become flexible and unique with the completely adjustable swivel angle that also reduces set up times

▶ BENEFITS IN DETAIL



① Air flow control valve

- for speed regulation
- included in scope of delivery

② Robust, lightweight housing

- Hard-coated aluminum alloy

③ Mounting and positioning

- mounting possible from several sides for versatile positioning

④ Tool intake

- with shaft extension or flange available

⑤ Force transfer

- rack and pinion

⑥ Up to 2 way integrated air feed-through

- for hoseless air transfer
- hose package does not have to be pivoted

⑦ Sensing slot

- mounting and positioning of magnetic field sensors

⑧ Integrated shock absorbers with spiral groove technology

- adjustable end position damping



► SERIES CHARACTERISTICS

Installation size		Version					
MSFXX		N-F001	S-F001	N-F002	S-F002	N-D2	S-D2
	10 million maintenance-free cycles (max.)	•	•	•	•	•	•
	IP41	•	•	•	•	•	•
	Magnetic field sensor	•	•	•	•	•	•
	Flange	•	•			•	•
	Shaft extension			•	•		
	Fluid feed-through					•	•
	Elastomer end position damping	•		•		•	
	Powerstop end position damping		•		•		•
	Positionability - 2 positions	•	•	•	•	•	•
	Adjustable swivel angle	•	•	•	•	•	•

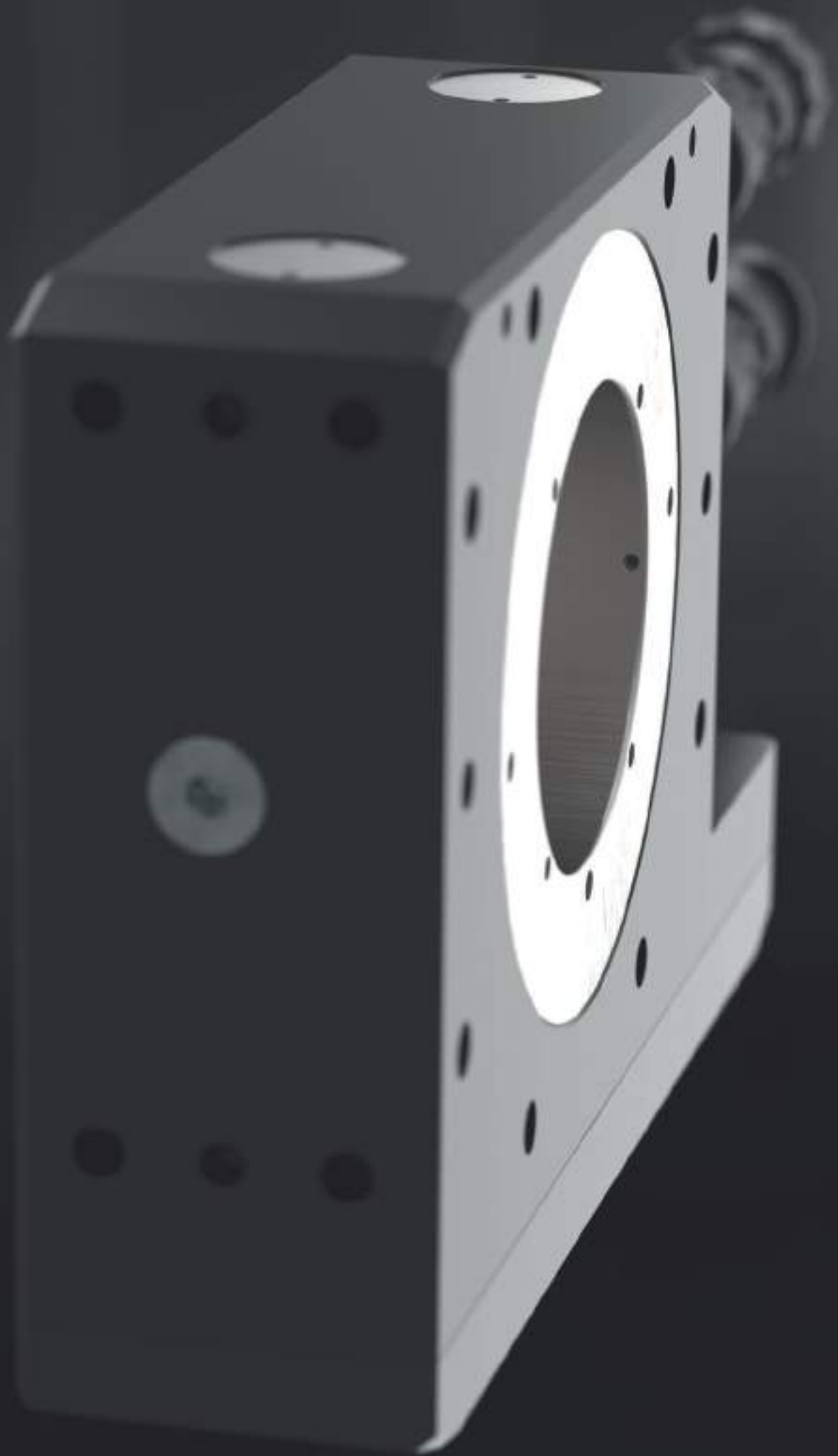
► TECHNICAL DATA

Installation size	Swivel angle [°]	Torque [Nm]	Weight [kg]	IP class
MSF34	90-180	0,3 - 0,4	0,17 - 0,21	IP41
MSF40	90-180	0,6 - 0,7	0,26 - 0,29	IP41
MSF44	90-180	1 - 1,2	0,41 - 0,46	IP41

► 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.



FLAT SWIVEL UNITS

OVERVIEW OF SERIES



ELECTRICAL



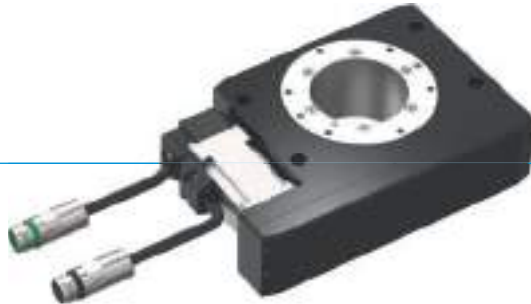
Series DES

376

FLAT SWIVEL UNITS

SERIES DES

▶ PRODUCT ADVANTAGES



“The unique”

▶ Decide for yourself!

With the standard motor or motors from another manufacturer - You decide what harmonises the best with your system

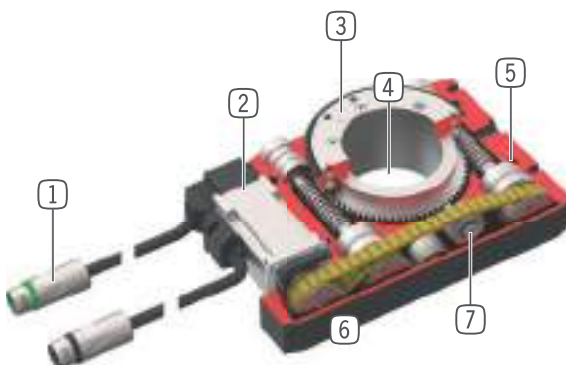
▶ Integrated media transmission

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

▶ Freely positionable

No matter whether your task involves rotating, lifting or cycling: The unit is universally usable and can be uniquely adjusted to your application

▶ BENEFITS IN DETAIL



① Energy supply

- motor cable, female
- encoder cable, male

② Drive

- AC servo motor

③ Intake flange

- for connection to application-specific adapter plate (to be produced by the customer)
- simple tool connection

④ Central bore

- for cable feed-through

⑤ Mounting and positioning

- mounting possible from several sides for versatile positioning

⑥ Robust, lightweight housing













- Hard-coated aluminum alloy

⑦ Force transfer

- tooth belt/gear rack/worm gear



► SERIES CHARACTERISTICS

Installation size		Version		
DESXXX		-B	D1-B	-99
	Profibus	•	•	
	Profinet, EtherCat, EtherNet/IP, Sercos	•	•	
	with drive	•	•	
	unpowered; installation provided by customer			•
	5 million maintenance-free revolutions (max.)	•	•	•
	Self locking mechanism	•	•	•
	IP54	•	•	•
	Integrated sensing	•	•	
	Continuously variable positions	•	•	
	Adjustable swivel angle	•	•	
	Electrical feed-through		•	
	Fluid feed-through		•	

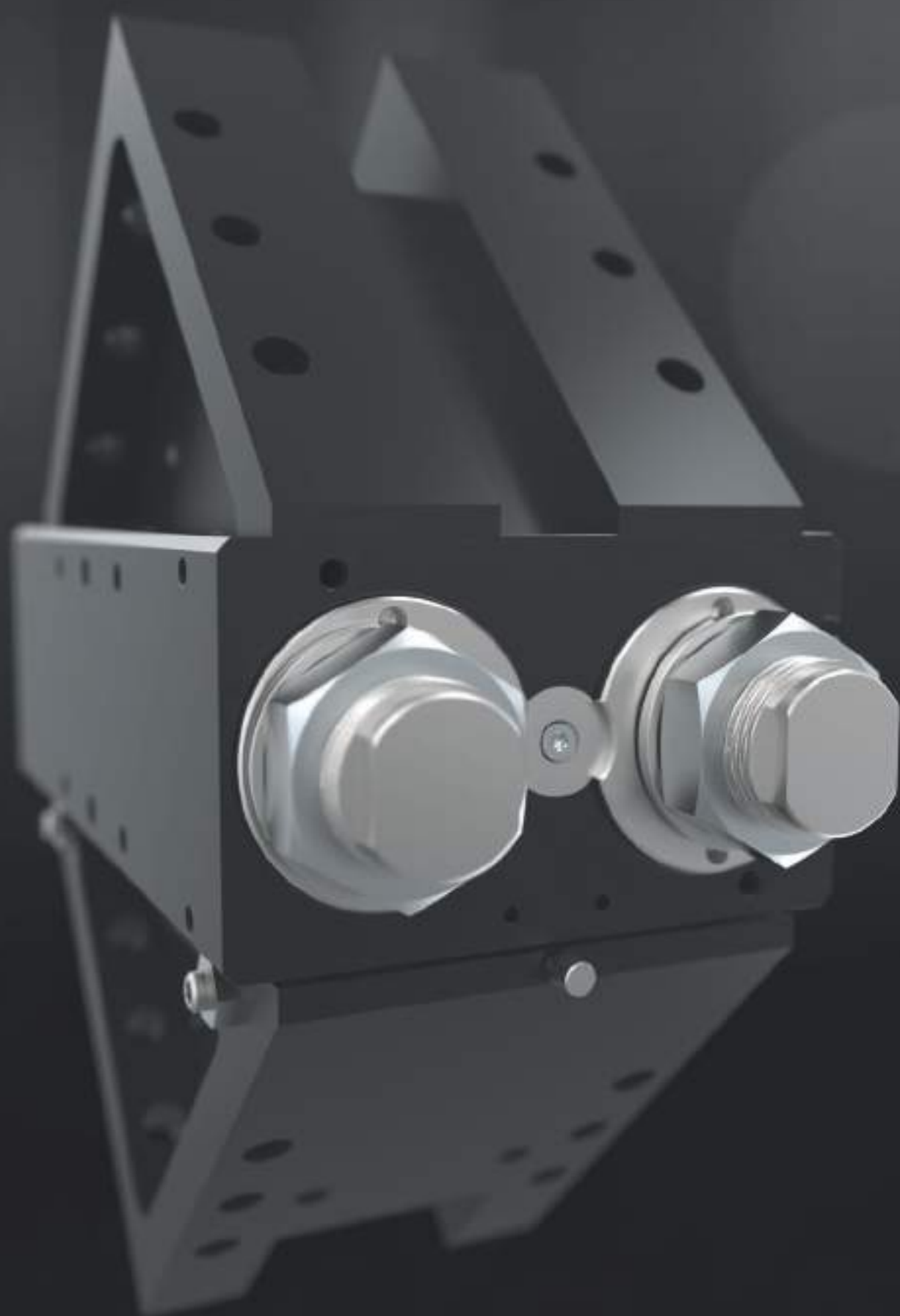
► TECHNICAL DATA

Installation size	Swivel angle [°]	Torque [Nm]	Weight [kg]	IP class
DES140	∞	10 - 12	4 - 7	IP54
DES190	∞	62 - 64	10,8 - 15,9	IP54

► 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.



ANGLE PIVOT UNITS

OVERVIEW OF SERIES



PNEUMATIC



Series SW

380



Series SWM1000

398

ANGLE PIVOT UNITS

SERIES SW











▶ PRODUCT ADVANTAGES



“The superior”

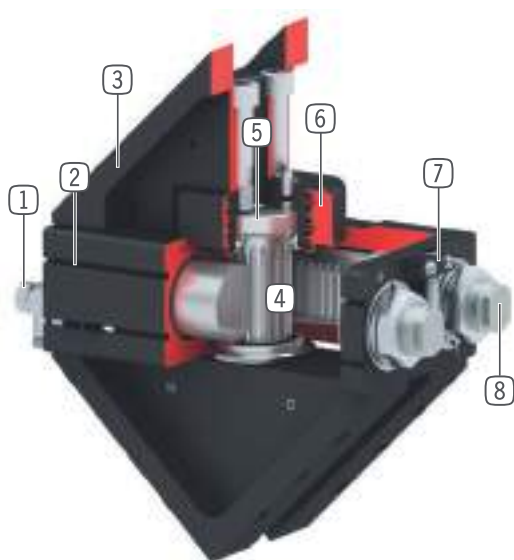
- ▶ **Up to 100% more performance than the benchmark**
Superior end position damping lets you swivel more mass in the shortest amount of time, increasing your machine's component output
- ▶ **Includes two angle flanges**
Reduce your design and manufacturing efforts with the angle pivot unit aligned on the machine loading system
- ▶ **More than 100% higher radial bearing load than the benchmark**
The generously scaled bearings stand for robustness and long service life and provide the highest process reliability for your application

▶ SERIES CHARACTERISTICS

Installation size		Version	
SWXXX		DX	
	10 million maintenance-free cycles (max.)		•
	IP64		•
	Inductive sensor		•
	Magnetic field sensor		•
	Flange		•
	Powerstop end position damping		•
	End positions adjustable +/- 3°		•
	Positionability - 2 positions		•
	Rotation angle 180°		•
	Fluid feed-through		•



► BENEFITS IN DETAIL



- 1 Air flow control valve**
 - for speed regulation (included in the delivery)
- 2 Sensing slot**
 - mounting and positioning of magnetic field sensors
- 3 Robust, lightweight housing**
 - Hard-coated aluminum alloy
- 4 Force transfer**
 - rack and pinion
- 5 Two way ball bearing hollow shaft**
 - for feedthrough cables and hoses
 - high forces and moments capacity
- 6 Up to 8 way integrated air feed-through**
 - for hoseless air transfer
 - hose package does not have to be pivoted
- 7 Mounting block**
 - mounting for inductive proximity switch
- 8 Integrated and patented hydraulic shock absorbers**
 - adjustable end position damping
 - heating is prevented through installation in pneumatic pressure chamber

► TECHNICAL DATA

Installation size	Swivel angle [°]	Torque [Nm]	Weight [kg]	IP class
SW50	180	1.5	1.2	IP64
SW74	180	5.5	2.6	IP64
SW100	180	15	6.3	IP64
SW125	180	34	15.3	IP64
SW155	180	58	25.3	IP64
SW195	180	120	48.2	IP64

► FURTHER INFORMATION IS AVAILABLE ONLINE



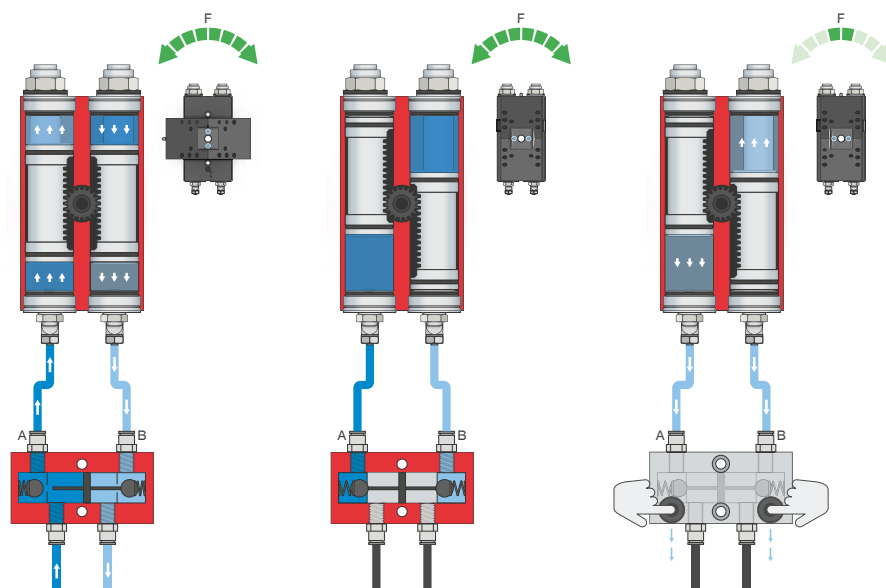
All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

ANGLE PIVOT UNITS

SERIES SW FUNCTIONAL DESCRIPTION



ENERGY SUPPLY



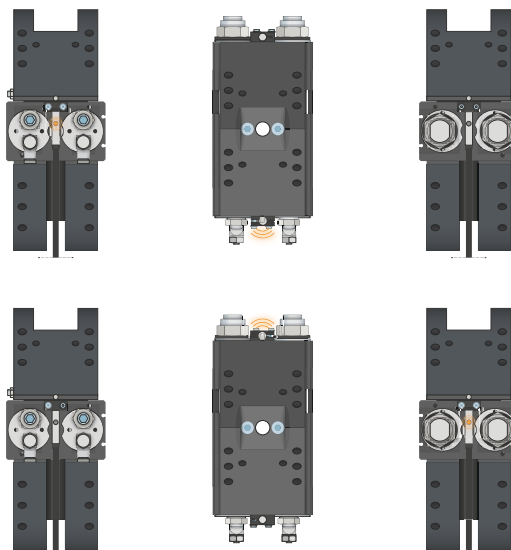
Pressure safety valve – DSV

Ensures safe retention of force and position if the system pressure drops

The integrated double check valve, which can be unlocked, retains the system pressure of the swivel unit in case of EMERGENCY STOP. To ensure the function, the valve must be installed as close to the swivel unit's air connection as possible. In variant E, two pushbuttons are installed that allow for controlled bleeding of the swivel unit.



SENSORS



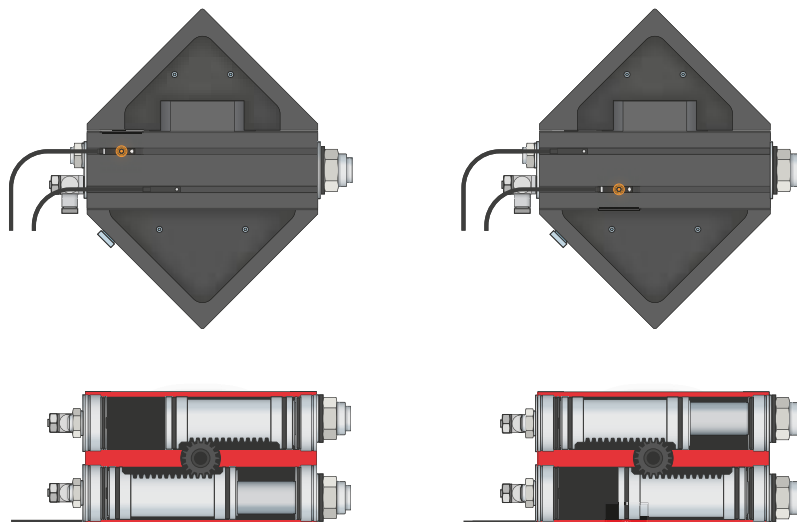
Inductive sensors – NJ

The sensor is inserted into the mounting block as far as it will go and secured. Tuning to the desired position then takes place by adjusting the cam switch. The sensors are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector, as well as with direct plug orientation.



SENSORS

MFS02



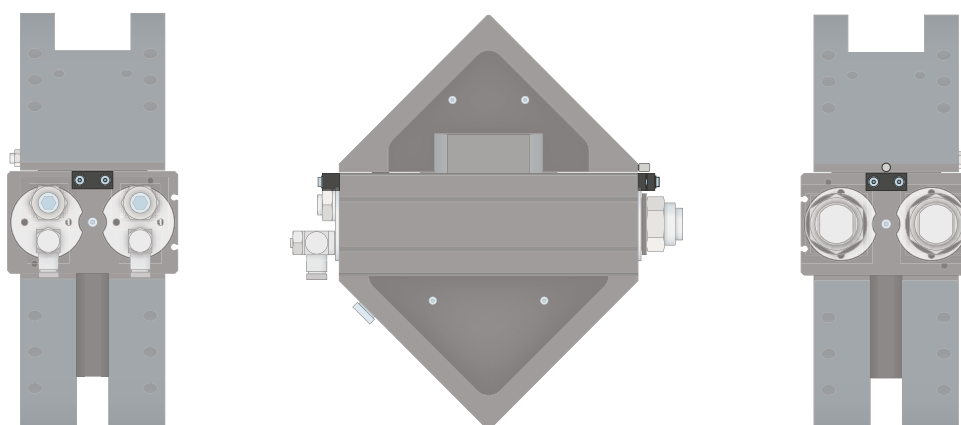
1-point magnetic field sensors – MFS

For non-contact sensing of the piston position

These sensors are clamped in the C-groove of the swivel unit and detect the magnet attached to the piston of the swivel unit. To ensure use in a wide variety of space conditions, the sensors are available in two versions. While the horizontal MFS02, with straight cable outlet, disappears into the C-groove of the swivel unit almost completely, the vertical MSF01 is taller, but has a cable outlet that is offset at an angle of 90°. The variants are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector.



CONNECTIONS / OTHER



Attachment kit

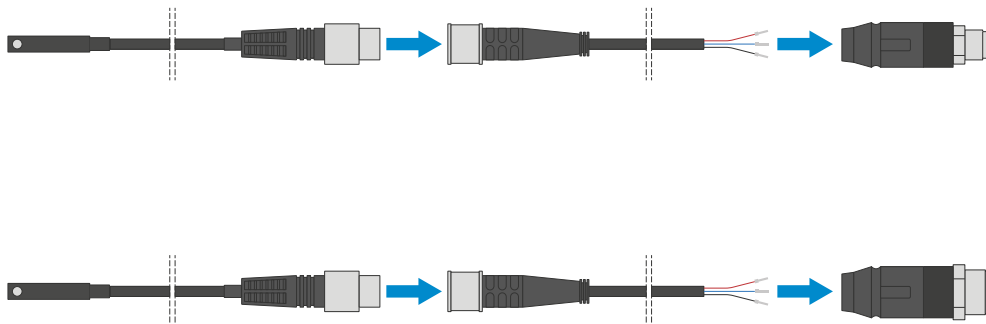
The attachment kit is installed on the gripper using the fastening material included in the scope of delivery. The attachment kit enables sensing of the gripper positions via inductive proximity switches.

ANGLE PIVOT UNITS

SERIES SW FUNCTIONAL DESCRIPTION



CONNECTIONS / OTHER



Plug-in connectors

For extending and fabricating the connection lines for the sensors

Cables with a length of 5 m with exposed leads are available. Depending on the specific needs, the cables can be shortened or fabricated with connectors in sizes M8 and M12.

ANGLE PIVOT UNITS

INSTALLATION SIZE SW50

▶ PRODUCT SPECIFICATIONS



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRVM5X4



4 [piece]
O-Ring
COR0050100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0062
Attachment Kit



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



S12-G-3
Plug-in connector customizable Straight - Connector M12



▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



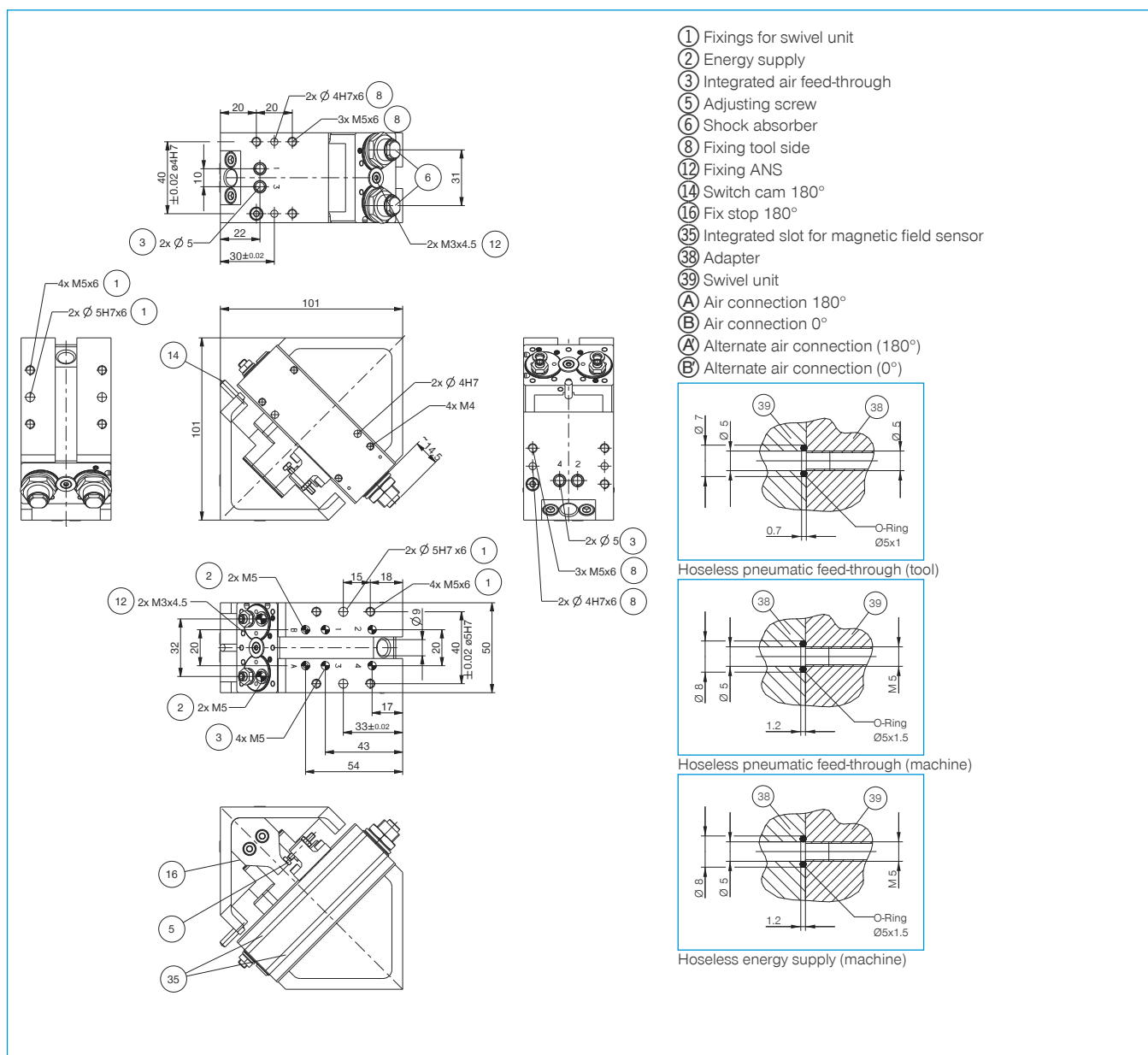
NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	Technical data
	SW50D4-C
Swivel angle [°]	180
Torque [Nm]	1.5
Swivel time [s]*	0.3
Passage bore Ø [mm]	9
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	490
Radial bearing load [Nm]	25
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	15
Weight [kg]	1.2

*without extension load



ANGLE PIVOT UNITS

INSTALLATION SIZE SW74

▶ PRODUCT SPECIFICATIONS



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-8X6



4 [piece]
O-Ring
COR0050100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0063
Attachment Kit



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



S12-G-3
Plug-in connector customizable Straight - Connector M12



▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



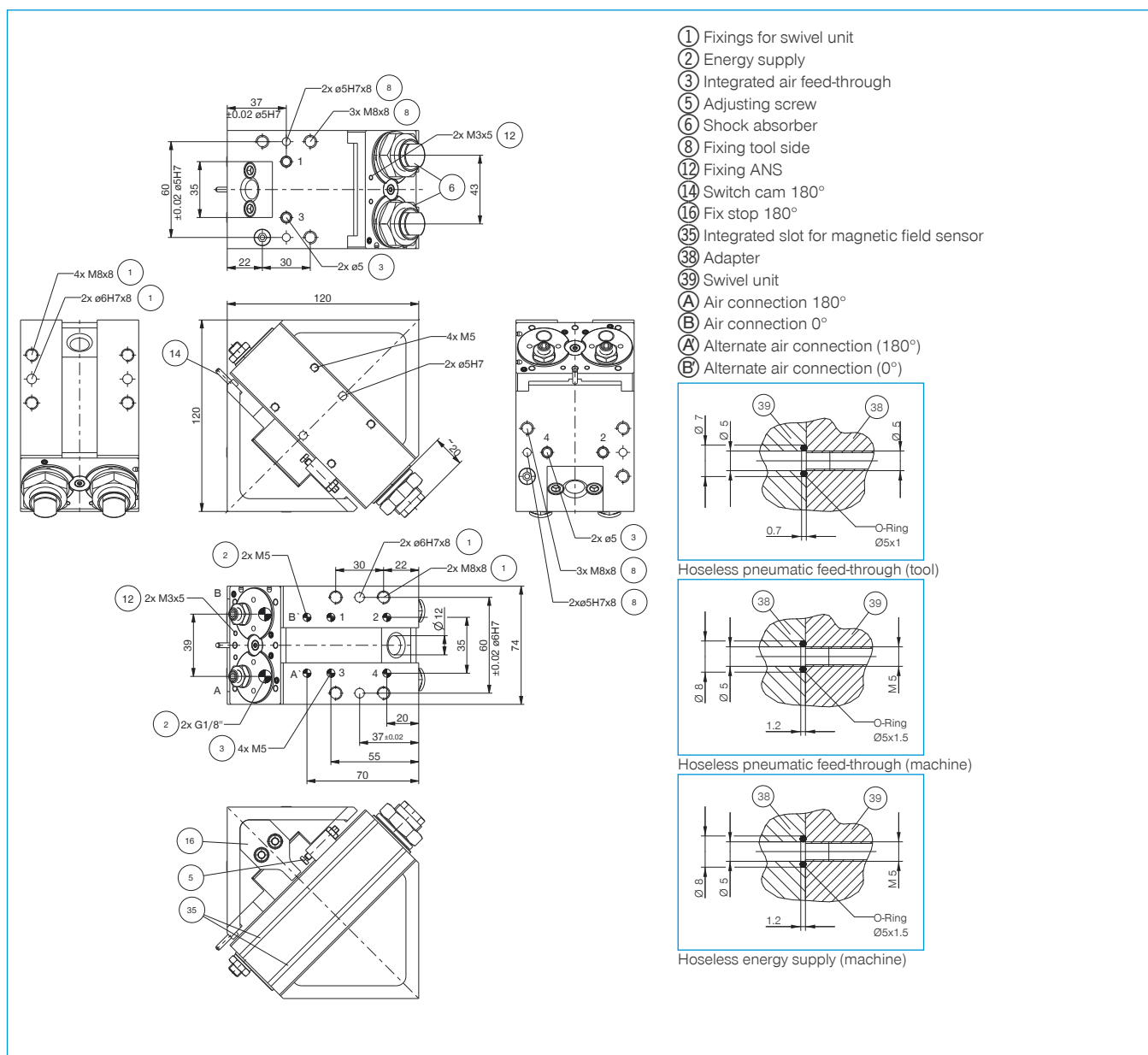
NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	Technical data
Swivel angle [°]	180
Torque [Nm]	5.5
Swivel time [s]*	0.3
Passage bore Ø [mm]	12
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	1120
Radial bearing load [Nm]	90
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	42
Weight [kg]	2.6

*without extension load



ANGLE PIVOT UNITS

INSTALLATION SIZE SW100

▶ PRODUCT SPECIFICATIONS



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-8X6



4 [piece]
O-Ring
COR0050100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



ANS0064
Attachment Kit



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



S12-G-3
Plug-in connector customizable Straight - Connector M12

▶ RECOMMENDED ACCESSORY ATTACHMENT KIT



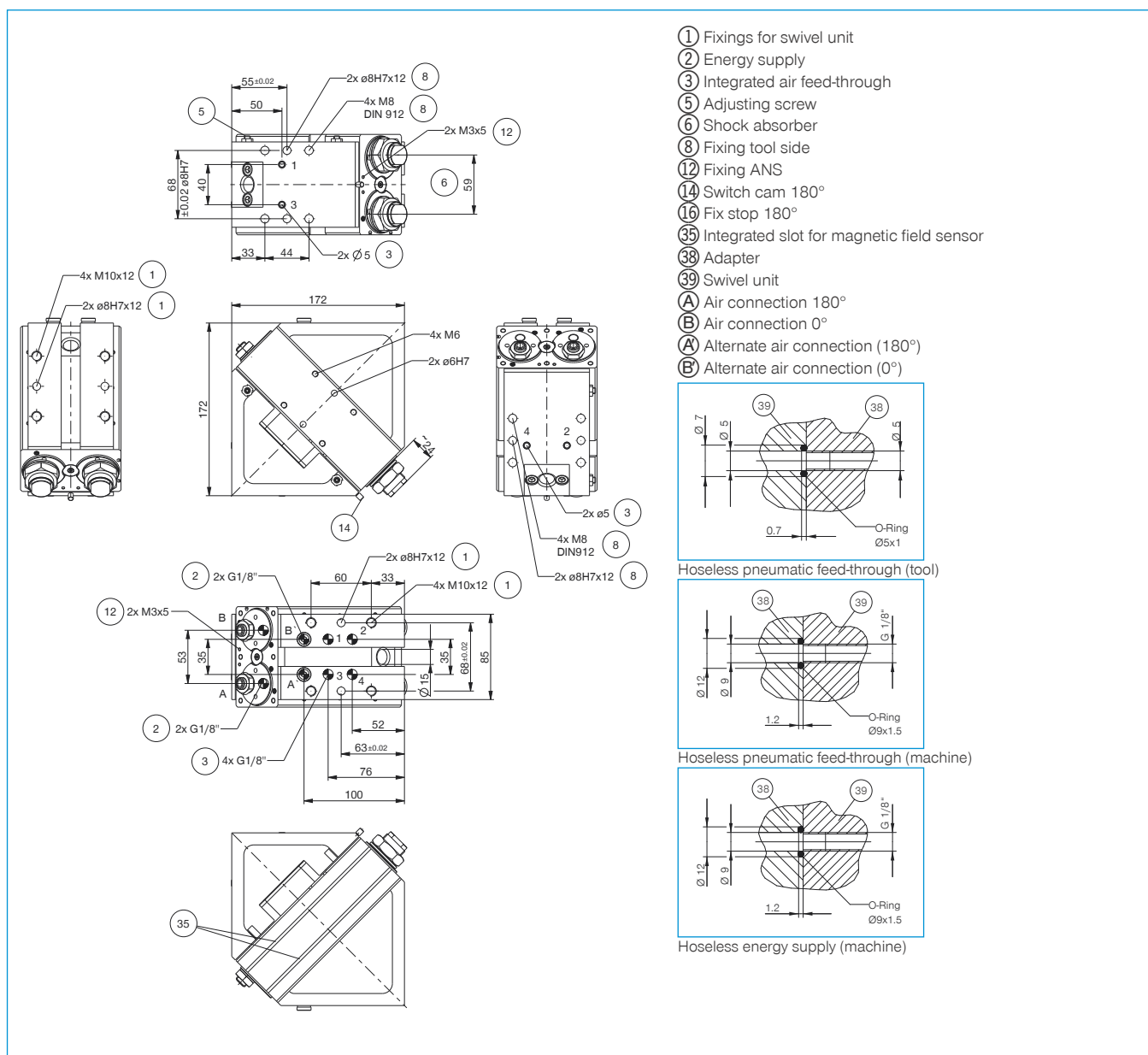
NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8

Order no.	Technical data
	SW100D4-C
Swivel angle [°]	180
Torque [Nm]	15
Swivel time [s]*	0.5
Passage bore Ø [mm]	15
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	2500
Radial bearing load [Nm]	155
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	108
Weight [kg]	6.3

*without extension load



ANGLE PIVOT UNITS

INSTALLATION SIZE SW125

▶ PRODUCT SPECIFICATIONS



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
O-Ring
COR0090150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



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



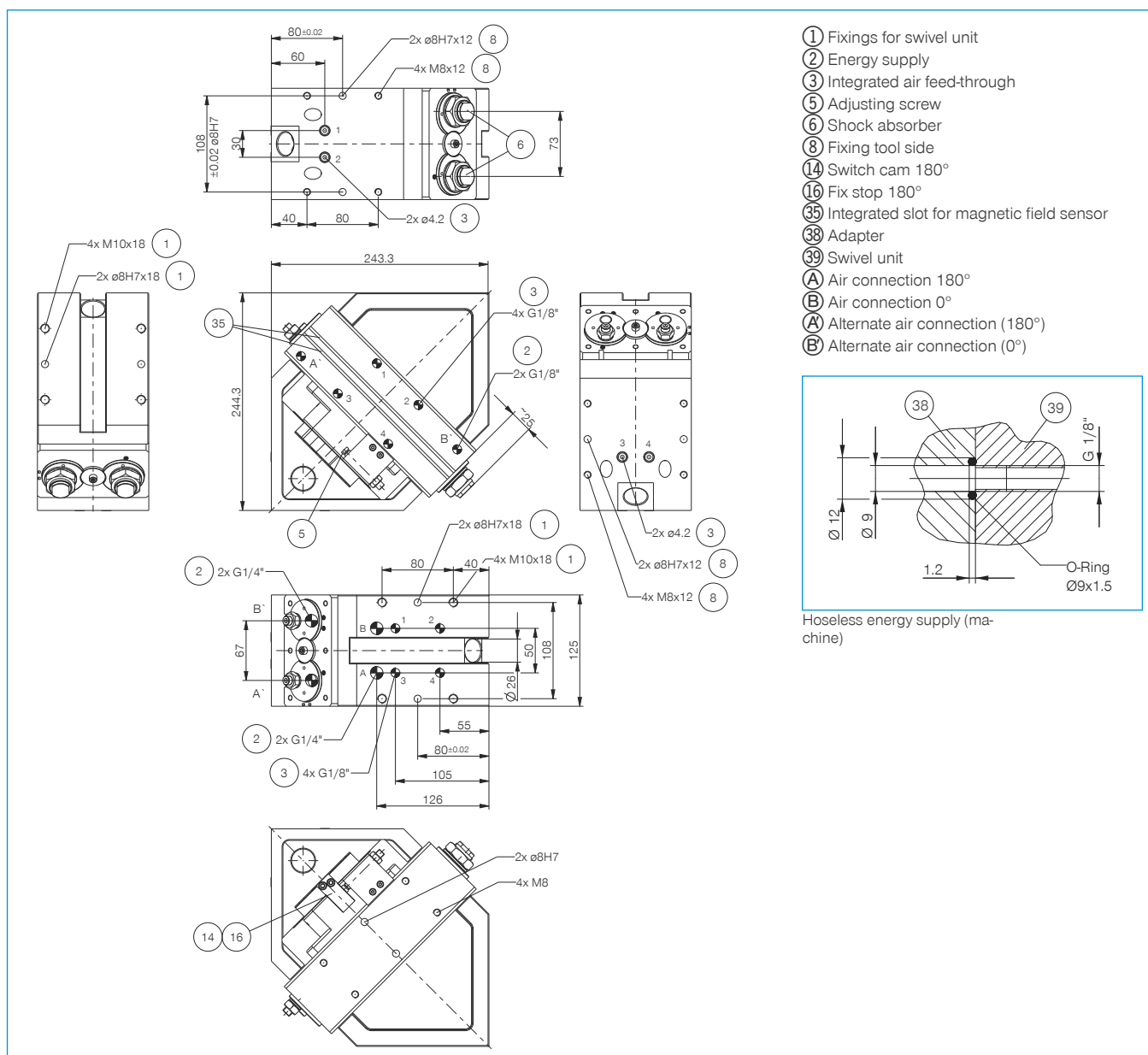
S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

Order no.	Technical data
	SW125D4-C
Swivel angle [°]	180
Torque [Nm]	34
Swivel time [s]*	0.6
Passage bore Ø [mm]	26
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	3400
Radial bearing load [Nm]	390
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	440
Weight [kg]	15.3

*without extension load



ANGLE PIVOT UNITS

INSTALLATION SIZE SW155

▶ PRODUCT SPECIFICATIONS



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



4 [piece]
O-Ring
COR0090150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



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



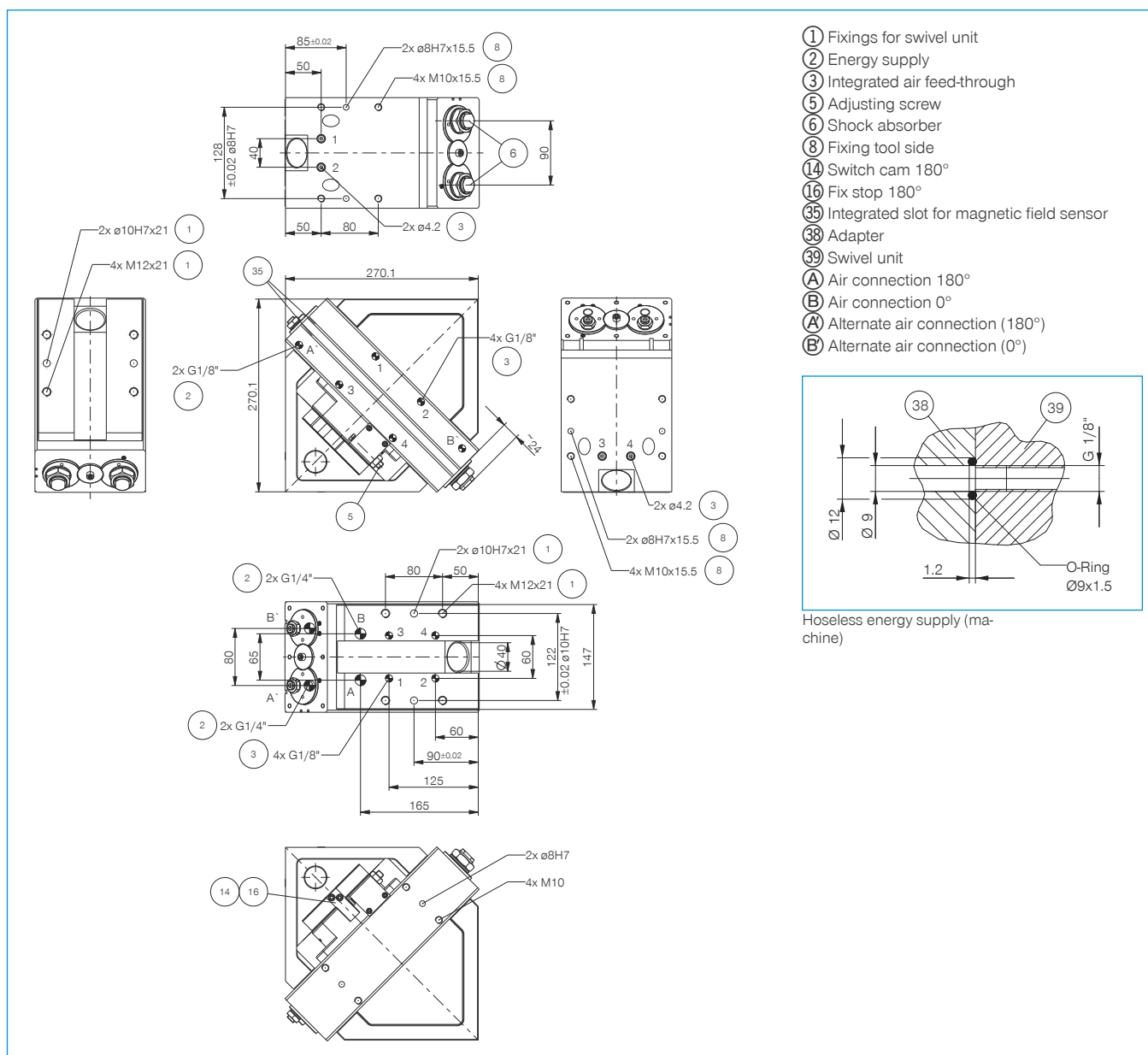
S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

Order no.	Technical data
	SW155D4-C
Swivel angle [°]	180
Torque [Nm]	58
Swivel time [s]*	0.8
Passage bore Ø [mm]	40
Pneumatic energy transfer [Quantity]	4
Axial bearing load [N]	5900
Radial bearing load [Nm]	760
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	730
Weight [kg]	25.3

*without extension load



ANGLE PIVOT UNITS

INSTALLATION SIZE SW195

▶ PRODUCT SPECIFICATIONS



▶ INCLUDED IN DELIVERY



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8



8 [piece]
O-Ring
COR0120150

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ12-E2
Inductive proximity switch - Cable 5 m



MFS02-K-KHC-P1-PNP
Magnetic field sensor Straight Cable 5 m



SENSORS



MFS02-S-KHC-P1-PNP
Magnetic field sensor Straight Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



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



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



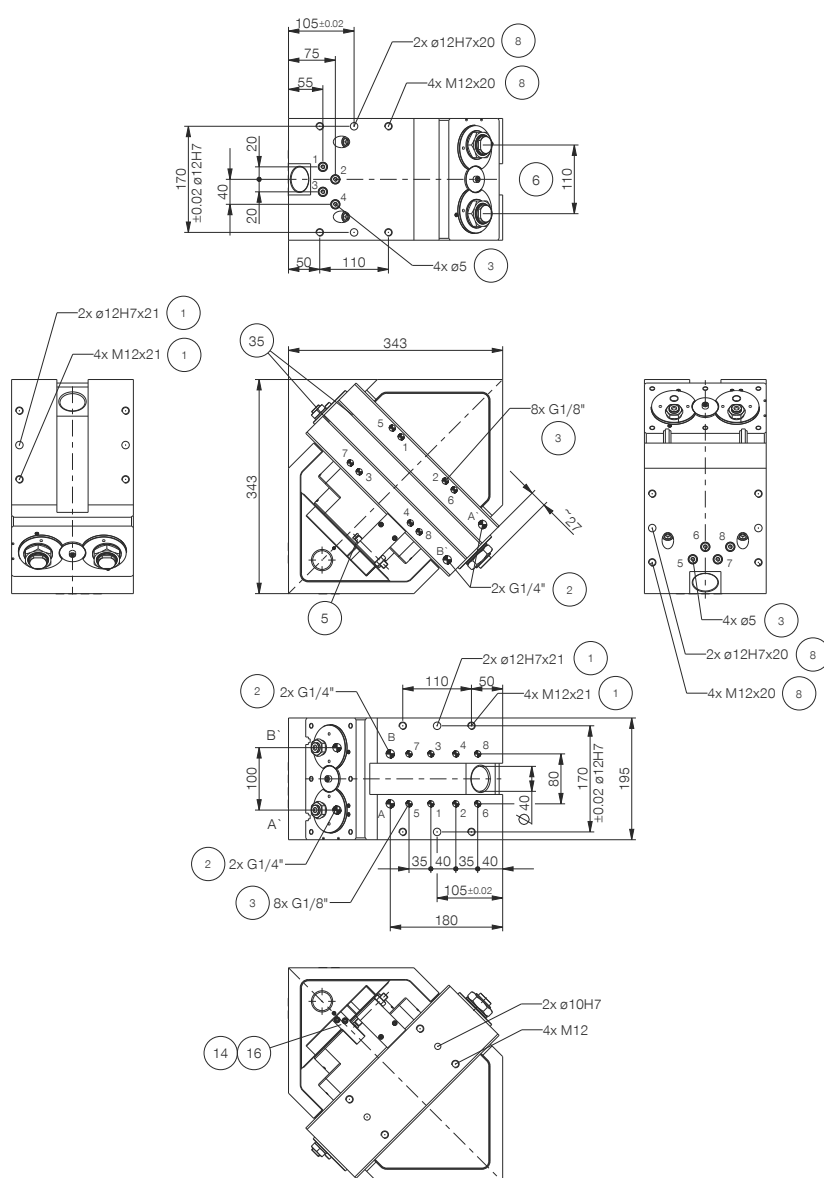
S8-G-3
Plug-in connector customizable Straight - Connector M8



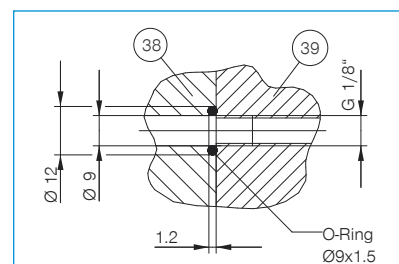
S12-G-3
Plug-in connector customizable Straight - Connector M12

Order no.	Technical data
	SW195D8-C
Swivel angle [°]	180
Torque [Nm]	120
Swivel time [s]*	1.1
Passage bore Ø [mm]	40
Pneumatic energy transfer [Quantity]	8
Axial bearing load [N]	7000
Radial bearing load [Nm]	1250
Repetition accuracy +/- [°]	0.01
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	1520
Weight [kg]	48.2

*without extension load



- ① Fixings for swivel unit
- ② Energy supply
- ③ Integrated air feed-through
- ⑤ Adjusting screw
- ⑥ Shock absorber
- ⑧ Fixing tool side
- ⑭ Switch cam 180°
- ⑮ Fix stop 180°
- ⑮ Integrated slot for magnetic field sensor
- ⑮ Adapter
- ⑮ Swivel unit
- A Air connection 180°
- B Air connection 0°
- A Alternate air connection (180°)
- B Alternate air connection (0°)



Hoseless energy supply (machine)

ANGLE PIVOT UNITS

SERIES SWM1000

3
Swivel- and Rotary Modules
pneumatic / Angle Pivot Units / Series SWM1000






▶ PRODUCT ADVANTAGES



“The slim”

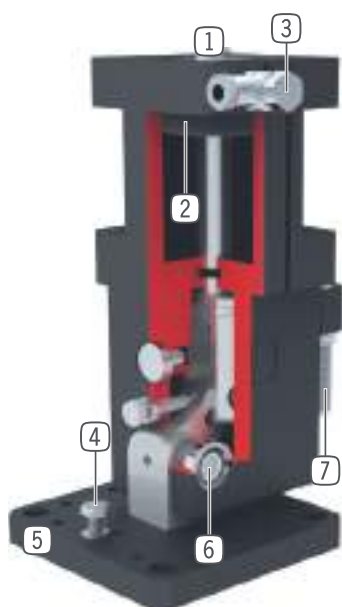
- ▶ **Optimised design**
Adjusted to a gantry axle, you can integrate the unit in your machine loading system to save space
- ▶ **Large locating flange**
The large mounting surface simplifies your design and allows secure attachment of follow-on tools
- ▶ **Failure-free continuous operation**
Our uncompromising “Made in Germany” quality guarantees up to 10 million maintenance-free cycles

▶ SERIES CHARACTERISTICS

Installation size		
SWM10XX		
 10 million maintenance-free cycles (max.)		●
 IP30		●
 Magnetic field sensor		●
 Powerstop end position damping		●
 Positionability - 2 positions		●



► BENEFITS IN DETAIL



- ① **Mounting and positioning**
- ② **Drive**
 - double-acting pneumatic cylinder
- ③ **Air flow control valve**
 - for speed regulation
 - included in scope of delivery
- ④ **Adjustable end position**
 - +/- 3° adjustable end position
- ⑤ **Intake flange**
 - for connection to application-specific adapter plate (to be supplied by the customer)
- ⑥ **Force transfer 90° pivoting**
 - toggle lever principle
- ⑦ **Patented, hydraulic shock absorber**
 - adjustable end position damping

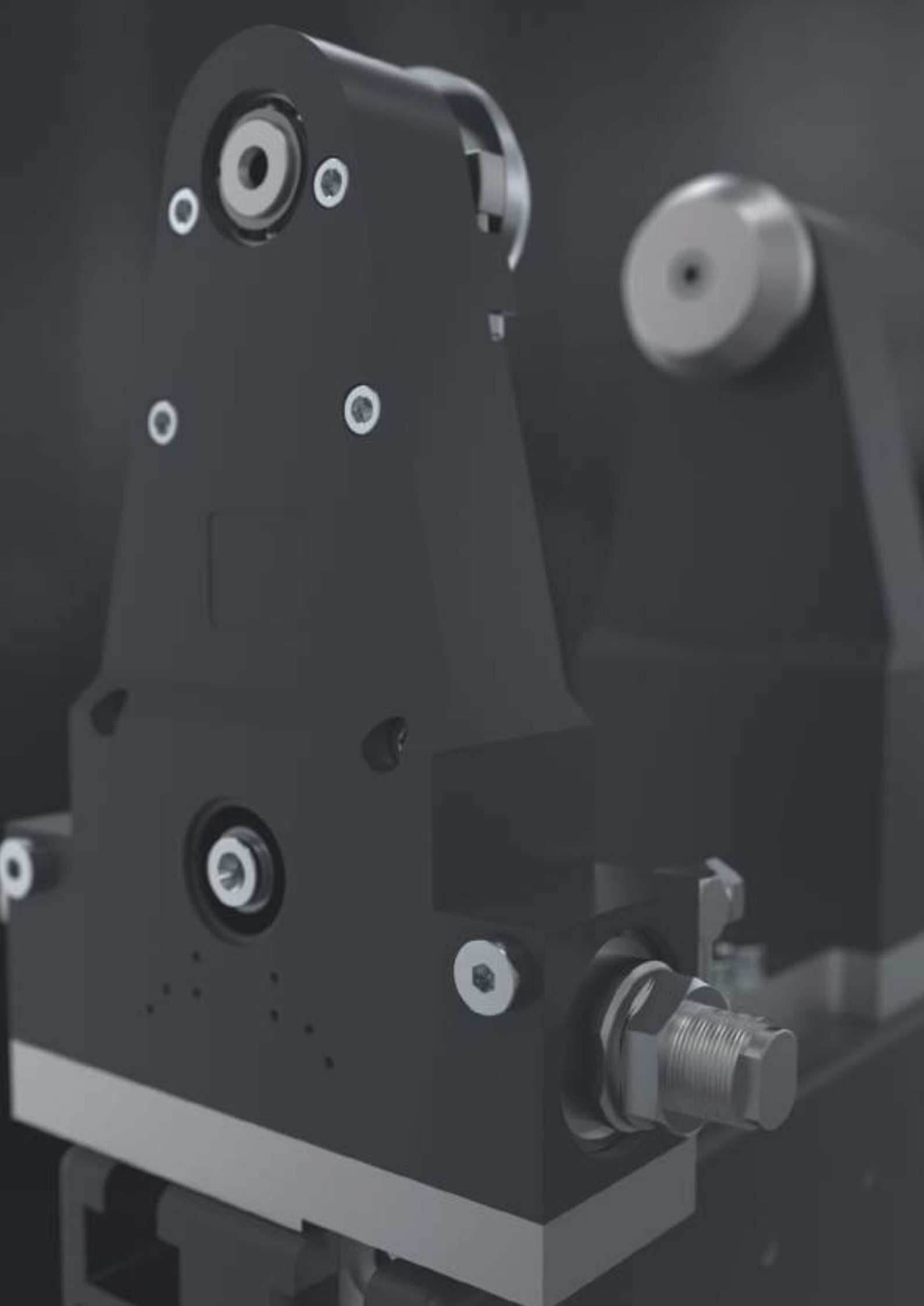
► TECHNICAL DATA

Installation size	Swivel angle [°]	Torque [Nm]	Weight [kg]	IP class
SWM1035	90	7 - 10	0.65	IP30
SWM1045	90	14 - 21	1.2	IP30
SWM1054	90	29 - 40	2.3	IP30
SWM1063	90	39 - 64	3.5	IP30
SWM1080	90	88 - 150	5.8	IP30

► FURTHER INFORMATION IS AVAILABLE ONLINE

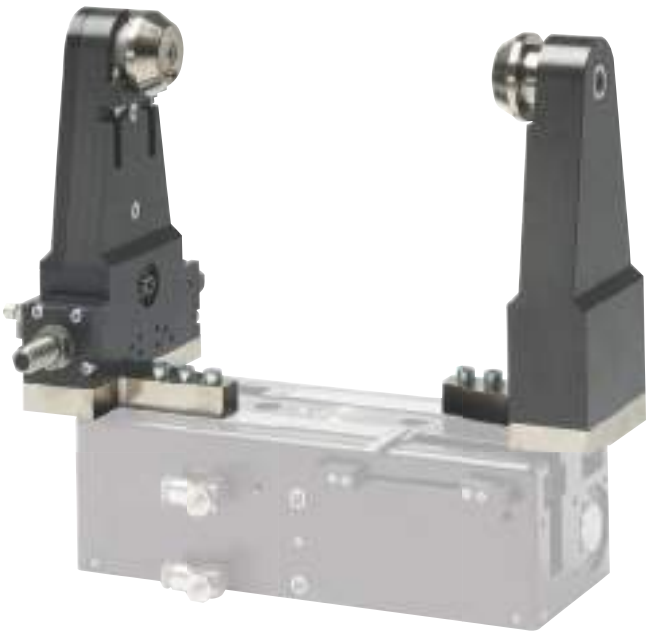


All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.



SWIVEL JAWS

OVERVIEW OF SERIES



PNEUMATIC



Series SB

402



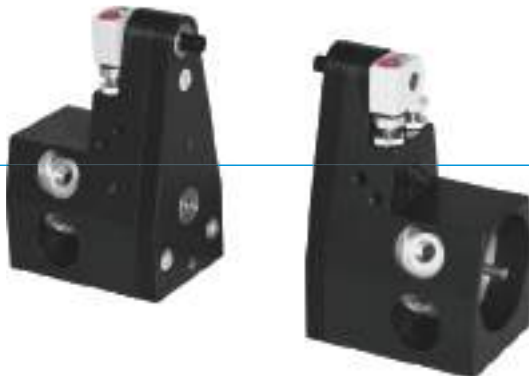
Series SBZ

412

SWIVEL JAWS

SERIES SB

► PRODUCT ADVANTAGES



“The economical”

► Concentration on the essentials

The most cost-effective type of swivelling reduces your production costs










► Proven technology

We have more than 20 years of proven reliability, which ensures uninterrupted production for you

► Flexible swivel angle

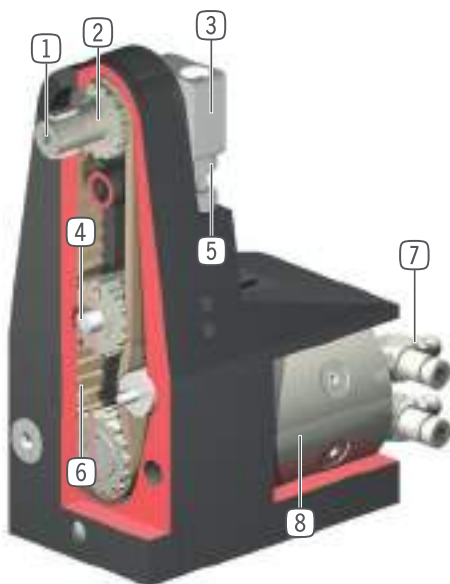
90° or 180°; you decide which using the provided limit stops. This allows you to be flexible while only needing to maintain one product in your system

► SERIES CHARACTERISTICS

Installation size		
SBXX		
 10 million maintenance-free cycles (max.)		•
 IP54		•
 Inductive sensor		•
 Shaft extension		•
 Elastomer end position damping		•
 End positions adjustable +/- 3°		•
 Positionability - 2 positions		•
 Rotation angle 90°		•
 Rotation angle 180°		•



► BENEFITS IN DETAIL



- ① **Drive shaft**
 - as hexagonal or round shaft with feather key, depending on design
 - quick and cost effective positioning of application-specific workpiece intakes
- ② **Two way bearing drive shaft**
 - high forces and moments capacity
- ③ **Stop**
 - swivel angle of 90 and 180°
 - stable, with Fibroflex stop surface
- ④ **Position sensing**
 - inquiry of end positions 0° and 90° (or 180°) via inductive proximity switch
 - integrated in housing, therefore no additional interference contour
- ⑤ **End position**
 - +/- 3° adjustable end position
- ⑥ **Force transfer**
 - stable toothed belt with steel reinforcement
 - quiet, reliable, durable
- ⑦ **Energy supply**
 - possible from several sides
- ⑧ **Drive**
 - double-acting rotor cylinder

► TECHNICAL DATA

Installation size	Swivel angle [°]	Torque [Nm]	Weight (pair) [kg]	IP class
SB32	90 - 180	0.1	0.3	IP54
SB40	90 - 180	0.3	0.7	IP54
SB54	90 - 180	1.6	2.2	IP54

► FURTHER INFORMATION IS AVAILABLE ONLINE



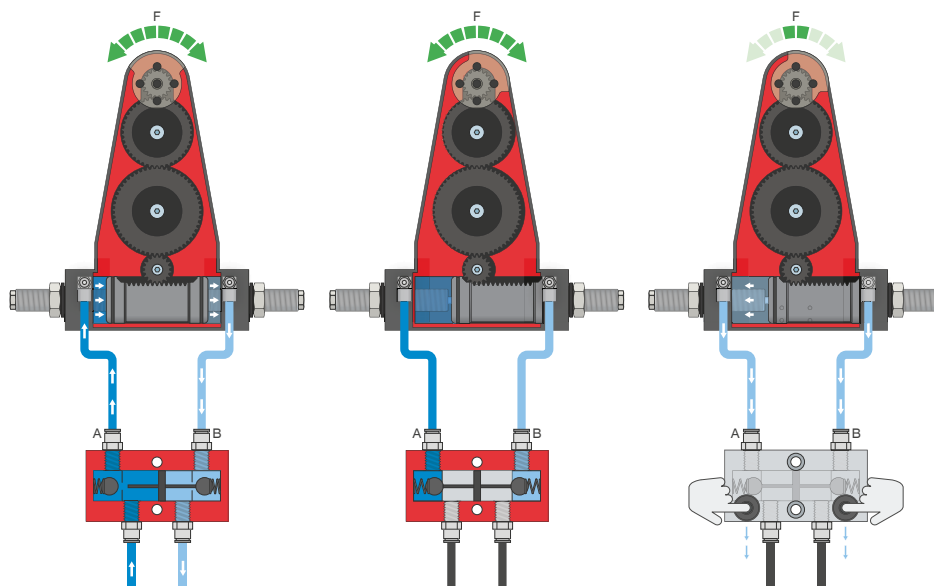
All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

SWIVEL JAWS

SERIES SB FUNCTIONAL DESCRIPTION



ENERGY SUPPLY



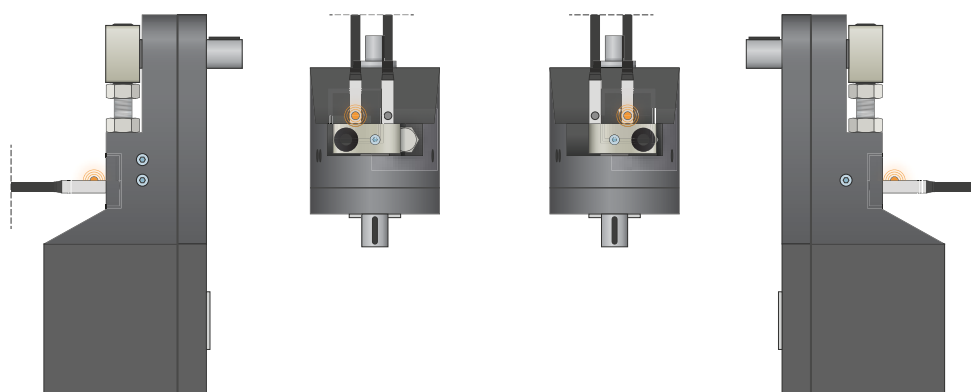
Pressure safety valve – DSV

Ensures safe retention of force and position if the system pressure drops

The integrated double check valve, which can be unlocked, retains the system pressure of the swivel jaw in case of EMERGENCY STOP. To ensure the function, the valve must be installed as close to the swivel jaw's air connection as possible. In variant E, two pushbuttons are installed that allow for controlled bleeding of the swivel jaw.



SENSORS

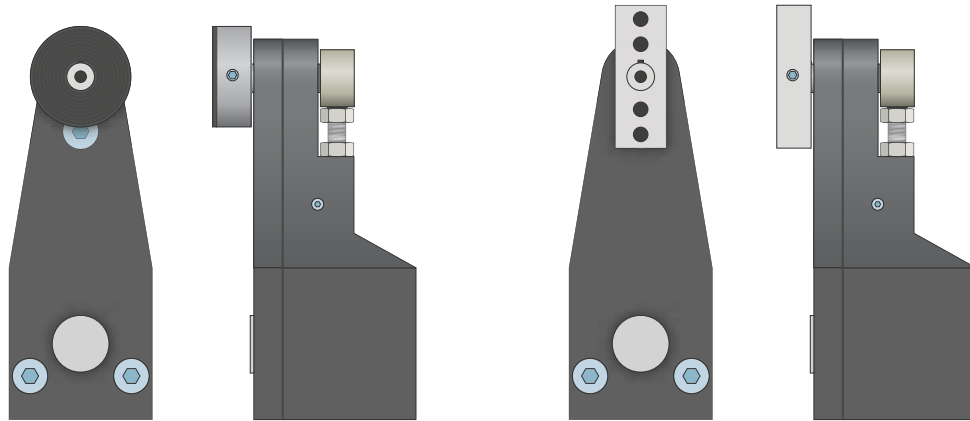


Inductive sensors – NJ

The sensor is inserted into the mounting block as far as it will go and secured. The sensors are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector, as well as with direct plug orientation.

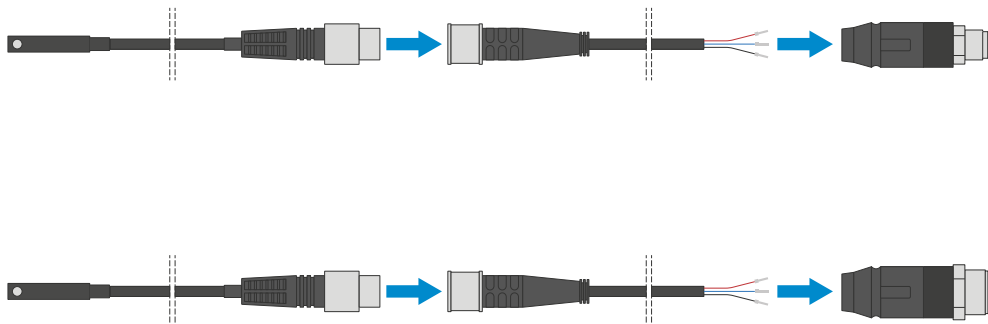


CONNECTIONS / OTHER



Base jaws

The base jaws enable fast and easy adaptation to the workpiece and/or the attachment of custom jaws.



Plug-in connectors

For extending and fabricating the connection lines for the sensors

Cables with a length of 5 m with exposed leads are available. Depending on the specific needs, the cables can be shortened or fabricated with connectors in sizes M8 and M12.

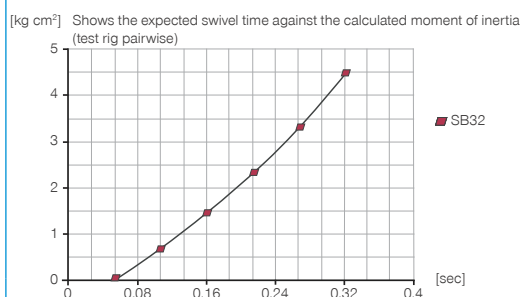
SWIVEL JAWS

INSTALLATION SIZE SB32

► PRODUCT SPECIFICATIONS

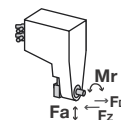


► Moment of inertia



► Forces and moments

Indicates the static load on the bearing.



Fa [N]	180
Mr [Nm]	2.1
FD [N] *	90
FZ [N] *	90

► INCLUDED IN DELIVERY



2 [piece]
Stop 90°
GEH03350



6 [piece]
Sleeve For Proximity Switch
DMS03210



2 [piece]
Stop 180°
GEH03340



6 [piece]
Cylinder Pin
C632504100

► RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ4-E2-01
Inductive proximity switch - Cable 5 m



NJ4-E2SK-01
Inductive Proximity Switch Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



SB32-1-B
Basic jaw



CONNECTIONS / OTHER



SB32-1-B-01
Basic jaw



SB32-2-B
Basic Jaw Rubberized



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



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

* Observe the gripper force



SWIVEL JAWS

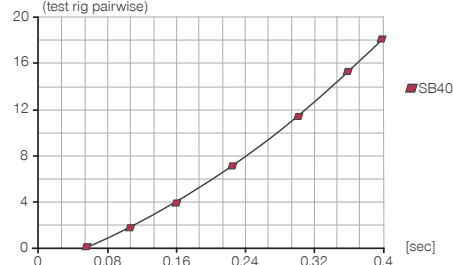
INSTALLATION SIZE SB40

▶ PRODUCT SPECIFICATIONS



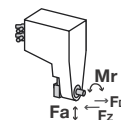
▶ Moment of inertia

[kg cm²] Shows the expected swivel time against the calculated moment of inertia (test rig pairwise)



▶ Forces and moments

Indicates the static load on the bearing.



Fa [N]	770
Mr [Nm]	10.8
FD [N] *	385
FZ [N] *	385

▶ INCLUDED IN DELIVERY



2 [piece]
Stop 90°
GEH04160



6 [piece]
Sleeve For Proximity Switch
DMS03210



2 [piece]
Stop 180°
GEH04150



6 [piece]
Cylinder Pin
C632504100

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ4-E2-01
Inductive proximity switch - Cable 5 m



NJ4-E2SK-01
Inductive Proximity Switch Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



SB40-1
Basic jaw



SB40-2
Basic Jaw Rubberized



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



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



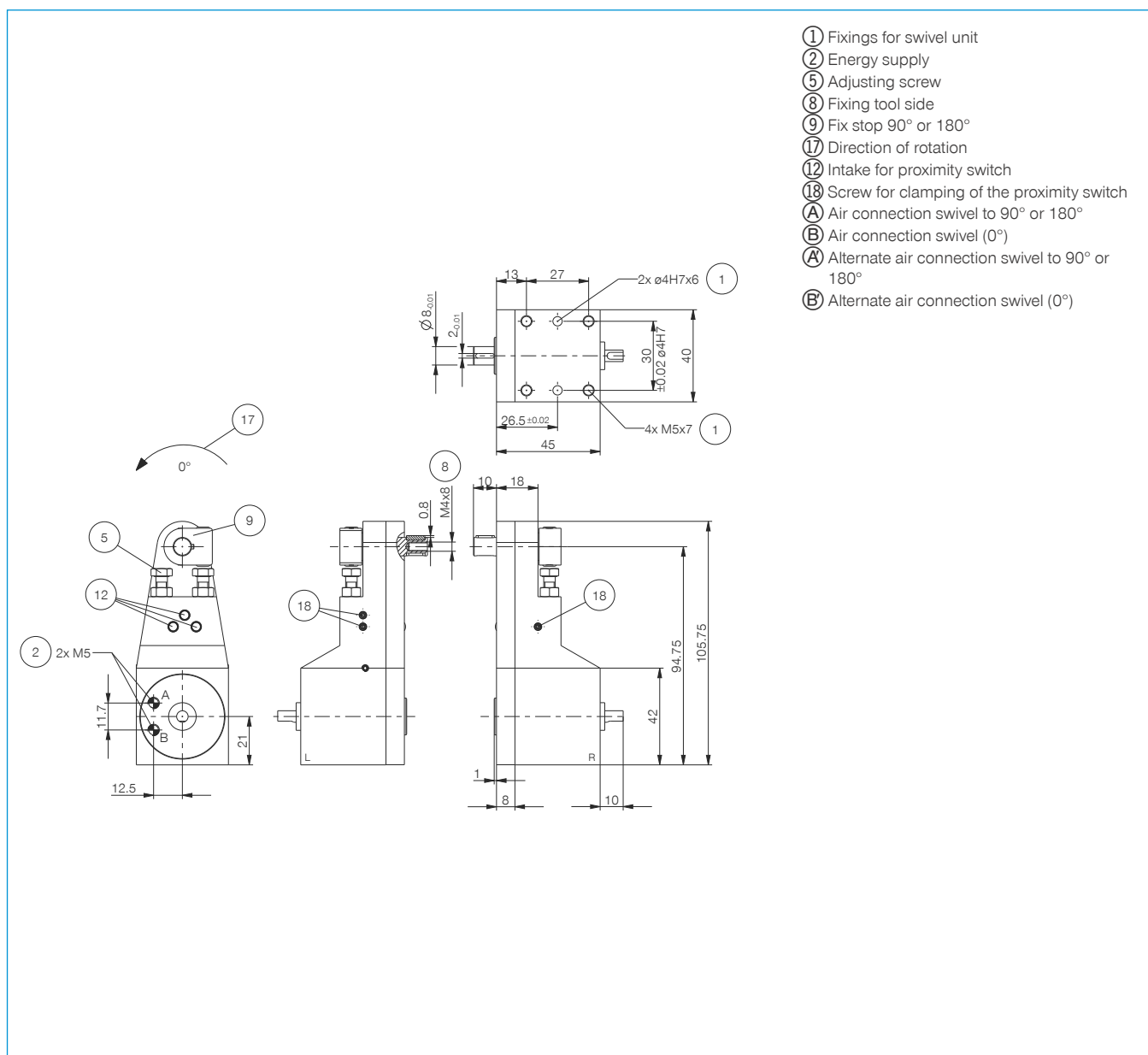
S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

Order no.	SB40-B
Swivel angle [°]	90 / 180
Torque per jaw [Nm]	0.3
Swivel angle regulable +/- [°]	3
Repetition accuracy +/- [°]	0.5
Operating pressure min. [bar]	3
Operating pressure max. [bar]	7
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	4
Weight (pair) [kg]	0.7
FD [N]*	385
FZ [N]*	385

*Observe the gripper force



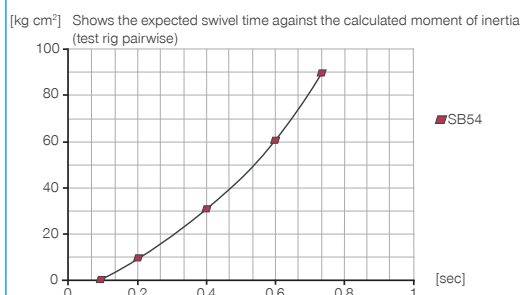
SWIVEL JAWS

INSTALLATION SIZE SB54

PRODUCT SPECIFICATIONS

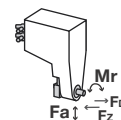


Moment of inertia



Forces and moments

Indicates the static load on the bearing.



Fa [N]	850
Mr [Nm]	15.3
FD [N] *	425
FZ [N] *	425

INCLUDED IN DELIVERY



2 [piece]
Stop 90°
GEH05501



6 [piece]
Sleeve For Proximity Switch
DMS03210



2 [piece]
Stop 180°
GEH05491



6 [piece]
Straight pin
KUN05410

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ4-E2-01
Inductive proximity switch - Cable 5 m



NJ4-E2SK-01
Inductive Proximity Switch Cable 0,3 m - Connector M8



CONNECTIONS / OTHER



SB54-1
Basic jaw



SB54-2
Basic Jaw Rubberized



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



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



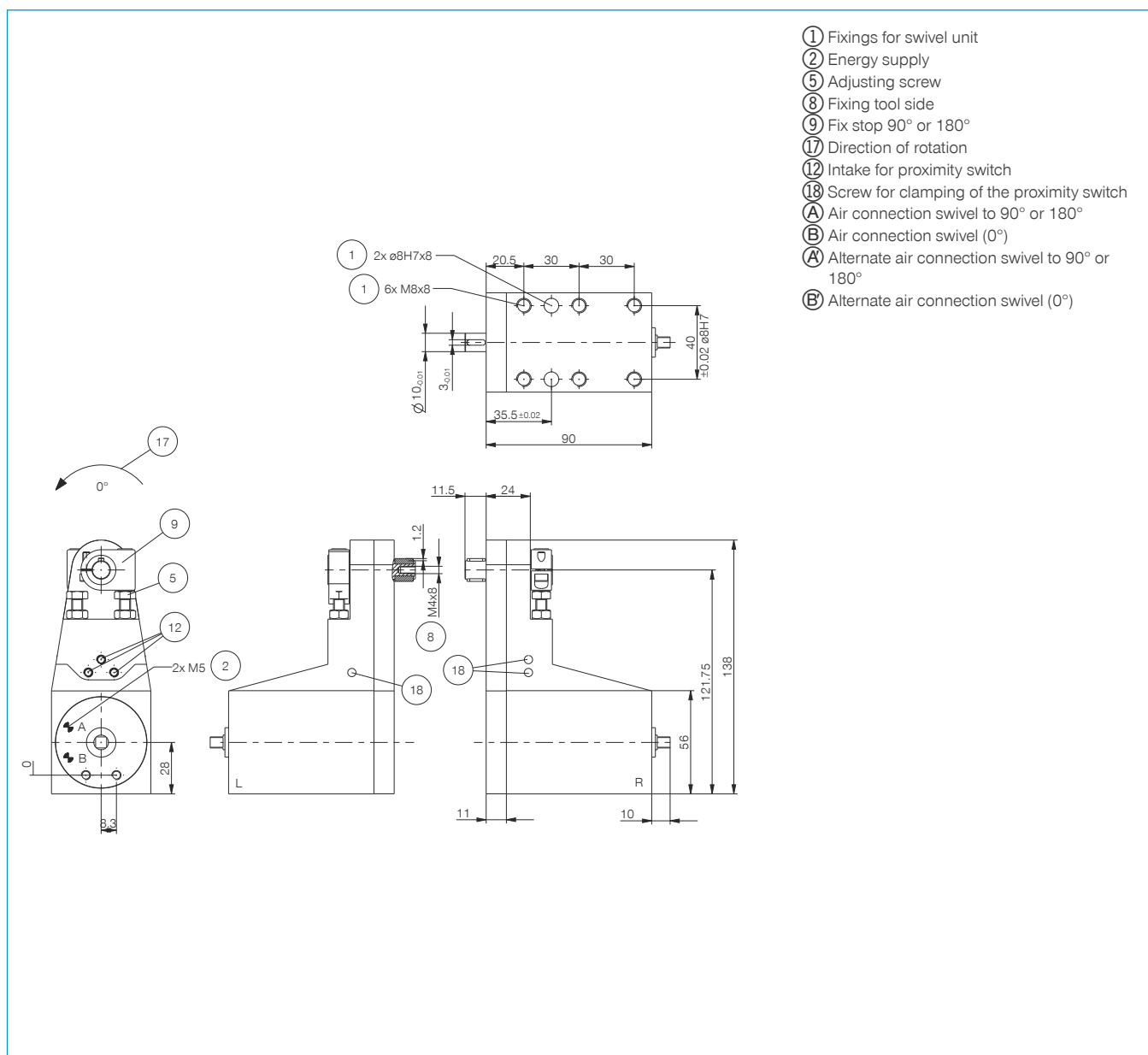
S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

Order no.	SB54-B
Swivel angle [°]	90 / 180
Torque per jaw [Nm]	1.6
Swivel angle regulable +/- [°]	3
Repetition accuracy +/- [°]	0.5
Operating pressure min. [bar]	3
Operating pressure max. [bar]	7
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	16
Weight (pair) [kg]	2.2
FD [N]*	425
FZ [N]*	425

*Observe the gripper force



SWIVEL JAWS

SERIES SBZ

▶ PRODUCT ADVANTAGES



“The superior”

▶ Shock absorber with spiral groove technology

Superior end position damping lets you swivel more mass in the shortest amount of time, increasing your machine's component output











▶ Force transmission via gear wheel set

The robust gear wheels stand for precision, reliability and long service life and guarantee smooth operation

▶ Failure-free continuous operation

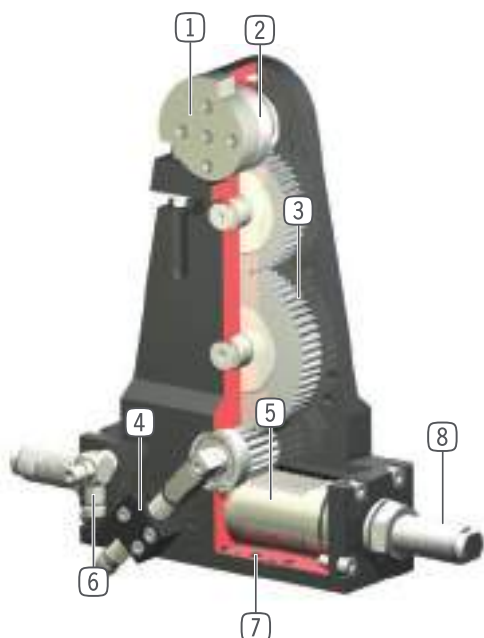
Our uncompromising “Made in Germany” quality guarantees up to 10 million maintenance-free cycles

▶ SERIES CHARACTERISTICS

Installation size		Version		
SBZXXX		-90	-180	G
 10 million maintenance-free cycles (max.)		•	•	
 IP54		•	•	
 Inductive sensor		•	•	
 Flange		•	•	•
 Powerstop end position damping		•	•	
 End positions adjustable +/- 3°		•	•	
 Positionability - 2 positions		•	•	
 Rotation angle 90°		•		•
 Rotation angle 180°			•	•
 Counter bearing without drive				•



► BENEFITS IN DETAIL



- ① **Two way bearing drive shaft**
 - high forces and moments capacity
- ② **Drive flange**
 - large size drive flange with end stop and large central hole (from SB150)
- ③ **Force transfer**
 - stable gear wheel set
 - precise, reliable, durable
- ④ **Position sensing**
 - inquiry of end positions 0° and 90° (or 180°) via inductive proximity switch
 - adjustable on rotatable switch cam
- ⑤ **Drive**
 - double-acting pneumatic cylinder
- ⑥ **Air flow control valve**
 - for speed regulation (included in the delivery)
- ⑦ **Mounting and positioning**
 - mounting possible from several sides for versatile positioning
- ⑧ **Integrated and patented hydraulic shock absorbers**
 - adjustable end position damping

► TECHNICAL DATA

Installation size	Swivel angle [°]	Torque [Nm]	Weight [kg]	IP class
SB50	90 - 180	1,2	0,45 - 0,75	IP54
SB74	90 - 180	3,5	1,1 - 1,7	IP54
SB100	90 - 180	10	1,5 - 4	IP54
SB150	90 - 180	23	6,5 - 11	IP54
SB190	90 - 180	57	19,5 - 28	IP54

► FURTHER INFORMATION IS AVAILABLE ONLINE



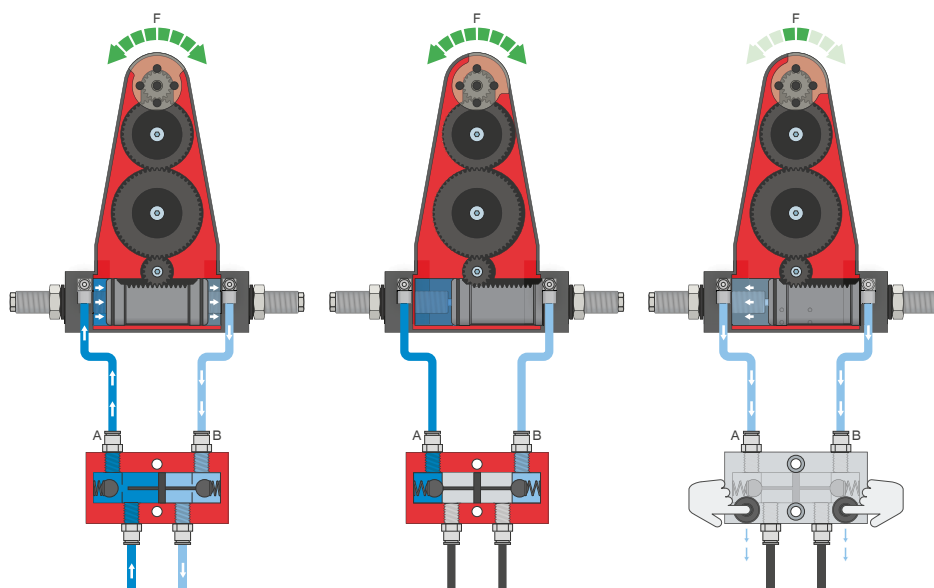
All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

SWIVEL JAWS

SERIES SBZ FUNCTIONAL DESCRIPTION



ENERGY SUPPLY



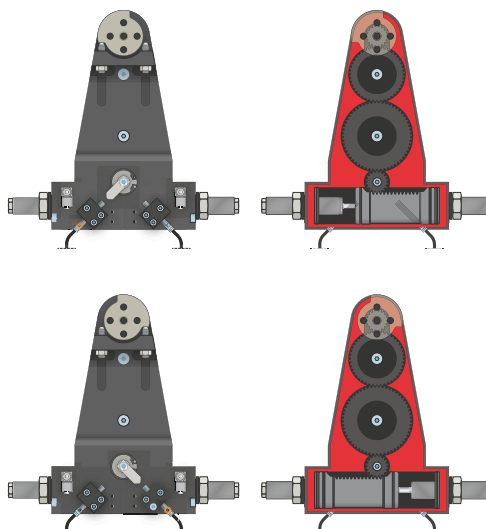
Pressure safety valve – DSV

Ensures safe retention of force and position if the system pressure drops

The integrated double check valve, which can be unlocked, retains the system pressure of the swivel jaw in case of EMERGENCY STOP. To ensure the function, the valve must be installed as close to the swivel jaw's air connection as possible. In variant E, two pushbuttons are installed that allow for controlled bleeding of the swivel jaw.



SENSORS

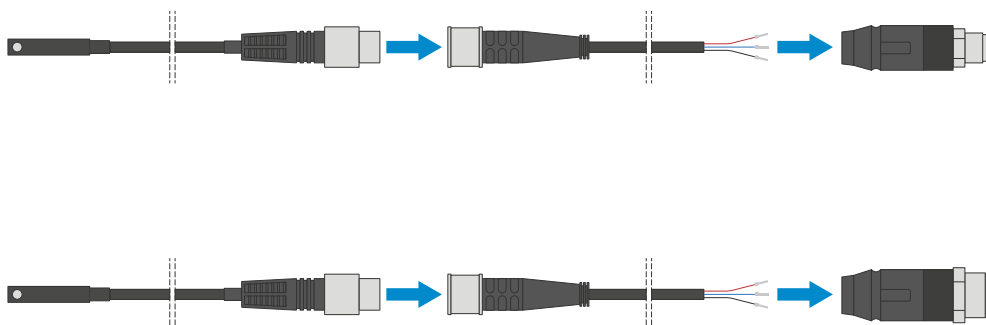


Inductive sensors – NJ

The sensor is inserted into the mounting block as far as it will go and secured. Tuning to the desired position then takes place by adjusting the cam switch. The sensors are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector, as well as with direct plug orientation.



CONNECTIONS / OTHER



Plug-in connectors

For extending and fabricating the connection lines for the sensors

Cables with a length of 5 m with exposed leads are available. Depending on the specific needs, the cables can be shortened or fabricated with connectors in sizes M8 and M12.

SWIVEL JAWS

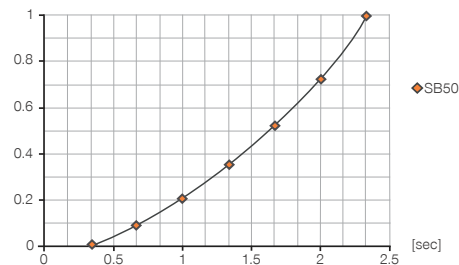
INSTALLATION SIZE SB50

► PRODUCT SPECIFICATIONS



► Moment of inertia

[kg m²] Shows the expected swivel time against the calculated moment of inertia



► Forces and moments

Indicates the static load on the bearing.



Fa [N]	1720
Mr [Nm]	15
FD [N] *	860
FZ [N] *	630

► INCLUDED IN DELIVERY



2 [piece]
Mounting block
KB8K-02



2 [piece]
Flow Control Valves - with Swivel joint
DRVM5X4

► RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



CONNECTIONS / OTHER



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



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



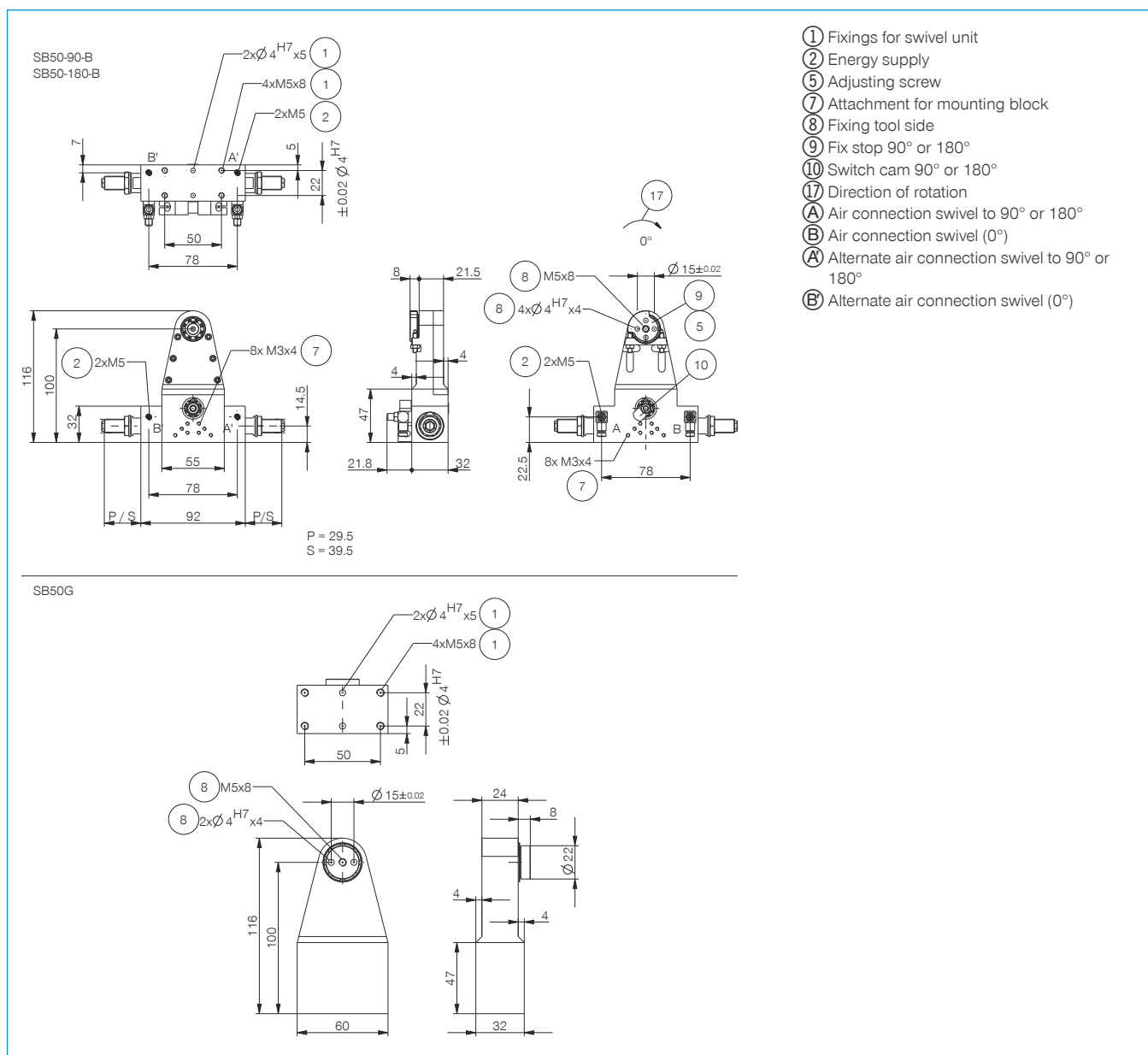
S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

Order no.	► Technical data		
	SB50-90-B	SB50-180-B	SB50G
Swivel angle [°]	90	180	
Torque per jaw [Nm]	1.2	1.2	
Swivel angle regulable +/- [°]	3	3	
Repetition accuracy +/- [°]	0.01	0.01	
Operating pressure min. [bar]	3	3	
Operating pressure max. [bar]	8	8	
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	5.5	7.5	
Weight [kg]	0.75	0.75	0.45
FD [N] *	860	860	860
FZ [N] *	630	630	630

*Observe the gripper force



SWIVEL JAWS

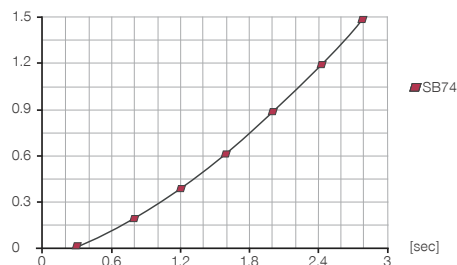
INSTALLATION SIZE SB74

▶ PRODUCT SPECIFICATIONS



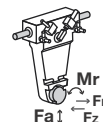
▶ Moment of inertia

[kg m²] Shows the expected swivel time against the calculated moment of inertia



▶ Forces and moments

Indicates the static load on the bearing.



Fa [N]	2400
Mr [Nm]	20
FD [N] *	1200
FZ [N] *	630

▶ INCLUDED IN DELIVERY



2 [piece]
Mounting block
KB8K-02



2 [piece]
Flow Control Valves - with Swivel joint
DRVM5X4

▶ RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



CONNECTIONS / OTHER



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



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

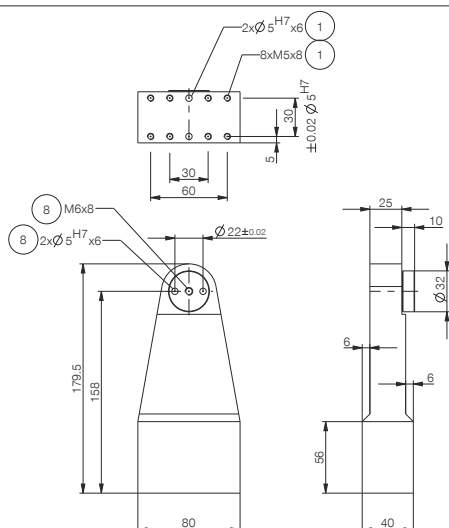
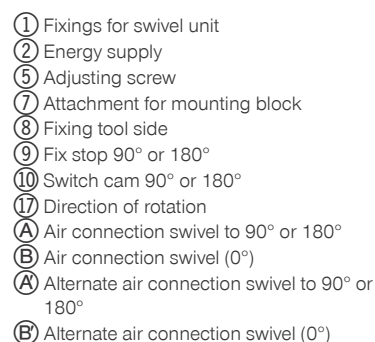


S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

* Observe the gripper force



SWIVEL JAWS

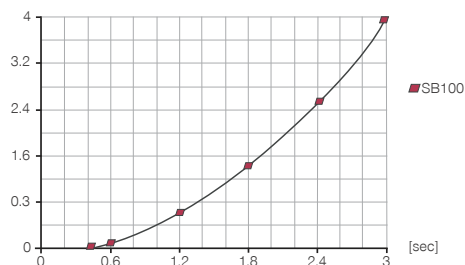
INSTALLATION SIZE SB100

PRODUCT SPECIFICATIONS



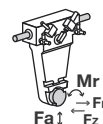
Moment of inertia

[kg m²] Shows the expected swivel time against the calculated moment of inertia



Forces and moments

Indicates the static load on the bearing.



Fa [N]	4000
Mr [Nm]	70
FD [N] *	2000
FZ [N] *	1200

INCLUDED IN DELIVERY



2 [piece]
Mounting block
KB8K-02



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-8X6

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



CONNECTIONS / OTHER



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



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



S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

SWIVEL JAWS

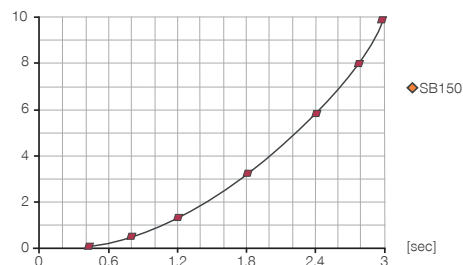
INSTALLATION SIZE SB150

PRODUCT SPECIFICATIONS



Moment of inertia

[kg m²] Shows the expected swivel time against the calculated moment of inertia



Forces and moments

Indicates the static load on the bearing.



Fa [N]	15000
Mr [Nm]	270
FD [N] *	7500
FZ [N] *	3700

INCLUDED IN DELIVERY



2 [piece]
Mounting block
KB8K



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8

RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ8-E2
Inductive proximity switch - Cable 5 m



NJ8-E2S
Inductive proximity switch - Connector M8



CONNECTIONS / OTHER



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



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



S8-G-3
Plug-in connector customizable Straight - Connector M8

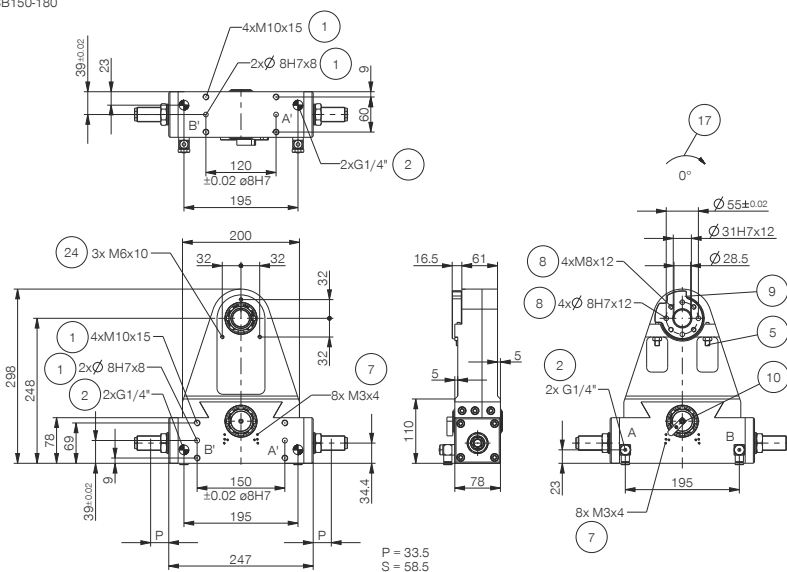


S12-G-3
Plug-in connector customizable Straight - Connector M12

Order no.	Technical data		
	SB150-90	SB150-180	SB150G
Swivel angle [°]	90	180	
Torque per jaw [Nm]	23	23	
Swivel angle regulable +/- [°]	3	3	
Repetition accuracy +/- [°]	0.01	0.01	0.01
Operating pressure min. [bar]	3	3	
Operating pressure max. [bar]	8	8	
Nominal operating pressure [bar]	6	6	6
Operating temperature min. [°C]	5	5	5
Operating temperature max. [°C]	+80	+80	+80
Air volume per cycle [cm³]	190	260	
Weight [kg]	11	11	6.5
FD [N]*	7500	7500	7500
FZ [N]*	3700	3700	3700

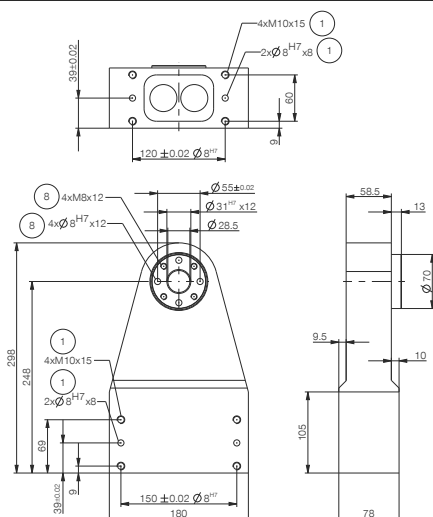
*Observe the gripper force

SB150-90
SB150-180



- ① Fixings for swivel unit
- ② Energy supply
- ⑤ Adjusting screw
- ⑦ Attachment for mounting block
- ⑧ Fixing tool side
- ⑨ Fix stop 90° or 180°
- ⑩ Switch cam 90° or 180°
- ⑪ Direction of rotation
- A Air connection swivel to 90° or 180°
- B Air connection swivel (0°)
- A Alternate air connection swivel to 90° or 180°
- B Alternate air connection swivel (0°)

SB150G



SWIVEL JAWS

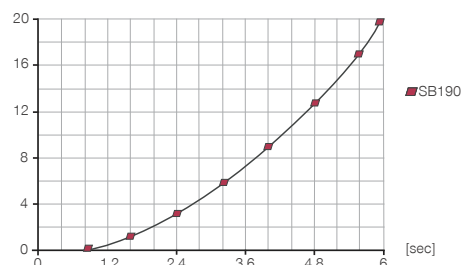
INSTALLATION SIZE SB190

► PRODUCT SPECIFICATIONS



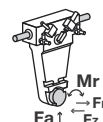
► Moment of inertia

[kg m²] Shows the expected swivel time against the calculated moment of inertia



► Forces and moments

Indicates the static load on the bearing.



Fa [N]	25000
Mr [Nm]	600
FD [N] *	12500
FZ [N] *	6100

► INCLUDED IN DELIVERY



2 [piece]
Mounting block
KB12-03



2 [piece]
Flow Control Valves - with Swivel joint
DRV1-4X8

► RECOMMENDED ACCESSORIES



ENERGY SUPPLY



DSV1-8
Pressure safety valve



DSV1-8E
Pressure safety valve with quick exhaust



SENSORS



NJ12-E2
Inductive proximity switch - Cable 5 m



NJ12-E2S
Inductive proximity switch - Connector M8



CONNECTIONS / OTHER



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



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

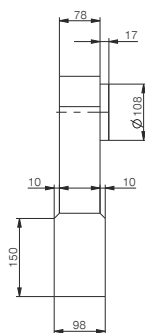
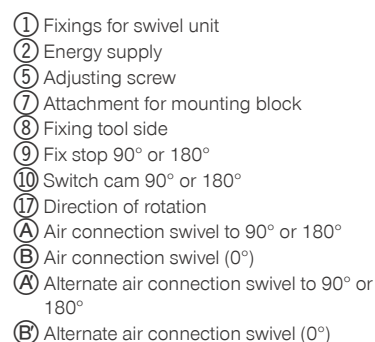


S8-G-3
Plug-in connector customizable Straight - Connector M8



S12-G-3
Plug-in connector customizable Straight - Connector M12

* Observe the gripper force





LINEAR CYLINDERS

OVERVIEW OF SERIES



PNEUMATIC



Series SHX

428



Series LI

430

LINEAR CYLINDERS

SERIES SHX

Series SHX / Linear Cylinders / pneumatic / Linear Modules





4

▶ PRODUCT ADVANTAGES



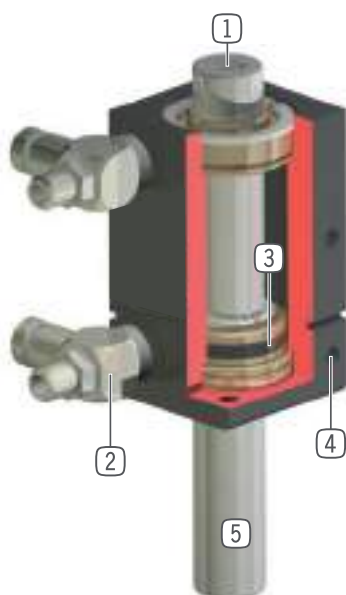
- ▶ **Proven technology**
We have more than 20 years of proven reliability, which ensures uninterrupted production for you
- ▶ **Constant drive force**
Equal force and travel time when retracting and extending increases your machine's process reliability
- ▶ **Failure-free continuous operation**
Our uncompromising "Made in Germany" quality guarantees up to 10 million maintenance-free cycles

▶ SERIES CHARACTERISTICS

Installation size		Version	
SH-X		-	D
	Continuous piston rod		•
	10 million maintenance-free cycles (max.)	•	•
	Inductive sensor	•	•
	IP54	•	•



► BENEFITS IN DETAIL



- ① **Connection to customer specific application**
 - possible from several sides on XD series
- ② **Energy supply**
 - reducing exhaust air is recommended
- ③ **Drive**
 - double-acting pneumatic cylinder
- ④ **Mounting and positioning**
 - mounting possible from several sides for versatile positioning
- ⑤ **Piston rod**
 - polished, hard chrome plated steel
 - continuous in design XD

► TECHNICAL DATA

Installation size	Stroke [mm]	Retraction force [N]	Weight [kg]	IP class
SH-X	7 - 50	100	0,09 - 0,18	IP54
SH-XD	25 - 50	100	0,19 - 0,27	IP54

► 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.

LINEAR CYLINDERS

SERIES LI

▶ PRODUCT ADVANTAGES



▶ Large locating flange

The large mounting surface simplifies your design and allows secure attachment of follow-on tools









▶ Dampened end position

By using PowerStop shock absorbers, you can gently move up to the end positions, increasing the process reliability and durability of your application

▶ Failure-free continuous operation

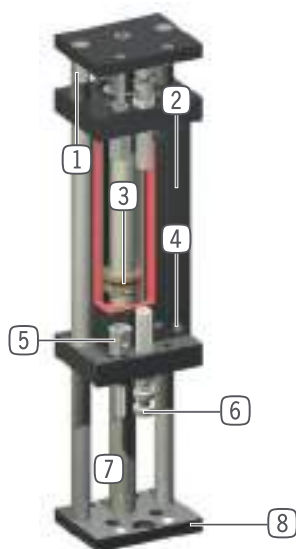
Our uncompromising "Made in Germany" quality guarantees up to 10 million maintenance-free cycles

▶ SERIES CHARACTERISTICS

Installation size		Version		
LIXX			D	S
	2 way guiding			•
	3 way guiding		•	
	Continuous piston rod		•	
	10 million maintenance-free cycles (max.)	•	•	•
	Inductive sensor	•	•	•
	Elastomer end position damping	•	•	•
	Powerstop end position damping	•	•	•
	IP 54	•	•	•



► BENEFITS IN DETAIL



- ① **Guide rod**
 - hardened, polished steel shaft
- ② **Mounting block**
 - mounting for inductive proximity switch
- ③ **Drive**
 - double-acting pneumatic cylinder
- ④ **Energy supply**
 - reducing exhaust air is recommended
- ⑤ **End stop confirmation screw**
 - direct flange position sensing
 - included in scope of delivery
- ⑥ **End position damping**
 - with elastomer absorber or patented hydraulic shock absorber
- ⑦ **Piston rod**
 - polished, hard chrome plated steel
 - continuous in design D
- ⑧ **Intake flange**
 - for connection to application-specific adapter plate (to be supplied by the customer)

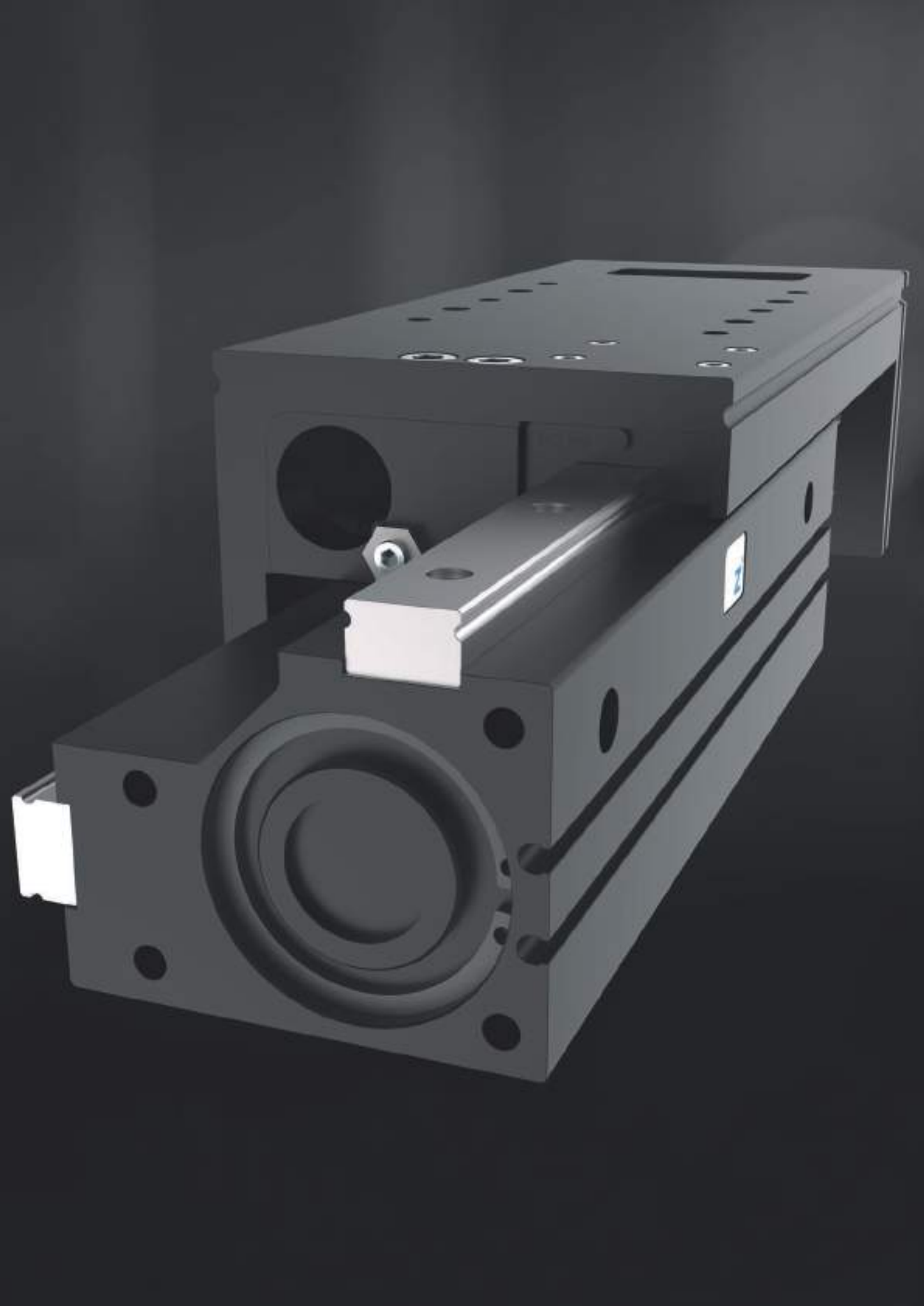
► TECHNICAL DATA

Installation size	Stroke [mm]	Pressure force max. [N]	Retraction force [N]	Weight [kg]	IP class
LI16	20 - 50	80 - 100	80	0,05 - 0,1	IP54
LI30	15 - 90	200 - 270	200	0,05 - 0,1	IP54
LI40	40 - 300	270 - 450	270	0,05 - 0,3	IP54
LI50	50 - 300	950	950	0,03 - 0,2	IP54

► FURTHER INFORMATION IS AVAILABLE ONLINE



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LINEAR RAIL SLIDES

OVERVIEW OF SERIES



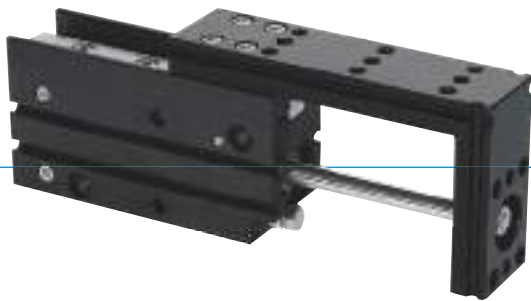
PNEUMATIC

	Series LS	434
	Series LSF	436
	Series LSX	438

LINEAR RAIL SLIDES




SERIES LS

▶ PRODUCT ADVANTAGES



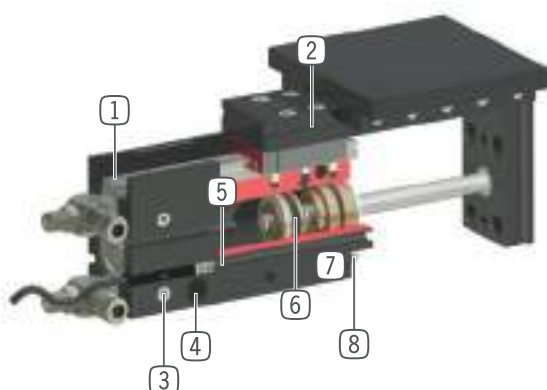
- ▶ **Precise profile guide**
The linear guide with ball bearing circulation and scrapers provides high precision and rigidity
- ▶ **Standardised adapter plate**
Reduce your manufacturing effort and ensure standardisation for your follow-on tools
- ▶ **Modular layout**
Makes it possible to combine several units directly to each other and to minimise your design effort

▶ SERIES CHARACTERISTICS

Installation size		
LSXX-XX		
 10 Mio	10 million maintenance-free cycles (max.)	•
	Magnetic field sensor	•
	IP40	•



► BENEFITS IN DETAIL



- ① **Linear guide with recirculating ball and wiper**
 - dual linear guidance for high forces and moments capacity
- ② **Mounting groove**
 - quick and cost-effective positioning of adapter plates: Accessory, Art. No. AP...G
- ③ **Energy supply**
 - possible from several sides
- ④ **Mounting and positioning**
 - mounting possible from several sides for versatile positioning
- ⑤ **Mounting groove for magnetic field sensor integrated, space saving position sensing**
- ⑥ **Drive**
 - double-acting pneumatic cylinder
- ⑦ **Robust, lightweight housing**
 - Hard-coated aluminum alloy
- ⑧ **Stroke limiting screw**

► TECHNICAL DATA

Installation size	Stroke [mm]	Pressure force max. [N]	Retraction force [N]	Weight [kg]	IP class
LS10	25 - 50	40	30	0,15 - 0,2	IP40
LS16	25 - 50	100	85	0,25 - 0,3	IP40

► 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.

LINEAR RAIL SLIDES






SERIES LSF

▶ PRODUCT ADVANTAGES



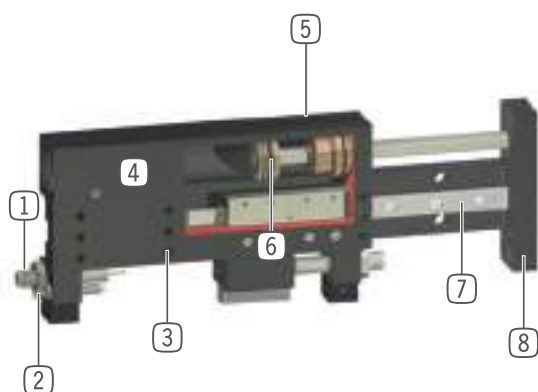
- ▶ **Precise profile guide**
The linear guide with ball bearing circulation and scrapers provides high precision and rigidity
- ▶ **Dampened end position**
By using PowerStop shock absorbers, you can gently move up to the end positions, increasing the process reliability and durability of your application
- ▶ **Flat structure**
Reduces the interference contours for your application

▶ SERIES CHARACTERISTICS

Installation size		
LSFXX-XX		
 10 million maintenance-free cycles (max.)		•
 Inductive sensor		•
 Magnetic field sensor		•
 Powerstop end position damping		•
 IP 40		•



► BENEFITS IN DETAIL



- ① **Patented, hydraulic shock absorber**
 - adjustable end position damping
 - included in scope of delivery
- ② **Stroke limiting screw**
- ③ **Mounting and positioning**
 - possible from several sides
- ④ **Robust, lightweight and extremely flat structure housing**
 - Hard-coated aluminum alloy
- ⑤ **Mounting groove for magnetic field sensor**
 - integrated, space saving position sensing
- ⑥ **Drive**
 - double-acting pneumatic cylinder
- ⑦ **Linear guide with recirculating ball and wiper**
 - dual linear guidance for high forces and moments capacity
- ⑧ **Intake flange**
 - simple application connection

► TECHNICAL DATA

Installation size	Stroke [mm]	Pressure force max. [N]	Retraction force [N]	Weight [kg]	IP class
LSF25	50 - 100	265	220	1 - 1,3	IP40

► 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.

LINEAR RAIL SLIDES





SERIES LSX

PRODUCT ADVANTAGES



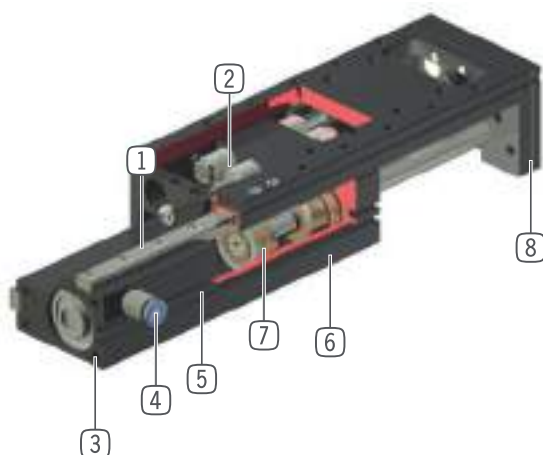
- ▶ **Precise double rail profile guide**
The linear guide with ball bearing circulation and scrapers provides high precision and rigidity
- ▶ **Dampened end position**
By using PowerStop shock absorbers, you can gently move up to the end positions, increasing the process reliability and durability of your application
- ▶ **Failure-free continuous operation**
Our uncompromising “Made in Germany” quality guarantees up to 10 million maintenance-free cycles

SERIES CHARACTERISTICS

Installation size		
LSXYY-YY		
 10 million maintenance-free cycles (max.)		●
 Magnetic field sensor		●
 Powerstop end position damping		●
 IP40		●



► BENEFITS IN DETAIL



- ① **Linear guide with recirculating ball and wiper**
 - two way linear guide for forces and moments capacity
- ② **Patented, hydraulic shock absorber**
 - adjustable end position damping
 - included in scope of delivery
- ③ **Mounting and positioning**
 - mounting possible from several sides for versatile positioning
- ④ **Energy supply**
 - possible from several sides
- ⑤ **Mounting groove for magnetic field sensor**
 - integrated, space saving position sensing
- ⑥ **Robust, lightweight housing**
 - Hard-coated aluminum alloy
- ⑦ **Drive**
 - double-acting pneumatic cylinder
- ⑧ **Intake flange**
 - quick and cost-effective positioning of adapter plates: Accessory, Art. No. AP...G and AP...V

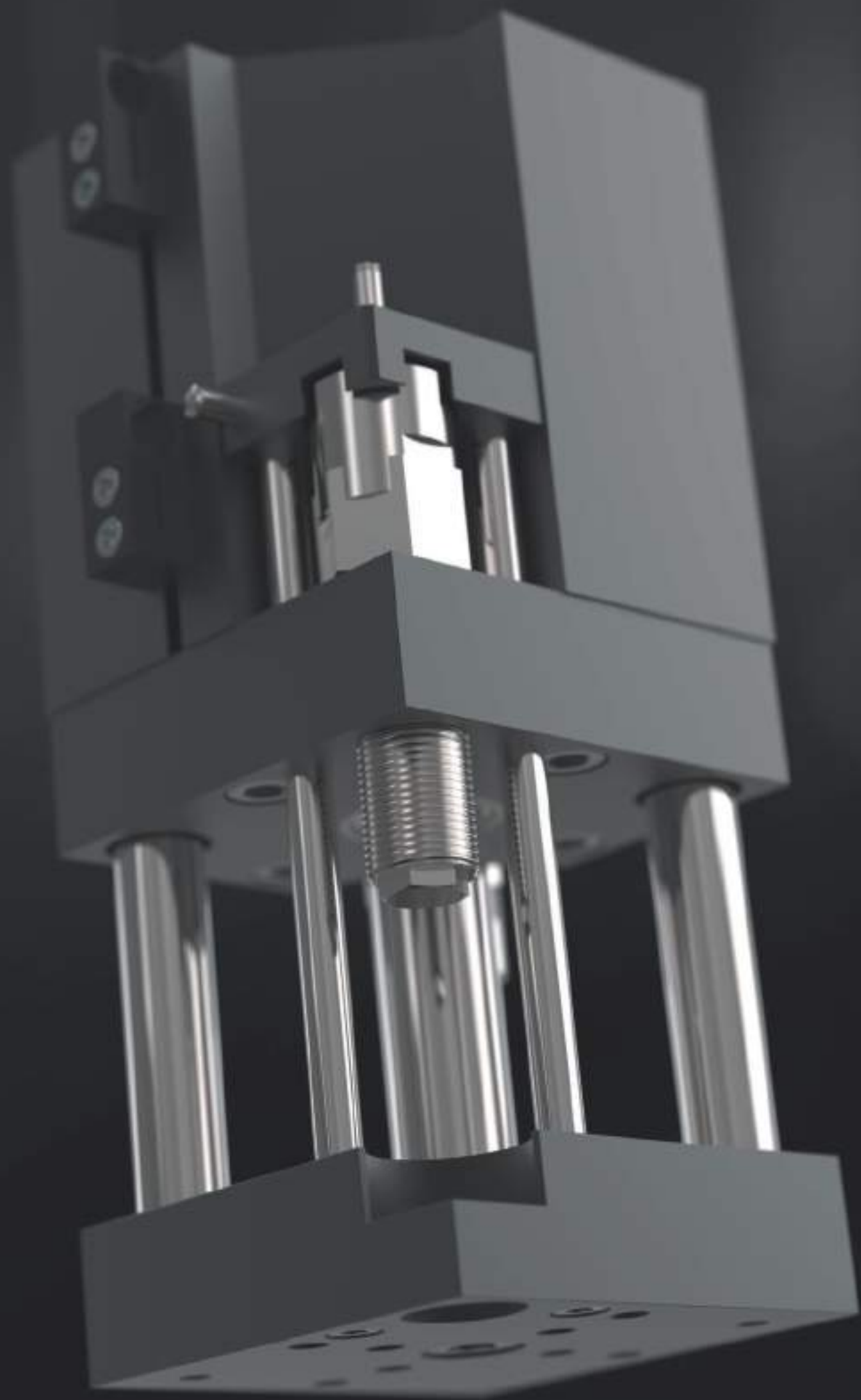
► TECHNICAL DATA

Installation size	Stroke [mm]	Pressure force max. [N]	Retraction force [N]	Weight [kg]	IP class
LSX25	50 - 200	265	220	1 - 1,9	IP40
LSX40	100 - 200	750	680	3,2 - 4,4	IP40

► 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.



LIFTING CYLINDERS

OVERVIEW OF SERIES



PNEUMATIC



Series HZ

442

LIFTING CYLINDERS

SERIES HZ





4
Series HZ / Lifting Cylinders / pneumatic / Linear Modules

▶ PRODUCT ADVANTAGES



- ▶ **Hoseless air passage**
Eliminates undefined interference contours and wear-prone hoses and increases the safety of your application in the process
- ▶ **Dampened end position**
By using PowerStop shock absorbers, you can gently move up to the end positions, increasing the process reliability and durability of your application
- ▶ **Very robust**
Two ground and hard chrome-plated guide rods guarantee a secure process sequence with their rigidity and long service life

▶ SERIES CHARACTERISTICS

Installation size		
HZXX-XXXD2		
 10 million maintenance-free cycles (max.)		●
 Inductive sensor		●
 Powerstop end position damping		●
 IP 40		●



► BENEFITS IN DETAIL



- ① **Integrated air feed-through**
- for hoseless air transfer
- ② **Energy supply**
- possible from several sides
- ③ **Mounting and positioning**
- mounting possible from several sides for versatile positioning
- ④ **Mounting block**
- mounting for inductive proximity switch
- ⑤ **Drive**
- double-acting pneumatic cylinder
- ⑥ **Patented, hydraulic shock absorber**
- adjustable end position damping
- ⑦ **Intake flange**
- for fixing to the customer specific application
- ⑧ **Two guide rods**
- high forces and moments capacity

► TECHNICAL DATA

Installation size	Stroke [mm]	Pressure force max. [N]	Retraction force [N]	Weight [kg]	IP class
HZ40	50 - 100	720	600	0,1 - 0,15	IP40

► FURTHER INFORMATION IS AVAILABLE ONLINE



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CUTTING TONGS

OVERVIEW OF SERIES



PNEUMATIC



Series ZK1000

446



Series ZK

448

CUTTING TONGS

SERIES ZK1000

▶ PRODUCT ADVANTAGES



▶ Extremely lightweight

This light weight generally allows the use of a smaller moving axis, reducing the overall costs of the application in the process





▶ Integrated magnetic field sensing

One of the few cutting tongs on the market that can have its position queried and transferred to the control system with process reliability

▶ Decide for yourself!

Sprue or steel wire: The variety of cutting geometries and materials ensure you always find the correct cuttings

▶ SERIES CHARACTERISTICS

Installation size	
ZK10XX	
 5 million maintenance-free cycles (max.)	●
 Spring opening O	●
 Magnetic field sensor	●
 IP30	●



► BENEFITS IN DETAIL



- ① Cutting insert**
 - flexible applicable due to specific cutting geometry
- ② Return spring**
 - to open the cuttings
- ③ Mounting clamp**
 - mounting and positioning of magnetic field sensors
- ④ Magnetic field sensor**
 - for position sensing
- ⑤ Drive**
 - single-acting pneumatic cylinder
- ⑥ Housing**
 - Hard-coated aluminum alloy
- ⑦ Mounting and positioning**
 - via fit, thread and lock nut
- ⑧ Energy supply**

► TECHNICAL DATA

Installation size	Stroke [°]	Gripping moment [Nm]	Weight [kg]	IP class
ZK1030	4.25	14	0.08	IP30
ZK1036	5	40	0.13	IP30
ZK1045	8.5	98	0.24	IP30
ZK1065	13	400	0.67	IP30

► FURTHER INFORMATION IS AVAILABLE ONLINE



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CUTTING TONGS




SERIES ZK

▶ PRODUCT ADVANTAGES



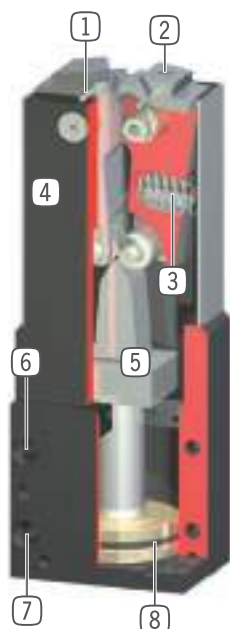
- ▶ **Flat structure**
Reduces the interference contours and enables simple integration into your machine design
- ▶ **Decide for yourself!**
The gripper jaw holder provides the option to adapt standard cutting, gripper jaws or your own design
- ▶ **Failure-free continuous operation**
Our uncompromising “Made in Germany” quality guarantees up to 5 million maintenance-free gripping cycles

▶ SERIES CHARACTERISTICS

Installation size		
ZKXX		
 5 million maintenance-free cycles (max.)		●
 Inductive sensor		●
 IP 40		●



► BENEFITS IN DETAIL



- ① **Switch cam**
 - for position sensing
- ② **Mounting**
 - for individual jaws, knives, chucks and similar
- ③ **Integrated spring**
 - supports jaw return (ZK33)
- ④ **Robust, lightweight housing**
 - Hard-coated aluminum alloy
- ⑤ **Force transfer**
 - via wedge and rollers
- ⑥ **Mounting and positioning**
 - mounting possible from several sides for versatile positioning
- ⑦ **Energy supply**
 - possible from several sides
- ⑧ **Drive**
 - double-acting pneumatic cylinder

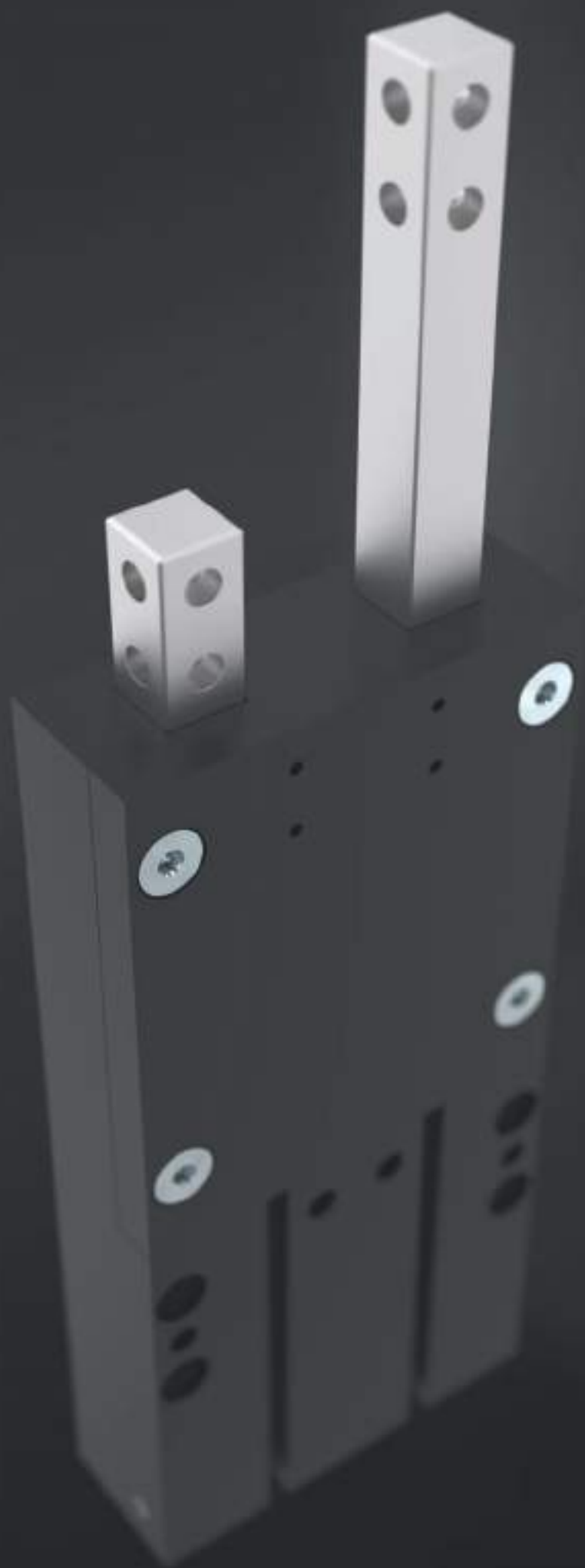
► TECHNICAL DATA

Installation size	Stroke [°]	Gripping moment [Nm]	Weight [kg]	IP class
ZK22	7.5	54	0.79	IP40
ZK33	9	110	1.3	IP40

► FURTHER INFORMATION IS AVAILABLE ONLINE



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SEPARATORS

OVERVIEW OF SERIES



PNEUMATIC



Series VEG

452



Series VE

454

SEPARATORS

SERIES VEG

▶ PRODUCT ADVANTAGES



▶ Hardened stainless steel guide

This guide is robust, reliable and durable: Exactly what you need for your application!





▶ Decide for yourself!

Sensing via magnetic field sensors or inductive proximity switches: Unlike the benchmark, you are free to choose!

▶ Failure-free continuous operation

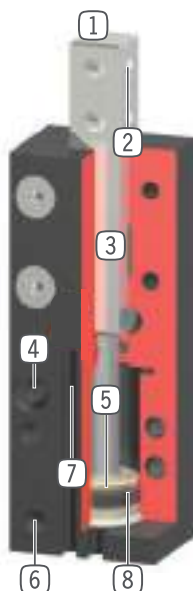
Our uncompromising “Made in Germany” quality guarantees up to 10 million maintenance-free cycles

▶ SERIES CHARACTERISTICS

Installation size		
VEGXX		
 10 million maintenance-free cycles (max.)		•
 Inductive sensor		•
 Magnetic field sensor		•
 IP40		•



► BENEFITS IN DETAIL



- ① Tapped rod**
- hardened steel
- ② Mounting**
- individual separator finger mounting
- ③ Square guide**
- rugged, high forces and moments capacity
- ④ Mounting and positioning**
- mounting possible from several sides for versatile positioning
- ⑤ Drive**
- double-acting pneumatic cylinder
- ⑥ Energy supply**
- ⑦ Sensing**
- groove for positioning of the magnetic field sensor
- ⑧ Permanent magnet**
- installed in piston area

► TECHNICAL DATA

Installation size	Stroke [mm]	Force in retract [N]	Force in extend [N]	Weight [kg]	IP class
VEG10	10	30	40	0.075	IP40
VEG14	20	65	80	0.142	IP40
VEG15	40	65	80	0.2	IP40
VEG22	30	170	220	0.5	IP40
VEG23	60	170	220	0.75	IP40

► FURTHER INFORMATION IS AVAILABLE ONLINE



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SEPARATORS

SERIES VE

▶ PRODUCT ADVANTAGES



▶ Mechanical forced control

Guarantees process reliability for your application since only one workpiece can be separated and guided through at a time





▶ Decide for yourself!

Sensing via magnetic field sensors or inductive proximity switches: Unlike the benchmark, you are free to choose!

▶ Failure-free continuous operation

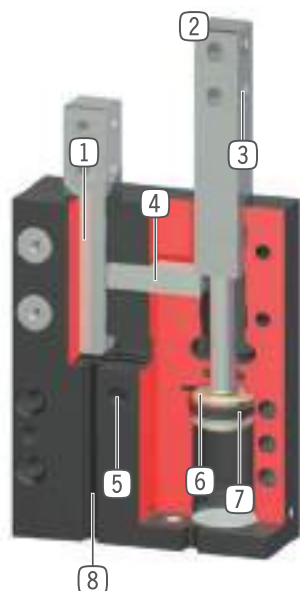
Our uncompromising “Made in Germany” quality guarantees up to 10 million maintenance-free cycles

▶ SERIES CHARACTERISTICS

Installation size		
VEXX		
 10 million maintenance-free cycles (max.)		●
 Inductive sensor		●
 Magnetic field sensor		●
 IP 40		●



► BENEFITS IN DETAIL



- ① **Square guide**
- rugged, high forces and moments capacity
- ② **Tapped rod**
- hardened steel
- ③ **Mounting**
- individual separator finger mounting
- ④ **Locking**
- integrated, mechanical locking
- ⑤ **Energy supply**
- possible from several sides
- ⑥ **Drive**
- two double-acting pneumatic cylinders
- ⑦ **Permanent magnet**
- installed in piston area
- ⑧ **Sensing**
- groove for positioning of the magnetic field sensor

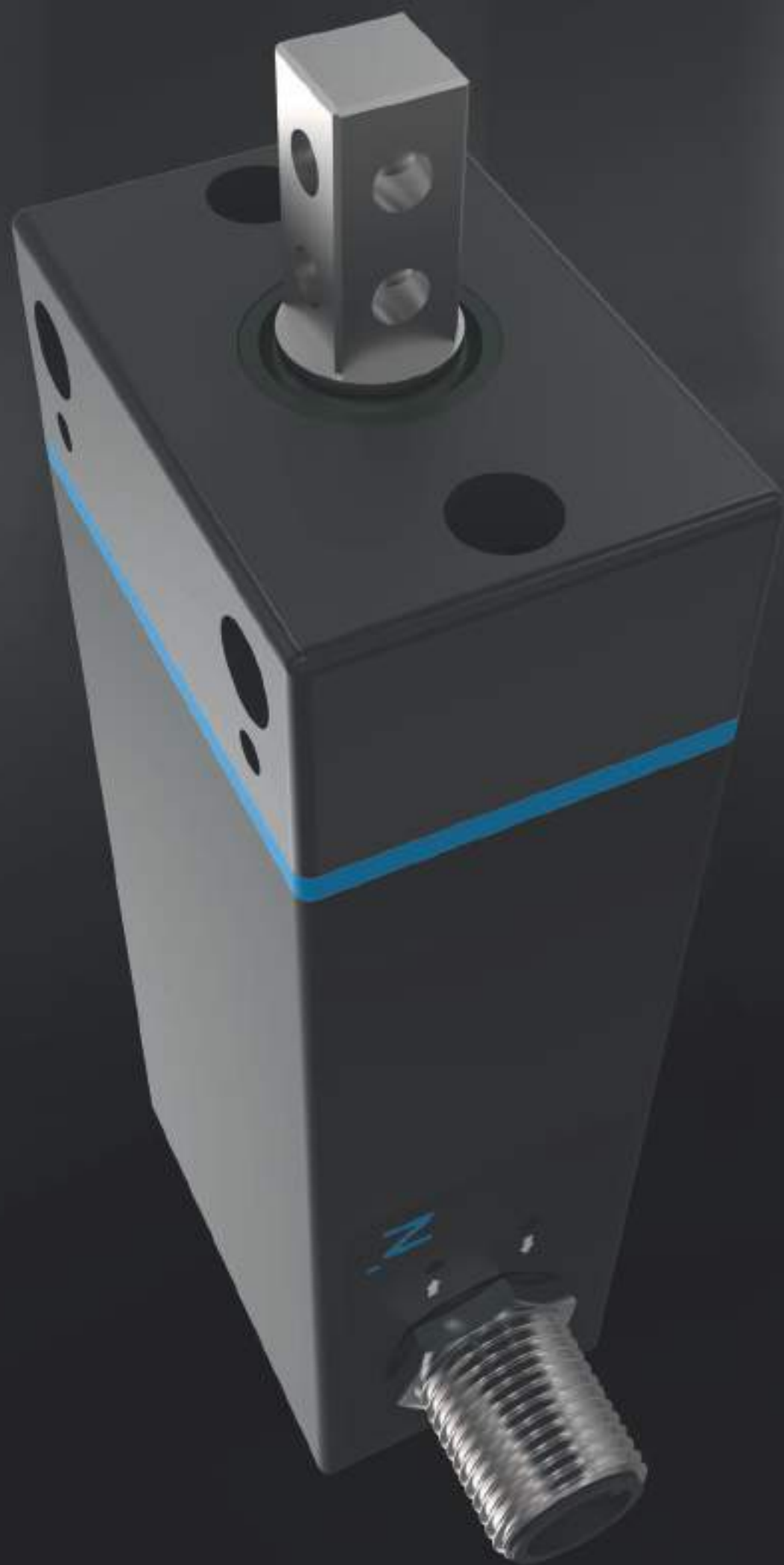
► TECHNICAL DATA

Installation size	Stroke [mm]	Force in retract [N]	Force in extend [N]	Weight [kg]	IP class
VE10	10	30	40	0.12	IP40
VE14	20	65	80	0.3	IP40
VE15	40	65	80	0.48	IP40
VE22	30	170	220	0.915	IP40
VE23	60	170	220	1.5	IP40

► FURTHER INFORMATION IS AVAILABLE ONLINE



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SEPARATORS

OVERVIEW OF SERIES



ELECTRICAL



Series VEE9200

458

SEPARATORS

SERIES VEE9200

▶ PRODUCT ADVANTAGES



▶ 250 cycles per minute

If speed is the key, nothing beats this unit. This lets you increase your component output and lower your unit costs,



▶ Saving energy with pulse control

You only have to supply current briefly when retracting and extending the plunger. No energy is required at the end positions

▶ Plug and play

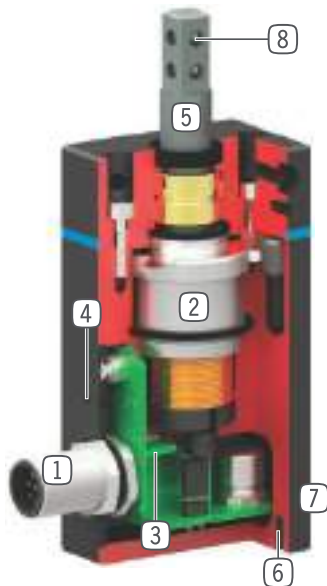
Reduce your design and programming effort to a minimum with the integrated control system and the 2-position query

▶ SERIES CHARACTERISTICS

Installation size	
VEE92XX	
<div>I/O</div> Digital I/O	•
<div> 30 million maintenance-free cycles (max.)</div>	•
<div> Integrated sensing</div>	•
<div>IP 40</div> IP40	•



► BENEFITS IN DETAIL



- 1 Energy supply**
 - standardized interface M12 round connector
- 2 Drive**
 - via Pot magnet and coil bobbin according to the coil system principle
 - energy consumption only at impulse <25 ms
- 3 Position sensing**
 - integrated Hallsensor
 - 2 positions monitorable
- 4 Status control**
 - optical LED position display
- 5 Tapped rod**
 - Aluminium hardcoated
- 6 Mounting and positioning**
 - mounting possible from several sides for versatile positioning
- 7 Robust, lightweight housing**
 - Hard-coated aluminum alloy
- 8 Mounting**
 - individual separator finger mounting

► TECHNICAL DATA

Installation size	Stroke [mm]	Force in retract [N]	Force in extend [N]	Weight [kg]	IP class
VEE9200	10 - 20	8 - 10	8 - 10	0,24 - 0,3	IP40

► 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.

BALL JOINTS

SERIES KG

▶ PRODUCT ADVANTAGES



▶ Lockable displacement position

Be flexible in your application, customise the handling to your workpiece and lock the displacement position with process reliability

▶ Large locating flange

The large mounting surface simplifies your design and allows secure attachment of add-on components

▶ Steel design

The highest force and torque measurement enables flexible for maximum dynamics

▶ 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

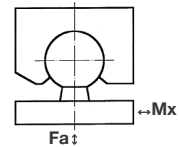


► PRODUCT SPECIFICATIONS



► Forces and moments

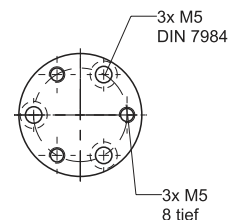
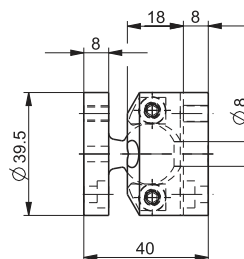
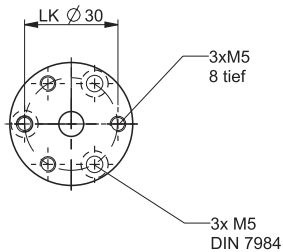
Shows static forces and torques which may impact on the ball joint



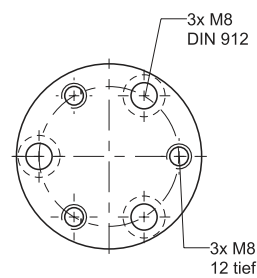
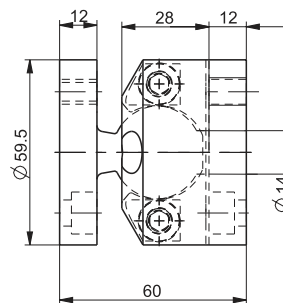
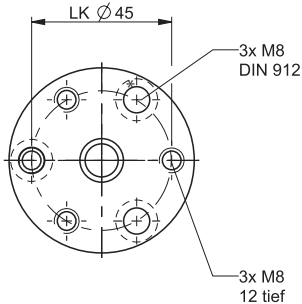
► Technical data

Order no.	KG40	KG40ST	KG60	KG60ST	KG80	KG80ST
Swivel angle [°]	30	30	30	30	30	30
Mx [Nm]	18	18	55	55	124	124
Fa [N]	7500	18000	15000	45000	28000	70000
Weight [kg]	0.1	0.3	0.3	0.9	0.8	2.3

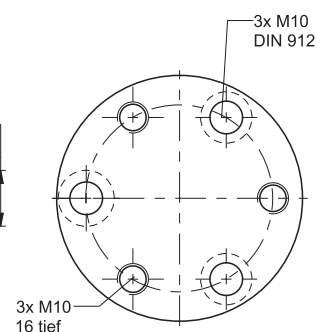
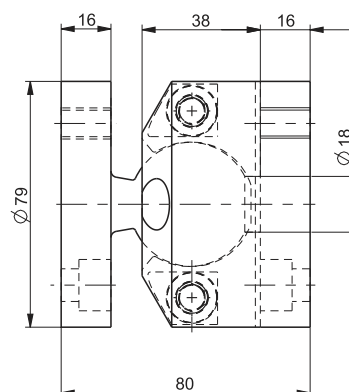
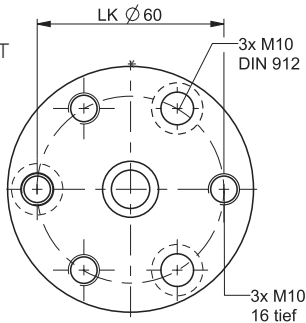
KG40
KG40ST

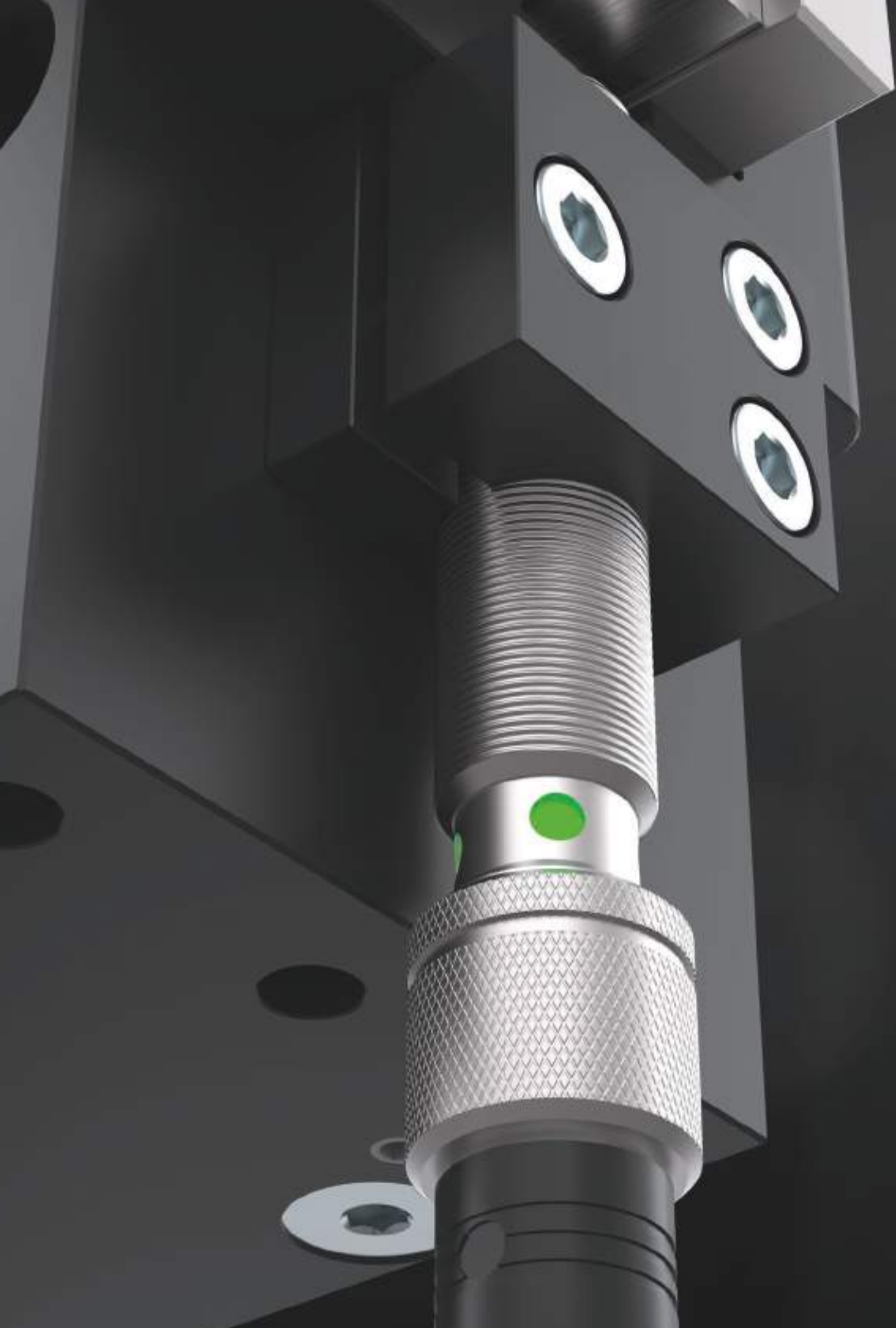


KG60
KG60ST



KG80
KG80ST













SENSORS & HOLDERS

OVERVIEW OF SERIES

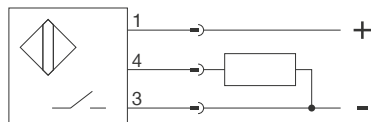


INDUCTIVE PROXIMITY SWITCHES		
	Series NJ	464
MAGNETIC FIELD SENSORS		
	Series MFS	468
SENSOR CABLES		
	Series KAG	474
	Series KAW	475
	Series S	475
STOP STROKE ADJUSTMENT SCREWS		
	Series AI	477
	Series AO	477
HOLDERS		
	Series KB	478

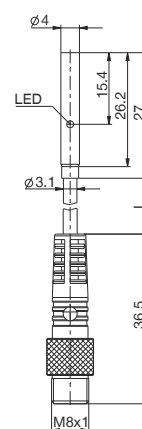
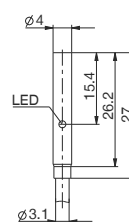
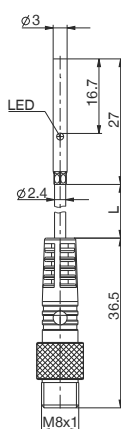
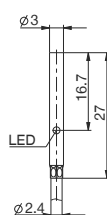
SENSORS AND HOLDERS

INDUCTIVE PROXIMITY SWITCHES

► SERIES NJ - INDUCTIVE PROXIMITY SWITCHES



PNP
Normally open (NO)

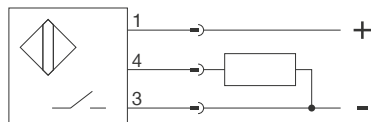


► Technical data

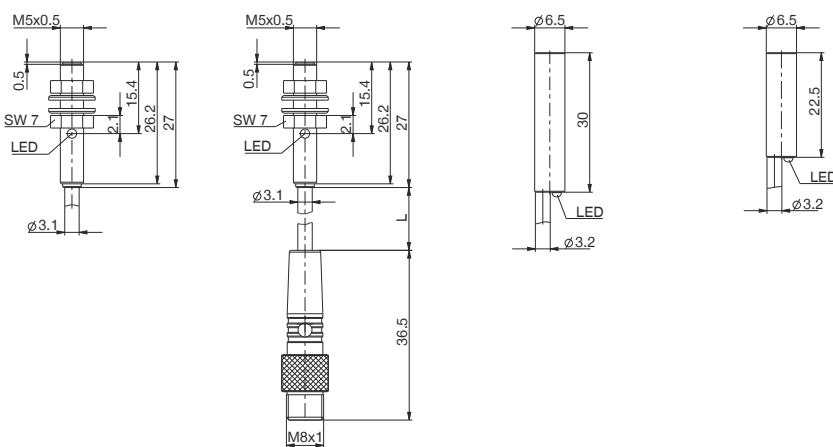
Order no.	NJ3-E2	NJ3-E2SK	NJ4-E2-01	NJ4-E2SK-01
Connection type	Cable	Cable/Connector M8	Cable	Cable/Connector M8
Sensor-Ø [mm]	3.0	3.0	4.0	4.0
Installation type	flush	flush	flush	flush
Rated operating distance S_n [mm]	1.00	1.00	1.50	1.50
Assured switching distance S_a [mm]	0.80	0.80	1.21	1.21
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30	10 ... 30
Load current capacity [mA]	100	100	100	100
Current consumption max. [mA]	<12	<12	<12	<12
Protected against polarity reversal	Yes	Yes	Yes	Yes
Short-circuit-proof	Yes	Yes	Yes	Yes
Function display	Yes	Yes	Yes	Yes
Repetition accuracy [%]	<5	<5	<5	<5
Ambient temperature range [°C]	-25 ... +70	-25 ... +70	-25 ... +70	-25 ... +70
Switching frequency [Hz]	3500	3500	5000	5000
Protection to IEC 60529	IP67	IP67	IP67	IP67
Cable length [m]	5	0.3	5	0.3
Cable-Ø D [mm]	2.4	2.4	3.1	3.1
Bending radius for fixed routing, min.	3xØ	3xØ	3xØ	3xØ
Bending radius when using a drag chain, min.	5xØ	5xØ	5xØ	5xØ
Housing Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Active surface material	PBT	PBT	PBT	PBT
Certification	CE	CE	CE	CE



► SERIES NJ - INDUCTIVE PROXIMITY SWITCHES



PNP
Normally open (NO)



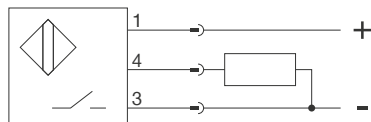
► Technical data

Order no.	NJ5-E2	NJ5-E2SK	NJ6.5-E2-01	NJ6.5-E2-02
Connection type	Cable	Cable/Connector M8	Cable	Cable
Sensor-Ø [mm]	M5x0.5	M5x0.5	6.5	6.5
Installation type	flush	flush	flush	flush
Rated operating distance S_n [mm]	0.80	0.80	1.50	1.50
Assured switching distance S_a [mm]	0.65	0.65	1.20	1.20
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30	10 ... 30
Load current capacity [mA]	100	100	200	200
Current consumption max. [mA]	<12	<12	<25	<25
Protected against polarity reversal	Yes	Yes	Yes	Yes
Short-circuit-proof	Yes	Yes	Yes	Yes
Function display	Yes	Yes	Yes	Yes
Repetition accuracy [%]	<5	<5	<5	<5
Ambient temperature range [°C]	-25 ... +70	-25 ... +70	-25 ... +70	-25 ... +70
Switching frequency [Hz]	5000	5000	3000	4000
Protection to IEC 60529	IP67	IP67	IP68	IP67
Cable length [m]	5	0.3	5	5
Cable-Ø D [mm]	3.1	3.1	3.2	3.2
Bending radius for fixed routing, min.		3xØ	3xØ	3xØ
Bending radius when using a drag chain, min.		5xØ	5xØ	5xØ
Housing Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Active surface material	PBT	PBT	PBT	PBT
Certification	CE	CE	CE	CE

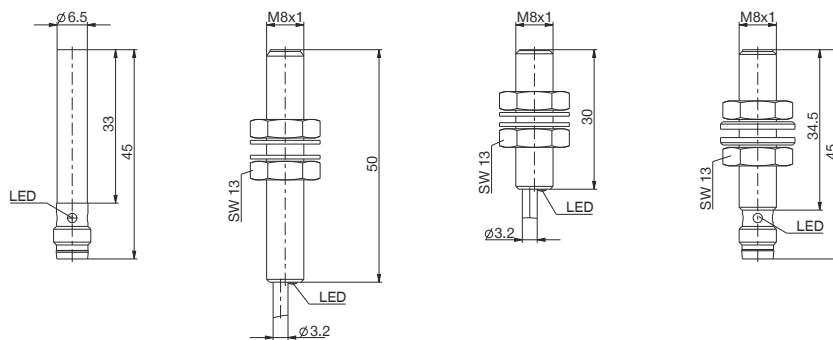
SENSORS AND HOLDERS

INDUCTIVE PROXIMITY SWITCHES

► SERIES NJ - INDUCTIVE PROXIMITY SWITCHES



PNP
Normally open (NO)

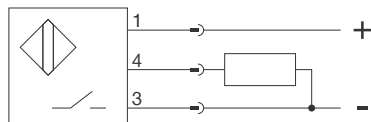


► Technical data

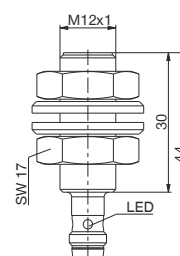
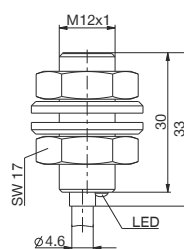
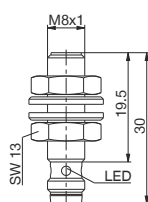
Order no.	NJ6.5-E2S	NJ8-E2	NJ8-E2-01	NJ8-E2S
Connection type	Connector M8	Cable	Cable	Connector M8
Sensor-Ø [mm]	6.5	M8x1	M8x1	M8x1
Installation type	flush	flush	flush	flush
Rated operating distance S_n [mm]	1.50	1.50	2.00	2.00
Assured switching distance S_a [mm]	1.20	1.20	1.60	1.60
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30	10 ... 30
Load current capacity [mA]	200	200	200	200
Current consumption max. [mA]	<25	<8	<25	<25
Protected against polarity reversal	Yes	Yes	Yes	Yes
Short-circuit-proof	Yes	Yes	Yes	Yes
Function display	Yes	Yes	Yes	Yes
Repetition accuracy [%]	<5	<5	<5	<5
Ambient temperature range [°C]	-25 ... +70	-25 ... +70	-25 ... +70	-25 ... +70
Switching frequency [Hz]	3000	1000	1500	1500
Protection to IEC 60529	IP67	IP67	IP68	IP68
Cable length [m]		5	5	
Cable-Ø D [mm]		3.2	3.2	
Bending radius for fixed routing, min.		3xØ	3xØ	
Bending radius when using a drag chain, min.		5xØ	5xØ	
Housing Material	Stainless steel	CuZn nickel plated	Stainless steel	Stainless steel
Active surface material	PBT	PA12	PBT	PBT
Certification	CE	CE	CE	CE



► SERIES NJ - INDUCTIVE PROXIMITY SWITCHES



PNP
Normally open (NO)



► Technical data

Order no.	NJ8-E2S-05	NJ12-E2	NJ12-E2S
Connection type	Connector M8	Cable	Connector M8
Sensor-Ø [mm]	M8x1	M12x1	M12x1
Installation type	flush	flush	flush
Rated operating distance S_n [mm]	1.50	2.00	2.00
Assured switching distance S_a [mm]	1.20	1.60	1.60
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30
Load current capacity [mA]	200	200	130
Current consumption max. [mA]	<8	<12	<25
Protected against polarity reversal	Yes	Yes	Yes
Short-circuit-proof	Yes	Yes	Yes
Function display	Yes	Yes	Yes
Repetition accuracy [%]	<5	<5	<5
Ambient temperature range [°C]	-25 ... +70	-25 ... +70	-25 ... +70
Switching frequency [Hz]	3000	5000	1000
Protection to IEC 60529	IP68	IP68	IP67
Cable length [m]		5	
Cable-Ø D [mm]		4.6	
Bending radius for fixed routing, min.		3xØ	
Bending radius when using a drag chain, min.		5xØ	
Housing Material	Stainless steel	CuZn nickel plated	CuZn nickel plated
Active surface material	PBT	PBT	PA12
Certification	CE	CE	CE

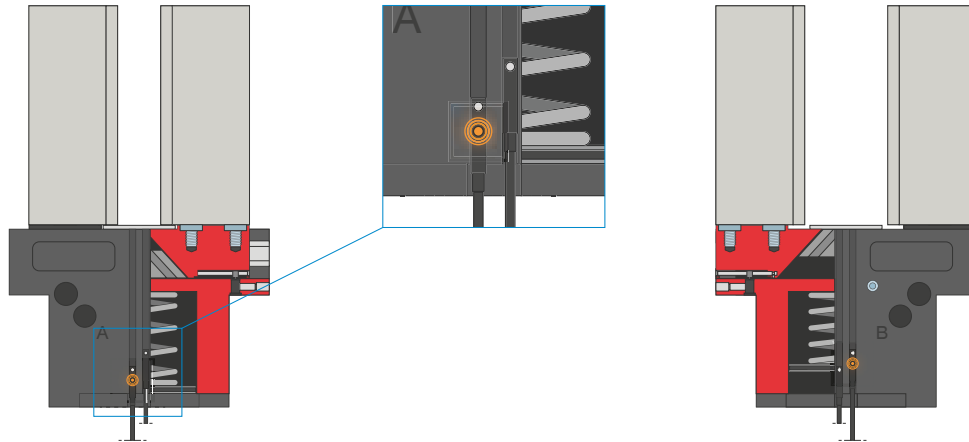
SENSORS & HOLDERS

MAGNETIC FIELD SENSORS FUNCTIONAL DESCRIPTION

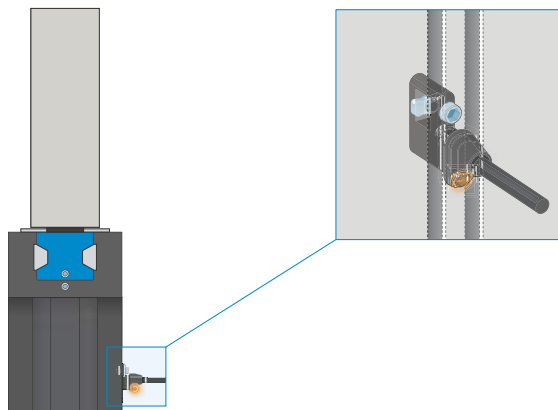


SENSORS

MFS02



MFS01



1-point magnetic field sensors – MFS

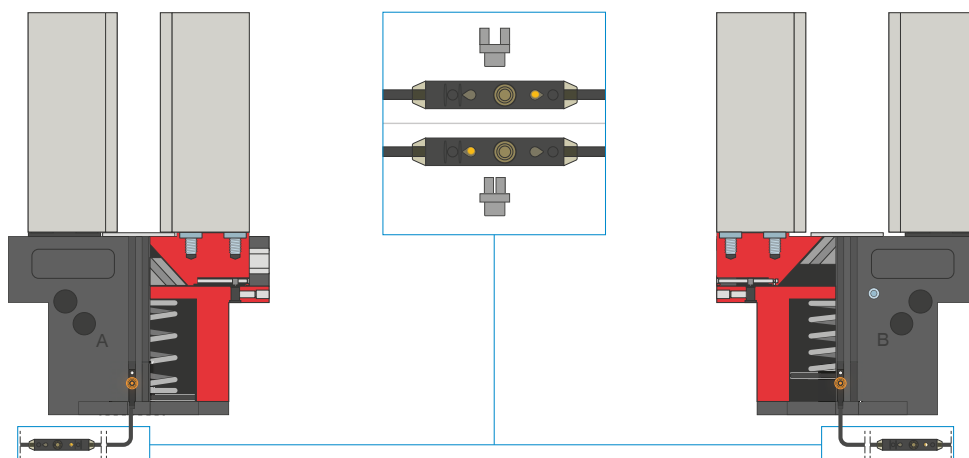
For non-contact sensing of the piston position

These sensors are installed in the C-groove of the gripper and detect the magnet attached to the piston of the gripper. To ensure use in a wide variety of space conditions, the sensors are available in two variants. While the horizontal MFS02, with straight cable outlet, disappears into the C-groove of the gripper almost completely, the vertical MFS01 is taller, but has a cable outlet that is offset at an angle of 90°. The variants are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector.

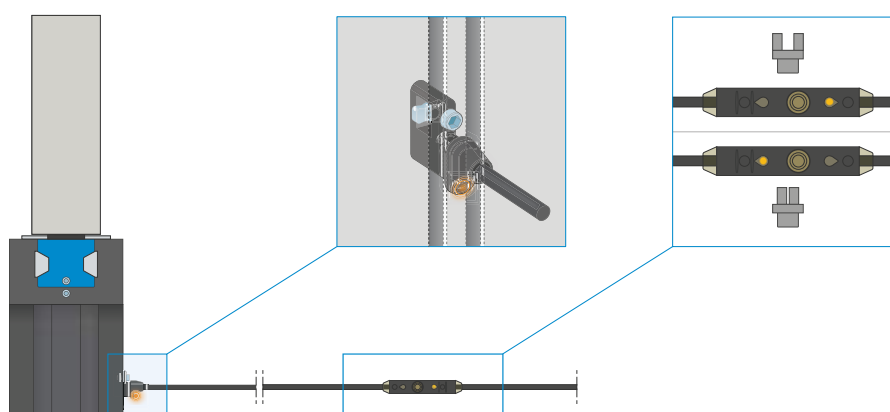


SENSORS

MFS02



MFS01



2-point magnetic field sensors – MFS

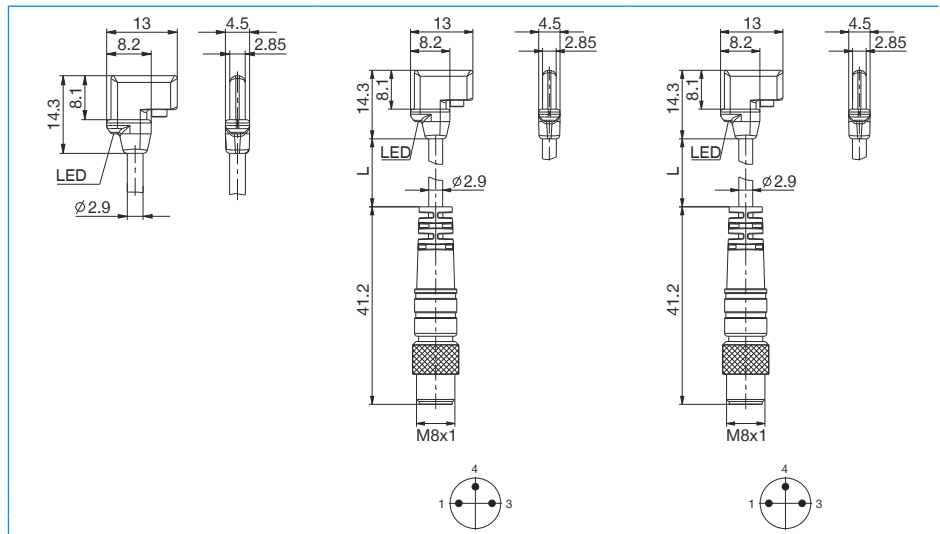
With two freely programmable switching points

Using the programming unit integrated in the cable, two switch points can be freely defined for this sensor. To do so, the sensor is clamped in the C-groove, the gripper approaches position one and the position is taught in using the teach button. Afterwards, the second position is approached with the gripper and programmed. To ensure use in a wide variety of space conditions, the sensors are available in two variants. While the horizontal MFS02, with straight cable outlet, disappears into the C-groove of the gripper almost completely, the vertical MFS01 is taller, but has a cable outlet that is offset at an angle of 90°. The sensors are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector.

SENSORS AND HOLDERS

MAGNETIC FIELD SENSORS

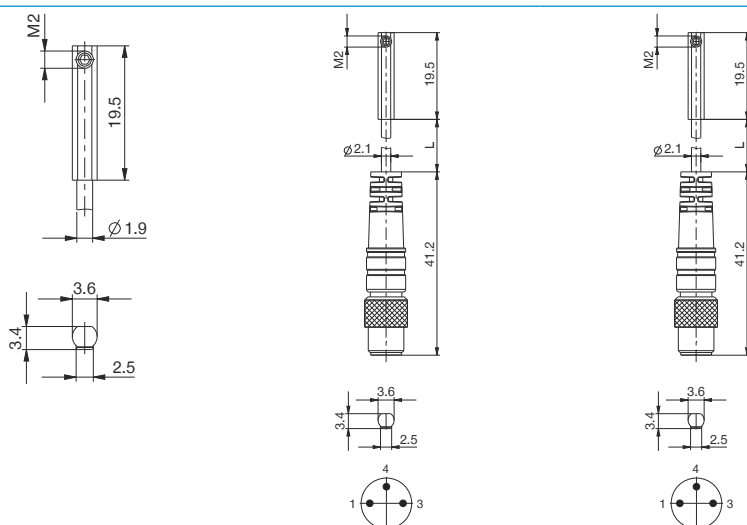
► SERIES MFS - 1-POSITION-MAGNETIC FIELD SENSORS



Order no.	► Technical data		
	MFS01-K-KHC-P1-PNP	MFS01-S-KHC-P1-PNP	MFS01-S-KHC-P1-NPN
Switching output	PNP	PNP	NPN
Switching function	Normally open (NO)	Normally open (NO)	Normally open (NO)
Cylinder design	C-slot	C-slot	C-slot
Housing length [mm]	13	13	13
Switching frequency [Hz]	1000	1000	1000
Electrical version	DC 3-wire	DC 3-wire	DC 3-wire
Protection to IEC 60529	IP68	IP68	IP68
Certification	CE	CE	CE
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30
Current consumption [mA]	≤8	≤8	≤8
Voltage drop [V]	≤2.5	≤2.5	≤2.5
Continuous current [mA]	≤100	≤100	≤100
Response sensitivity typ. [mT]	1.7	1.7	1.7
Overrun distance typ. [mm]	2	2	2
Hysteresis typ. [mT]	≤0.4	≤0.4	≤0.4
Reproducibility [mT]	≤0.1	≤0.1	≤0.1
Protected against polarity reversal	Yes	Yes	Yes
Short-circuit-proof	Yes	Yes	Yes
Power-up pulse protection	Yes	Yes	Yes
Ambient temperature range [°C]	-30 ... +80	-30 ... +80	-30 ... +80
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm	30 g, 11 ms / 10 ... 55 Hz, 1 mm	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Housing Material	Plastics	Plastics	Plastics
Connection type	Cable	Cable/Connector	Cable/Connector
Fixing thread		M8	M8
Cable length [m]	5	0.3	0.3
Nr. of wires x diameter [mm²]	3x0.14	3x0.14	3x0.14
Cable sheath material	PUR	PUR	PUR
Bending radius for fixed routing, min.	3xØ	3xØ	3xØ
Bending radius when using a drag chain, min.	5xØ	5xØ	5xØ



► SERIES MFS - 1-POSITION-MAGNETIC FIELD SENSORS

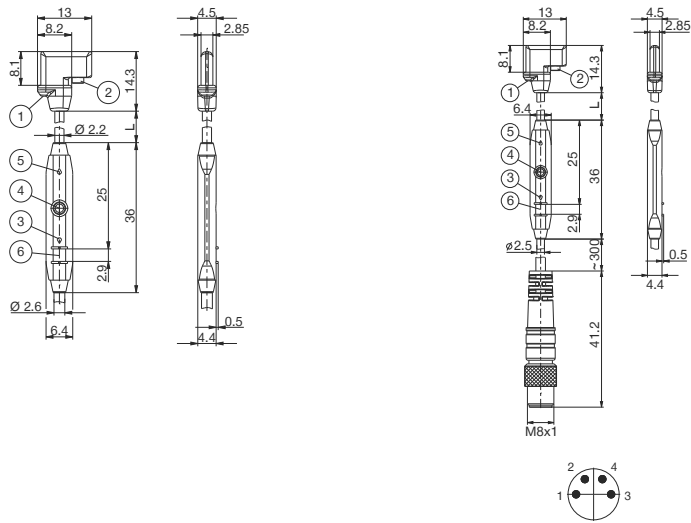
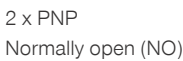


Order no.	► Technical data		
	MFS02-K-KHC-P1-PNP	MFS02-S-KHC-P1-PNP	MFS02-S-KHC-P1-NPN
Switching output	PNP	PNP	NPN
Switching function	Normally open (NO)	Normally open (NO)	Normally open (NO)
Cylinder design	C-slot	C-slot	C-slot
Housing length [mm]	19.5	19.5	19.5
Switching frequency [Hz]	1000	1000	1000
Electrical version	DC 3-wire	DC 3-wire	DC 3-wire
Protection to IEC 60529	IP67	IP67	IP67
Certification	CE	CE	CE
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30
Current consumption [mA]	≤8	≤8	≤8
Voltage drop [V]	≤2.5	≤2.5	≤2.5
Continuous current [mA]	≤100	≤100	≤100
Response sensitivity typ. [mT]	1.7	1.7	1.7
Overrun distance typ. [mm]	2	2	2
Hysteresis typ. [mT]	≤0.4	≤0.4	≤0.4
Reproducibility [mT]	≤0.1	≤0.1	≤0.1
Protected against polarity reversal	Yes	Yes	Yes
Short-circuit-proof	Yes	Yes	Yes
Power-up pulse protection	Yes	Yes	Yes
Ambient temperature range [°C]	-25 ... +75	-25 ... +75	-25 ... +75
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm	30 g, 11 ms / 10 ... 55 Hz, 1 mm	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Housing Material	Plastics	Plastics	Plastics
Connection type	Cable	Cable/Connector	Cable/Connector
Fixing thread		M8	M8
Cable length [m]	5	0.3	0.3
Nr. of wires x diameter [mm²]	3x0.09	3x0.09	3x0.09
Cable sheath material	PUR	PUR	PUR
Bending radius for fixed routing, min.	3xØ	3xØ	3xØ
Bending radius when using a drag chain, min.	5xØ	5xØ	5xØ

SENSORS AND HOLDERS

MAGNETIC FIELD SENSORS

► SERIES MFS - 2-POSITION-MAGNETIC FIELD SENSORS



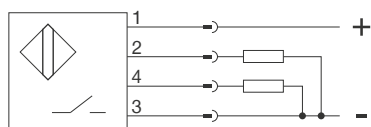
- | | |
|----------------------------|-----------------------|
| 1 Center of sensor element | 4 Teach-in button |
| 2 Fixing screw | 5 Display LED |
| 3 Display LED | 6 Ribs for cable ties |

► Technical data

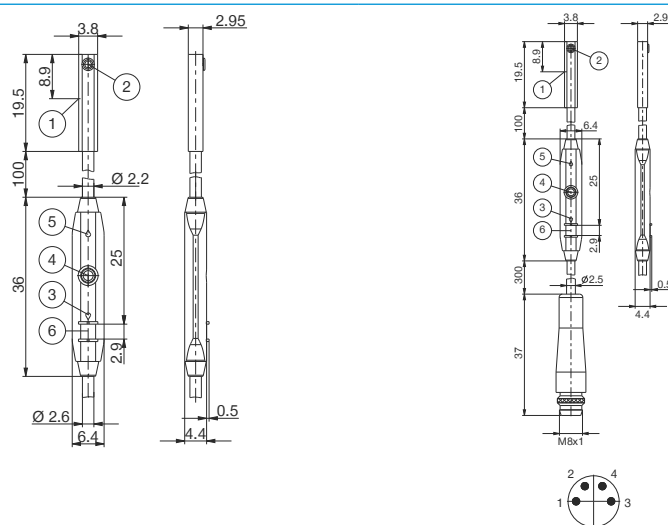
Order no.	MFS01-K-KHC-P2-PNP	MFS01-S-KHC-P2-PNP
Cylinder design	C-slot	C-slot
Housing length [mm]	13	13
Switching frequency [Hz]	7000	7000
Electrical version	DC 4-wire	DC 4-wire
Protection to IEC 60529	IP67	IP67
Certification	CE	CE
Supply voltage [V DC]	12 ... 30	12 ... 30
Current consumption [mA]	≤15	≤15
Voltage drop [V]	≤2.2	≤2.2
Continuous current [mA]	≤100	≤100
Detection zone [mm]	0 ... 20	0 ... 20
Hysteresis typ. [mT]	1	1
Reproducibility [mT]	≤0.1	≤0.1
Protected against polarity reversal	Yes	Yes
Short-circuit-proof	Yes	Yes
Power-up pulse protection	Yes	Yes
Ambient temperature range [°C]	-20 ... +75	-20 ... +75
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Housing Material	Plastics	Plastics
Connection type	Cable	Cable/Connector
Fixing thread		M8
Cable length [m]	5	0.3
Nr. of wires x diameter [mm²]	4x0.08	4x0.08
Cable sheath material	PUR	PUR
Bending radius for fixed routing, min.	3xØ	3xØ
Bending radius when using a drag chain, min.	5xØ	5xØ



► SERIES MFS - 2-POSITION-MAGNETIC FIELD SENSORS



2 x PNP
Normally open (NO)



1 Center of sensor element
2 Fixing screw
3 Display LED

4 Teach-in button
5 Display LED
6 Ribs for cable ties

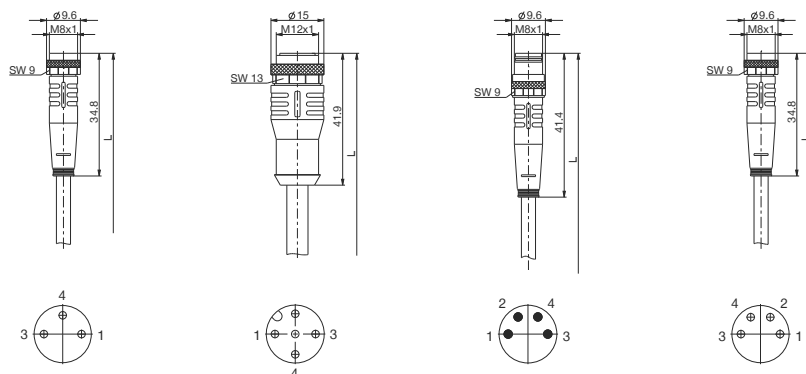
► Technical data

Order no.	MFS02-K-KHC-P2-PNP	MFS02-S-KHC-P2-PNP
Cylinder design	C-slot	C-slot
Housing length [mm]	19.5	19.5
Switching frequency [Hz]	7000	7000
Electrical version	DC 4-wire	DC 4-wire
Protection to IEC 60529	IP67	IP67
Certification	CE	CE
Supply voltage [V DC]	12 ... 30	12 ... 30
Current consumption [mA]	≤15	≤15
Voltage drop [V]	≤2.2	≤2.2
Continuous current [mA]	≤100	≤100
Detection zone [mm]	0 ... 50	0 ... 50
Hysteresis typ. [mT]	1	1
Reproducibility [mT]	≤0.1	≤0.1
Protected against polarity reversal	Yes	Yes
Short-circuit-proof	Yes	Yes
Power-up pulse protection	Yes	Yes
Ambient temperature range [°C]	-20 ... +75	-20 ... +75
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Housing Material	Plastics	Plastics
Connection type	Cable	Cable/Connector
Fixing thread		M8
Cable length [m]	5	0.3
Nr. of wires x diameter [mm²]	4x0.08	4x0.08
Cable sheath material	PUR	PUR
Bending radius for fixed routing, min.	3xØ	3xØ
Bending radius when using a drag chain, min.	5xØ	5xØ

SENSORS AND HOLDERS

SENSOR CABLES

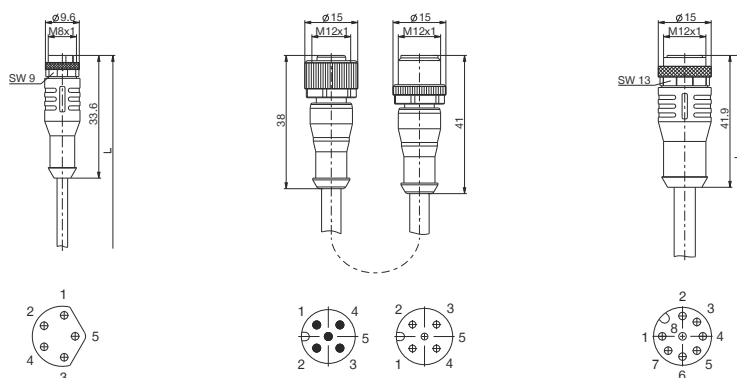
► SERIES KAG - PLUG-IN CONNECTOR STRAIGHT WITH CABLE



► Technical data

Order no.	KAG500	KAG500-02	KAG500S4	KAG500B4
Connection type	Female	Female	Connector	Female
Version [Type]	Straight	Straight	Straight	Straight
Fixing thread	M8	M12	M8	M8
No. of contacts	3	3	4	4
Current load (at 40°C) [A]	4	4	4	4
Temperature range (fixed) [°C]	-40 ... +90	-40 ... +90	-40 ... +90	-40 ... +90
Temperature range (drag chain) [°C]	-25 ... +60	-25 ... +60	-25 ... +60	-25 ... +60
Protection to IEC 60529	IP67	IP67	IP67	IP67
Cable length [m]	5	5	5	5
Cable-Ø [mm]	4.0	4.3	4.3	4.3
Bend radius, fixed cable installation	10xØ	10xØ	10xØ	10xØ
Cable sheath material	PUR	PUR	PUR	PUR
Certification	UL /CSA	UL /CSA	UL /CSA	UL /CSA

► SERIES KAG - PLUG-IN CONNECTOR STRAIGHT WITH CABLE

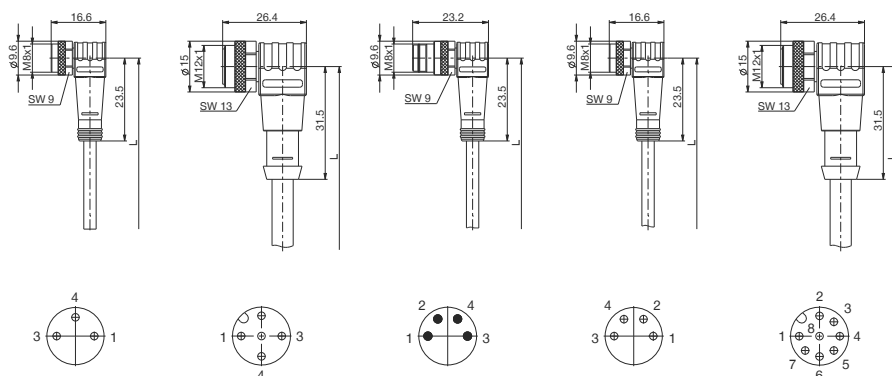


► Technical data

Order no.	KAG500B5	KAG500IL	KAG1000B8
Connection type	Female	Connector / female	Female
Version [Type]	Straight	Straight	Straight
Fixing thread	M8	M12	M12
No. of contacts	5	5	8
Current load (at 40°C) [A]	3	4	2
Temperature range (fixed) [°C]	-40 ... +90	-40 ... +90	-40 ... +90
Temperature range (drag chain) [°C]	-25 ... +60	-25 ... +60	-25 ... +60
Protection to IEC 60529	IP67	IP67	IP67
Cable length [m]	5	5	10
Cable-Ø [mm]	5.6	5	6.7
Bend radius, fixed cable installation	12xØ	5xØ	10xØ
Cable sheath material	PUR	PUR	PUR
Certification	UL /CSA	UL /CSA	UL /CSA



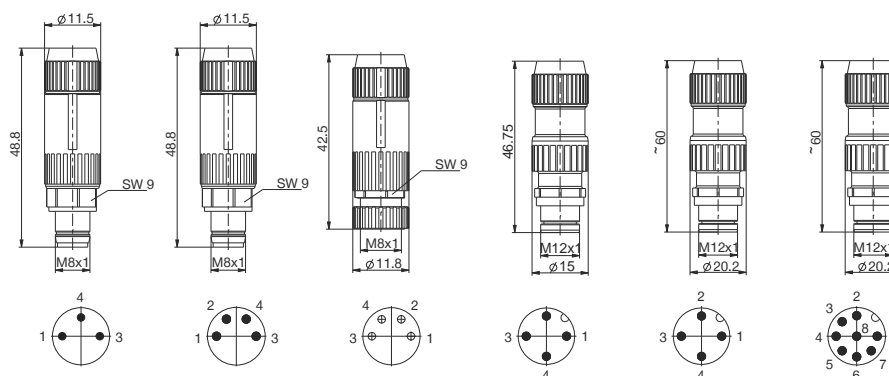
► SERIES KAW - PLUG-IN CONNECTOR ANGLED WITH CABLE



► Technical data

Order no.	KAW500	KAW500-12	KAW500S4	KAW500B4	KAW1000B8
Connection type	Female	Female	Connector	Female	Female
Version [Type]	Angle	Angle	Angle	Angle	Angle
Fixing thread	M8	M12	M8	M8	M12
No. of contacts	3	3	4	4	8
Current load (at 40°C) [A]	4	4	4	4	2
Temperature range (fixed) [°C]	-40 ... +90	-40 ... +90	-40 ... +90	-40 ... +90	-40 ... +90
Temperature range (drag chain) [°C]	-25 ... +60	-25 ... +60	-25 ... +60	-25 ... +60	-25 ... +60
Protection to IEC 60529	IP67	IP67	IP67	IP67	IP67
Cable length [m]	5	5	5	5	10
Cable-Ø [mm]	4.0	4.3	4.3	4.3	6.7
Bend radius, fixed cable installation	10xØ	10xØ	10xØ	10xØ	10xØ
Cable sheath material	PUR	PUR	PUR	PUR	PUR
Certification	UL /CSA	UL /CSA	UL /CSA	UL /CSA	UL /CSA

► SERIES S - PLUG-IN CONNECTOR CUSTOMIZABLE WITH SCREW-CUT-TERMINAL



► Technical data

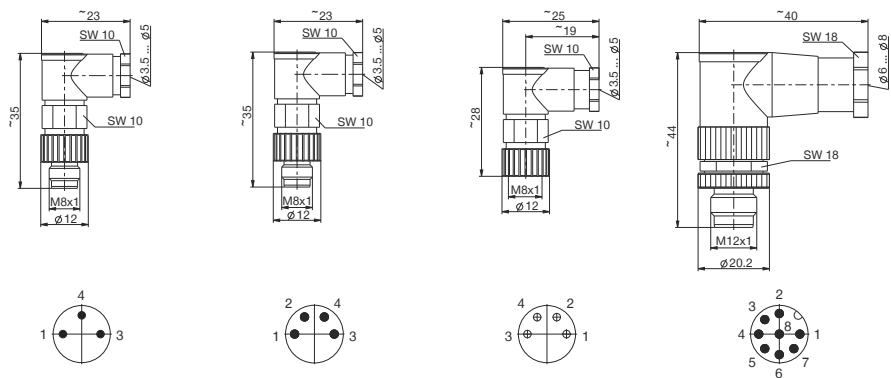
Order no.	S8-G-3	S8-G-4	B8-G-4	S12-G-3	S12-G-4	S12-G-8
Connection type	Connector	Connector	Female	Connector	Connector	Connector
Version [Type]	Straight	Straight	Straight	Straight	Straight	Straight
Fixing thread	M8	M8	M8	M12	M12	M12
No. of contacts	3	4	4	3	4	8
Protection to IEC 60529	IP67	IP67	IP67	IP67	IP67	IP67



SENSORS AND HOLDERS

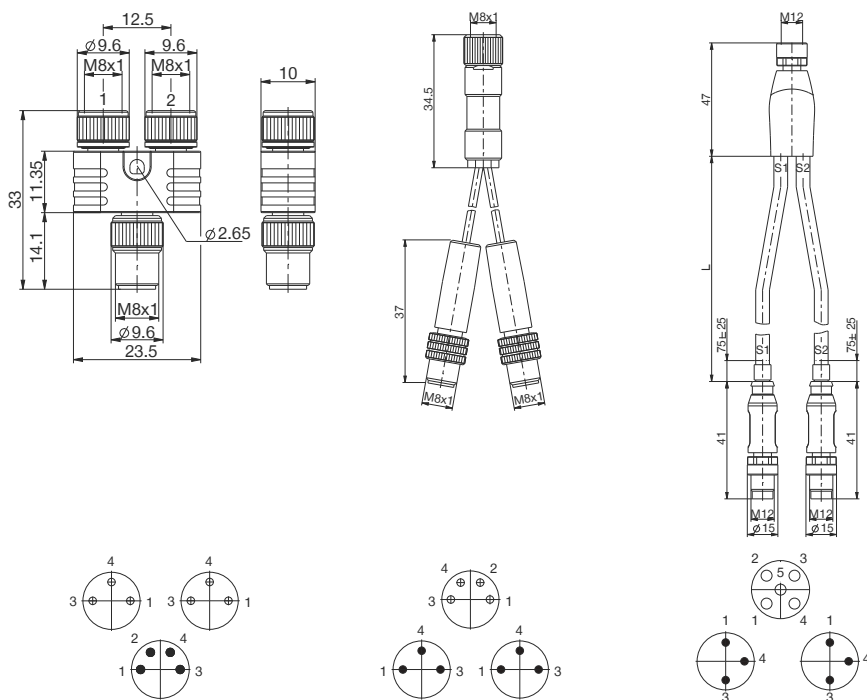
SENSOR CABLES

► SERIES S - PLUG-IN CONNECTOR CUSTOMIZABLE WITH SOLDER CONNECTION



Order no.	► Technical data			
	S8-W-3	S8-W-4	B8-W-4	S12-W-8
Connection type	Connector	Connector	Female	Connector
Version [Type]	Angle	Angle	Angle	Angle
Fixing thread	M8	M8	M8	M12
No. of contacts	3	4	4	8
Protection to IEC 60529	IP67	IP67	IP67	IP67

► SERIES S - Y-PLUG-IN CONNECTOR



Order no.	► Technical data		
	S8-Y-4	B8-Y-4	B12-Y-5IL
Connection type	Socket / plug / socket	Plug / socket / plug	Plug / socket / plug
Version [Type]	Y-Plug-in Connector	Y-Plug-in Connector	Y-Plug-in Connector
Fixing thread	M8	M8	M12
No. of contacts	3 / 4 / 3	3 / 4 / 3	3 / 3 / 5
Protection to IEC 60529	IP67	IP67	IP67



SENSORS AND HOLDERS

STOP STROKE ADJUSTMENT SCREWS

► SERIES AI - STOP STROKE ADJUSTMENT SCREWS



- Stop stroke adjustment screw for M12 sensor mount
- Stop stroke adjustment screw with customizable sensor mount

Order no.	► Technical Data		
	AI-M8X1-38	AI-M8X1-53	AI-M10X1-70
Fixing thread	M8X1	M8X1	M10X1
to match for Sensors-Ø [mm]	M12X1	M12X1	M12X1

► SERIES AO - STOP STROKE ADJUSTMENT SCREWS



- Stop stroke adjustment screw with customizable sensor mount

Order no.	► Technical Data		
	AO-M8X1-38	AO-M8X1-53	AO-M10X1-70
Fixing thread	M8X1	M8X1	M10X1
to match for Sensors-Ø [mm]	customizable	customizable	customizable

SENSORS & HOLDERS

HOLDERS

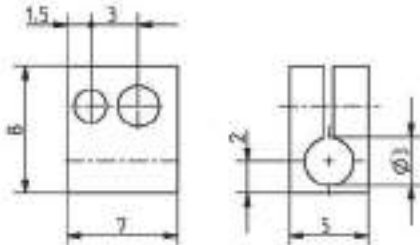
► SERIES KB - MOUNTING BLOCK



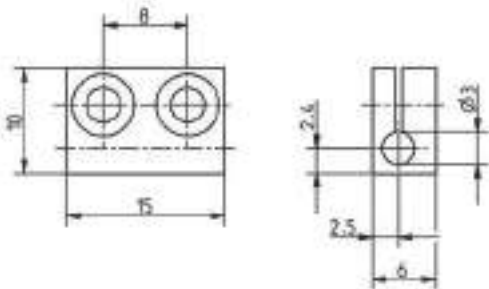
- Mounting for inductive proximity switch
- Available starting at Ø 3 mm

Order no.	► Technical Data						
	KB3	KB3M	KB4	KB5	KB6.5	KB8	KB12
to match for Sensors-Ø [mm]	3	3	4	5	6.5	8	12

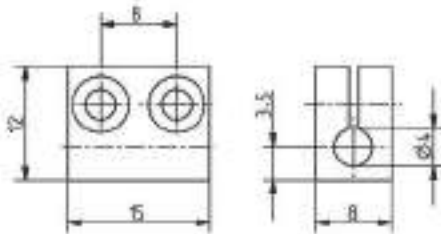
KB3M



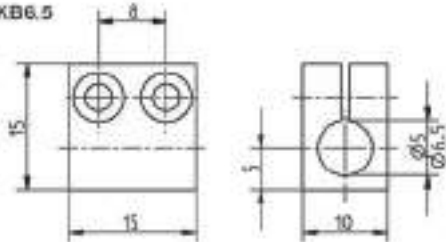
KB3



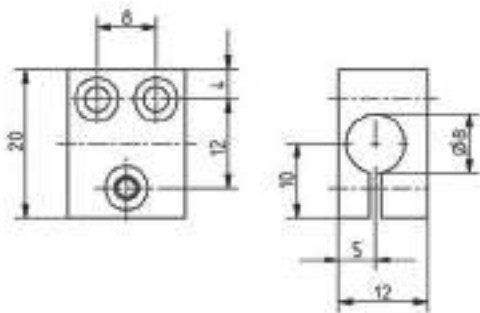
KB4



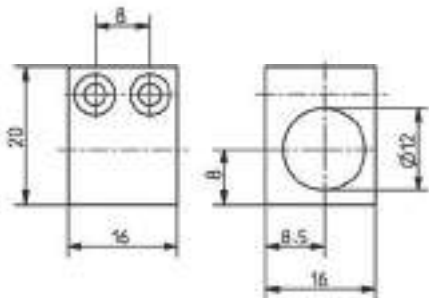
KB5 / KB6.5

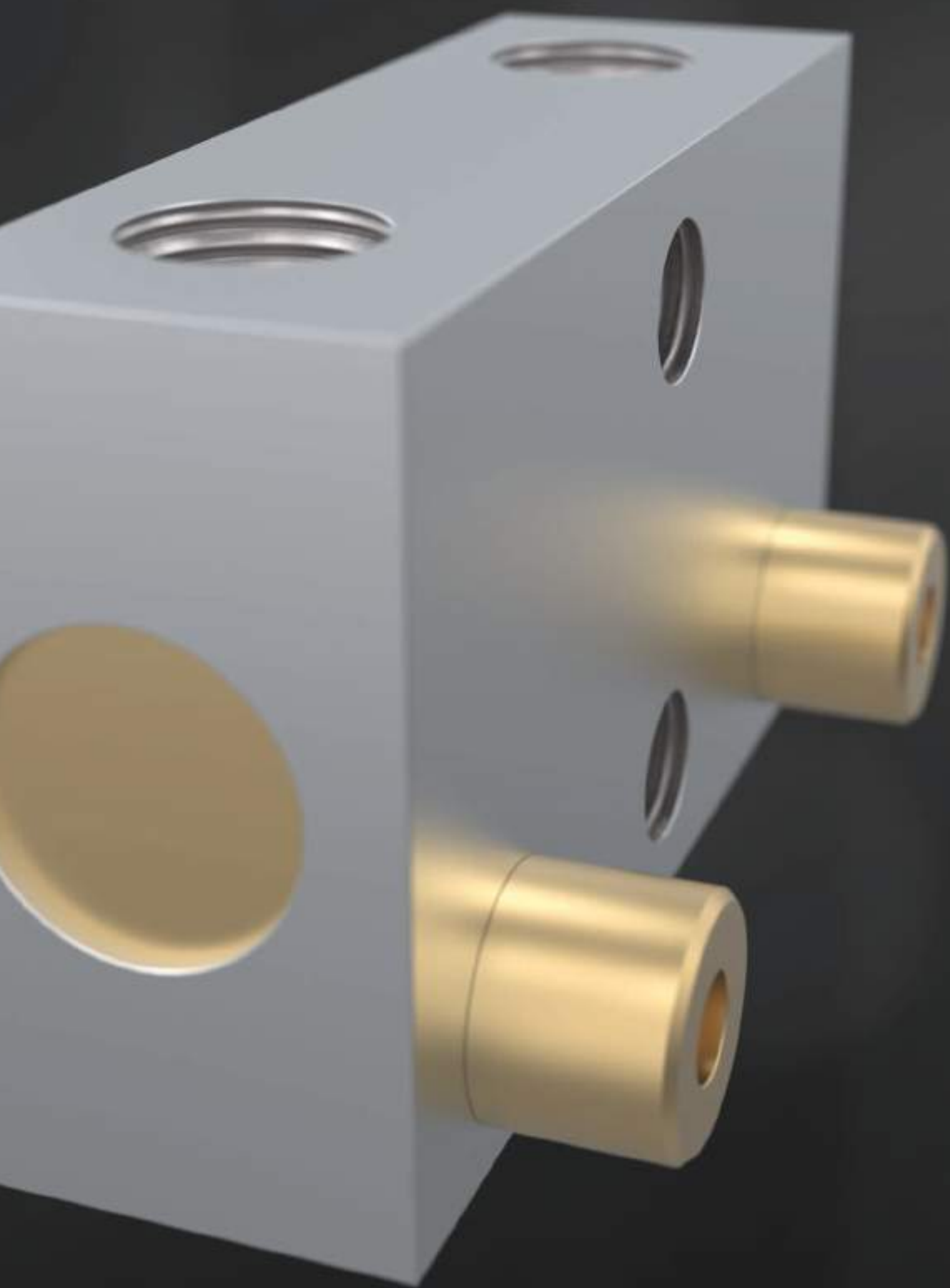


KB8

















KB12





VALVES, FITTINGS, ACCESSORIES

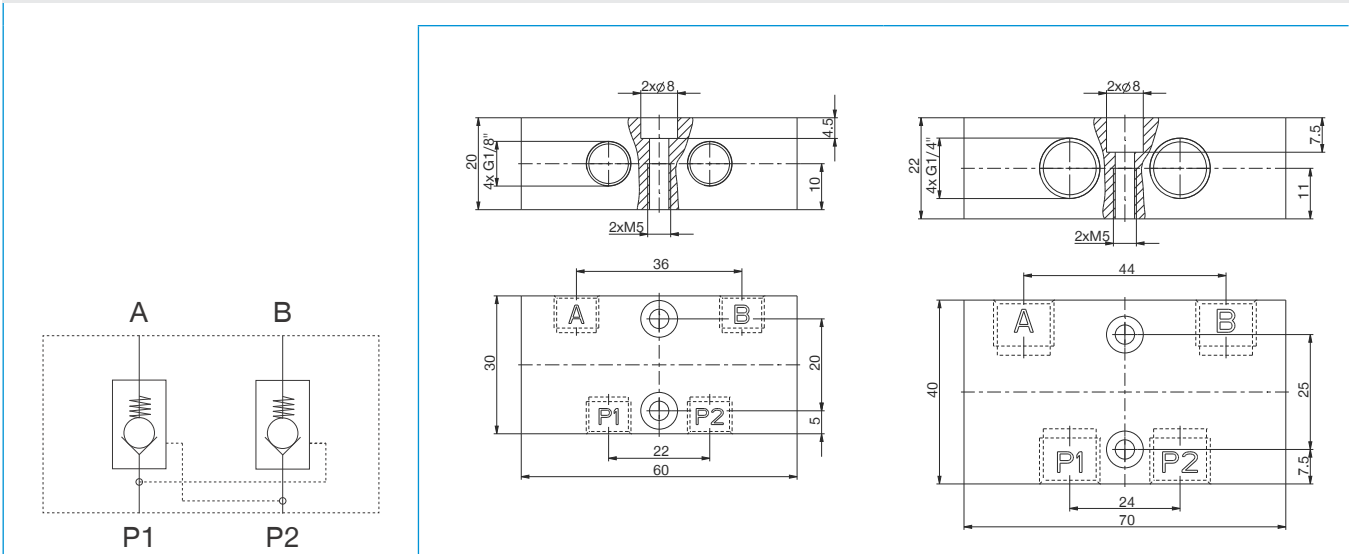
OVERVIEW OF SERIES

VALVES		
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	Series WV	487
JAW ACCESSORIES		
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	Series J	488
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	Series BN	490
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JAW EXTENSIONS		
	Series GBV	492
ROTARY DISTRIBUTORS		
	Series DV	494

VALVES, FITTINGS, ACCESSORIES

VALVES

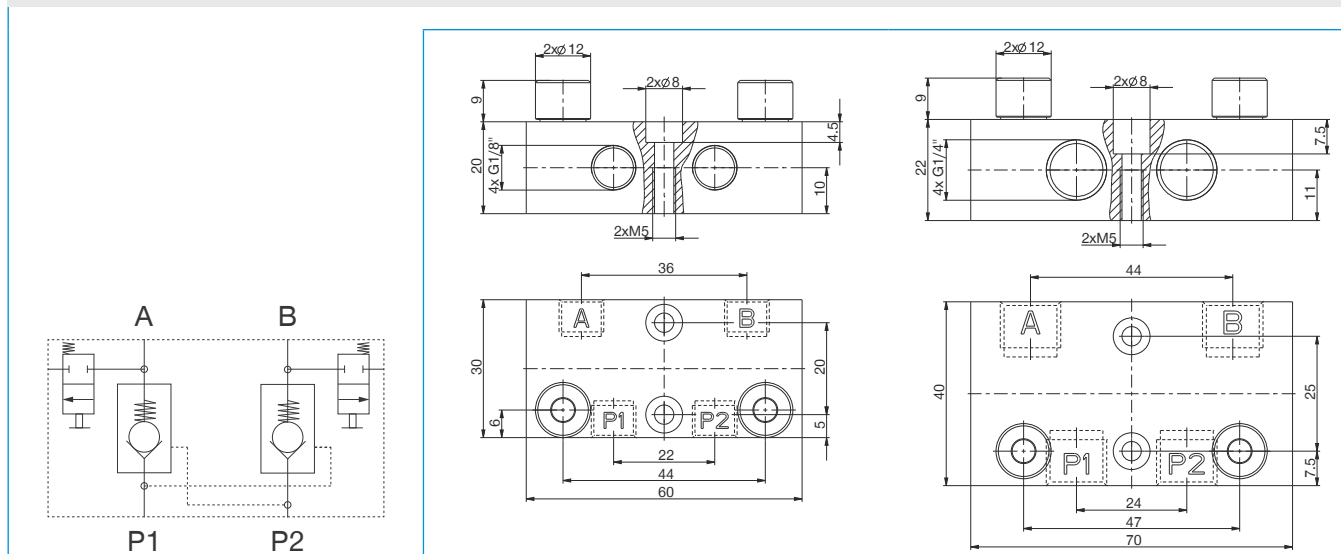
► SERIES DSV - PRESSURE SAFETY VALVE



Order no.	► Technical data	
	DSV1-8	DSV1-4
Fixing thread	G1/8"	G1/4"
Quick Exhaust	No	No
Nominal diameter [mm]	4	7
Nominal flow rate A-P1	360	1000
Nominal flow rate B-P2	360	1000
Nominal flow rate P1-A	230	650
Nominal flow rate P2-B	230	650
Operating pressure [bar]	1 ... 10	1 ... 10
Operating temperature [°C]	-10 ... +70	-10 ... +70
Weight [kg]	0.1	0.2



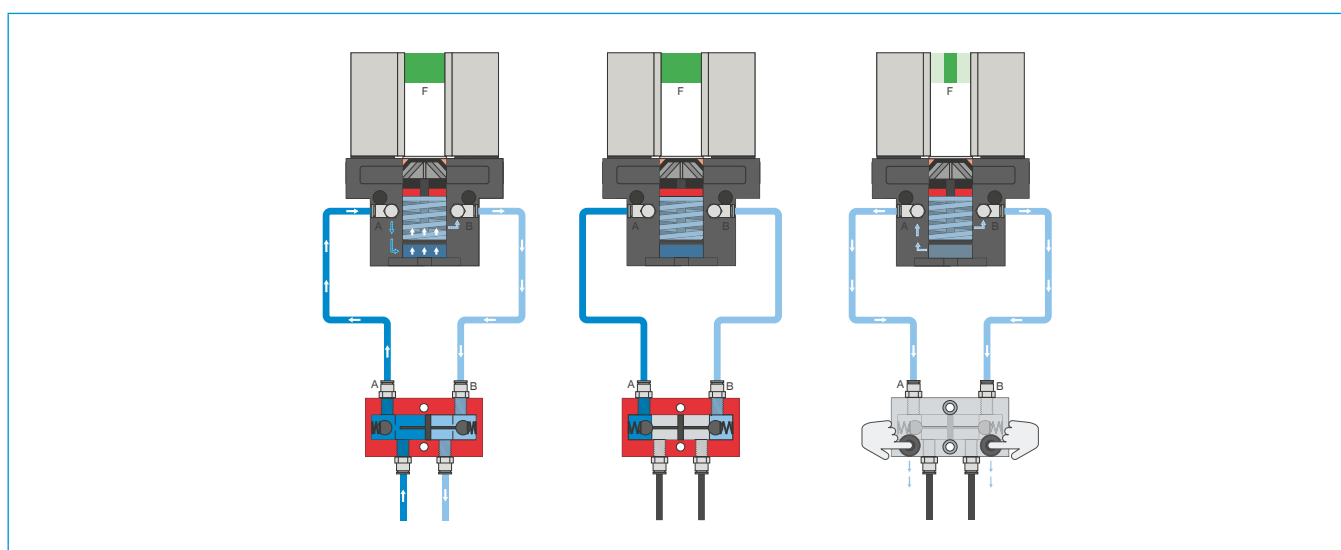
DSV SERIES – PRESSURE SAFETY VALVES WITH QUICK EXHAUST



Technical data

Order no.	DSV1-8E	DSV1-4E
Fixing thread	G1/8"	G1/4"
Quick Exhaust	Yes	Yes
Nominal diameter [mm]	4	7
Nominal flow rate A-P1	360	1000
Nominal flow rate B-P2	360	1000
Nominal flow rate P1-A	230	650
Nominal flow rate P2-B	230	650
Operating pressure [bar]	1 ... 10	1 ... 10
Operating temperature [°C]	-10 ... +70	-10 ... +70
Weight [kg]	0.1	0.2

FUNCTIONAL DESCRIPTION DSV



Pressure safety valve – DSV

Ensures safe retention of force and position if the system pressure drops

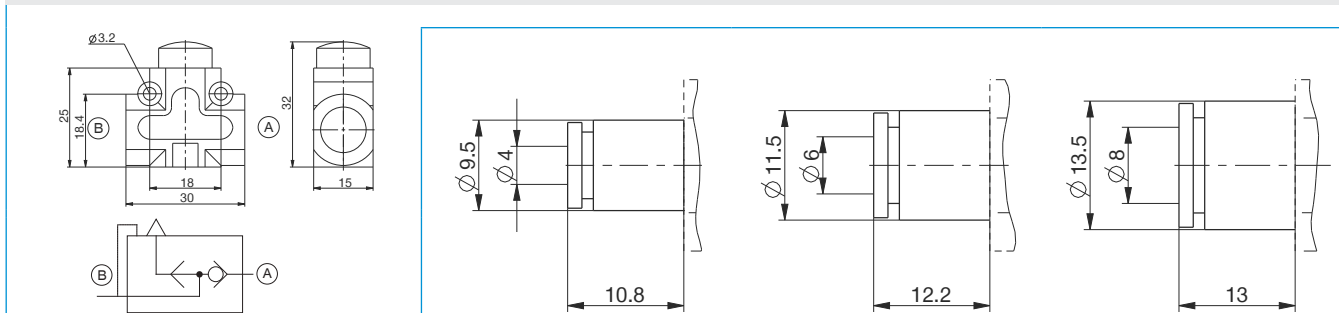
The integrated double check valve, which can be unlocked, retains the system pressure of the gripper in case of EMERGENCY STOP. To ensure the function, the valve must be installed as close to the gripper's air connection as possible. In variant E, two pushbuttons are installed that allow for controlled bleeding of the gripper.



VALVES, FITTINGS, ACCESSORIES

VALVES

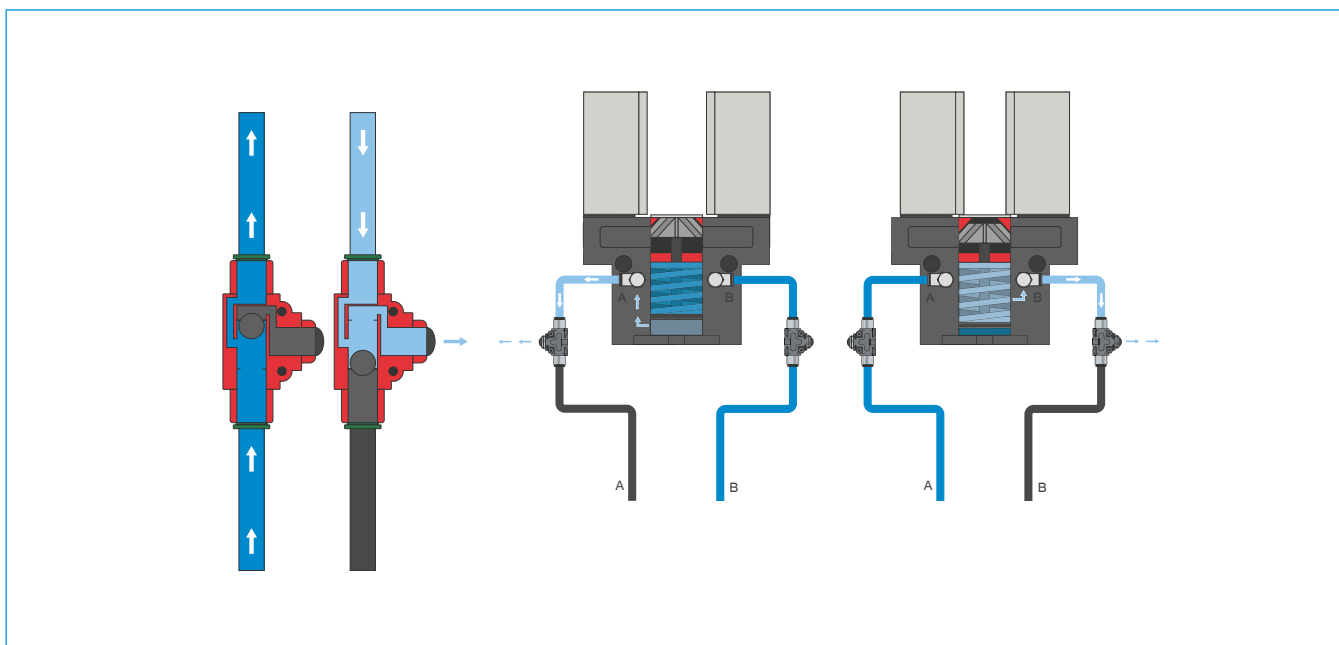
► SERIES DEV - QUICK EXHAUST VALVE



► Technical data

Order no.	DEV04	DEV06	DEV08
Outside-Ø for hose [mm]	4	6	8
Operating pressure max. [bar]	10	10	10
Nominal operating pressure [bar]	6	6	6
Operating temperature [°C]	-5 ... +50	-5 ... +50	-5 ... +50
Flow in the case of aeration	250	250	250
Flow in the case of ventilation	500	500	500
Weight [kg]	0.015	0.015	0.015

► FUNCTIONAL DESCRIPTION DEV



Quick exhaust valve – DEV

For rapid bleeding of the compressed air and preventing back pressure

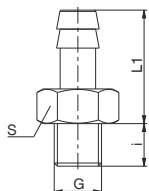
The inline valves make a faster cycle time possible and prevent the formation of condensate in grippers with a small cylinder volume. To ensure the function, the valve must be installed as close to the gripper's air connection as possible.



VALVES, FITTINGS, ACCESSORIES

FITTINGS

► SERIES GV - STRAIGHT FITTINGS - BARB-STYLE CONNECTION

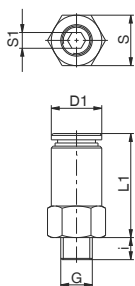


- For assembling with hose clips
- Straight version

Order no.	Technical data				
	GVM3	GV1-8X5ID	GV1-8X6ID	GV1-8X8ID	GV1-4X8ID
Fixing thread	M3	G1/8"	G1/8"	G1/8"	G1/4"
Inside-Ø for hose [mm]	2	5	6	8	8
Length [mm]	9.9	30	30	30	32.5
Dimension i [mm]	2.7	6	6	6	8
Dimension L1 [mm]	7.2	24	24	24	24.5
S [mm]	4.5	13	13	13	17

Order no.	Technical data			
	GV1-4X10ID	GV3-8X13ID	GV1-2X13ID	GV1-2X16ID
Fixing thread	G1/4"	G3/8"	G1/2"	G1/2"
Inside-Ø for hose [mm]	10	13	13	16
Length [mm]	32.5	33.5	35	39.5
Dimension i [mm]	8	9	10	10
Dimension L1 [mm]	24.5	24.5	25	29.5
S [mm]	17	19	24	24

► SERIES GV - STRAIGHT FITTINGS - QUICK CONNECT STYLE

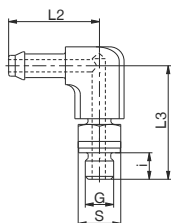


- Cost reduction through quick assembly and disassembly
- Straight version

Order no.	Technical data					
	GVM5	GV1-8X4	GV1-8X6	GV1-8X8	GV1-4X6	GV1-4X8
Fixing thread	M5	G1/8"	G1/8"	G1/8"	G1/4"	G1/4"
Length [mm]	20	19	20	25	21.5	23
Dimension i [mm]	3.5	5	5	5	7	7
Dimension L1 [mm]	16.5	14	15	20	14.5	16
Dimension D1 [mm]	8	10	12	14	12	14
S1 [mm]	2.5	3	4	5	4	6
S [mm]	8	13	13	14	17	17



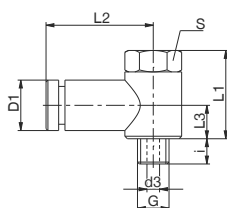
► SERIES WV - ANGLED FITTING, BARB STYLE CONNECTION



- For assembling with hose clips
- Angled version

Order no.	Technical data
	WVM3
Fixing thread	M3
Inside-Ø for hose [mm]	2
Dimension i [mm]	2.7
Dimension L2 [mm]	13.3
Dimension L3 [mm]	11.4
S [mm]	4.5

► WV SERIES - ANGLED FITTINGS- QUICK CONNECT STYLE



- Cost reduction through quick assembly and disassembly
- Angled and swivel-mounted

Order no.	Technical data					
	WVM5	WV1-8X4	WV1-8X6	WV1-8X8	WV1-4X6	WV1-4X8
Fixing thread	M5	G1/8"	G1/8"	G1/8"	G1/4"	G1/4"
Dimension i [mm]	4	6.5	6.5	6.5	8	8
Dimension L1 [mm]	14	20	20	20	21	21
Dimension L2 [mm]	17	20.5	21.5	23.5	23.5	25.5
Dimension L3 [mm]	5.3	8	8	8	8	8
Dimension d3 [mm]	2	5	5	5	7	7
Dimension D1 [mm]	8	10	12	14	12	14
S [mm]	8	14	14	14	17	17

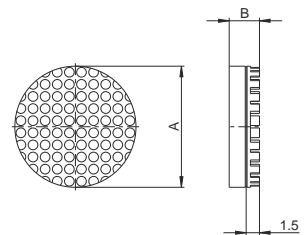
VALVES, FITTINGS, ACCESSORIES

JAW ACCESSORIES

► SERIES DG - RUBBER JAW PADS



- Available in different versions
- A packaging unit includes 6 pcs.



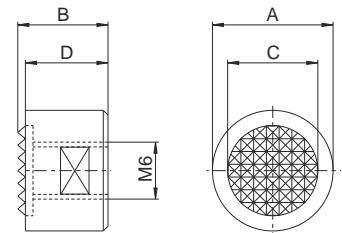
► Technical Data

Order no.	DG6	DG6SI	DG10	DG10SI	DG16	DG16SI	DG20	DG20SI
A [mm]	6	6	10	10	16	16	20	20
B [mm]	5	5	5	5	5	5	5	5
Material	NBR	Silicone	NBR	Silicone	NBR	Silicone	NBR	Silicone

► SERIES GR - HARD JAW INSERTS



- Available in different versions



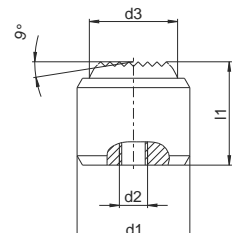
► Technical Data

Order no.	GR4	GR4A	GR4C	GR5	GR6
A [mm]	12.7	12.7	12.7	15.8	19
B [mm]	9.5	12.7	16.5	9.5	9.5
C [mm]	9.5	9.5	9.5	12.7	15.8
D [mm]	8.7	11.9	15.8	8.7	8.7

► SERIES J - HARD JAW INSERTS, FLOATING



- Available in different versions



► Technical Data

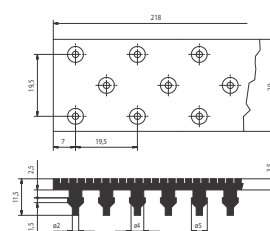
Order no.	J712	J718	J728
Ø- d1	12n6	18n6	28n6
Ø- d2 [mm]	M3	M4	M5
Ø- d3 [mm]	7	10	20
L1 [mm]	10	16	25



► SERIES GU - RUBBER JAW LINERS



- Available in different versions
- GU1: Basic jaw with infeed knobs
- Receiver holes for infeed knobs - 4.5 mm



Order no.

Resistance DIN53504 min. [N/mm²]

Material

Color

Operating temperature max. [°C]

Shore hardness

► Technical Data

GU1

10

NBR

Black

120

65 +/- 3

GU1SI

10

Silicone

Blue

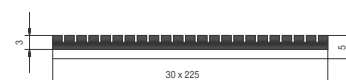
200

60 +/- 5

► SERIES GU - RUBBER JAW LINERS



- Available in different versions
- Rubber jaw with baseplate made of aluminum



Order no.

Resistance DIN53504 min. [N/mm²]

Material

Color

Operating temperature max. [°C]

Shore hardness

► Technical Data

GU2

10

NBR

Black

120

65 +/- 3

GU2SI

10

Silicone

Blue

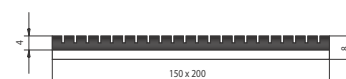
200

60 +/- 5

► SERIES GU - RUBBER JAW LINERS



- Available in different versions
- Rubber jaw with baseplate made of aluminum



Order no.

Resistance DIN53504 min. [N/mm²]

Material

Color

Operating temperature max. [°C]

Shore hardness

► Technical Data

GU2G

10

NBR

Black

120

65 +/- 3

GU2GSI

10

Silicone

Blue

200

60 +/- 5

VALVES, FITTINGS, ACCESSORIES

JAW ACCESSORIES

► SERIES KF - RUBBER COATED TAPE



- Smooth surface or knobbed surface Adjusts itself optimally to the shape of the gripper jaw ideal coefficients of friction and compensates for variation in tolerances
- Resistant against adhesive materials

Order no.	► Technical Data	
	KF50G	KF50N
Size [mm]	500 x 100	500 x 100
Material	Impregnated cotton fabric with special coating	Impregnated cotton fabric with special coating
Surface	smooth	knobbed
Material thickness [mm]	0,48	0,48
Max. permitted temperature range [°C]	+60 (briefly up to +100 °C)	+60 (briefly up to +100 °C)
Tensile strength	0.9	0.9
Adhesive strength	22	22

► SERIES BGM - EPOXY JAW COMPOUND

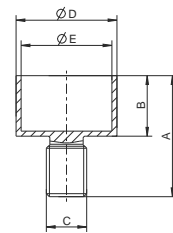


- For your individual gripper jaws in a few steps
- Hard as metal and can be used for the most sensitive parts due to silicone filling
- Sufficient for approximately 10 medium-sized jaw cups

► SERIES BN - JAW CUPS FOR EPOXY JAW COMPOUND



- Jaw Cups for Epoxy Jaw Compound (BGM)



Order no.	► Technical Data			
	BN8	BN12	BN16	BN20
A [mm]	8	12	16	20
B [mm]	4	6	8	10
C1	M3	M4	M5	M6
Ø- D [mm]	6	10	16	20
Ø- E [mm]	5	9	15	19

► SERIES GU800 - RUBBER MOULDING COMPOUND



- For complicated gripper fingers with boreholes, seals and roller coatings
- Repairs to conveyor belts, solid rubber tires, transport casters, pipes, vibration protection on machines and insulation protection

Order no.	► Technical Data
	GU800
Mix ratio	100:50
Shore hardness level after hardening (ISO 868)	80
Sealed	1.04
Tensile strength (ISO 37) [N/mm ²]	8,5
Elongation at break (ISO 37)	900
Tear resistance (DIN 53356)	17
Permitted temperature range [°C]	-60 ... +90

VALVES, FITTINGS, ACCESSORIES

JAW EXTENSIONS

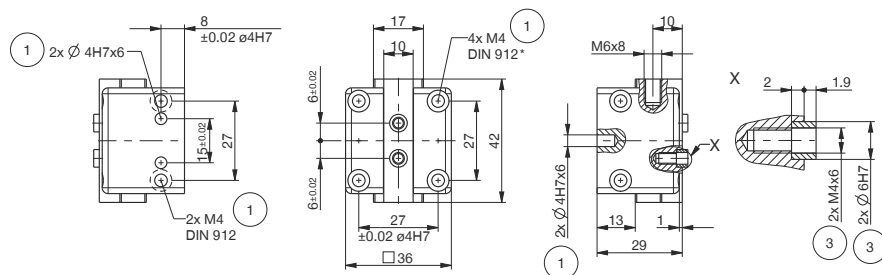
► SERIES GBV - JAW EXTENSIONS



- GBV guide elements can be positioned at any desired distance from the gripper, including different distances
- Connection to gripper is made via threaded rods

Order no.	Technical Data		
	GBV36	GBV50	GBV72
Weight [kg]	0.14	0.4	1.3
Mr [Nm]	20	45	80
Mx [Nm]	50	110	160
My [Nm]	32	65	120
Fa [N]	650	1500	4000

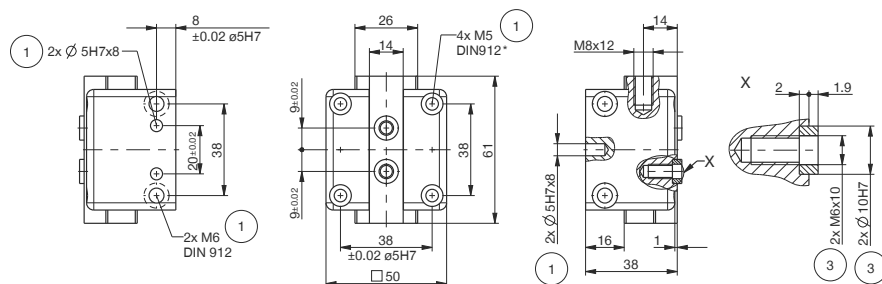
GBV36



① GBV attachment

③ Fixing for gripper finger

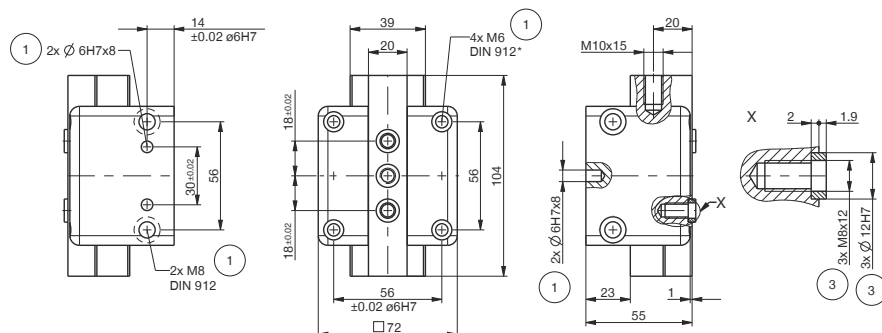
GBV50



① GBV attachment

③ Fixing for gripper finger

GBV72



① GBV attachment

③ Fixing for gripper finger



► APPLICATION EXAMPLE



VALVES, FITTINGS, ACCESSORIES

PNEUMATIC ROTARY MANIFOLDS

▶ ORDER NO.

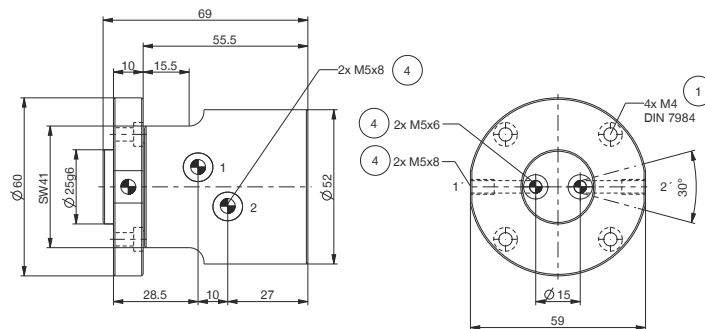


▶ available with 2 or 4 pneumatic feedthroughs

► **Serie DV - Rotary distributor**

Technical Data	DV2N-B	DV4N-B
Air feed-through [Quantity]	2	4
Maximum acceleration [m/s²]	22	22
Maximum speed [°/s]	720	720
Axial bearing load [N]	1300	1300
Radial bearing load [Nm]	104	156
Operating pressure max. [bar]	10	10
Operating temperature [°C]	5 ... +80	5 ... +80
Weight [kg]	0.45	0.55

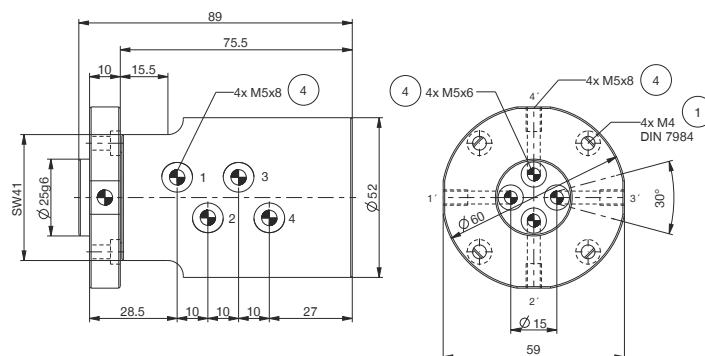
DV2N-B



① Rotary distributor attachment

④ pneumatic feed-through

DV4N-B



① Rotary distributor attachment

④ pneumatic feed-through



CHECKLIST

GRIPPERS

Customer number Telephone number
 Company Fax number
 Contact E-mail
☐ Mr. ☐ Mrs.

☐ Request Desired date Request No.
☐ Order Order No.
☐ Parallel grippers ☐ Concentric grippers ☐ Angular Grippers
☐ Other / if yes, which type

Drive

☐ Pneumatic ☐ Electrical ☐ Hydraulic
 Operating pressure [bar] Voltage [V]

Required stroke

Per jaw [mm] or Total stroke [mm]

Gripper finger length

Gripper top edge to force application point [mm]

Ambient conditions

☐ Clean / Dry ☐ Small amount of swarf / Coolant overspray ☐ Large amount of swarf / Coolant under pressure / Grinding agent
☐ Chemical substances / if yes, which
 Temperature [°C] Cycles per minute

Required force

Gripping force [N] or Workpiece weight kg ☐ g ☐

Gripping type

☐ Internal gripping ☐ External gripping
☐ Frictional fit ☐ Form fit
 Prism angle [°] Friction coefficient Axis acceleration [m/s²]

Self-locking

☐ Not required ☐ In closing ☐ In opening ☐ Pressure safety valve

Desired accessories

☐ Inductive sensor ☐ Magnetic field sensor ☐ With Cable ☐ Plugable

☐ Separate cable / if yes, how long [m]

☐ Pressure safety valve

☐ Pneumatic fittings / if yes, which

☐ Straight fitting

☐ Angled fitting

☐ Air flow control valve

Notes / Comments

Editor / Date

Attachment

☐ Sketch

☐ 3D model

☐ Others

USAGE NOTE

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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.