Transducer

English

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Content

Overview of Transducers

Transducer Standard

Spring Push	Vacuum retract	Pneumatic Push Bellow Seal	Pneumatic Push Air Gap Seal	Cable Exit	Description
T071F T072F	T072V	T072P	T072L	axial radial	halfbridge, ±1 mm measuring stroke (TESA® compatible)
T101F T102F	T101V T102V	T101P T102P	T101L T102L	axial radial	halfbridge, ±1 mm measuring stroke (TESA® compatible)
T151F T152F	T151V T152V	T151P T152P	T151L T152L	axial radial	LVDT, ±1 mm measuring stroke
T151F-024 T152F-024	T151V-024 T152V-024	T151P-024 T152P-024	T151L-024 T152L-024	axial radial	LVDT Marposs® compatible, ±1 mm measuring stroke
T161F T162F	T161V T162V	T161P T162P	T161L T162L	axial radial	Mahr® compatible, ±1 mm measuring stroke
T201F T202F	T202V	T202P	T202L	axial radial	halfbridge, ±1 mm measuring stroke (TESA® compatible)
T301F T302F	T301V T302V	T301P T302P	T301L T302L	axial radial	halfbridge, ±2 mm measuring stroke (TESA® compatible)
T401 T402				axial radial	halfbridge, OEM module, ±1 mm measuring stroke (TESA® compatible)
T451 T452				axial radial	LVDT, OEM module, ±1 mm measuring stroke
T501F T502F	T501V T502V	T501P T502P	T501L T502L	axial radial	halfbridge, ±5 mm measuring stroke (TESA® compatible)
T521F T522F	T521V T522V	T521P T522P	T521L T522L	axial radial	halfbridge, ±2 mm measuring stroke with 8 mm stroke after electrical zero, setting 1 : 2 (TESA® compatible)
T523F T524F	T523V T524V	T523P T524P	T523L T524L	axial radial	halfbridge, ±1 mm measuring stroke with 8 mm stroke after electrical zero, setting 1 : 1 (TESA® compatible)
T801 T802				axial radial	halfbridge, ±1 mm measuring stroke (TESA® compatible)
T851 T852				axial radial	LVDT, ±1 mm measuring stroke

Transducer pluggable

Spring Push	Vacuum Retract	Pneumatic Push Bellow Seal	Pneumatic Push Air Gap Seal	Description
T070FS	T070VS	T070PS	T070LS	halfbridge, ±1 mm measuring stroke (TESA® compatible)
T100FS	T100VS	T100PS	T100LS	halfbridge, ±1 mm measuring stroke (TESA® compatible)
T200FS	T200VS	T200PS	T200LS	halfbridge, ±1 mm measuring stroke (TESA® compatible)
T300FS	T300VS	T300PS	T300LS	halfbridge, ±2 mm measuring stroke (TESA® compatible)
T500FS	T500VS	T500PS	T500LS	halfbridge, ±5 mm measuring stroke (TESA® compatible)
T521FS	T521VS	T521PS	T521LS	halfbridge, ±2 mm measuring stroke with 8 mm stroke after electrical zero, setting 1 : 2 (TESA® compatible)
T523FS	T523VS	T523PS	T523LS	halfbridge, ±1 mm measuring stroke with 8 mm stroke after electrical zero, setting 1 : 1 (TESA® compatible)

Digital Transducer

Spring Push	Vacuum Retract	Pneumatic Push Bellow Seal	Pneumatic Push Air Gap Seal	Description
T101FDG	T101VDG	T101PDG	T101LDG	±2 mm measuring stroke
T102FDG	T102VDG	T102PDG	T102LDG	±2 mm measuring stroke
T501FDG	T501VDG	T501PDG	T501LDG	±5 mm measuring stroke
T502FDG	T502VDG	T502PDG	T502LDG	±5 mm measuring stroke

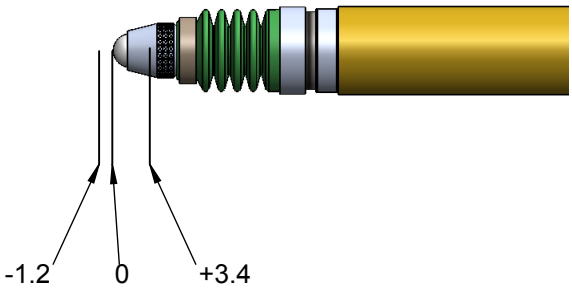
Digital Transducer IO-Link

Spring Push	Vacuum Retract	Pneumatic Push Bellow Seal	Pneumatic Push Air Gap Seal	Description
T101FIOL	T101VIOL	T101PIOL	T101LIOL	±2 mm measuring stroke
T102FIOL	T102VIOL	T102PIOL	T102LIOL	±2 mm measuring stroke
T501FIOL	T501VIOL	T501PIOL	T501LIOL	±5 mm measuring stroke
T502FIOL	T502VIOL	T502PIOL	T502LIOL	±5 mm measuring stroke

Glossary / Information

Pretravel

All transducers in this catalogue are drawn in «electrical zero» position. The stated pre-travel indicates the transducer position without applied vaccum or pneumatic pressure. The transducer T101F, drawn below is in «electrical zero» position and has -1.2 mm pre-travel and a total mechanical stroke of 4.6 mm.



Linearity error

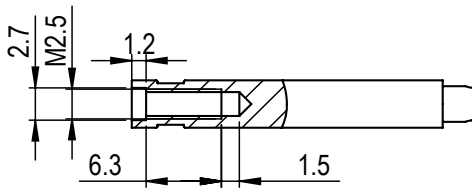
Is the deviation between the sensor signal and the real mechanical position of the tip. Stated errors are always relative to the stroke. Each manufactured transducer is delivered with a measuring protocol..

Repeatability

Is the variation of the sensor output signal when the tip is multiple times mechanically exactly repositioned. Repeatability errors occur due to mechanical tolerances and hysteresis of materials in the coil system.

Tip M2.5

The T070, T100, T300 and T500 series transducer have on the shaft a M2.5 thread for fixing the tip. The drawing underneath shows the thread arrangement.



Conditioning Electronics
Electronic to process half- or fullbridge sensors. It provides its signal digitally or on base of a SI-unit signal (or derived one). The electronic transfrom the measuring shaft position into a numerically processable or electronically measurable signal. Both the transducer and the conditioning electronics must be set to a manufacturer standard..

Digital Transducers
Transducer with integrated conditioning electronic and interface connection. Sensitivity settings are part of the whole system and do not need to be assured seperately. Systems errors (mainly sensitivity settings and linearity errors) are corrected.

Communication protocol for digital HIRT Transducers
Protocol for the communication between transducers and measurement computers or interfaces. Halfduplex protocol on RS485 standard, with baud rates up to 1 Mbit/s. 4000 measurements can be transfered in realtime. Digital transducers have stored self-related information (such as article number, serial number and more). Interfaces and measurement computers supporting reading out these information can store them for tracking purposes. The communication protocol is open and freely accessible for 3rd party implementations.

Gateway
Unit to link digital transducers to existing measuring computers or interfaces.

User Guide for Transducers

Introduction
These products are intended to be used by qualified personnel only.

Mounting the transducers
The transducer may be clamped over the full length of the case. Do not over clamp and ensure free movement of the linear bearing. Select an appropriate clamping element which does not deform the case.

Change tip (except 10PO, 10P1 and T200 series)
The tip will be firmly tightened to ensure correct results. To change the tip
-Slip the bellow (3) with small bellow ring (2) back up the shaft until the key flats become usable
-Use the supplied key (small opening) on the shaft key flats - never apply torque on the case as this would destroy the mechanics
-Using appropriate pliers, undo the tip
-Change the tip. For pneumatic advanced transducers models an appropriate tip must be used to ensure correct function of the transducer
-Tighten the tip using the same setup as above
-Slide the bellow forward up to the rear face of the tip - check correct position of the small bellow ring

Pretravel setting (except 10PO, 10P1, 1PO, T200 series and digital transducers)
Pretravel is set at production to the catalogue value. If a modification is necessary
-Use the supplied key (large opening) to undo the lock nut (5)
-Connect the transducer to a compatible electronic readout
-Rotate the tip to the desired reading. The shaft has to be in the fully outward position
-Thighten the lock nut

Pneumatic
The maximum pressure for transducers is as follows:
Transducer version P, application pressure = 0.8 bar, maximum pressure = 1.5 bar
Transducer version L, application pressure = 1.1 bar, maximum pressure = 4.5 bar

Measuring force
The spring may be changed (except 10PO, 10P1, 1PO, T200, T400 models and digital transducers). This however calls for a resetting of the pretravel and the sensitivity of the transducer. Only trained personnel with access to the necessary equipment should do such modifications.

Bellow
The bellow has to be clean, not show any cracks and sit firmly on the shaft and the bearing outer.
To change the bellow
-Disassemble the tip (see procedure described above)
-Screw the large bellow ring (4) towards the backwards
-Slide the bellow with the small bellow ring off the shaft
-Reverse the procedure to assemble a new bellow

Transducer with changeable cable
Use original cable assembly of the same length exclusively, or the characteristics of the transducer will be changed and not comply with the data sheet.

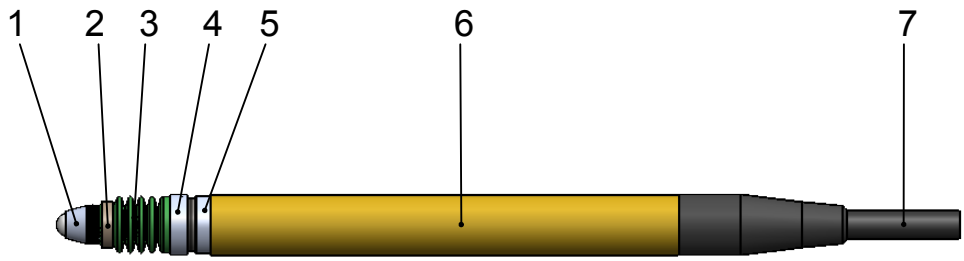
Extension cable

The use of extension cables do change the characteristics of the transducer and are to be considered in the measuring uncertainty figures.

Maintainance of the transducer

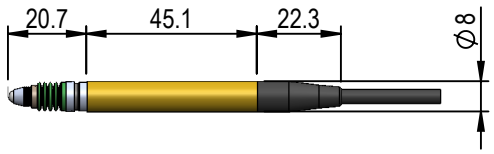
Keep the transducer body, the bellow and the cable assembly clean
-Check the free rolling of the linear bearing
-Check the bellow for firm fixing and cracks
-Check the cable for scratches and cuts

The transducer does not contain user serviceable parts.

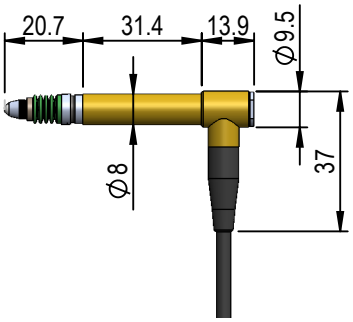


Transducer T071 / T072

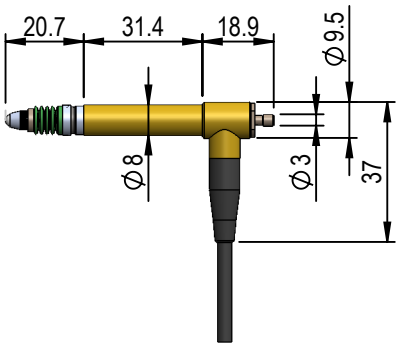
1000016 T071F	Spring push cable exit axial



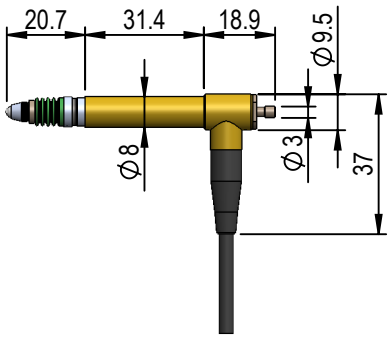
1003293 T072F	Spring push cable exit radial



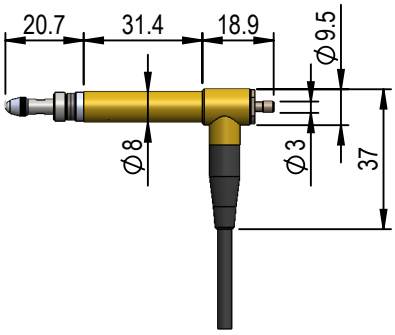
1000030 T072V	Vacuum retract cable exit radial



1000029 T072P	Pneumatic push bellow seal cable exit radial



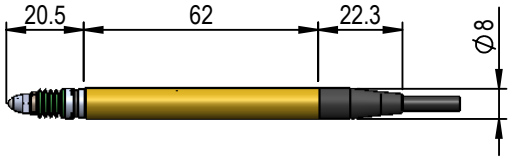
1003378 T072L	Pneumatic push air gap seal cable exit radial



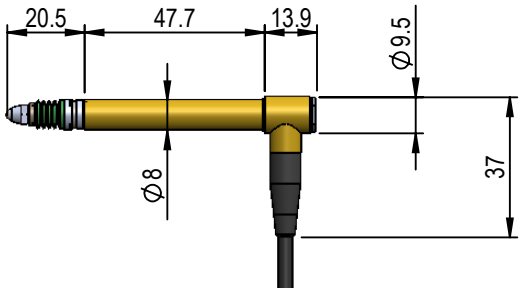
Transducer T071/T072								
Technical Data								
Cable exit	T071F axial	T072F radial	T071V axial	T072V radial	T071P axial	T072P radial	T071L axial	T072L radial
Maximum stroke	2.2 mm		2.2 mm		2.2 mm		2.2 mm	
Measuring stroke	±1 mm		±1 mm		±1 mm		±1 mm	
Pretravel Default setting	adjustable -1.1 mm		adjustable -1.1 mm		adjustable +1.1 mm		adjustable +1.1 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. cycles		>10 Mio. cycles		-		>10 Mio. cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270 °		5 pin, 270 °		5 pin, 270 °		5 pin, 270 °	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	0.63 N ±20 % (at el. zero)		0.63 N ±20 % (at el. zero)		0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)		0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)	
Repeatability	0.01 µm		0.01 µm		0.01 µm		0.01 µm	
Linearity error	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)		0.6 % FS ±1000 µm range (at 20 °C ±1 °C)		0.6 % FS ±1000 µm range (at 20 °C ±1 °C)		0.6 % FS ±1000 µm range (at 20 °C ±1 °C)	
Sensitivity	73.75 ±0.15 mV/(Vmm)(into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm)(into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm)(into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm)(into R = 2 kOhm ±0.1 %)	
Drive frequency	13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T101 / T102

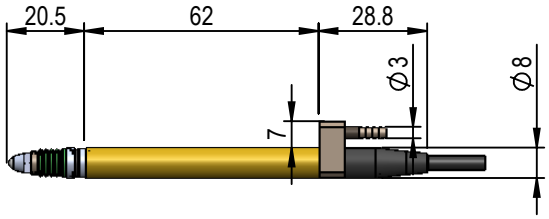
1000940	Spring push cable exit axial
T101F	



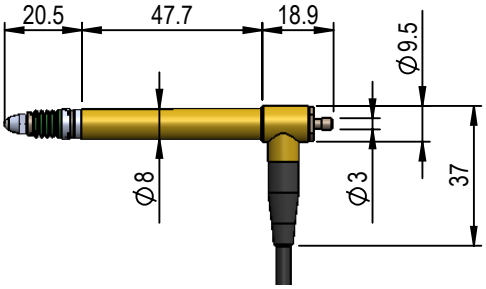
1001103	Spring push cable exit radial
T102F	



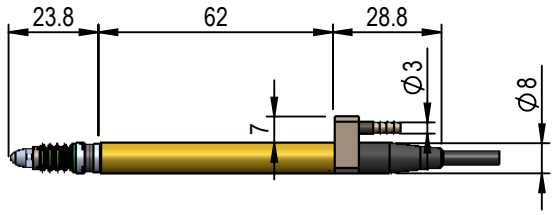
1001069	Vacuum retract cable exit axial
T101V	



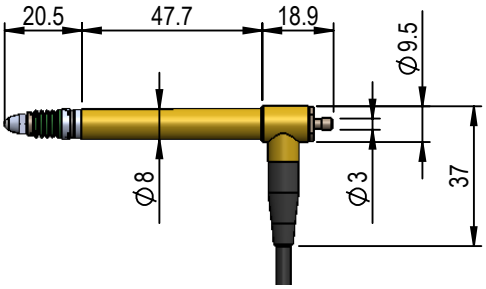
1001220	Vacuum retract cable exit radial
T102V	



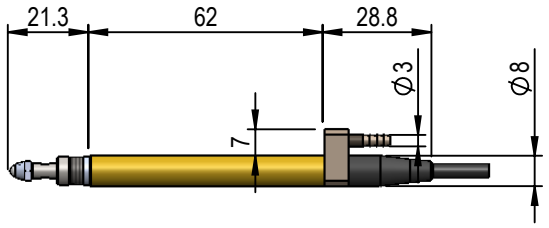
1001034	Pneumatic push bellow seal cable exit axial
T101P	



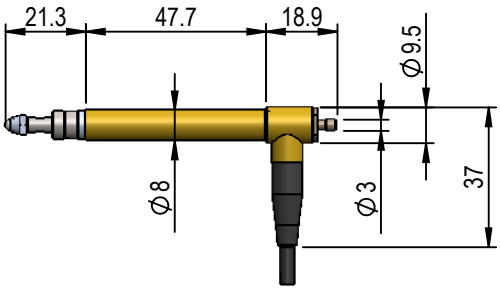
1001184	Pneumatic push bellow seal cable exit radial
T102P	



1001000	Pneumatic push air gap seal cable exit axial
T101L	



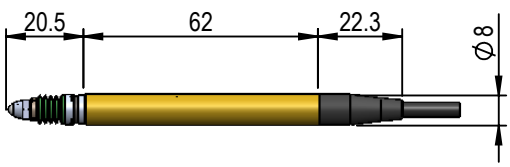
1001151	Pneumatic push air gap seal cable exit radial
T102L	



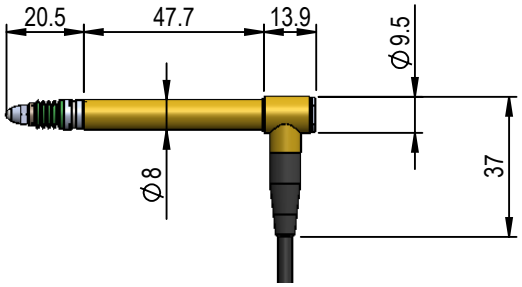
Transducer T101/T102								
Technical Data								
Cable exit	T101F axial	T102F radial	T101V axial	T102V radial	T101P axial	T102P radial	T101L axial	T102L radial
Maximum stroke	4.6 mm		4.6 mm		4.6 mm		4.6 mm	
Measuring stroke	±1 mm		±1 mm		±1 mm		±1 mm	
Pretravel Default setting	adjustable -1.2 mm		adjustable -1.2 mm		adjustable +2.8 mm		adjustable +2.8 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. cycles		>10 Mio. cycles		-		>10 Mio. cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270 °		5 pin, 270 °		5 pin, 270 °		5 pin, 270 °	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	0.63 N ±20 % (at el. zero), others as option		0.63 N ±20 % (at el. zero), others as option		0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)		0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)	
Repeatability	0.01 µm		0.01 µm		0.01 µm		0.01 µm	
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	
Drive frequency	13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T151 / T152

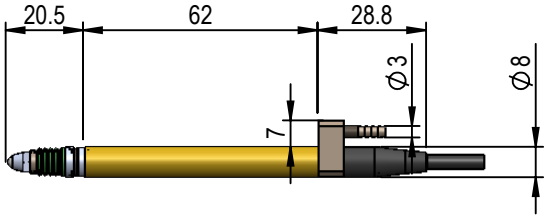
1001292	Spring push cable exit axial
T151F	



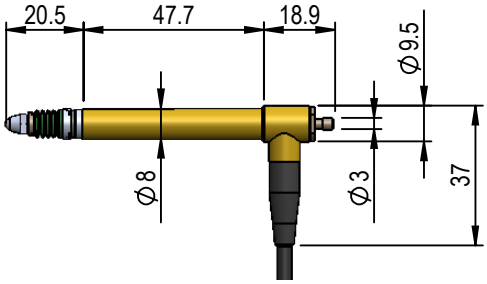
1001315	Spring push cable exit radial
T152F	



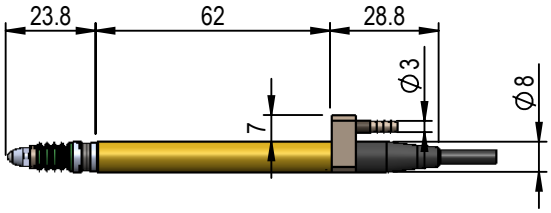
1001311	Vacuum retract cable exit axial
T151V	



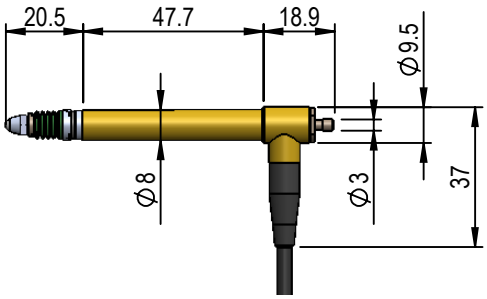
1001326	Vacuum retract cable exit radial
T152V	



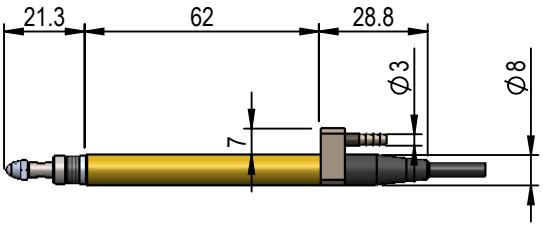
1001307	Pneumatic push bellow seal cable exit axial
T151P	



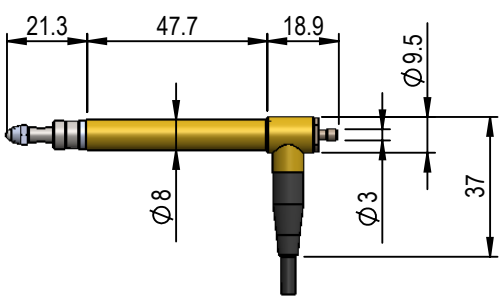
1001322	Pneumatic push bellow seal cable exit radial
T152P	



1001303	Pneumatic push air gap seal cable exit axial
T151L	



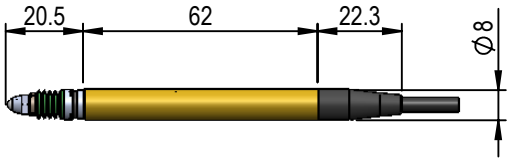
1001319	Pneumatic push air gap seal cable exit radial
T152L	



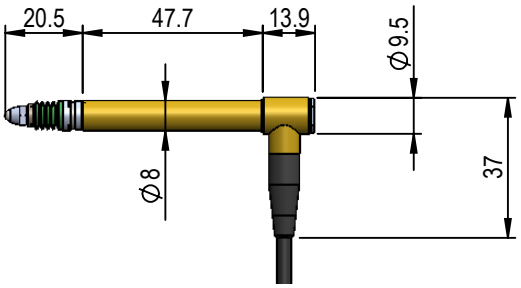
Transducer T151/T152								
Technical Data								
Cable exit	T151F axial	T152F radial	T151V axial	T152V radial	T151P axial	T152P radial	T151L axial	T152L radial
Maximum stroke	4.6 mm		4.6 mm		4.6 mm		4.6 mm	
Measuring stroke	±1 mm		±1 mm		±1 mm		±1 mm	
Pretravel Default setting	adjustable -1.2 mm		adjustable -1.2 mm		adjustable +2.8 mm		adjustable +2.8 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. Cycles		>10 Mio. Cycles		-		>10 Mio. Cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270°		5 pin, 270°		5 pin, 270°		5 pin, 270°	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	0.63 N ±20 % (at el. zero), others as option		0.63 N ±20 % (at el. zero), others as option		0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)		0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)	
Repeatability	0.01 µm		0.01 µm		0.01 µm		0.01 µm	
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	
Sensitivity	150 mV/(Vmm) (into R = 100 kOhm)		150 mV/(Vmm) (into R = 100 kOhm)		150 mV/(Vmm) (into R = 100 kOhm)		150 mV/(Vmm) (into R = 100 kOhm)	
Drive frequency	5 kHz ±5 %		5 kHz ±5 %		5 kHz ±5 %		5 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	fullbridge (LVDT)		fullbridge (LVDT)		fullbridge (LVDT)		fullbridge (LVDT)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T151-024 / T152-024

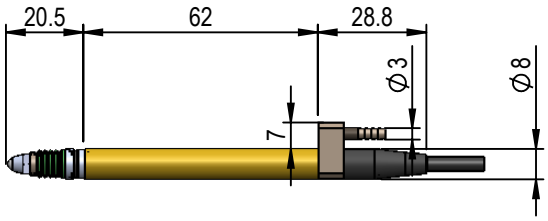
1001294 T151F-024	Spring push cable exit axial



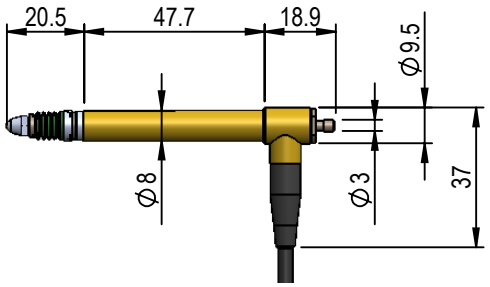
1001317 T152F-024	Spring push cable exit radial



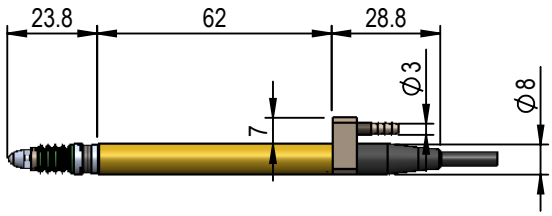
1001312 T151V-024	Vacuum retract cable exit axial



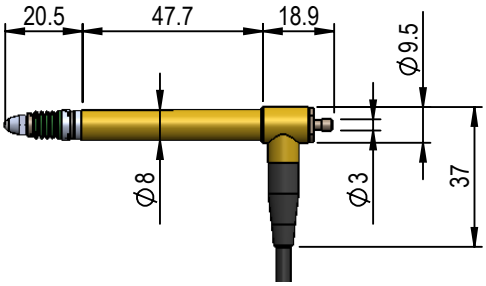
1001327 T152V-024	Vacuum retract cable exit radial



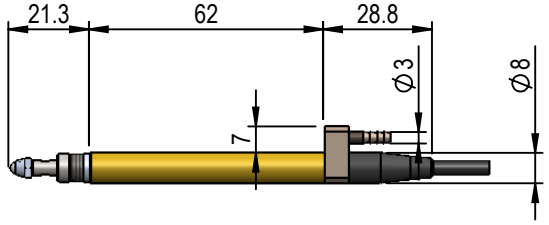
1001308 T151P-024	Pneumatic push bellow seal cable exit axial



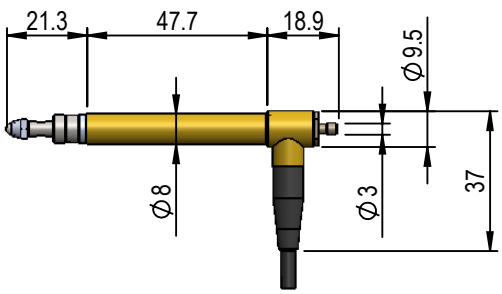
1001323 T152P-024	Pneumatic push bellow seal cable exit radial



1001304 T151L-024	Pnaumatic push air gap seal cable exit axial



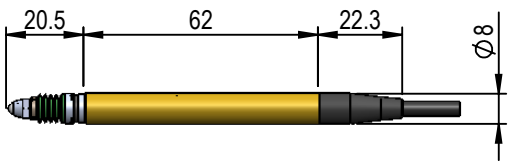
1001320 T152L-024	Pneumatic push air gap seal cable exit radial



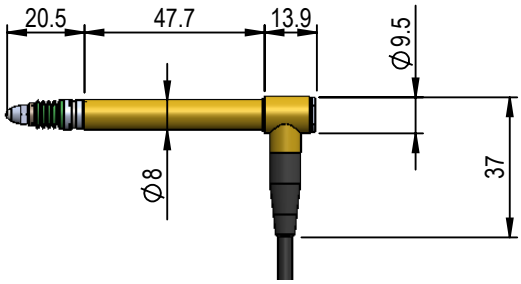
Transducer T151-024/T152-024								
Technical Data								
Cable exit	T151F-024 axial	T152F-024 radial	T151V-024 axial	T152V-024 radial	T151P-024 axial	T152P-024 radial	T151L-024 axial	T152L-024 radial
Maximum stroke	4.6 mm		4.6 mm		4.6 mm		4.6 mm	
Measuring stroke	±1 mm		±1 mm		±1 mm		±1 mm	
Pretravel Default setting	adjustable -1.2 mm		adjustable -1.2 mm		adjustable +2.8 mm		adjustable +2.8 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. Cycles		>10 Mio. Cycles		-		>10 Mio. Cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270°		5 pin, 270°		5 pin, 270°		5 pin, 270°	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	0.63 N ±20 % (at el. zero), others as option		0.63 N ±20 % (at el. zero), others as option		0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)		0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)	
Repeatability	0.01 µm		0.01 µm		0.01 µm		0.01 µm	
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	
Sensitivity	230 mV/(Vmm) (into R = 100 kOhm)		230 mV/(Vmm) (into R = 100 kOhm)		230 mV/(Vmm) (into R = 100 kOhm)		230 mV/(Vmm) (into R = 100 kOhm)	
Drive frequency	7.5 kHz ±5 %		7.5 kHz ±5 %		7.5 kHz ±5 %		7.5 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	fullbridge (LVDT)		fullbridge (LVDT)		fullbridge (LVDT)		fullbridge (LVDT)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T161 / T162

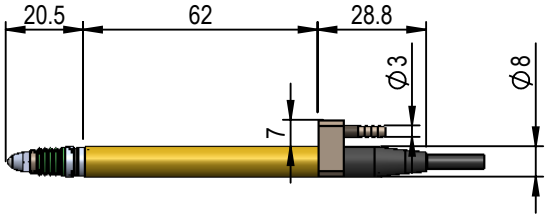
1001342	Spring push cable exit axial
T161F	



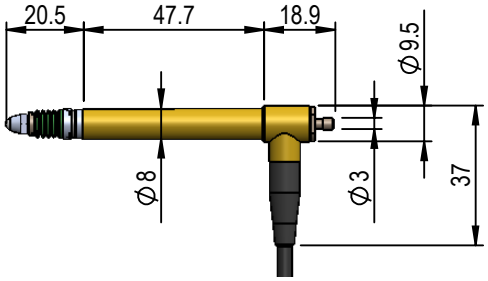
1001354	Spring push cable exit radial
T162F	



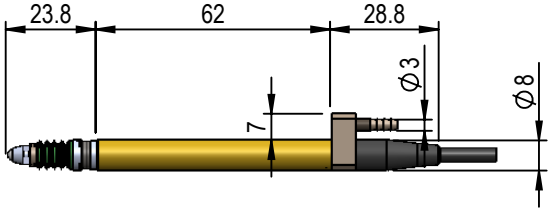
1001351	Vacuum retract cable exit axial
T161V	



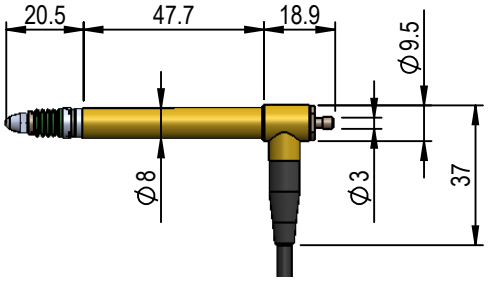
1001363	Vacuum retract cable exit radial
T162V	



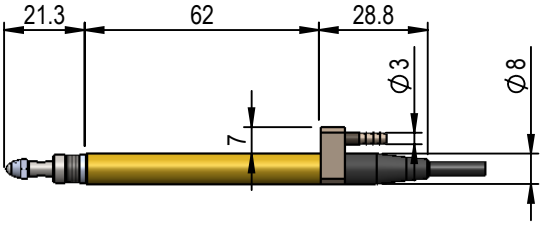
1001348	Pneumatic push bellow seal cable exit axial
T161P	



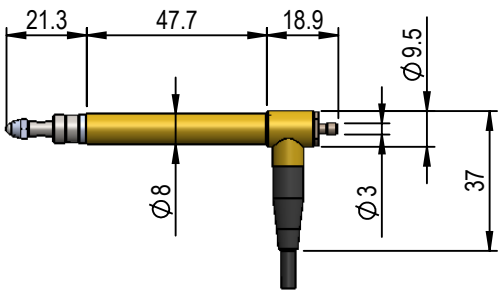
1001360	Pneumatic push bellow seal cable exit radial
T162P	



1001345	Pneumatic push air gap seal cable exit axial
T161L	



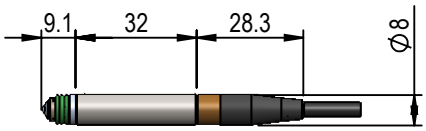
1001357	Pneumatic push air gap seal cable exit radial
T162L	



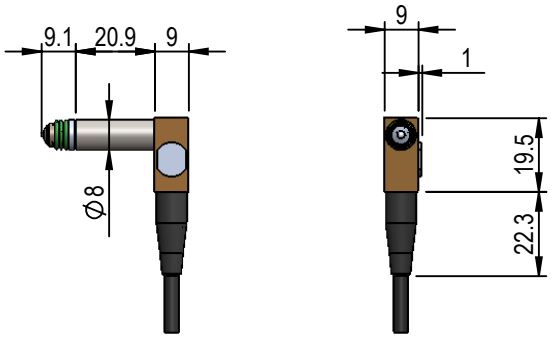
Transducer T161/162								
Technical Data								
Cable exit	T161F axial	T162F radial	T161V axial	T162V radial	T161P axial	T162P radial	T161L axial	T162L radial
Maximum stroke	4.6 mm		4.6 mm		4.6 mm		4.6 mm	
Measuring stroke	±1 mm		±1 mm		±1 mm		±1 mm	
Pretravel Default setting	adjustable -1.2 mm		adjustable -1.2 mm		adjustable +2.8 mm		adjustable +2.8 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. Cycles		>10 Mio. Cycles		-		>10 Mio. Cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270°		5 pin, 270°		5 pin, 270°		5 pin, 270°	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	0.63 N ±20 % (at el. zero), others as option		0.63 N ±20 % (at el. zero), others as option		0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)		0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)	
Repeatability	0.01 µm		0.01 µm		0.01 µm		0.01 µm	
Linearity error	0.3 % FS ±1000 µm range (at 20 °C ±1 °C)		0.3 % FS ±1000 µm range (at 20 °C ±1 °C)		0.3 % FS ±1000 µm range (at 20 °C ±1 °C)		0.3 % FS ±1000 µm range (at 20 °C ±1 °C)	
Sensitivity	184 mV/(Vmm) (into normal impedance)		184 mV/(Vmm) (into normal impedance)		184 mV/(Vmm) (into normal impedance)		184 mV/(Vmm) (into normal impedance)	
Drive frequency	20 kHz ±5 %		20 kHz ±5 %		20 kHz ±5 %		20 kHz ±5 %	
Supply voltage	5 V ±0.5 % RMS		5 V ±0.5 % RMS		5 V ±0.5 % RMS		5 V ±0.5 % RMS	
Coil form	Mahr® compatible		Mahr® compatible		Mahr® compatible		Mahr® compatible	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T201 / T202

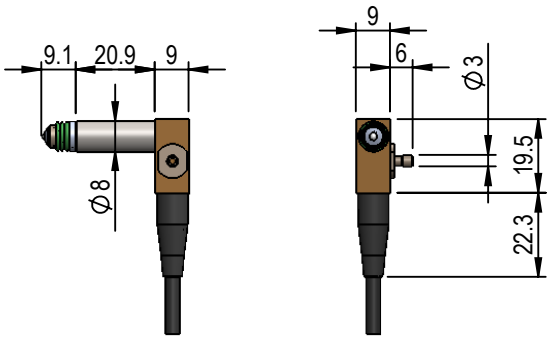
1001403	Spring push cable exit axial
T201F	



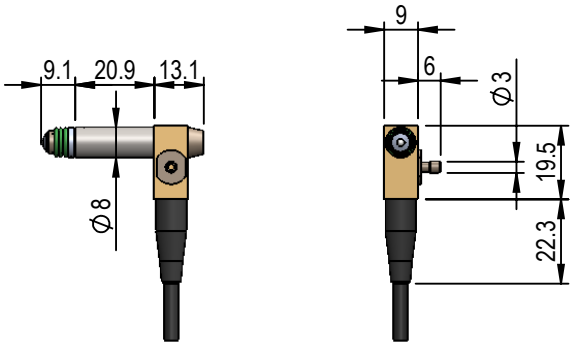
1001424	Spring push cable exit radial
T202F	



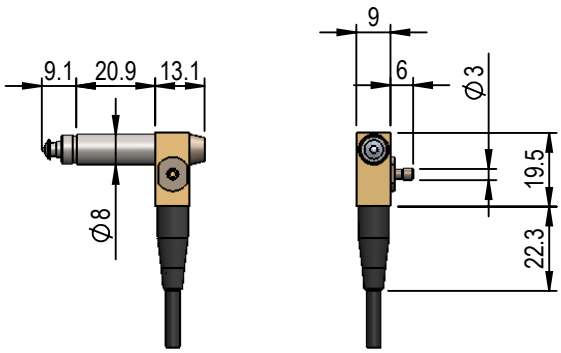
1001484	Vacuum retract cable exit radial
T202V	



1001465	Pneumatic push bellow seal cable exit radial
T202P	



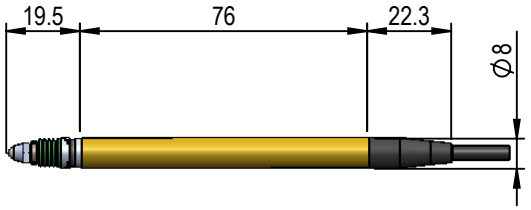
1001447	Pneumatic push air gap seal cable exit radial
T202L	



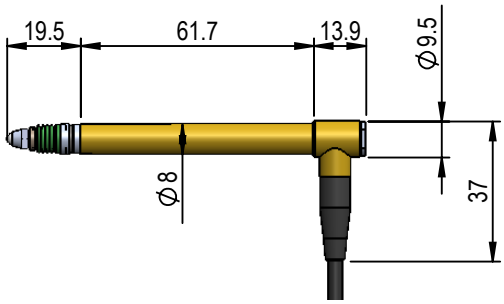
Transducer T201/T202					
Technical Data					
Cable exit	T201F axial	T202F radial	T202V radial	T202P radial	T202L radial
Maximum stroke	2.5 mm		2.5 mm	2.5 mm	2.5 mm
Measuring stroke	±1 mm		±1 mm	±1 mm	±1 mm
Pretravel	not adjustable		not adjustable	not adjustable	not adjustable
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles		>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke		1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any		any	any	any
Tip	2 mm tungsten carbide ball		2 mm tungsten carbide ball	2 mm tungsten carbide ball	2 mm tungsten carbide ball
Gaiter	FPM / FKM		FPM / FKM	FPM / FKM	-
Body diameter	8h6		8h6	8h6	8h6
Cable	PUR, length 2 m		PUR, length 2 m	PUR, length 2 m	PUR, length 2 m
Plug	5 pin, 270°		5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-		-	pneumatic	pneumatic
Lift off	none		vacuum	-	-
Maximum pressure	-		-	1.5 bar	4.5 bar
Spring rate	0.4 N ±50 % (at el. zero)		0.4 N ±50 % (at el. zero)	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.8 bar 1.0 N at 1.1 bar (at el. zero)
Repeatability	0.02 µm		0.02 µm	0.02 µm	0.02 µm
Linearity error	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)		0.6 % FS ±1000 µm range (at 20 °C ±1 °C)	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)		73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)
Drive frequency	13 kHz ±5 %		13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)		halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)

Transducer T301 / T302

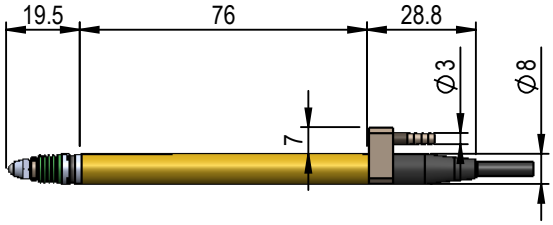
1001524	Spring push cable exit axial
T301F	



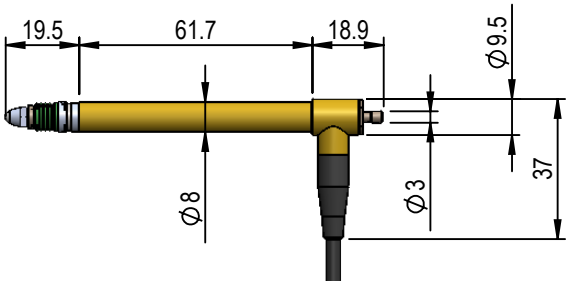
1001598	Spring push cable exit radial
T302F	



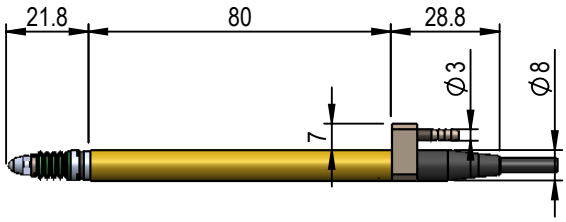
1001580	Vacuum retract cable exit axial
T301V	



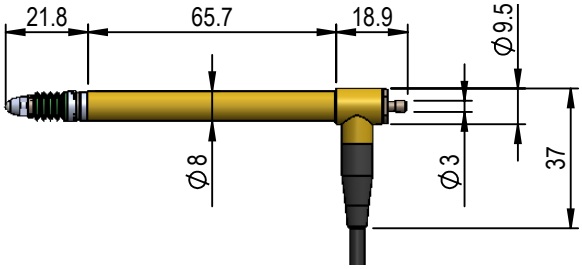
1001651	Vacuum retract cable exit radial
T302V	



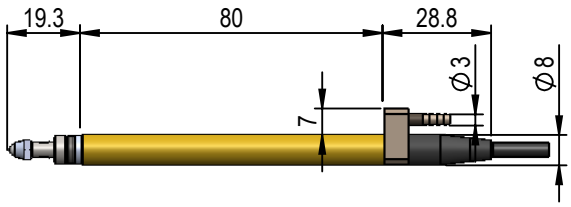
1001562	Pneumatic push bellow seal cable exit axial
T301P	



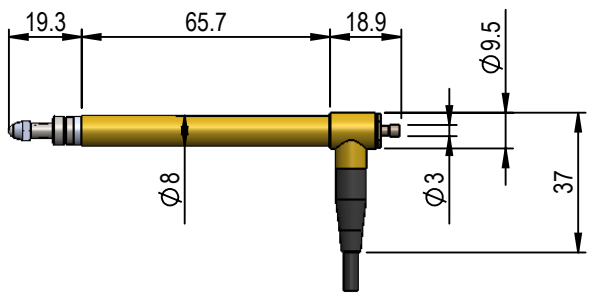
1001634	Pneumatic push bellow seal cable exit radial
T302P	



1001544	Pneumatic push air gap seal cable exit axial
T301L	



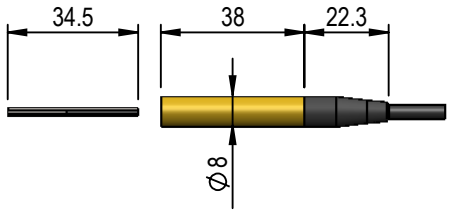
1001617	Pneumatic push air gap seal cable exit radial
T302L	



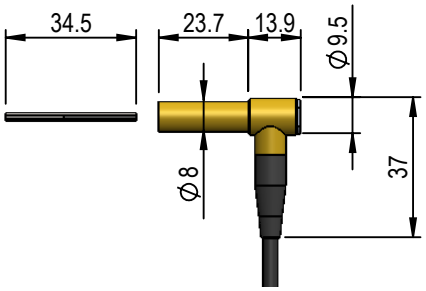
Transducer T301/T302								
Technical Data								
Cable exit	T301F axial	T302F radial	T301V axial	T302V radial	T301P axial	T302P radial	T301L axial	T302L radial
Maximum stroke	4.6 mm		4.6 mm		4.6 mm		4.6 mm	
Measuring stroke	±2 mm		±2 mm		±2 mm		±2 mm	
Pretravel Default setting	adjustable -2.25 mm		adjustable -2.25 mm		adjustable +2.25 mm		adjustable +2.25 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. Cycles		>10 Mio. Cycles		-		>10 Mio. Cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270°		5 pin, 270°		5 pin, 270°		5 pin, 270°	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	0.63 N ±20 % (at el. zero)		0.63 N ±20 % (at el. zero)		0.6 N at 0.5 bar 1.0 N at 0.7 bar (at el. zero)		0.6 N at 0.8 bar 1.0 N at 1.1 bar (at el. zero)	
Repeatability	0.01 µm		0.01 µm		0.01 µm		0.01 µm	
Linearity error	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)		0.5 % FS ±2000 µm range (at 20 °C ±1 °C)		0.5 % FS ±2000 µm range (at 20 °C ±1 °C)		0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	
Sensitivity	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)		36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)		36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)		36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	
Drive frequency	13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T401 / T402, T451 / T452

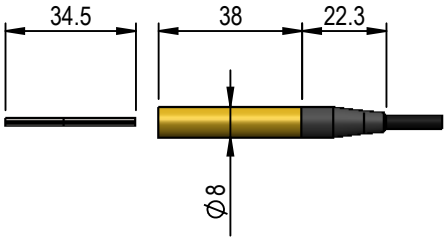
1001682	cable exit axial
T401	



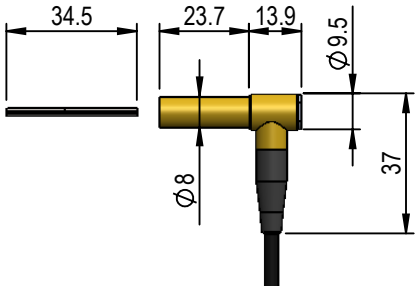
1001685	cable exit radial
T402	



1001687	cable exit axial
T451	



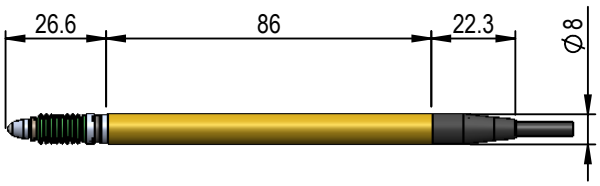
1001688	cable exit radial
T452	



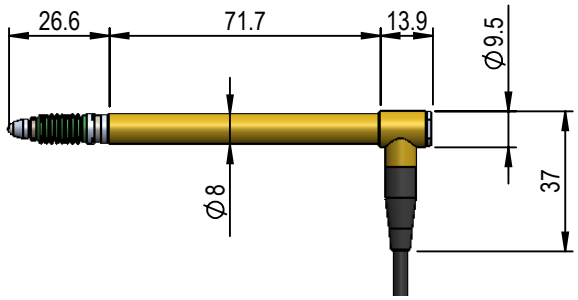
Transducer T401/T402, T451/T452				
Technical Data				
Cable exit	T401 axial	T402 radial	T451 axial	T452 radial
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Bearing	none / external	none / external	none / external	none / external
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR, length 2 m	PUR, length 2 m	PUR, length 2 m	PUR, length 2 m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Repeatability	0.01 µm with corresponding external linear bearing	0.01 µm with corresponding external linear bearing	0.01 µm with corresponding external linear bearing	0.01 µm with corresponding external linear bearing
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	150 mV/(Vmm) (into R = 100 kOhm)	150 mV/(Vmm) (into R = 100 kOhm)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	5 kHz ±5 %	5 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	fullbridge (LVDT)	fullbridge (LVDT)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

Transducer T501 / T502

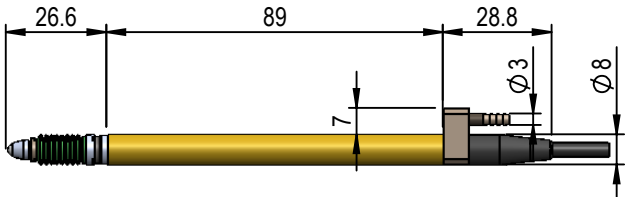
1001734	Spring push cable exit axial
T501F	



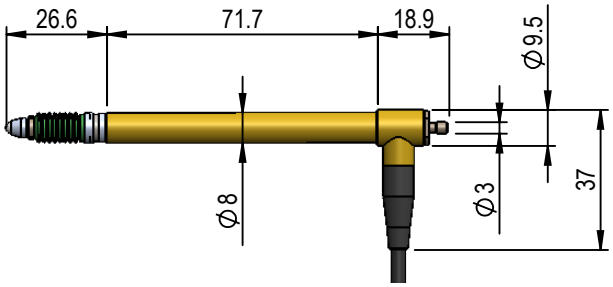
1001816	Spring push cable exit radial
T502F	



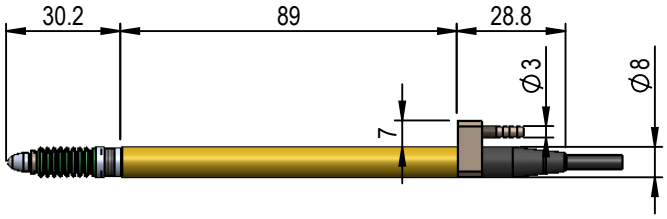
1001798	Vacuum retract cable exit axial
T501V	



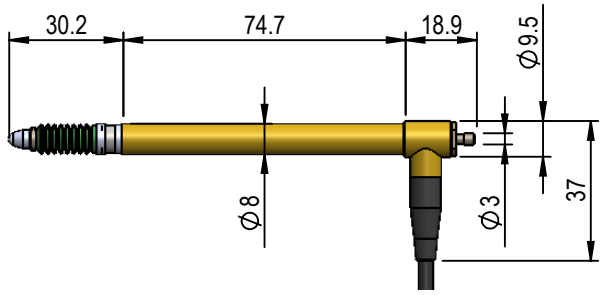
1001879	Vacuum retract cable exit radial
T502V	



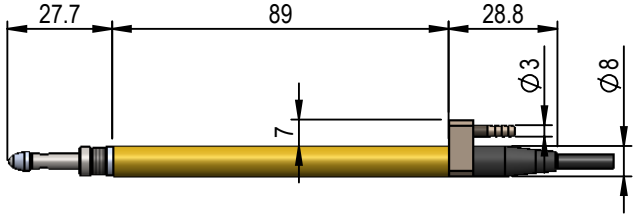
1001778	Pneumatic push bellow seal cable exit axial
T501P	



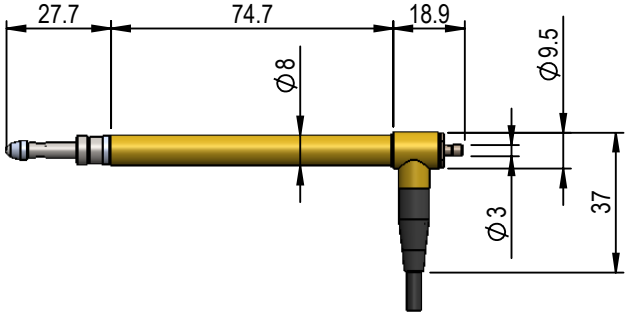
1001860	Pneumatic push bellow seal cable exit radial
T502P	



1001760	Pneumatic push air gap seal cable exit axial
T501L	



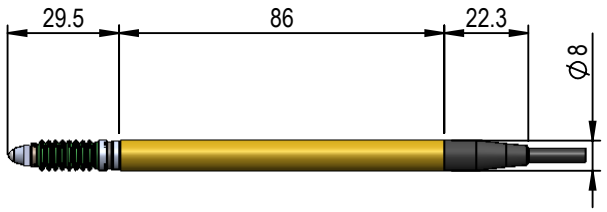
1001842	Pneumatic push air gap seal cable exit radial
T502L	



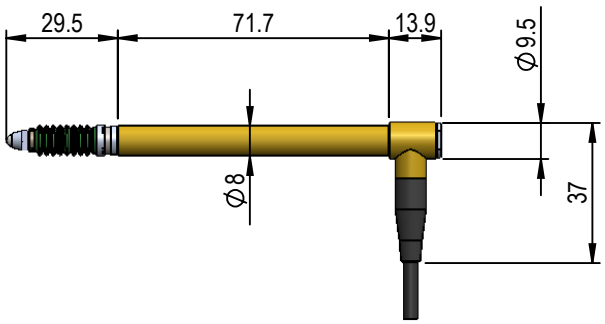
Transducer T501/T502								
Technical Data								
Cable exit	T501F axial	T502F radial	T501V axial	T502V radial	T501P axial	T502P radial	T501L axial	T502L radial
Maximum stroke	10.6 mm		10.6 mm		10.6 mm		10.6 mm	
Measuring stroke	±5 mm		±5 mm		±5 mm		±5 mm	
Pretravel Default setting	adjustable -5.5 mm		adjustable -5.5 mm		adjustable +5.5 mm		adjustable +5.5 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. Cycles		>10 Mio. Cycles		-		>10 Mio. Cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270°		5 pin, 270°		5 pin, 270°		5 pin, 270°	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	1 N ±15 % (at el. zero), others as option		1 N ±15 % (at el. zero), others as option		1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)		1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)	
Repeatability	0.02 µm		0.02 µm		0.02 µm		0.02 µm	
Linearity error	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)		0.8 % FS ±5000 µm range (at 20 °C ±1 °C)		0.8 % FS ±5000 µm range (at 20 °C ±1 °C)		0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	
Sensitivity	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**		**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**		**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**		**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	
Drive frequency	13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T521 / T522

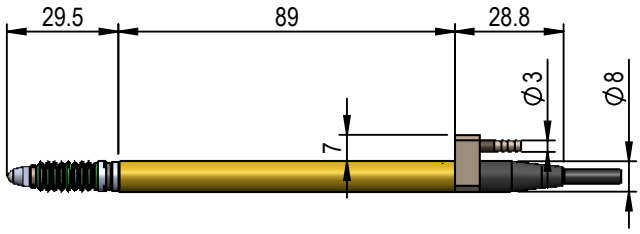
1001897	Spring push cable exit axial
T521F	



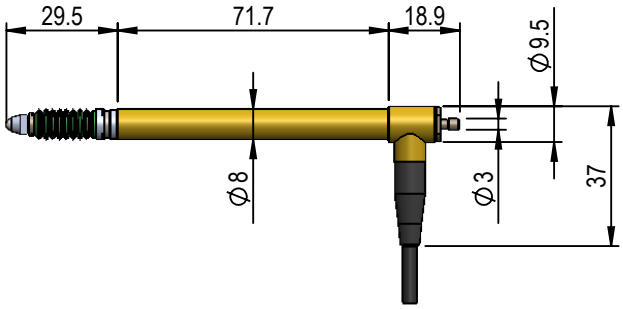
1001969	Spring push cable exit radial
T522F	



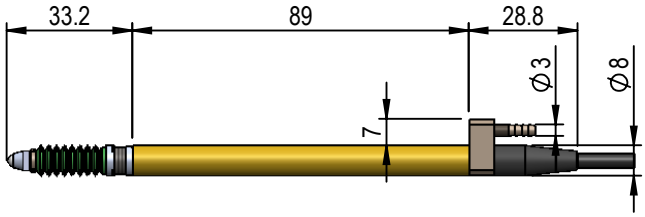
1001951	Vacuum retract cable exit axial
T521V	



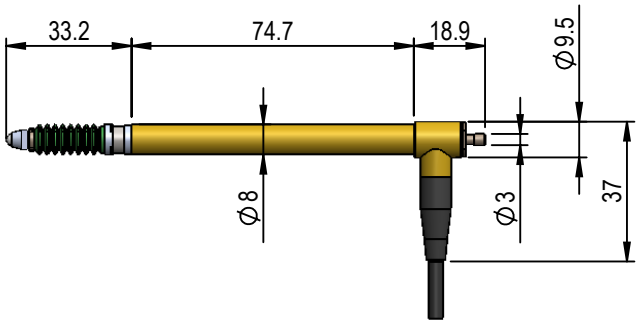
1002020	Vacuum retract cable exit radial
T522V	



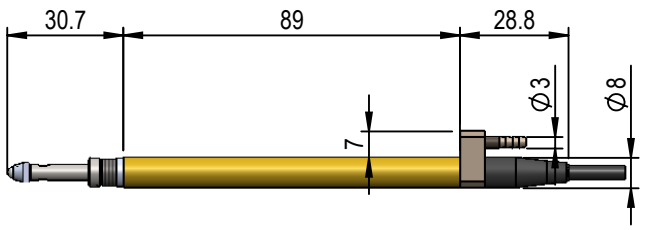
1001933	Pneumatic push bellow seal cable exit axial
T521P	



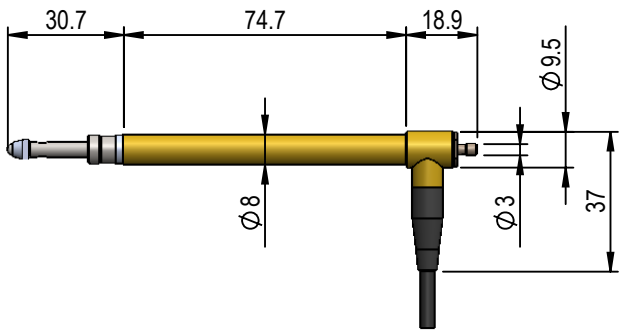
1002003	Pneumatic push bellow seal cable exit radial
T522P	



1001915	Pneumatic push air gap seal cable exit axial
T521L	



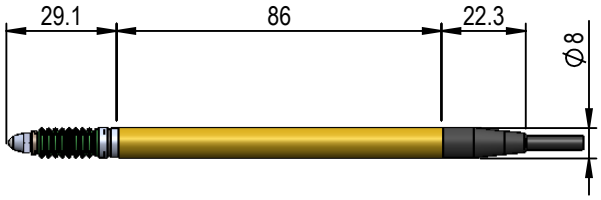
1001986	Pneumatic push air gap seal cable exit radial
T522L	



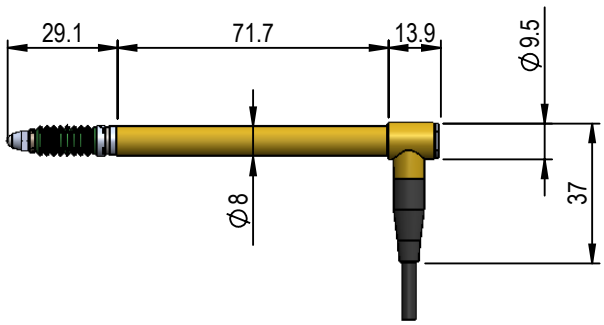
Transducer T521/T522								
Technical Data								
Cable exit	T521F axial	T522F radial	T521V axial	T522V radial	T521P axial	T522P radial	T521L axial	T522L radial
Maximum stroke	10.6 mm		10.6 mm		10.6 mm		10.6 mm	
Measuring stroke	±2 mm		±2 mm		±2 mm		±2 mm	
Pretravel Default setting	adjustable -2.25 mm		adjustable -2.25 mm		adjustable +8 mm		adjustable +8 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. Cycles		>10 Mio. Cycles		-		>10 Mio. Cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270°		5 pin, 270°		5 pin, 270°		5 pin, 270°	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	1 N ±15 % (at el. zero), others as option		1 N ±15 % (at el. zero), others as option		1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)		1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)	
Repeatability	0.02 µm		0.02 µm		0.02 µm		0.02 µm	
Linearity error	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)		0.5 % FS ±2000 µm range (at 20 °C ±1 °C)		0.5 % FS ±2000 µm range (at 20 °C ±1 °C)		0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	
Sensitivity	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	
Drive frequency	13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T523 / T524

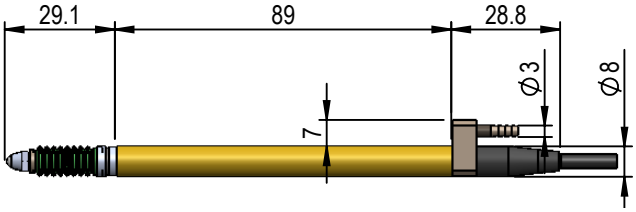
1002039	Spring push cable exit axial
T523F	



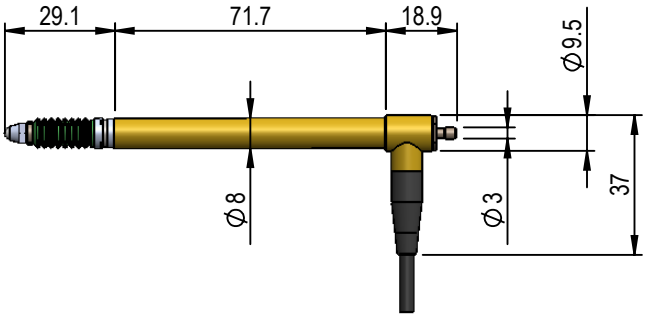
1002113	Spring push cable exit radial
T524F	



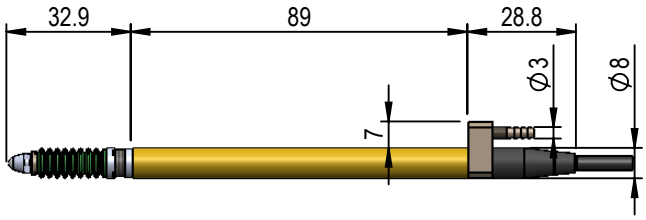
1002095	Vacuum retract cable exit axial
T523V	



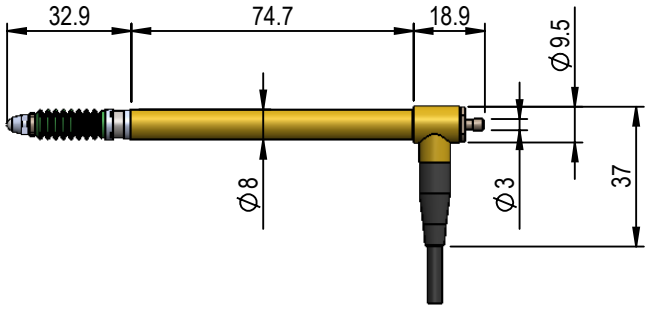
1002165	Vacuum retract cable exit radial
T524V	



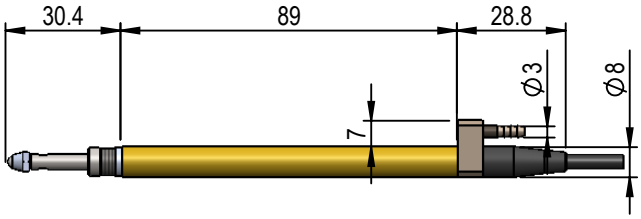
1002075	Pneumatic push bellow seal cable exit axial
T523P	



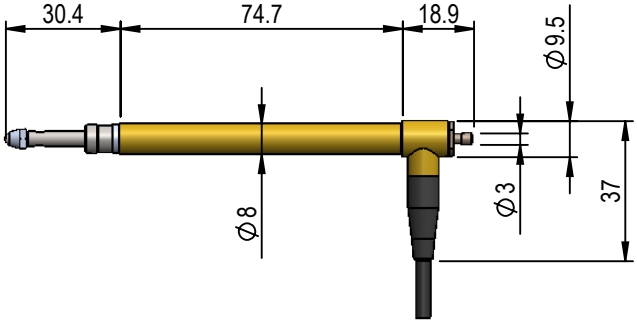
1002148	Pneumatic push bellow seal cable exit radial
T524P	



1002057	Pneumatic push air gap seal cable exit axial
T523L	



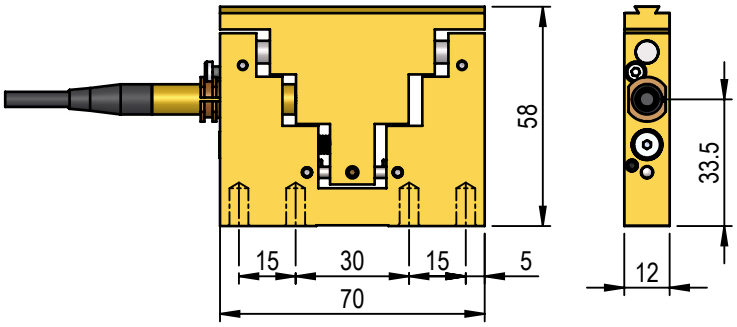
1002131	Pneumatic push air gap seal cable exit radial
T524L	



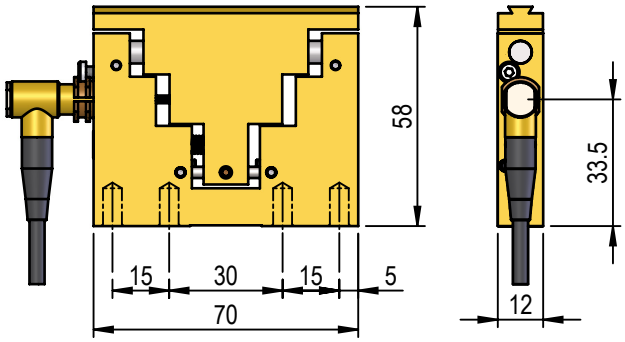
Transducer T523/T524								
Technical Data								
Cable exit	T523F axial	T524F radial	T523V axial	T524V radial	T523P axial	T524P radial	T523L axial	T524L radial
Maximum stroke	10.6 mm		10.6 mm		10.6 mm		10.6 mm	
Measuring stroke	±1 mm		±1 mm		±1 mm		±1 mm	
Pretravel Default setting	adjustable -2.25 mm		adjustable -2.25 mm		adjustable +8 mm		adjustable +8 mm	
Bearing	ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped		ball bearing no side-play, lapped	
Life	>10 Mio. Cycles		>10 Mio. Cycles		-		>10 Mio. Cycles	
Tip rotation	1 ° over full stroke		1 ° over full stroke		1 ° over full stroke		1 ° over full stroke	
Temperature range	-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation		-10 to +65 °C, storage and operation	
Mounting position	any		any		any		any	
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable		3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	
Gaiter	FPM / FKM		FPM / FKM		FPM / FKM		-	
Body diameter	8h6		8h6		8h6		8h6	
Cable	PUR, length 2 m		PUR, length 2 m		PUR, length 2 m		PUR, length 2 m	
Plug	5 pin, 270°		5 pin, 270°		5 pin, 270°		5 pin, 270°	
Advance	-		-		pneumatic		pneumatic	
Lift off	none		vacuum		-		-	
Maximum pressure	-		-		1.5 bar		4.5 bar	
Spring rate	1 N ±15 % (at el. zero), others as option		1 N ±15 % (at el. zero), others as option		1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)		1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)	
Repeatability	0.02 µm		0.02 µm		0.02 µm		0.02 µm	
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)		0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)		73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	
Drive frequency	13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %		13 kHz ±5 %	
Supply voltage	3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS		3 V ±0.5 % RMS	
Coil form	halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)		halfbridge (TESA® compatible)	
Repair	possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled		possible, unit can be disassembled	

Transducer T801 / T802, T851 / T852

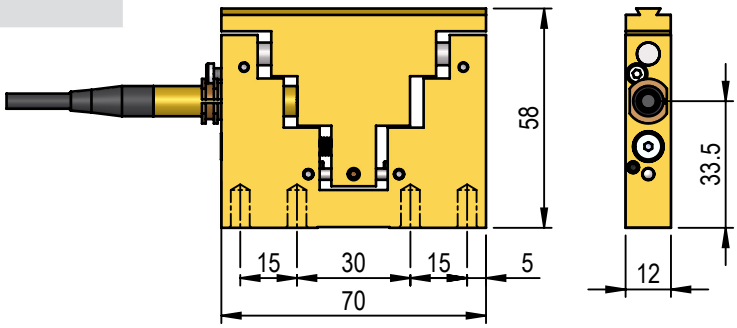
1002225	Spring push
T801	cable exit axial



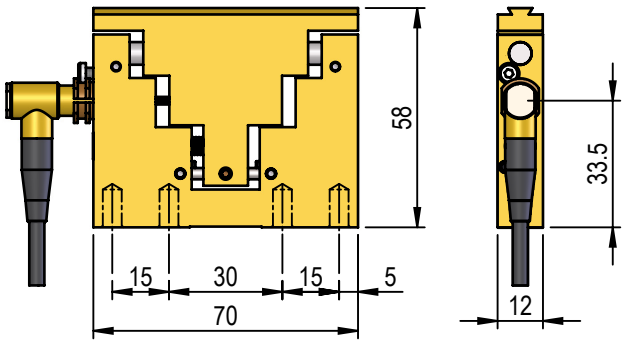
1002226	Spring push
T802	cable exit radial



1002227	Spring push
T851	cable exit axial



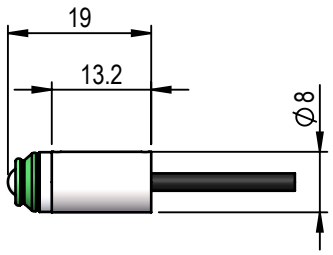
1002228	Spring push
T852	cable exit radial



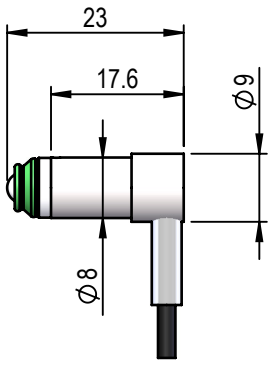
Transducer T801/T802, T851/T852				
Technical Data				
Cable exit	T801 axial	T802 radial	T851 axial	T852 radial
Maximum stroke	6.0 mm	6.0 mm	6.0 mm	6.0 mm
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Pretravel Default setting	adjustable -1.2 mm	adjustable -1.2 mm	adjustable -1.2 mm	adjustable -1.2 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	>10 Mio. Cycles	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration
Mounting position	any	any	any	any
Tip	mountable	mountable	mountable	mountable
Dimension	70 x 58 x 12 mm	70 x 58 x 12 mm	70 x 58 x 12 mm	70 x 58 x 12 mm
Cable	PUR, length 2 m	PUR, length 2 m	PUR, length 2 m	PUR, length 2 m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	mountable	mountable	mountable	mountable
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	150 mV/(Vmm) (into R = 100 kOhm)	150 mV/(Vmm) (into R = 100 kOhm)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	5 kHz ±5 %	5 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	fullbridge (LVDT)	fullbridge (LVDT)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

Transducer 10P0 / 10P1 / 1P0

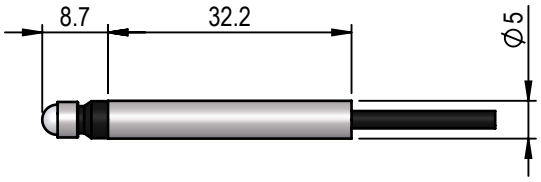
1000000 10P0	Spring push cable exit axial



1000009 10P1	Spring push cable exit radial



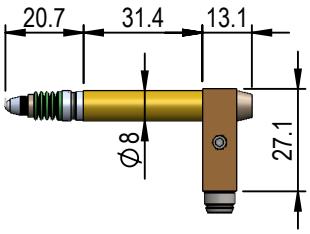
1000031 1P0	Spring push cable exit axial

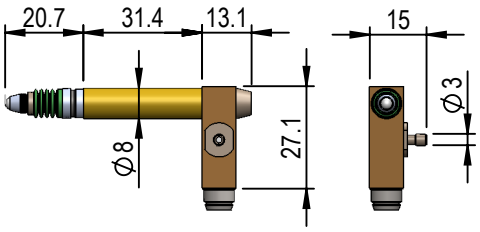


Transducer 10P0, 10P1, 1P0			
Technical Data			
Cable exit	10P0 axial	10P1 radial	1P0 axial
Maximum stroke	0.8 mm	0.8 mm	1.2 mm
Measuring stroke	±0.25 mm	±0.25 mm	±0.40 mm
Pretravel	-0.35 mm	-0.35 mm	-0.50 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	>10 Mio. Cycles
Tip rotation	0.5 ° over full stroke	0.5 ° over full stroke	1.5 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any
Tip	4 mm tungsten carbide ball	4 mm tungsten carbide ball	4 mm tungsten carbide ball
Gaiter	FPM / FKM	FPM / FKM	Nitrile
Body diameter	8h6	8h6	5h6
Cable	PUR, length 2 m	PUR, length 2 m	PUR, length 2 m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°
Lift off	none	none	none
Spring rate	0.63 N ±20% (at el. zero)	0.63 N ±20% (at el. zero)	0.8 N ±20% (at el. zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.8 % FS ±250 µm range (at 20 °C ±1 °C)	0.8 % FS ±250 µm range (at 20 °C ±1 °C)	1.25 % FS ±400 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm)(into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm)(into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm)(into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)

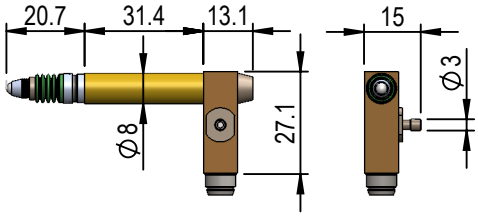
Transducer pluggable T070

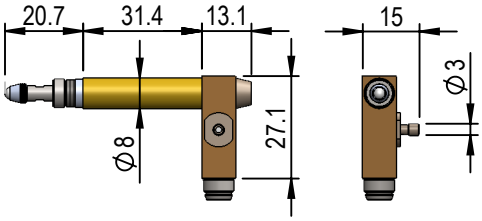
1003447	Spring push	1003449	Vacuum retract
T070FS		T070VS	





1003450	Pneumatic push bellow seal	1003451	Pneumatic push bellow seal
T070PS		T070LS	





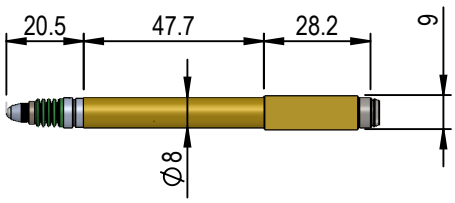
Connection cable

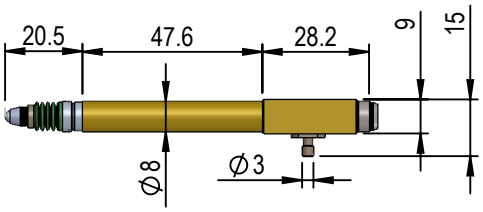
Order number	cable exit	length
1000895	axial	2.0 m

Transducer pluggable T070				
Technical Data				
Model	T070FS	T070VS	T070PS	T070LS
Maximum stroke	2.2 mm	2.2 mm	2.2 mm	2.2 mm
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Pretravel Default setting	adjustable -1.1 mm	adjustable -1.1 mm	adjustable +1.1 mm	adjustable +1.1 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero)	0.63 N ±20 % (at el. zero)	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

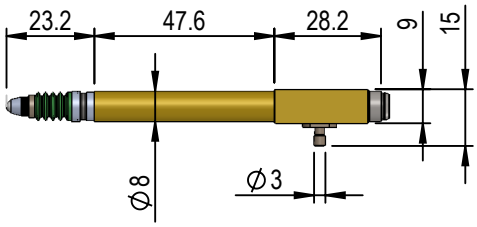
Transducer pluggable T100

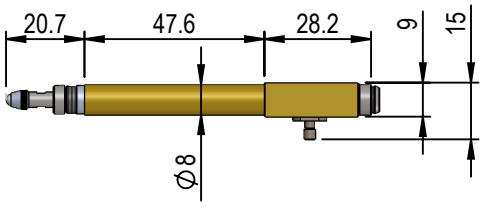
1003379	Spring push	1003380	Vacuum retract
T100FS		T100VS	





1003381	Pneumatic push bellow seal	1003382	Pneumatic push air gap seal
T100PS		T100LS	





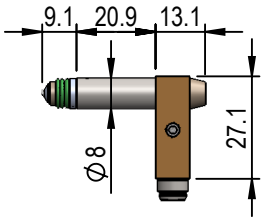
Connection cable

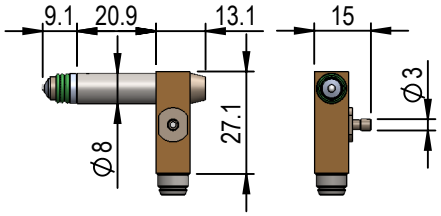
Order number	cable exit	length
1000895	axial	2.0 m
1000896	radial	2.0 m

Transducer pluggable T100				
Technical Data				
Model	T100FS	T100VS	T100PS	T100LS
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Pretravel Default setting	adjustable -1.2 mm	adjustable -1.2 mm	adjustable +2.8 mm	adjustable +2.8 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero), others as option	0.63 N ±20 % (at el. zero), others as option	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

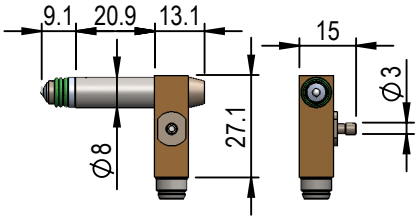
Transducer pluggable T200

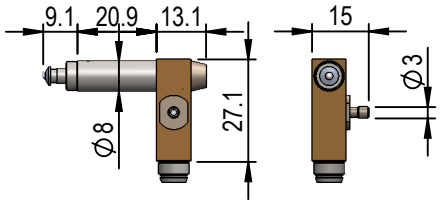
1003383	Spring push	1003384	Vacuum retract
T200FS		T200VS	





1003385	Pneumatic push bellow seal	1003386	Pneumatic push air gap seal
T200PS		T200LS	





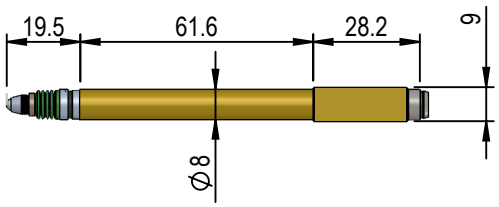
Connection cable

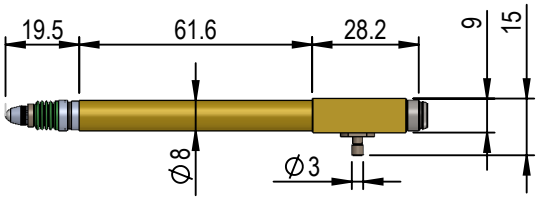
Order number	cable exit	length
1000895	axial	2.0 m

Transducer pluggable T200				
Technical Data				
Model	T200FS	T200VS	T200PS	T200LS
Maximum stroke	2.5 mm	2.5 mm	2.5 mm	2.5 mm
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Pretravel	not adjustable	not adjustable	not adjustable	not adjustable
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration
Mounting position	any	any	any	any
Tip	2 mm tungsten carbide ball, exchangeable	2 mm tungsten carbide ball, exchangeable	2 mm tungsten carbide ball, exchangeable	2 mm tungsten carbide ball, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.4 N ±50 % (at el. zero)	0.4 N ±50 % (at el. zero)	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.8 bar 1.0 N at 1.1 bar (at el. zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)	0.6 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)

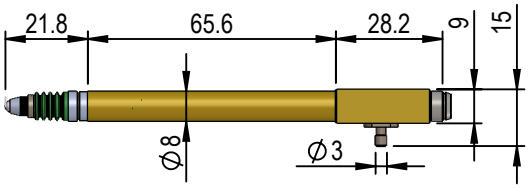
Transducer pluggable T300

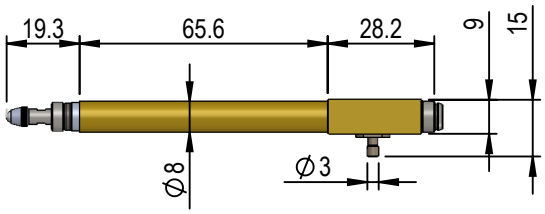
1003387	Spring push	1003389	Vacuum retract
T300FS		T300VS	





1003390	Pneumatic push bellow seal	1003391	Pneumatic push air gap seal
T300PS		T300LS	





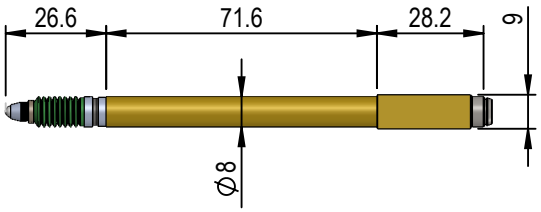
Connection cable

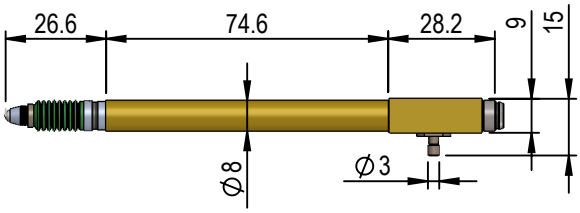
Order number	cable exit	length
1000895	axial	2.0 m
1000896	radial	2.0 m

Transducer pluggable T300				
Technical Data				
Model	T300FS	T300VS	T300PS	T300LS
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±2 mm	±2 mm	±2 mm	±2 mm
Pretravel Default setting	adjustable -2.25 mm	adjustable -2.25 mm	adjustable +2.25 mm	adjustable +2.25 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero)	0.63 N ±20 % (at el. zero)	0.6 N at 0.5 bar 1.0 N at 0.7 bar (at el. zero)	0.6 N at 0.8 bar 1.0 N at 1.1 bar (at el. zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)
Sensitivity	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ± 0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

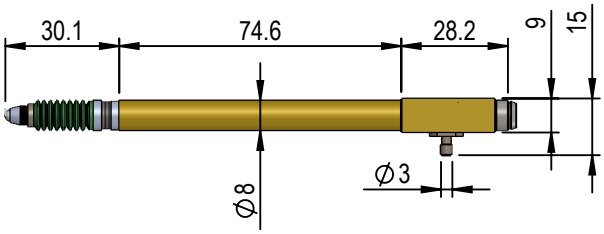
Transducer pluggable T500

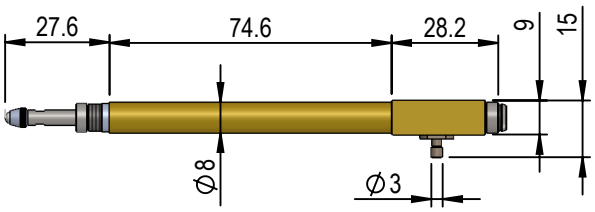
1003392 T500FS	Spring push	**1003393** T500VS	Vacuum retract





1003394 T500PS	Pneumatic push bellow seal	**1003395** T500LS	Pneumatic push air gap seal





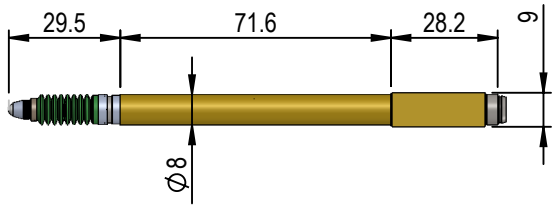
Connection cable

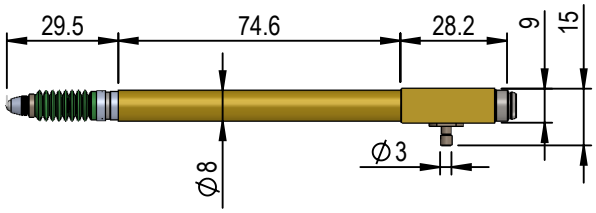
Order number	cable exit	length
1000895	axial	2.0 m
1000896	radial	2.0 m

Transducer pluggable T500				
Technical Data				
Model	T500FS	T500VS	T500PS	T500LS
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±5 mm	±5 mm	±5 mm	±5 mm
Pretravel Default setting	adjustable -5.5 mm	adjustable -5.5 mm	adjustable +5.5 mm	adjustable +5.5 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)
Sensitivity	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

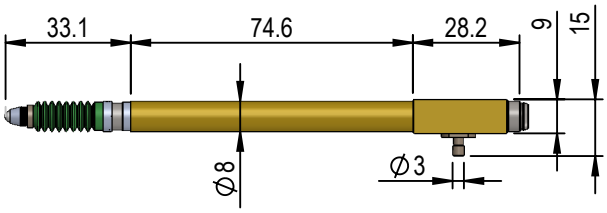
Transducer pluggable T521

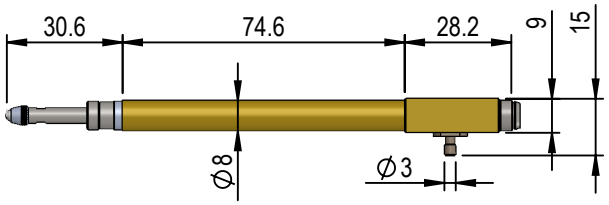
1003396	Spring push	1003397	Vacuum retract
T521FS		T521VS	





1003398	Pneumatic push bellow seal	1003399	Pneumatic push air gap seal
T521PS		T521LS	





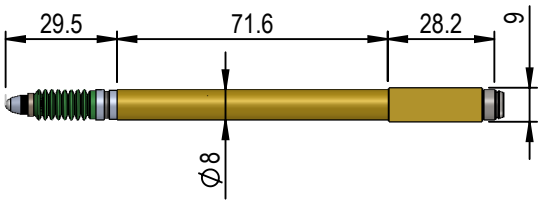
Connection cable

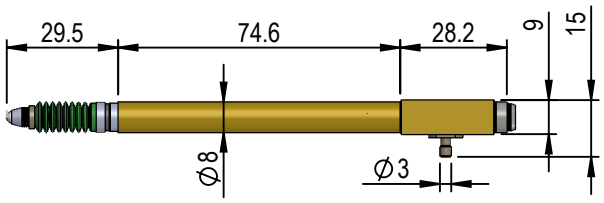
Order number	cable exit	length
1000895	axial	2.0 m
1000896	radial	2.0 m

Transducer pluggable T521				
Technical Data				
Model	T521FS	T521VS	T521PS	T521LS
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±2 mm	±2 mm	±2 mm	±2 mm
Pretravel Default setting	adjustable -2.25 mm	adjustable -2.25 mm	adjustable +8 mm	adjustable +8 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)	0.5 % FS ±2000 µm range (at 20 °C ±1 °C)
Sensitivity	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	36.88 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

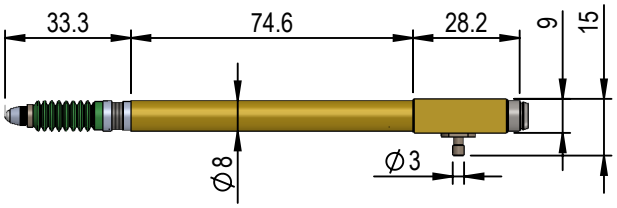
Transducer pluggable T523

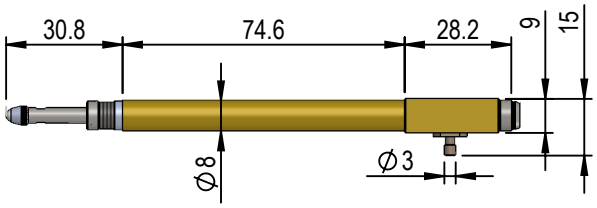
1003400	Spring push	1003401	Vacuum retract
T523FS		T523VS	





1003402	Pneumatic push bellow seal	1003404	Pneumatic push air gap seal
T523PS		T523LS	





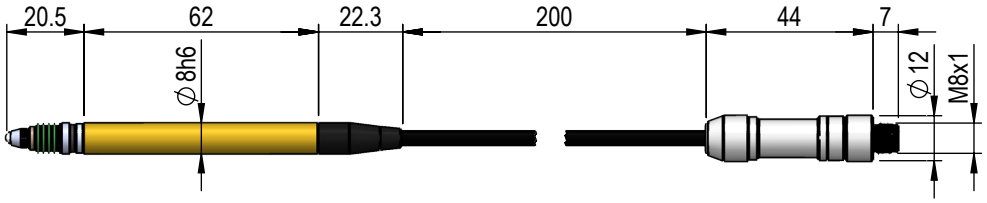
Connection cable

Order number	cable exit	length
1000895	axial	2.0 m
1000896	radial	2.0 m

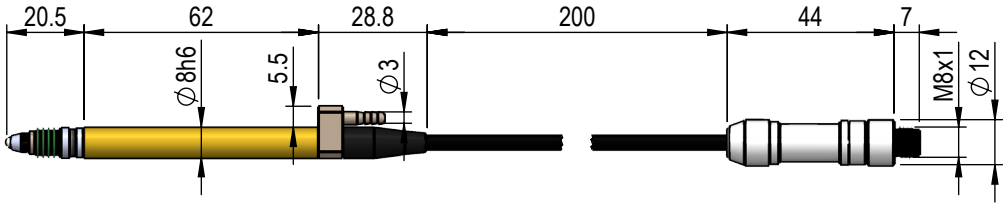
Transducer pluggable T523				
Technical Data				
Model	T523FS	T523VS	T523PS	T523LS
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Pretravel Default setting	adjustable -2.25 mm	adjustable -2.25 mm	adjustable +8 mm	adjustable +8 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

Transducer pluggable T100 pig-tail

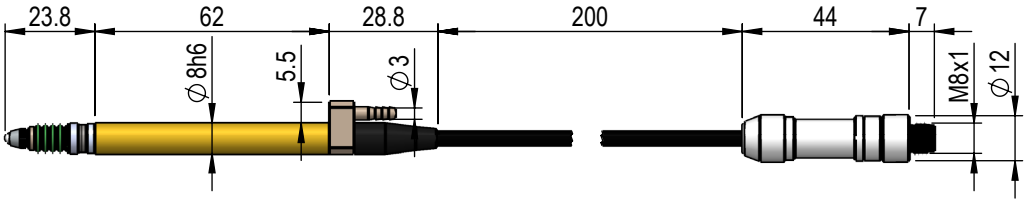
1005237 T101FPT	Spring push cable exit axial



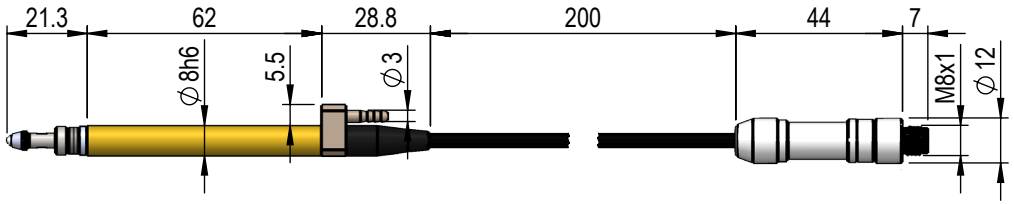
1005239 T101VPT	Vacuum retract cable exit axial



1005241 T101PPT	Pneumatic push bellow seal cable exit axial



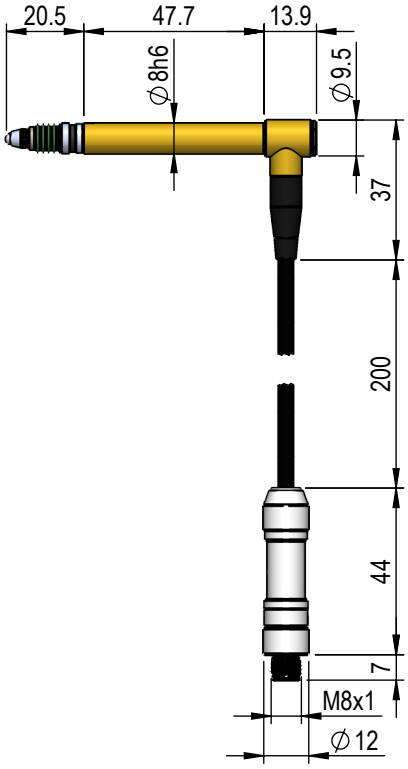
1005243 T101LPT	Pneumatic push air gap seal cable exit axial



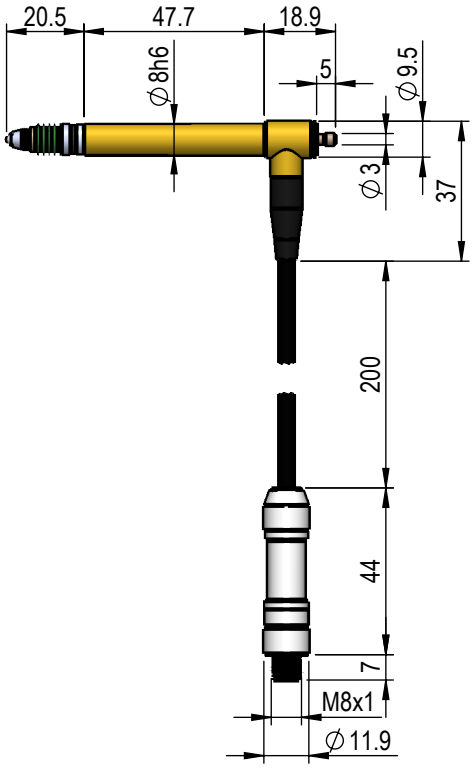
Transducer pluggable T100 pig-tail				
Technical Data				
Model	T101FPT	T101VPT	T101PPT	T101LPT
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Pretravel Default setting	adjustable -1.2 mm	adjustable -1.2 mm	adjustable +2.8 mm	adjustable +2.8 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero), others as option	0.63 N ±20 % (at el. zero), others as option	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

Transducer pluggable T100 pig-tail

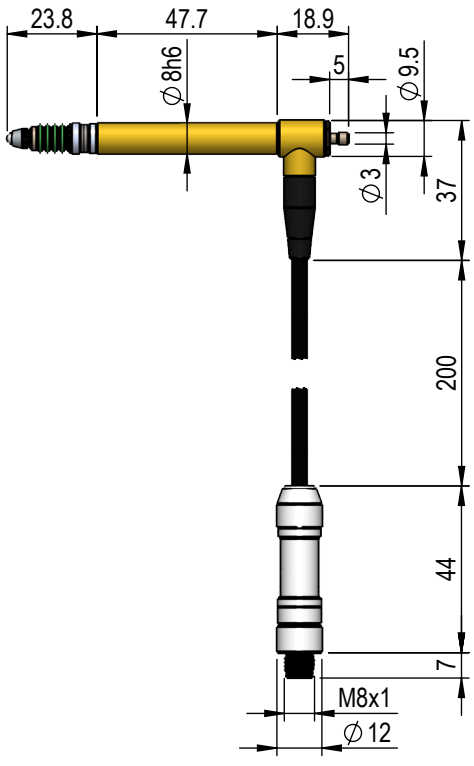
1005238	Spring push cable exit radial
T102FPT	



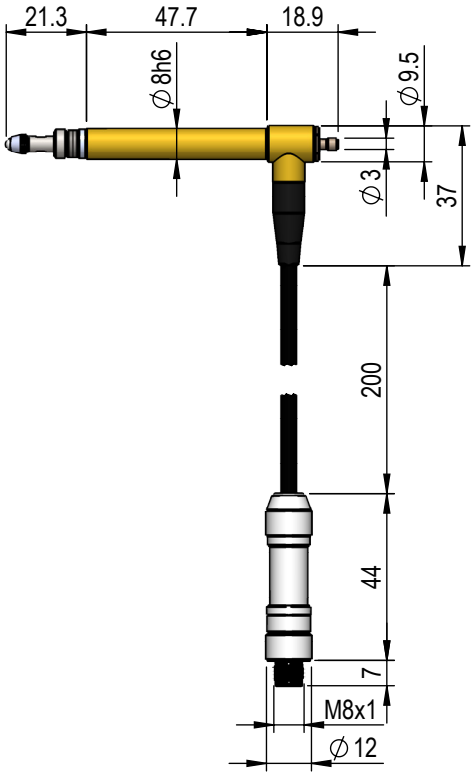
1005240	Vacuum retract cable exit radial
T102VPT	



1005242	Pneumatic push bellow seal cable exit radial
T102PPT	



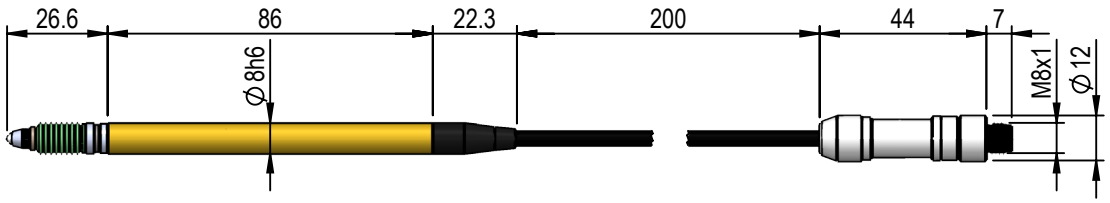
1005244	Pneumatic push air gap seal cable exit radial
T102LPT	



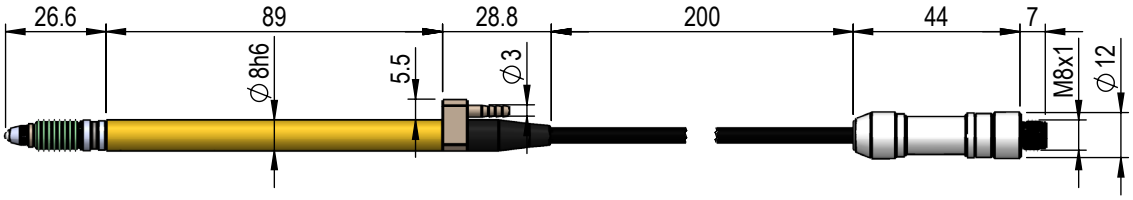
Transducer pluggable T100 pig-tail				
Technical Data				
Model	T102FPT	T102VPT	T102PPT	T102LPT
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±1 mm	±1 mm	±1 mm	±1 mm
Pretravel Default setting	adjustable -1.2 mm	adjustable -1.2 mm	adjustable +2.8 mm	adjustable +2.8 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration	-10 to +65 °C, storage and ope- ration
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero), others as option	0.63 N ±20 % (at el. zero), others as option	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)	0.25 % FS ±1000 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

Transducer pluggable T500 pig-tail

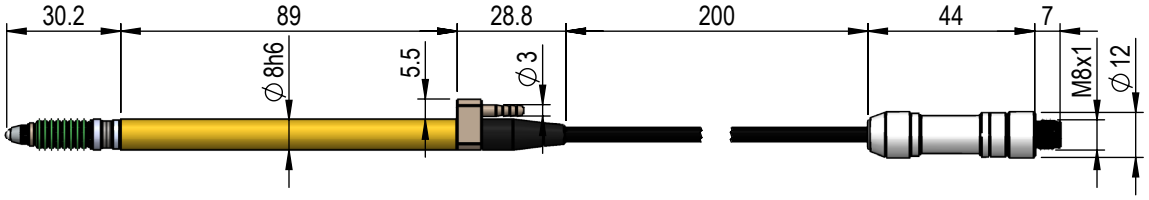
1005249 T501FPT	Spring push cable exit axial



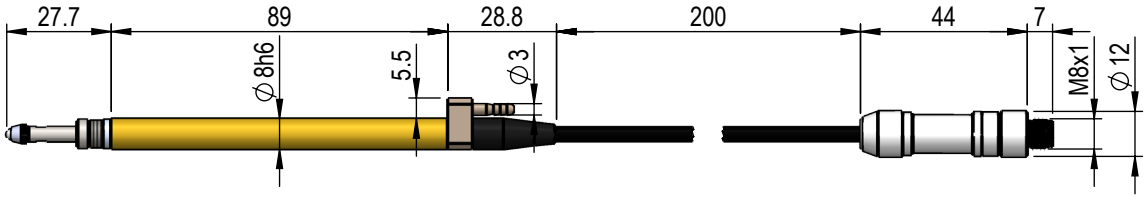
1005251 T501VPT	Vacuum retract cable exit axial



1005253 T501PPT	Pneumatic push bellow seal cable exit axial



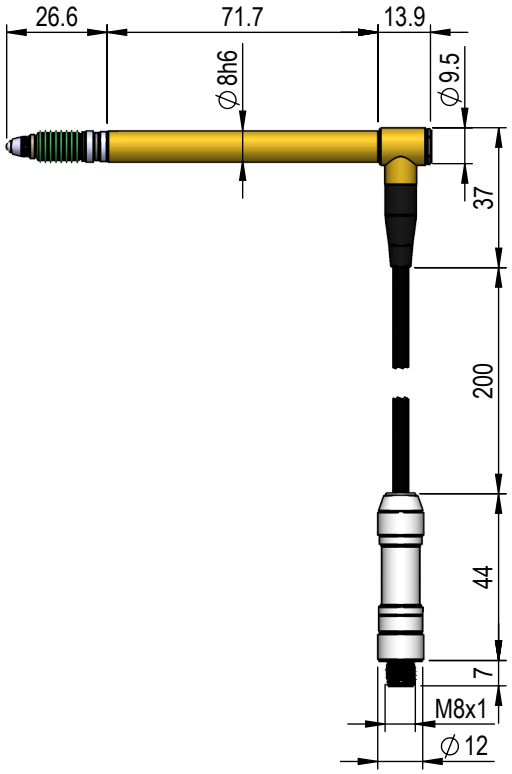
1005255 T501LPT	Pneumatic push air gap seal cable exit axial



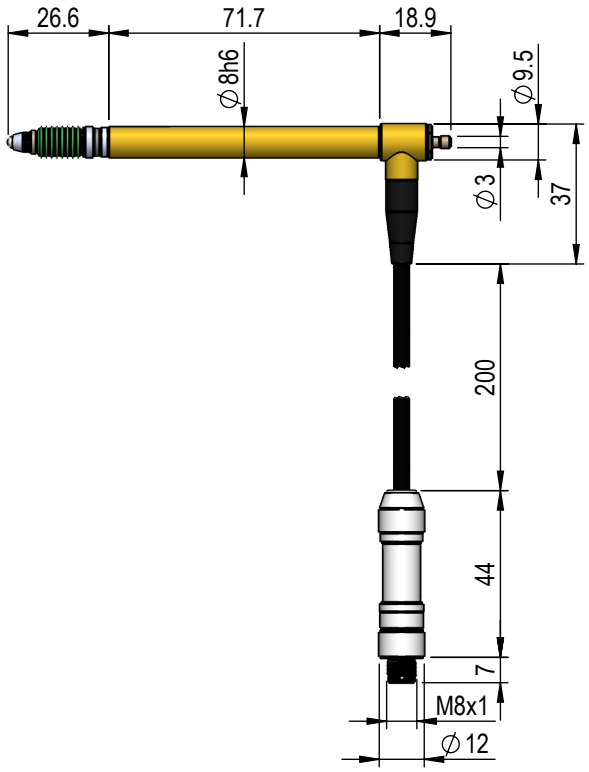
Transducer pluggable T500 pig-tail				
Technical Data				
Model	T501FPT	T501VPT	T501PPT	T501LPT
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±5 mm	±5 mm	±5 mm	±5 mm
Pretravel Default setting	adjustable -5.5 mm	adjustable -5.5 mm	adjustable +5.5 mm	adjustable +5.5 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)
Sensitivity	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

Transducer pluggable T500 pig-tail

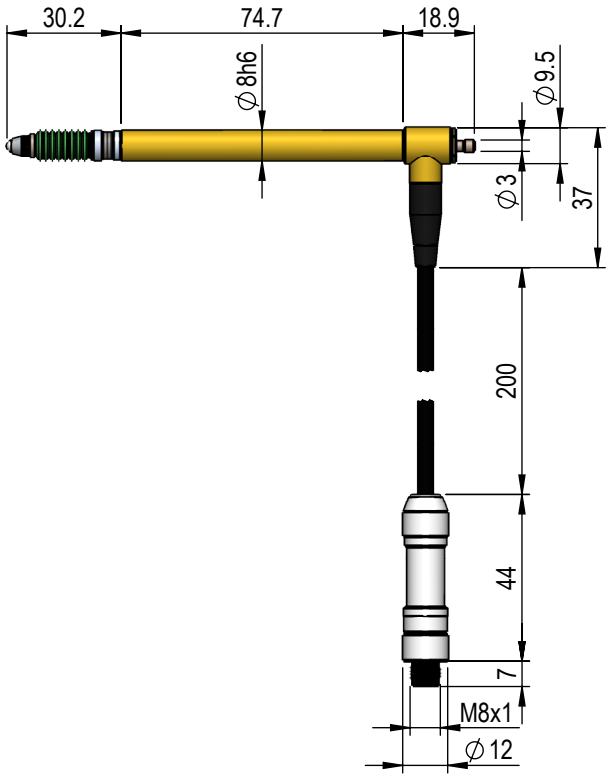
1005250	Spring push cable exit radial
T502FPT	



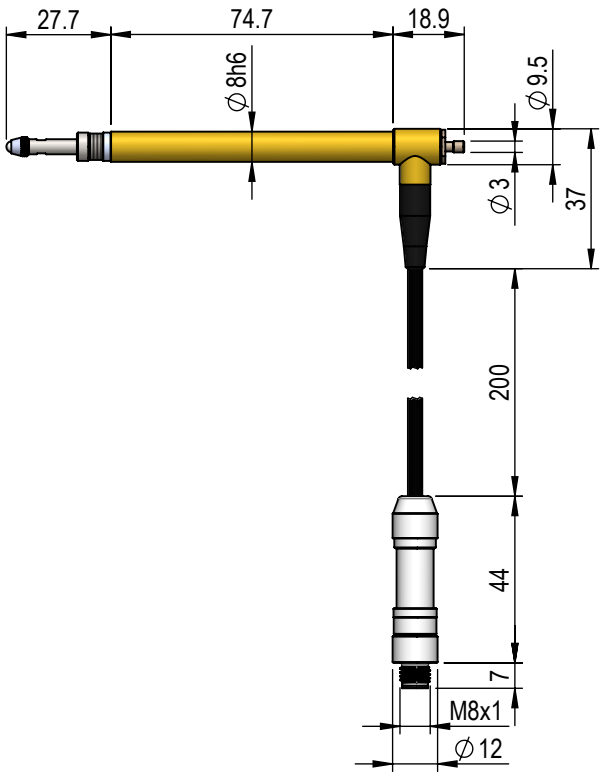
1005252	Vacuum retract cable exit radial
T502VPT	



1005254	Pneumatic push bellow seal cable exit radial
T502PPT	



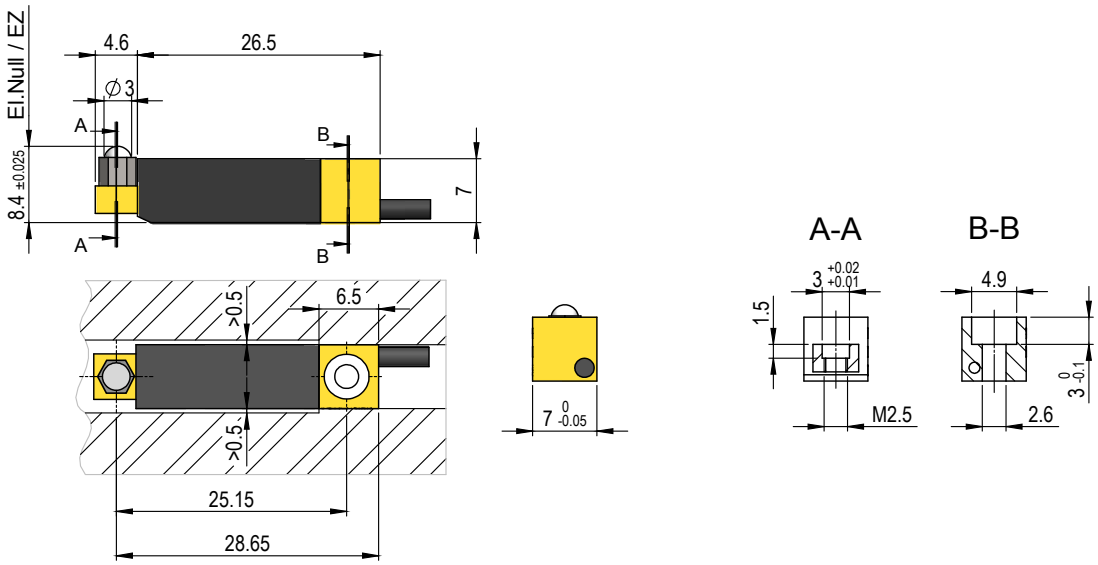
1005256	Pneumatic push bellow seal cable exit radial
T502LPT	



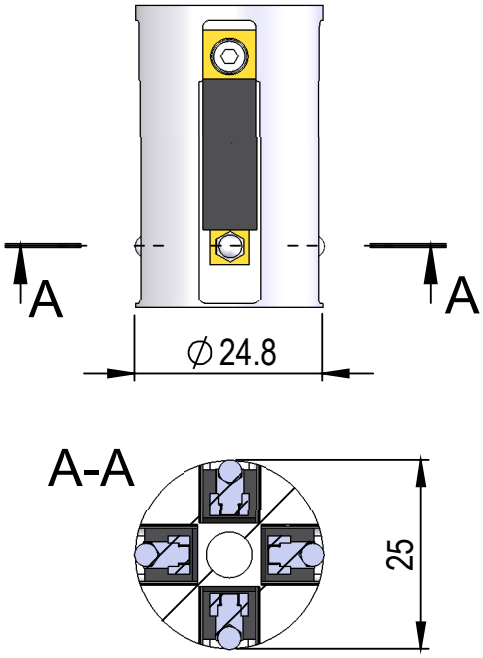
Transducer pluggable T500 pig-tail				
Technical Data				
Model	T502FPT	T502VPT	T502PPT	T502LPT
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±5 mm	±5 mm	±5 mm	±5 mm
Pretravel Default setting	adjustable -5.5 mm	adjustable -5.5 mm	adjustable +5.5 mm	adjustable +5.5 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at 1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (at el. zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)	0.8 % FS ±5000 µm range (at 20 °C ±1 °C)
Sensitivity	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**	**standard setting 1:10** 7.38 ±0.02 mV/(Vmm) (into R = 2 kOhm ±0.1 %) **optional setting 1:5**
Drive frequency	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS	3 V ±0.5 % RMS
Coil form	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)	halfbridge (TESA® compatible)
Repair	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled	possible, unit can be disassembled

Bore measuring transducer BMT200

1000064	Spring push
BMT200	



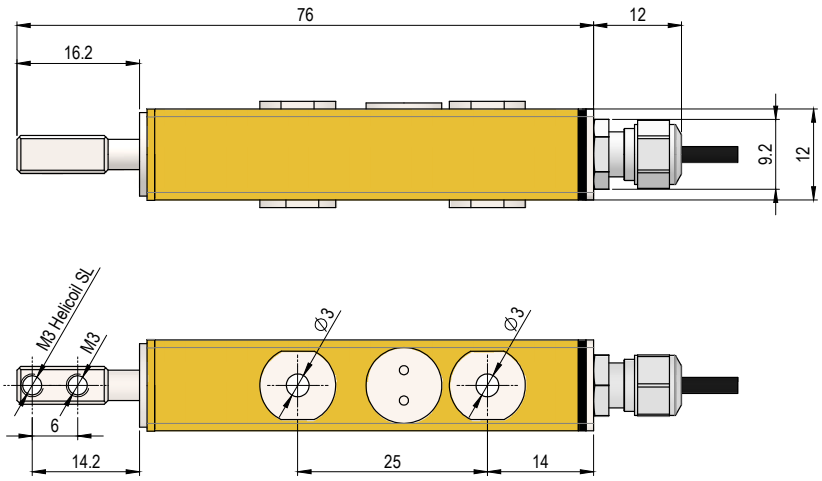
Application example



Transducer BMT200	
Technical Data	
Maximum Stroke	0.6 mm
Measuring Stroke	±0.2 mm
Life	>10 Mio. cycles
Temperatur range	-10 to +65 °C, storage and operation
Tip	3 mm tungsten carbide ball, exchangeable
Sleeve and sealing	FPM
Mounting position	any
Fixing	with thread M2.5
Cable	PUR, length 2 m
Plug	5 pin, 270 °
Measuring force	0.8 N ±30% (at electrical zero)
Repeatability	0.05 µm
Linearity error	1.0 % FS ±200 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS
Coil form	Halfbridge (TESA® compatible)

Bore measuring transducer BMT500

1004492	Spring push
BMT500	

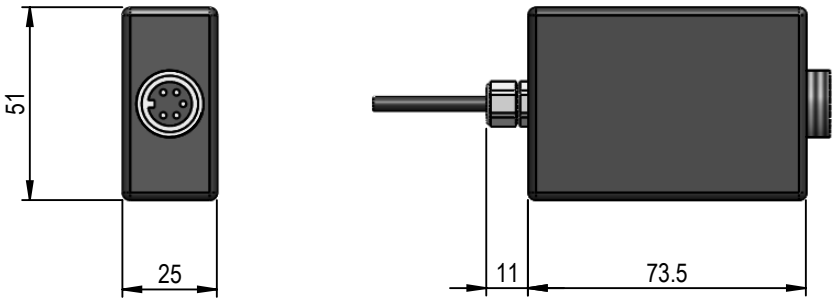


Transducer BMT500	
Technical Data	
Maximum stroke	1.1 mm
Measuring stroke	±0.5 mm
Life	>10 Mio. cycles
Temperature range	-10 to +65 °C, operation and storage
Tip	without, M3 helicoil
Mounting position	any
Fixing	with two threads M3
Cable	PUR, length 2 m
Plug	5 pin, 270 °
Measuring force	1.0 N ±30% (at electrical zero)
Repeatability	0.05 µm
Linearity error	1.0 % FS ±500 µm range (at 20 °C ±1 °C)
Sensitivity	73.75 ±0.15 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Drive frequency	13 kHz ±5 %
Supply voltage	3 V ±0.5 % RMS
Coil form	Halfbridge (TESA® compatible)

Cable-Module

Signal conditioning for T-series transducers, socket to accept transducer plug, output signal ±10 VDC or ±5 VDC, for full specification displacement of the transducer

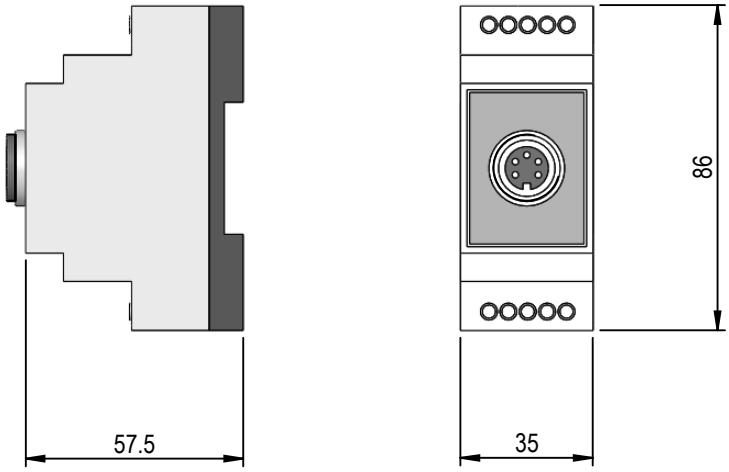
Application	Signal conditioning for T-series transducer For TESA® compatible halfbridge models
Dimension	Box 73.5 x 51 x 25 mm
Supply voltage	Supply voltage 5, 12 or 24 VDC (±10 %) (Please specify with order) Current consumption 120, 50 or 25 mA
Signal output	±10 VDC for transducer T071 / T072 Measuring stroke ±1 mm T101 / T102 Measuring stroke ±1 mm T201 / T202 Measuring stroke ±1 mm T301 / T302 Measuring stroke ±2 mm T401 / T402 Measuring stroke ±1 mm T501 / T502 Measuring stroke ±5 mm T521 / T522 Measuring stroke ±2 mm T523 / T524 Measuring stroke ±1 mm (Other specifications upon request)
Connection	Supply and signal: cable PVC, length 1 m, prepared wires Transducer: socket 5 pin, 270 °
Transducer supply	3 V ±0.5 % RMS / 13 kHz ±5 %
Sensitivity	73.75 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Ordering	See examples for ordering on page 68
Drawing	



DIN-Rail Module

Signal conditioning for T-series transducers, socket to accept transducer plug, output signal ±10 VDC or ±5 VDC, for full specification displacement of the transducer

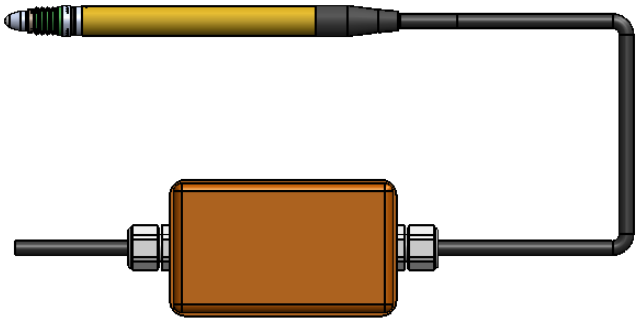
Application	Signal conditioning for T-series transducers for TESA® compatible halfbridge transducers
Dimension	86 x 35 x 57.5 mm (Height from rail top surface)
Supply voltage	Supply voltage 5, 12 or 24 VDC (±10 %) (Please specify when ordering) current consumption 120, 50 or 25 mA
Sgnal output	±10 VDC for transducer T071 / T072 Measuring stroke ±1 mm T101 / T102 Measuring stroke ±1 mm T201 / T202 Measuring stroke ±1 mm T301 / T302 Measuring stroke ±2 mm T401 / T402 Measuring stroke ±1 mm T501 / T502 Measuring stroke ±5 mm T521 / T522 Measuring stroke ±2 mm T523 / T524 Measuring stroke ±1 mm (Other specifications upon request)
Connection	Supply and signal: screw terminals Transducer: socket 5 pin, 270 °
Transducer supply	3 V ±0.5 % RMS / 13 kHz ±5 %
Sensitivity	73.75 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Ordering	See examples for ordering on page 68
Drawing	



DC–Transducer

Transducer with integrated electronics,
Output signal ±10 VDC for specified stroke,
also other configurations available

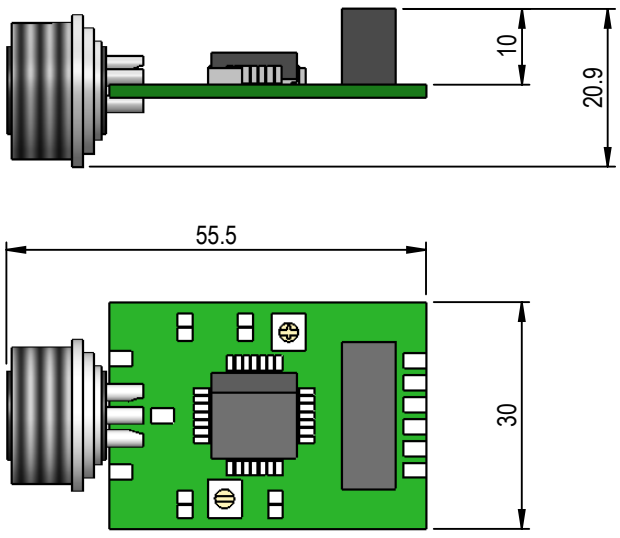
Application	As T series transducers
Body diameter	8h6
Dimension	Conditioning cable box 58 x 35 x 16 mm
Supply	Supply voltage 5, 12 or 24 VDC (±10%) (add information to order) Current consumption 120, 50 or 25 mA
Signal	±10 VDC for specified measuring stroke (other configuration upon request)
Connection	Power supply and output signal: cable PVC, length 1 m, open end Cable box is part of the cable, cable to transdcuer PUR, length 2 m
Variants	Transducer T071 / T072 Stroke ±1 mm Transducer T101 / T102 Stroke ±1 mm Transducer T201 / T202 Stroke ±1 mm Transducer T301 / T302 Stroke ±2 mm Transducer T501 / T502 Stroke ±5 mm Transducer T521 / T522 Stroke ±2 mm Transducer T523 / T524 Stroke ±1 mm
Ordering	Ordering examples on page 68
Drawing	



T–Module

Signal conditioning module for OEM applications, in conjunction with T series transducer
Output signal ±10 VDC

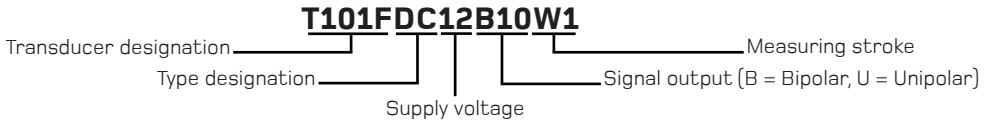
Application	Signal conditioning electronics for TESA® compatible halfbridge T series Transducer
Dimension	30 x 50 mm (PCB without plug)
Mounting	Through-hole for plug with diameter 18 mm
Supply	Supply voltage 5, 12 or 24 VDC (±10%) (specify with order) Current consumption 120, 50 or 25 mA
Signal output	±10 VDC for transducer Transducer T071 / T072 Stroke ±1 mm Transducer T101 / T102 Stroke ±1 mm Transducer T201 / T202 Stroke ±1 mm Transducer T301 / T302 Stroke ±2 mm Transducer T401 / T402 Stroke ±1 mm Transducer T501 / T502 Stroke ±5 mm Transducer T521 / T522 Stroke ±2 mm Transducer T523 / T524 Stroke ±1 mm (Other specifications upon request)
Connection	Supply and signal: pads on PCB Transducer: socket 5 pin, 270 °
Drive frequency	3 V ±0.5 % RMS / 13 kHz ±5 %
Sensitivity	73.75 mV/(Vmm) (into R = 2 kOhm ±0.1 %)
Ordering	Ordering examples on page 68
Drawing	



Examples for ordering

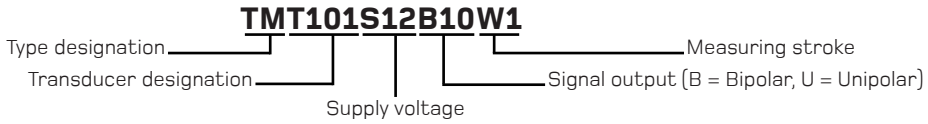
DC-Transducer

T101F as DC-Transducer with supply voltage 12 V, signal output ±10 V and measuring stroke ±1 mm:



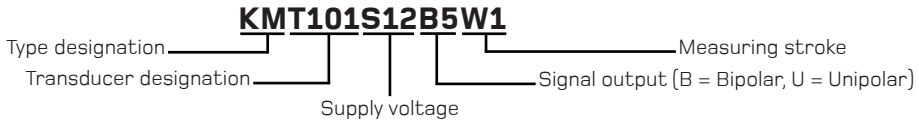
T-Module

T-Module with supply voltage 12 V, signal output ±10 V and measuring stroke ±1 mm for a T101:



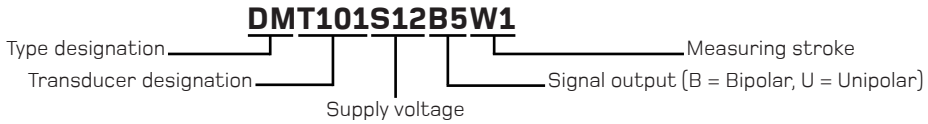
Cable Module

Cable Module with supply voltage 12 V, signal output ±5 V and measuring stroke ±1 mm for a T101:



DIN-Rail Module

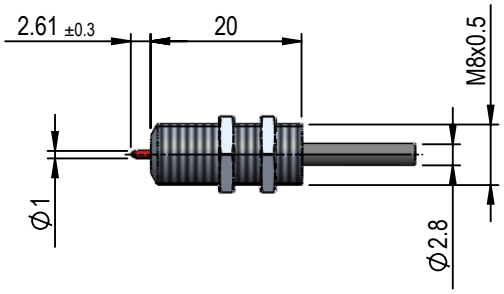
DIN-Rail Module with supply voltage 12 V, signal output ±5 V and measuring stroke ±1 mm for a T101:



MICRON Switch

Small signal switch with highest repeatability of the crossover position

Order Number	1002864
Application	Reference switch for position stages Precision end stops Reference settings etc.
Repeatability	±0.0005 mm
Overtravel	1.5 mm (Longer overtravel upon request)
Operation force	0.7 N (Other values upon request)
Temperature range	-20 bis +70 °C, storage and operation
Voltage rating	24 VAC / 15 VDC
Current rating	50 mA
Lifetime	> 10 Mio. cycles
Mounting position	Any
Function	NC (normally closed)
Cable	PUR, length 1 m, prepared wires
Wires	2 x 0.14 mm2
Body OD	M8 x 0.5
Case material	Stainless steel (1.4305)
Clamping nuts	2 pieces included
Drawing	



Digital Transducer

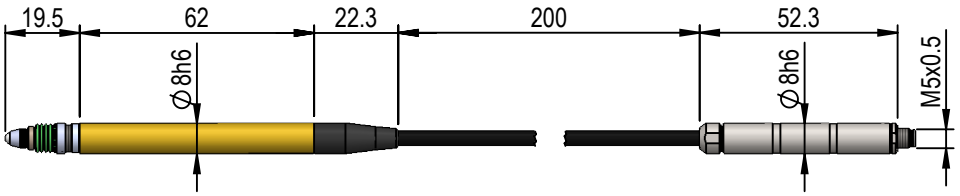
Digital transducers for connection to compatible interface converters and electronics	
Application	As T-series displacement transducers
Body	8h6
Measuring system	Inductive halfbridge coil system with core. Intergrated conditioning electronics with system error correction.
Connection	Connection to transducer Sensor plug M5, 4 pole **Cable** PUR, pigtail with 200 mm length Connection to electronics Sensor plug M8, 4 pole
Interface	**Propriet point-to-point protocol (DG series)** Freely documented point-to-point protocol on RS485 base, termination 120 ohm Connection to sensor with 4 wire cable, M5 plug on the sensor side, M8 plug on the electronic side Baud rates 9600 bit/s, 115200 bit/s, 10 kbit/s, 500 kbit/s and 1 Mbit/s Sensor-Information for test equipment monitoring, SPS-profiles and -objects **IO-Link (IOL series)** Digital probes with IO-Link interface for PLC systems with corresponding gateways or modules. IO-Link probes communicate on COM3 specification 1.1. Device profile data IODD are available on the webpage www.peterhirt.ch under the corresponding product.

Transducer digital, Sensor plug M5, 4 pin with screw lock				
Spring push	Vacuum retract	Pneumatic push bellow seal	Pneumatic push air gap seal	Description
T101FDG	T101VDG	T101PDG	T101LDG	±2 mm Stroke
T102FDG	T102VDG	T102PDG	T102LDG	±2 mm Stroke
T501FDG	T501VDG	T501PDG	T501LDG	±5 mm Stroke
T502FDG	T502VDG	T502PDG	T502LDG	±5 mm Stroke

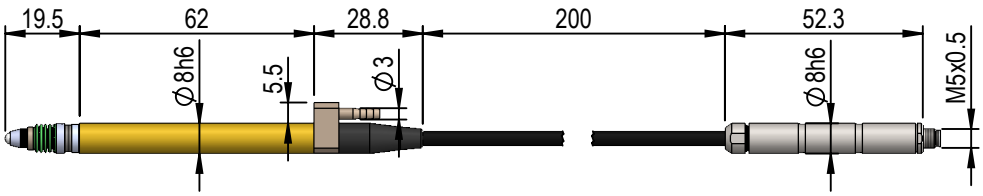
Transucer digital IO-Link, Sensor plug M8, 4 pin with screw lock				
Spring push	Vacuum retract	Pneumatic push bellow seal	Pneumatic push air gap seal	Description
T101FIOL	T101VIOL	T101PIOL	T101LIOL	±2 mm Stroke
T102FIOL	T102VIOL	T102PIOL	T102LIOL	±2 mm Stroke
T501FIOL	T501VIOL	T501PIOL	T501LIOL	±5 mm Stroke
T502FIOL	T502VIOL	T502PIOL	T502LIOL	±5 mm Stroke

Digital Transducer T100

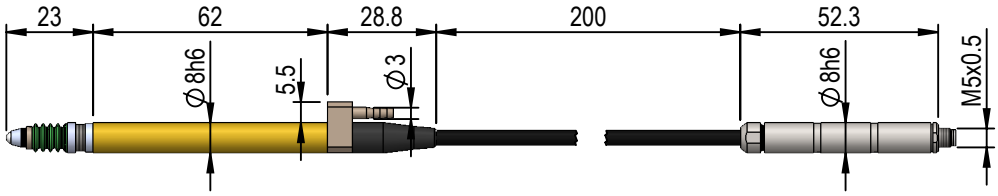
1005141 T101FDG	Spring push cable exit axial



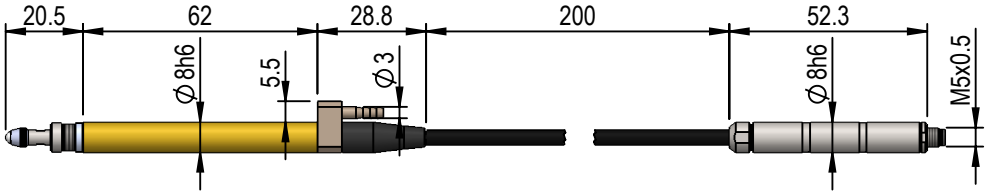
1005143 T101VDG	Vacuum retract cable exit axial



1005145 T101PDG	Pneumatic push bellow seal cable exit axial



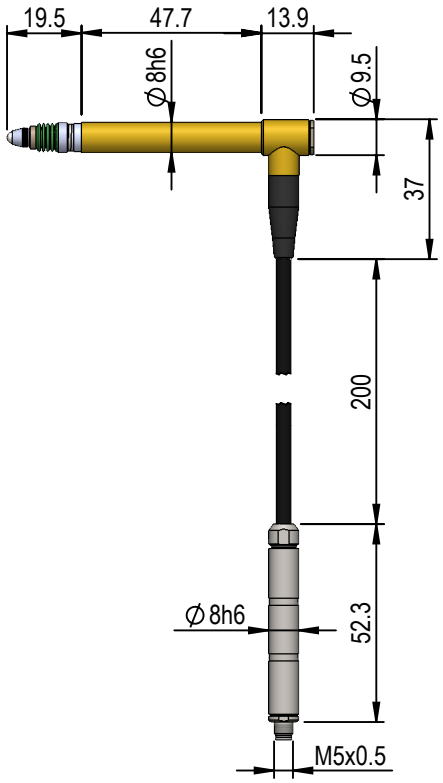
1005147 T101LDG	Pneumatic push air gap seal cable exit axial



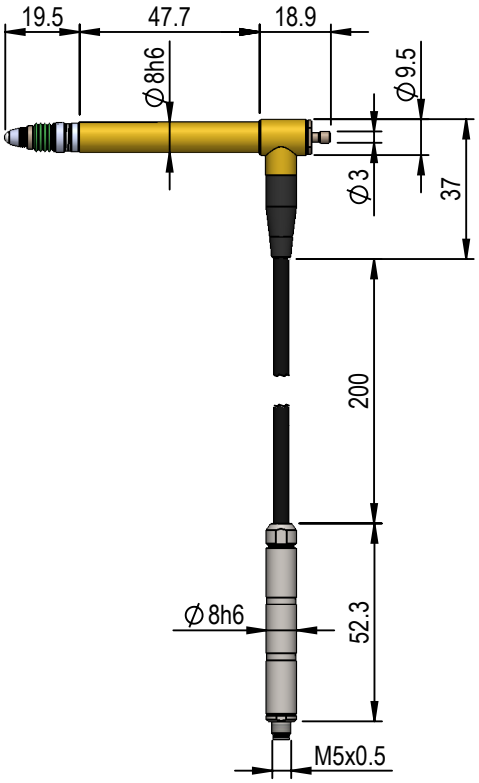
Transducer T100 digital				
Technical Data				
Model	T101FDG	T101VDG	T101PDG	T101LDG
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±2 mm	±2 mm	±2 mm	±2 mm
Pretravel	-2.3 mm	-2.3 mm	+2.3 mm	+2.3 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M5	DIN M5	DIN M5	DIN M5
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero) others as option	0.63 N ±20 % (at el. zero) others as option	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Measuring system	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Error limit	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)
Interface	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers
Transfer rate	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec
Supply / Power consumption	5V, 120 mW (Run) 15 mW (Idle)	5V, 120 mW (Run) 15 mW (Idle)	5V, 120 mW (Run) 15 mW (Idle)	5V, 120 mW (Run) 15 mW (Idle)
Repair	partially possible	partially possible	partially possible	partially possible

Digital Transducer T100

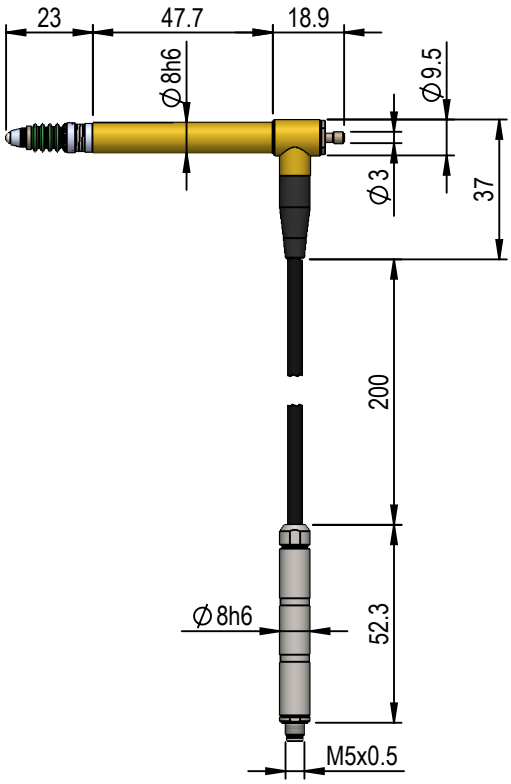
1005142 T102FDG	Spring push cable exit radial



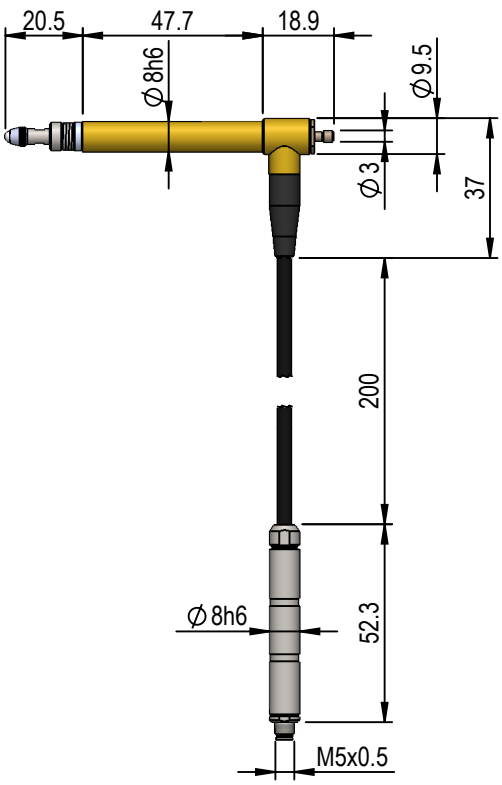
1005144 T102VDG	Vacuum retract cable exit radial



1005146 T102PDG	Pneumatic push bellow seal cable exit radial



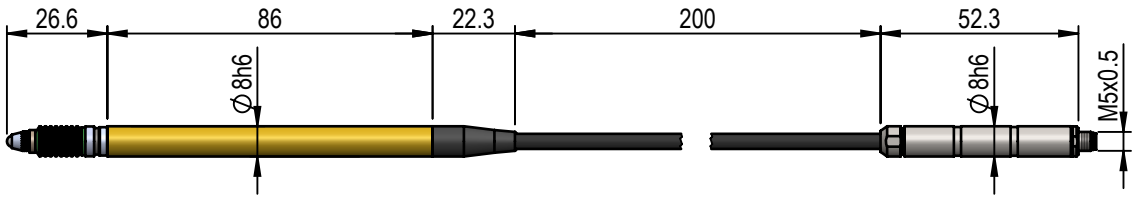
1005148 T102LDG	Pneumatic push air gap seal cable exit radial



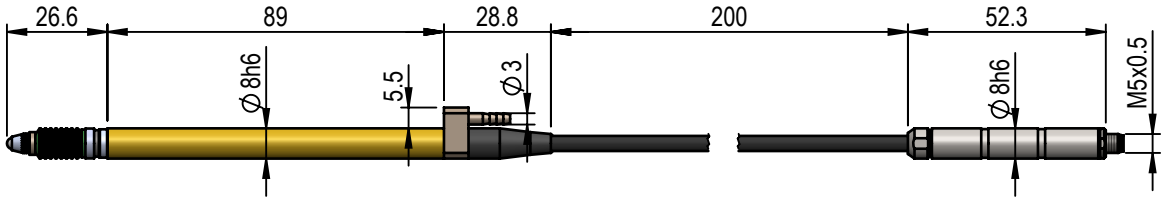
Transducer T100 digital				
Technical Data				
Model	T102FDG	T102VDG	T102PDG	T102LDG
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±2 mm	±2 mm	±2 mm	±2 mm
Pretravel	-2.3 mm	-2.3 mm	+2.3 mm	+2.3 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M5	DIN M5	DIN M5	DIN M5
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero) others as option	0.63 N ±20 % (at el. zero) others as option	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Measuring system	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Error limit	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)
Interface	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers
Transfer rate	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec
Supply / Power consumption	5V, 120 mW (Run) 15 mW (Idle)	5V, 120 mW (Run) 15 mW (Idle)	5V, 120 mW (Run) 15 mW (Idle)	5V, 120 mW (Run) 15 mW (Idle)
Repair	partially possible	partially possible	partially possible	partially possible

Digital Transducer T500

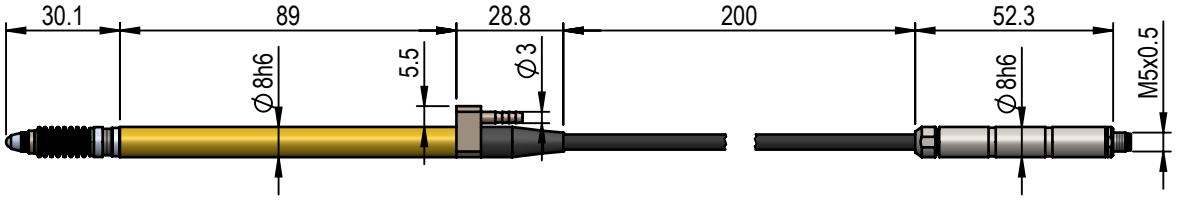
1004861 T501FDG	Spring push cable exit axial



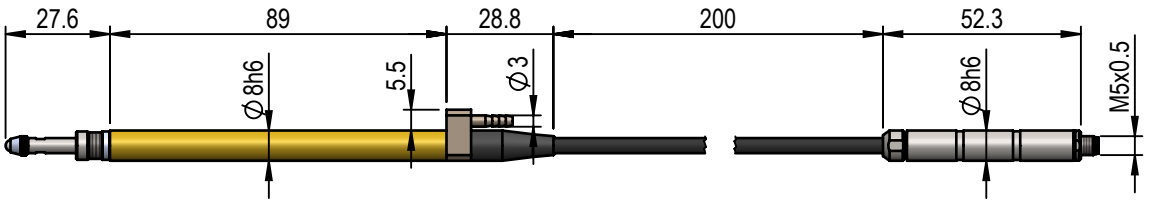
1004863 T501VDG	Vacuum retract cable exit axial



1004865 T501PDG	Pneumatic push bellow seal cable exit axial



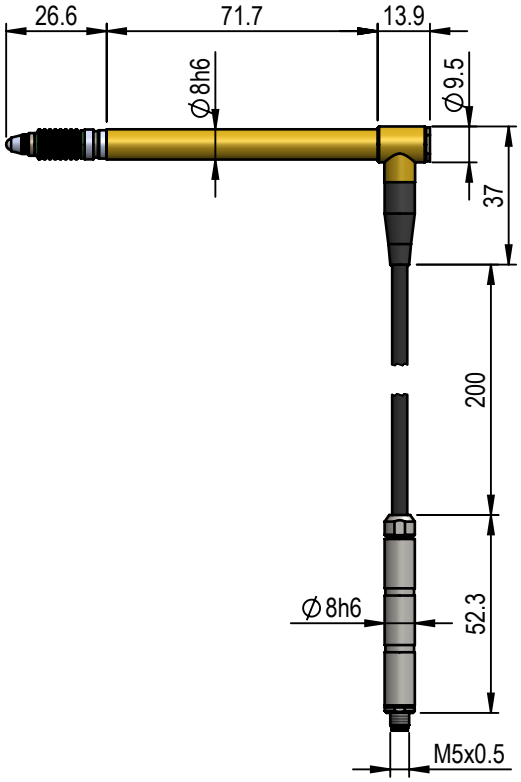
1004867 T501LDG	Pneumatic push air gap seal cable exit axial



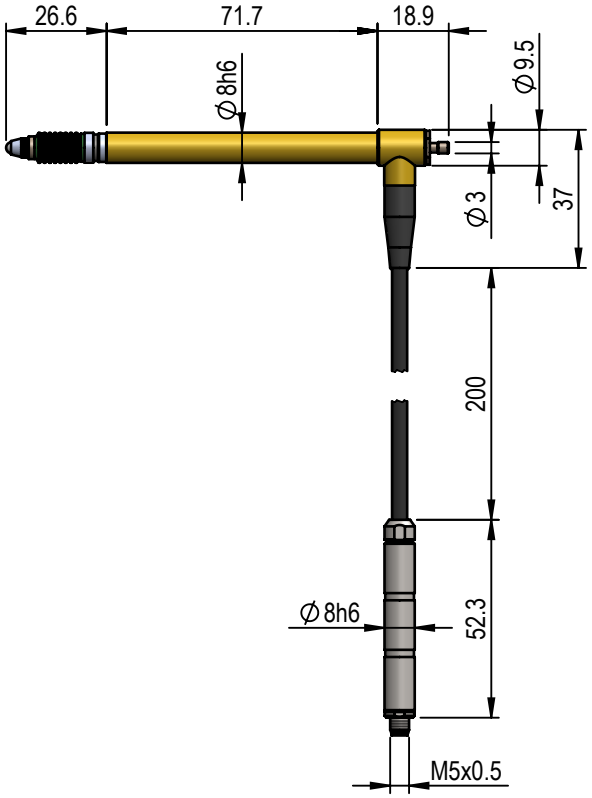
Transducer T500 digital				
Technical Data				
Model	T501FDG	T501VDG	T501PDG	T501LDG
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±5 mm	±5 mm	±5 mm	±5 mm
Pretravel	-5.5 mm	-5.5 mm	+5.5 mm	+5.5 mm
Bearing	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaitor	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M5	DIN M5	DIN M5	DIN M5
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero) others as option	1 N ±15 % (at el. zero) others as option	1.5 N at 0.9 bar 2.0 N at1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at1.7 bar (at el. zero)
Measuring system	inductive halfbridge	inductive halfbridge	inductive halfbridge	inductive halfbridge
Repeatability	0.05 µm	0.05 µm	0.05 µm	0.05 µm
Error limit	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)
Interface	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers
Transfer rate	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec
Supply / Power consumption	5V 120 mW (Run) 15 mW (Idle)	5V 120 mW (Run) 15 mW (Idle)	5V 120 mW (Run) 15 mW (Idle)	5V 120 mW (Run) 15 mW (Idle)
Repair	partially possible	partially possible	partially possible	partially possible

Digital Transducer T500

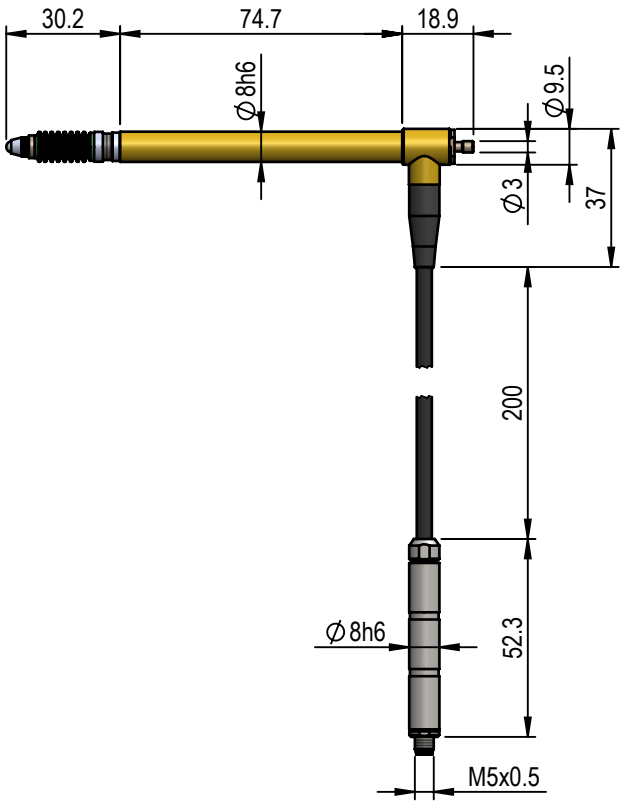
1004862	Spring push cable exit radial
T502FDG	



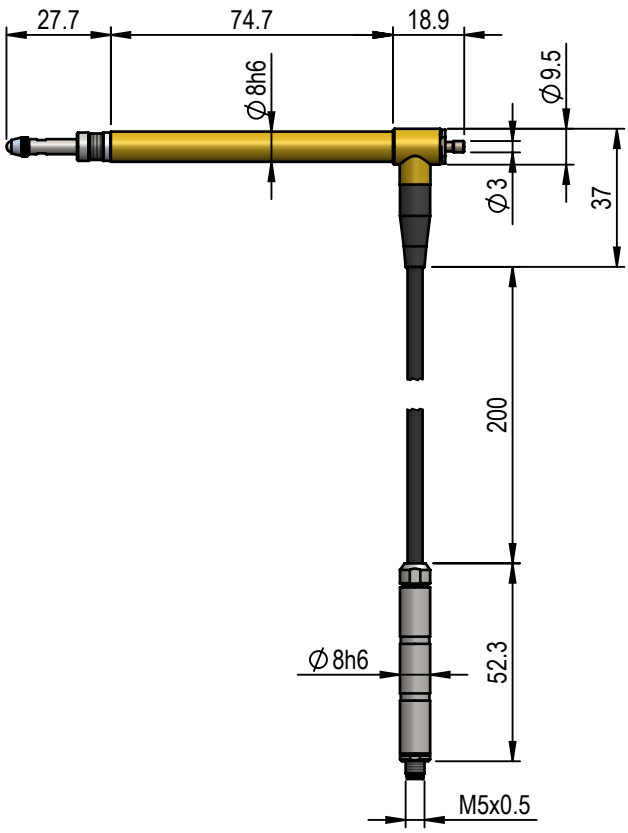
1004864	Vacuum retract cable exit radial
T502VDG	



1004866	Pneumatic push bellow seal cable exit radial
T502PDG	



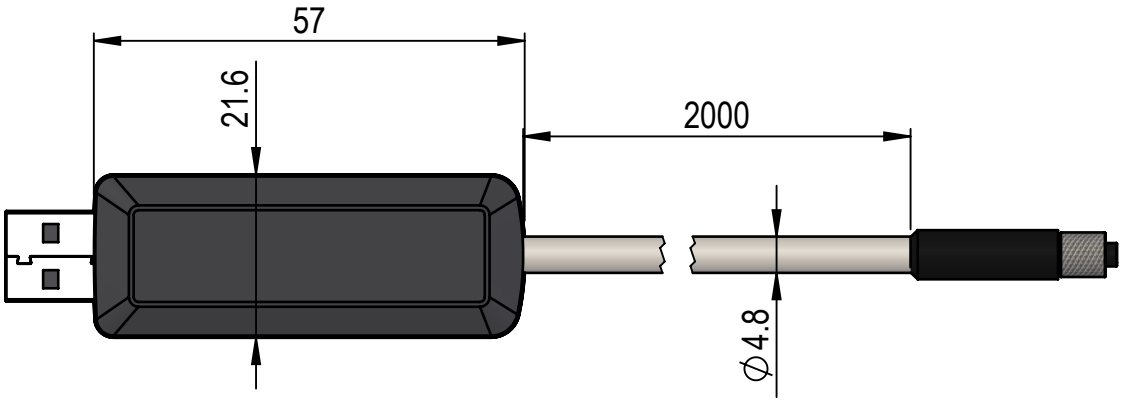
1004868	Pneumatic push air gap seal cable exit radial
T502LDG	



Transducer T500 digital				
Technical Data				
Model	T502FDG	T502VDG	T502PDG	T502LDG
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±5 mm	±5 mm	±5 mm	±5 mm
Pretravel	-5.5 mm	-5.5 mm	+5.5 mm	+5.5 mm
Bearing	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaitor	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M5	DIN M5	DIN M5	DIN M5
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at1.7 bar (at el. zero)
Measuring system	inductive halfbridge	inductive halfbridge	inductive halfbridge	inductive halfbridge
Repeatability	0.05 µm	0.05 µm	0.05 µm	0.05 µm
Error limit	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)
Interface	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers	Communication protocol for digital HIRT transducers
Transfer rate	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec	4000 measurings / sec
Supply / Power consumption	5V 120 mW (Run) 15 mW (Idle)	5V 120 mW (Run) 15 mW (Idle)	5V 120 mW (Run) 15 mW (Idle)	5V 120 mW (Run) 15 mW (Idle)
Repair	partially possible	partially possible	partially possible	partially possible

Interface Digital Transducer to USB

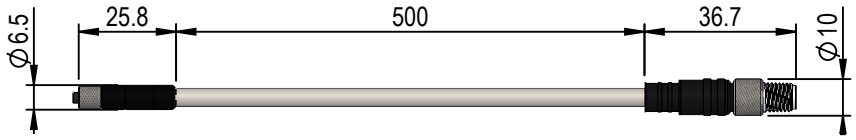
For connecting digital HIRT probes to devices with USB interface	
Product number, Description	1005803, DGHUSBCDC2000
Application	Connection to devices with USB interface. The interface converter DGHUSBCDC is recognised as a serial interface and listed as a virtual COM port. For connecting digital probes with RS-485 interface.
Dimension	57 x 21.6 x 12 mm (without USB plug and transducer connection cable)
Supply	5V from USB connection
Current consumption	Idle-State, 24 mA Meas mode normal, full data rate 35 mA (50 meas / sec) Meas mode fast, full data rate 45 mA (250 meas / sec) Meas mode dynamic, full data rate 50 mA (500 meas / sek) (connected to T501FDG)
Functionailty	Read measured value, read identification code, switch between millimetre and inch, select measuring modes, switch sensor on and off, query sensor connectivity, sensor autoconnection, read all sensor data fields.
Connection Transducer	2 metre cable 4-pin with twisted-pair wires. DIN M5 connector for digital transducer.
Drawing	



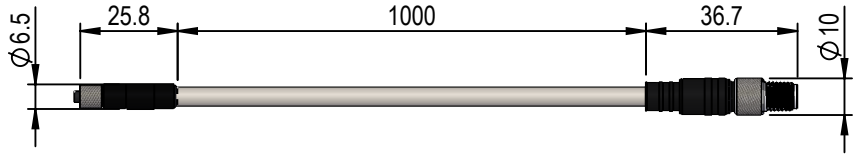
Connection cable for digital transducers

Connection cable for digital transducers M5 to M8		
Order number	**Length [m]**	**usable for**
1005636	0.5	T101FDG, T102FDG, T101VDG, T102VDG, T101PDG, T102PDG, T101LDG, T102LDG, T501FDG, T502FDG, T501VDG, T502VDG, T501PDG, T502PDG, T501LDG, T502LDG
1005637	1.0	T101FDG, T102FDG, T101VDG, T102VDG, T101PDG, T102PDG, T101LDG, T102LDG, T501FDG, T502FDG, T501VDG, T502VDG, T501PDG, T502PDG, T501LDG, T502LDG
1005027	2.5	T101FDG, T102FDG, T101VDG, T102VDG, T101PDG, T102PDG, T101LDG, T102LDG, T501FDG, T502FDG, T501VDG, T502VDG, T501PDG, T502PDG, T501LDG, T502LDG

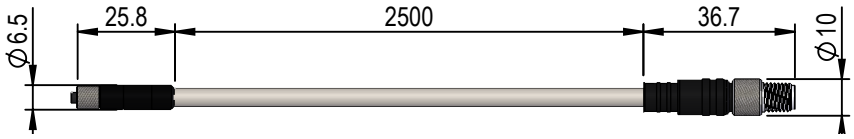
1005636 Connection cable length 0.5 m



1005637 Connection cable length 1.0 m

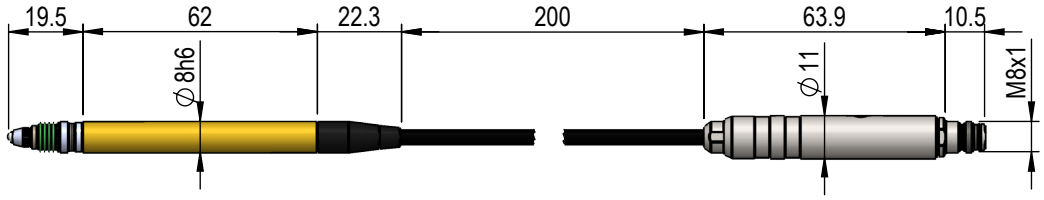


1005027 Connection cable length 2.5 m

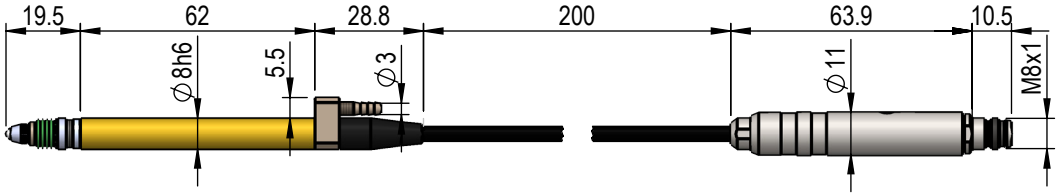


Digital Transducer IO-Link T100

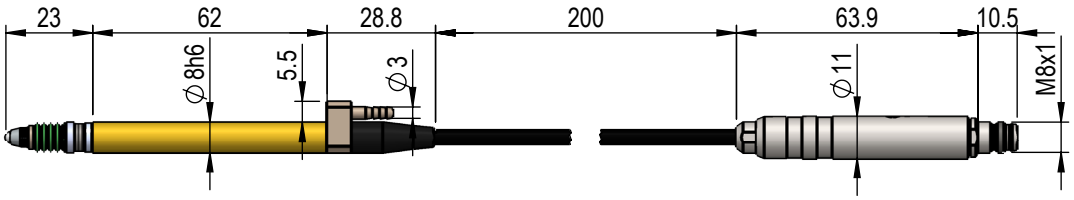
1005944 T101FIOL	Spring push cable exit axial



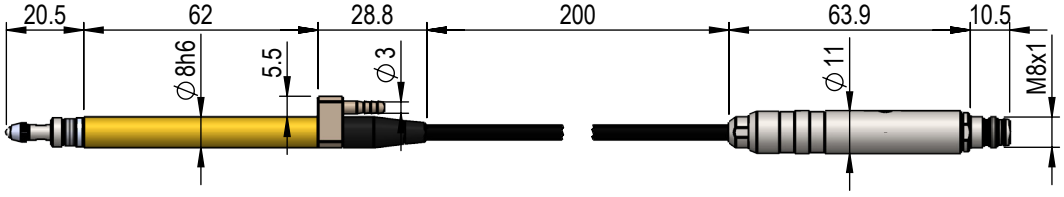
1005946 T101VIOL	Vacuum retract cable exit axial



1005948 T101PIOL	Pneumatic push bellow seal cable exit axial



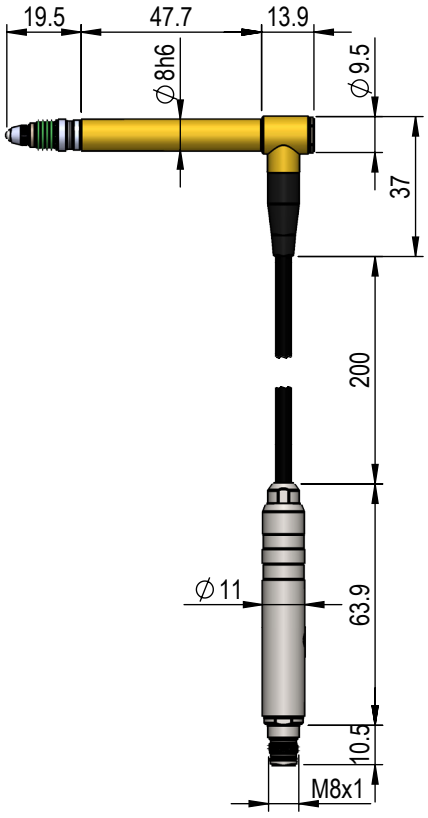
1005950 T101LIOL	Pneumatic push air gap seal cable exit axial



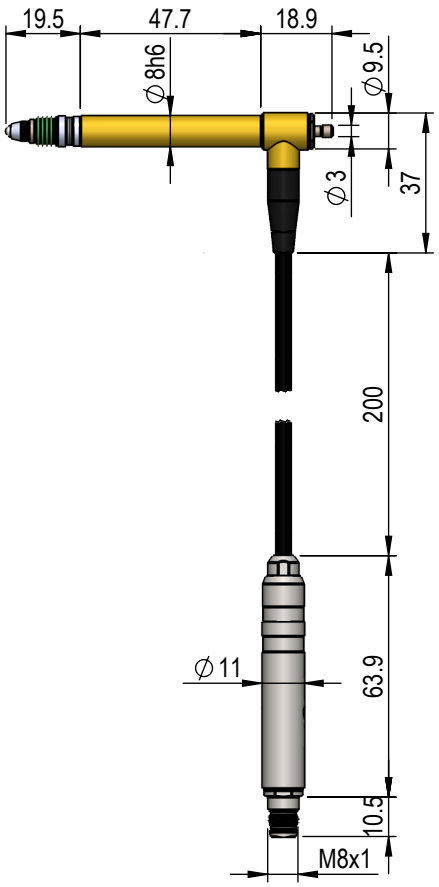
Transducer digital IO-Link T100				
Technical Data				
Model	T101FIOL	T101VIOL	T101PIOL	T101LIOL
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±2 mm	±2 mm	±2 mm	±2 mm
Pretravel	-2.3 mm	-2.3 mm	+2.3 mm	+2.3 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M8	DIN M8	DIN M8	DIN M8
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero) others as option	0.63 N ±20 % (at el. zero) others as option	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Measuring system	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Error limit	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)
Interface	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3
Transfer rate	150 measurings / sec	150 measurings / sec	150 measurings / sec	150 measurings / sec
Supply / Power consumption	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)
Repair	partially possible	partially possible	partially possible	partially possible

Digital Transducer IO-Link T100

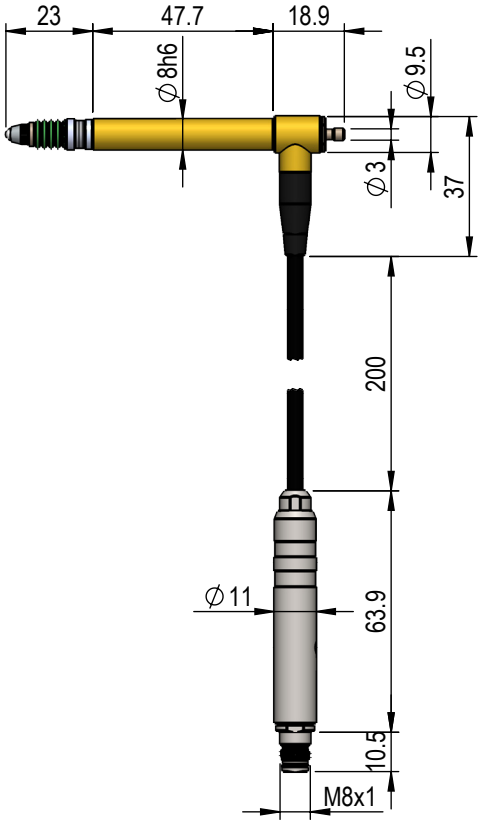
1005945	Spring push cable exit radial
T102FIOL	



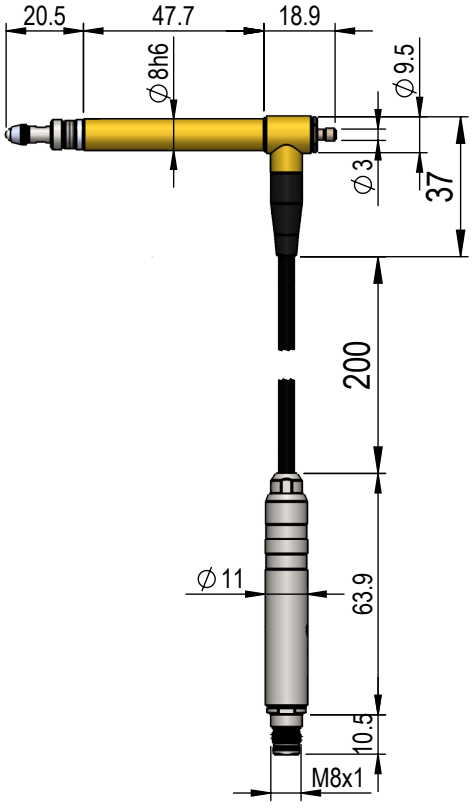
1005947	Vacuum retract cable exit radial
T102VIOL	



1005949	Pneumatic push bellow seal cable exit radial
T102PIOL	



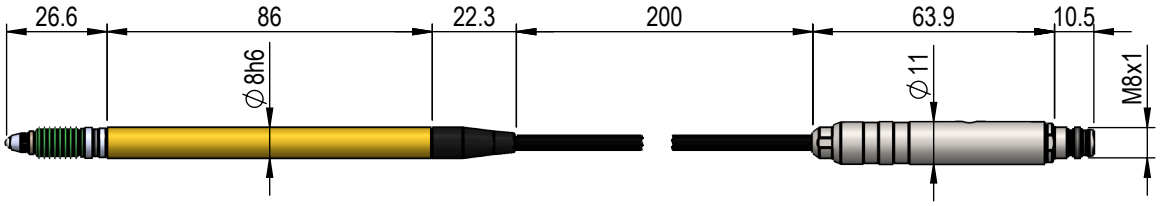
1005951	Pneumatic push air gap seal cable exit radial
T102LIOL	



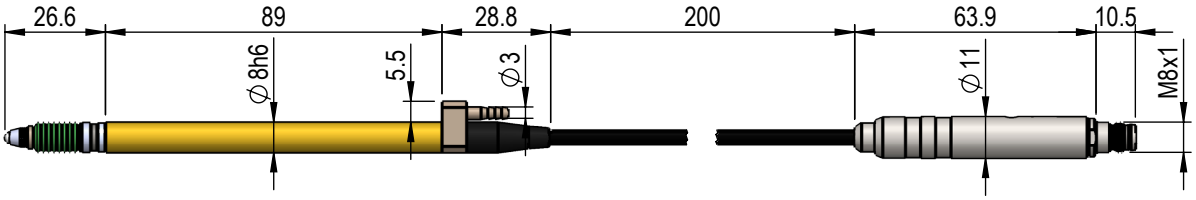
Transducer digital IO-Link T100				
Technical Data				
Model	T102FIOL	T102VIOL	T102PIOL	T102LIOL
Maximum stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke	±2 mm	±2 mm	±2 mm	±2 mm
Pretravel	-2.3 mm	-2.3 mm	+2.3 mm	+2.3 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke	1 ° over full stroke
Temperature range	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation	-10 to +65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaiter	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M8	DIN M8	DIN M8	DIN M8
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20 % (at el. zero) others as option	0.63 N ±20 % (at el. zero) others as option	0.6 N at 0.6 bar 1.0 N at 0.8 bar (at el. zero)	0.6 N at 0.6 bar 1.0 N at 1.1 bar (at el. zero)
Measuring system	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Error limit	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)	±1.0 µm (at 20 °C ±1 °C)
Interface	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3
Transfer rate	150 measurings / sec	150 measurings / sec	150 measurings / sec	150 measurings / sec
Supply / Power consumption	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)
Repair	partially possible	partially possible	partially possible	partially possible

Digital Transducer IO-Link T500

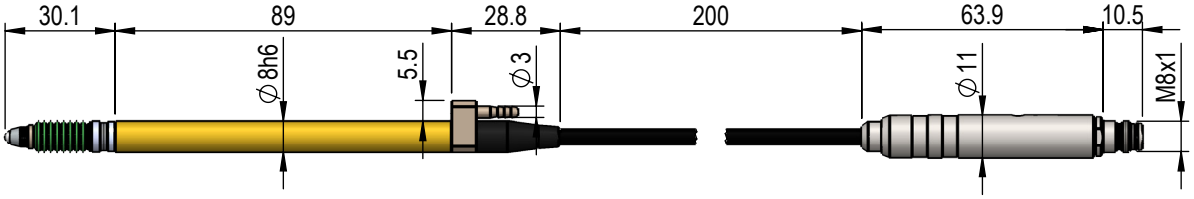
1005094 T501FIOL	Spring push cable exit axial



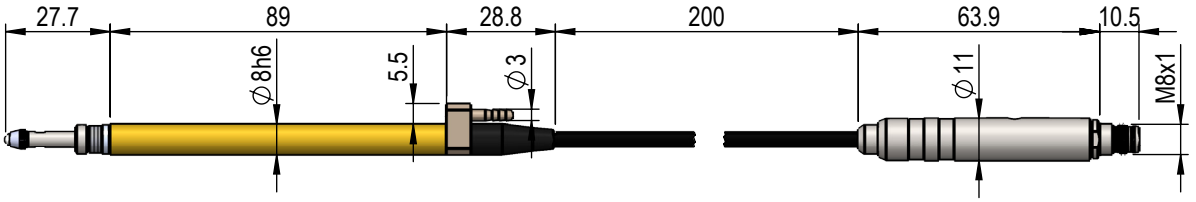
1005096 T501VIOL	Vacuum retract cable exit axial



1005098 T501PIOL	Pnaumatic push bellow seal cable exit axial



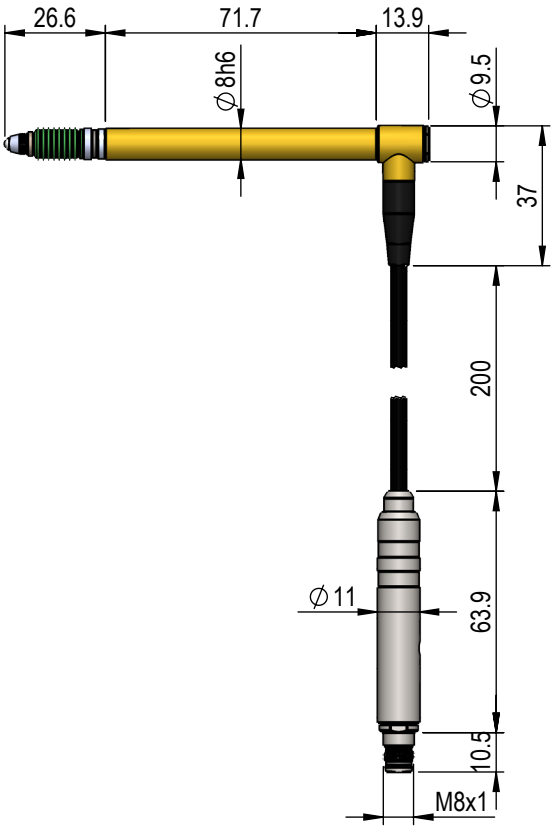
1005100 T501LIOL	Pneumatic push air gap seal cable exit axial



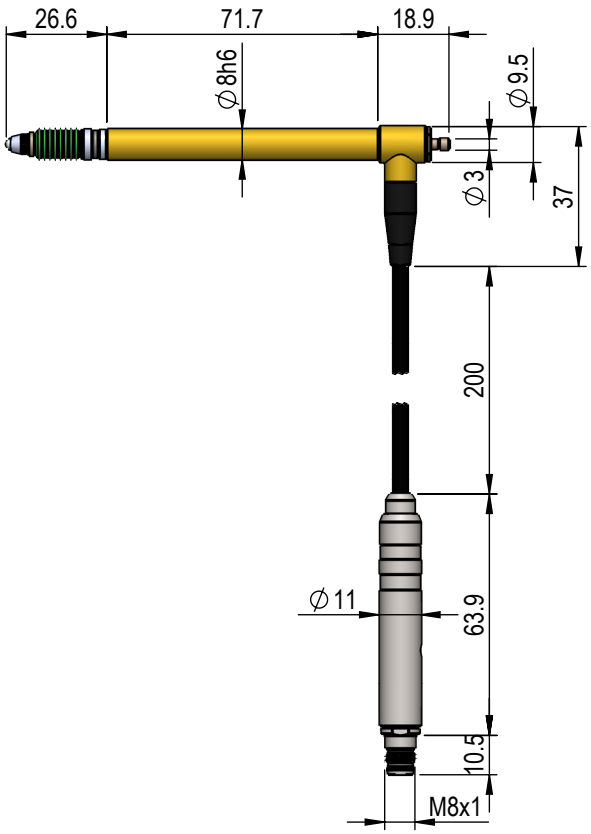
Transducer digital IO-Link T500				
Technical Data				
Model	T501FIOL	T501VIOL	T501PIOL	T501LIOL
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±5 mm	±5 mm	±5 mm	±5 mm
Pretravel	-5.5 mm	-5.5 mm	+5.5 mm	+5.5 mm
Bearing	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaitor	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M8	DIN M8	DIN M8	DIN M8
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at1.7 bar (at el. zero)
Measuring system	inductive halfbridge	inductive halfbridge	inductive halfbridge	inductive halfbridge
Repeatability	0.05 µm	0.05 µm	0.05 µm	0.05 µm
Error limit	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)
Interface	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3
Transfer rate	150 measurings / sec	150 measurings / sec	150 measurings / sec	150 measurings / sec
Supply / Power consumption	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)
Repair	partially possible	partially possible	partially possible	partially possible

Digital Transducer IO-Link T500

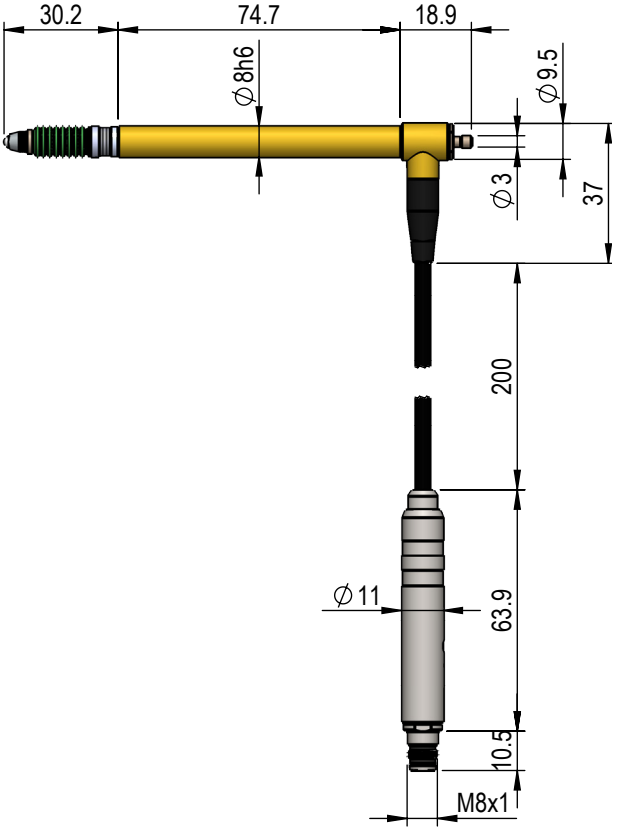
1005095	Spring push cable exit radial
T502FIOL	



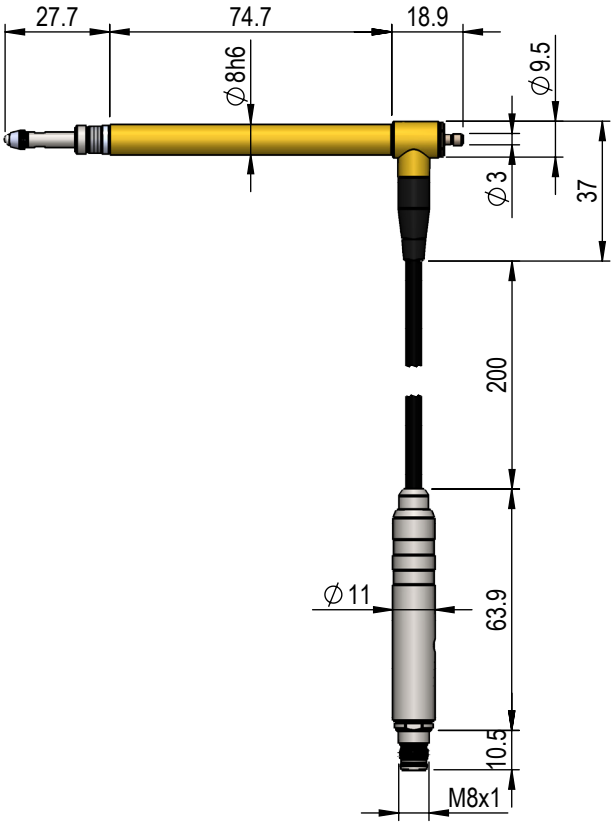
1005097	Vacuum retract cable exit radial
T502VIOL	



1005099	Pneumatic push bellow seal cable exit radial
T502PIOL	

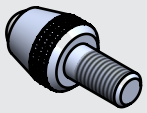
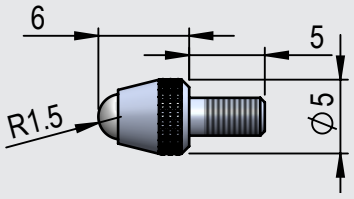
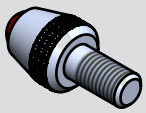
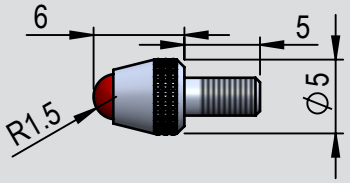
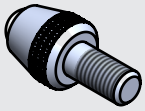
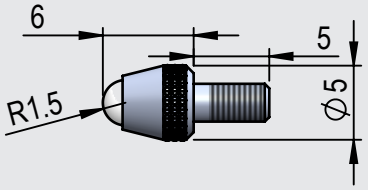
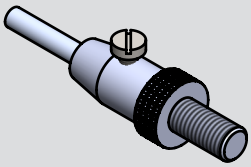
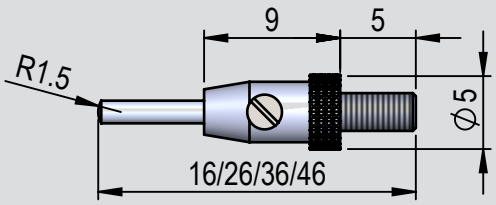
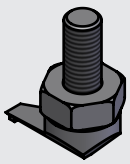
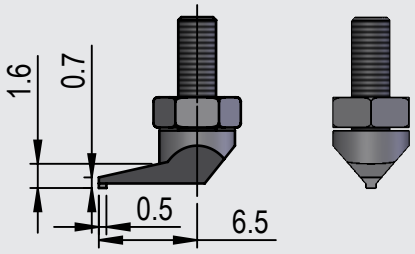
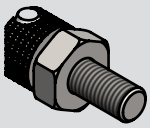
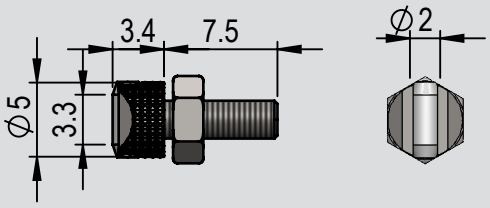
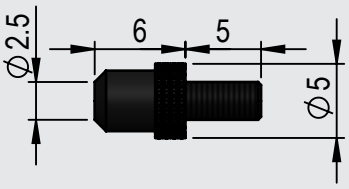


1005101	Pneumatic push air gap seal cable exit radial
T502LIOL	

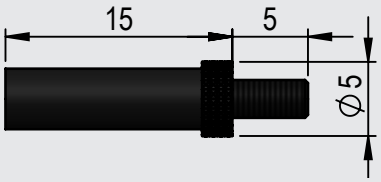
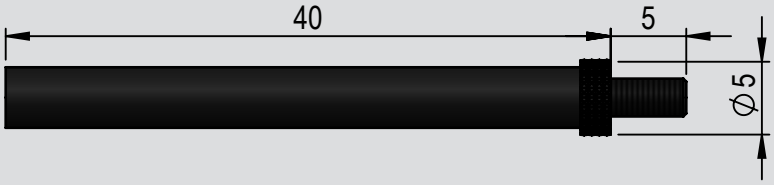


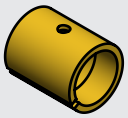
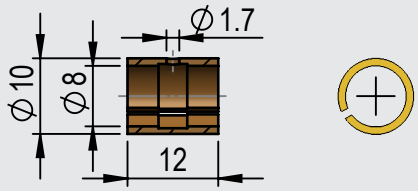
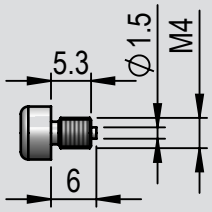
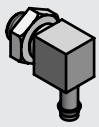
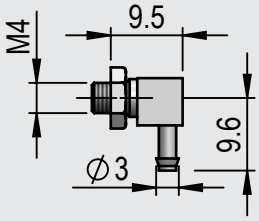
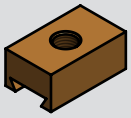
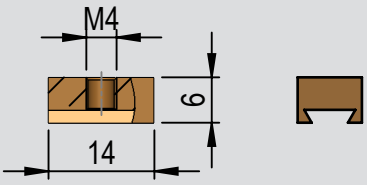
Transducer digital IO-Link T500				
Technical Data				
Model	T502FIOL	T502VIOL	T502PIOL	T502LIOL
Maximum stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke	±5 mm	±5 mm	±5 mm	±5 mm
Pretravel	-5.5 mm	-5.5 mm	+5.5 mm	+5.5 mm
Bearing	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped	ball bearing, no side-play, lapped
Life	>10 Mio. cycles	>10 Mio. cycles	-	>10 Mio. cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation	-10 to+65 °C, storage and operation
Mounting position	any	any	any	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Gaitor	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M8	DIN M8	DIN M8	DIN M8
Advance	-	-	pneumatic	pneumatic
Lift off	none	vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15 % (at el. zero), others as option	1 N ±15 % (at el. zero), others as option	1.5 N at 0.9 bar 2.0 N at1.2 bar (at el. zero)	1.0 N at 1.3 bar 1.6 N at1.7 bar (at el. zero)
Measuring system	inductive halfbridge	inductive halfbridge	inductive halfbridge	inductive halfbridge
Repeatability	0.05 µm	0.05 µm	0.05 µm	0.05 µm
Error limit	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)	±2.5 µm (at 20 °C ±1 °C)
Interface	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3	IO-Link specification 1.1, COM3
Transfer rate	150 measurings / sec	150 measurings / sec	150 measurings / sec	150 measurings / sec
Supply / Power consumption	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)	24V 120 mW (operation)
Repair	partially possible	partially possible	partially possible	partially possible

Measuring Inserts M2.5

Measuring inserts with thread M2.5		
1003312 TN10W		
1003315 Tip with ruby ball		
1003313 Tip with PEEK ball		
1002450 TN12		
1002452 TN20		
1002454 TN30W		
1002456 TN70		

Accessories

Measuring inserts with thread M2.5	
1002458 TN91	
1002460 TN93	

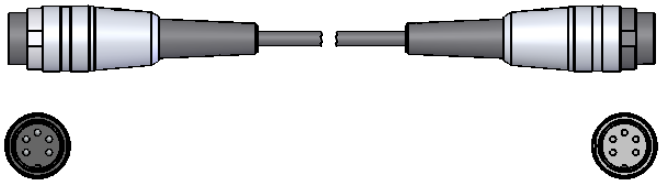
Fixing and Connection elements		
1000890 Clamp bush T100/63000		
1003782 Clamp screw T100/63100		
1000841 Nipple, rotating T100/48100		
1002224 Grove stone T800		

Cables / Connection cables

Extension cables for halfbridge transducers

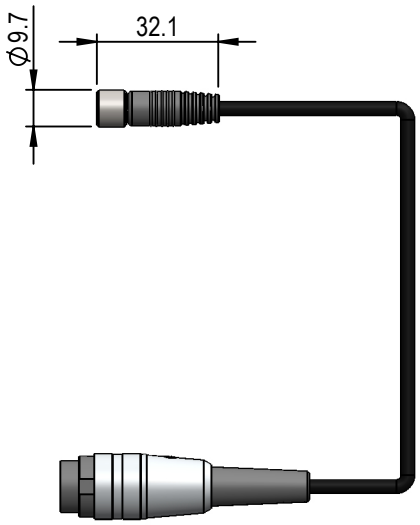
Compatible with TESA® halfbridge transducers

Order number	Length
1000916	1.0 m
1000917	2.5 m
1000918	5.0 m
1000919	7.5 m
1000920	10.0 m

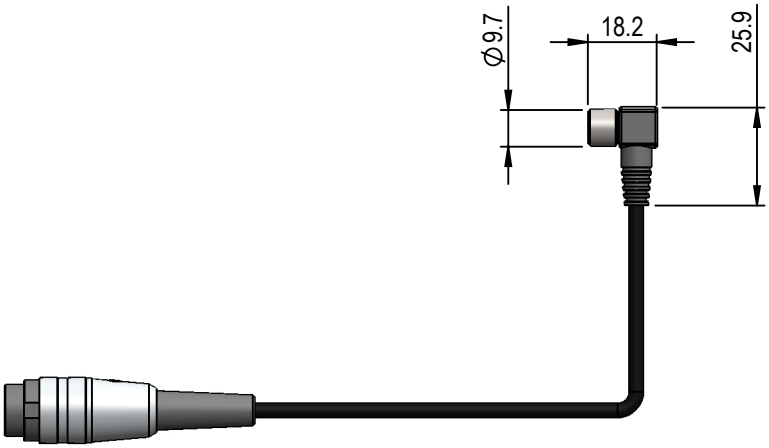


Connection cable for pluggable transducers

Cable exit axial



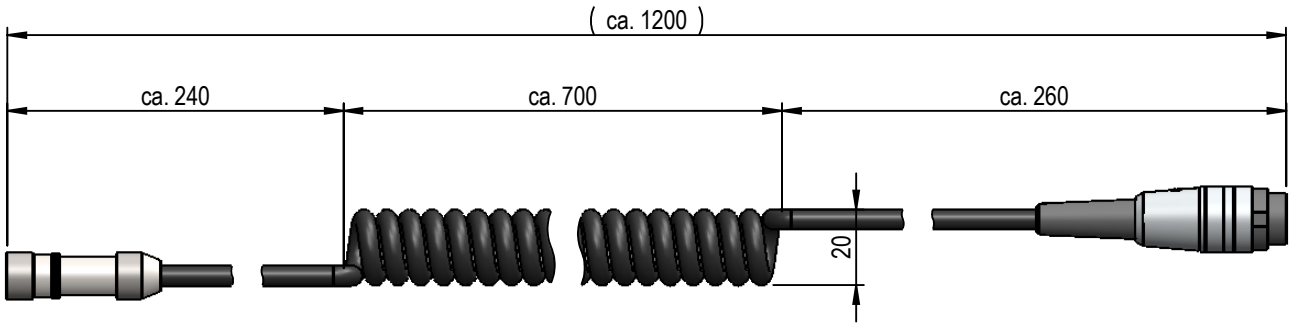
Cable exit radial



Order number	cable exit	length
1000895	axial	2.0 m
1000896	radial	2.0 m

Spiral cable for pluggable transducers T070, T100, T200, T300 and T500

1000899



Accessories

Other spring forces for T100-Serie

Order number	Spring force [N]	usbale with
1000921	0.25	T101F, T102F, T101V, T102V, T151F, T152F, T151V, T152V, T161F, T162F, T161V, T162V T100FS, T100VS T101FDG, T102FDG, T101FIOL, T102FIOL (only available ex works)
1000924	1.00	T101F, T102F, T151F, T152F, T161F, T162F, T100FS T101FDG, T102FDG, T101FIOL, T102FIOL (only available ex works)
1000925	1.60	T101F, T102F, T151F, T152F, T161F, T162F, T100FS T101FDG, T102FDG, T101FIOL, T102FIOL (only available ex works)
1000922	2.50	T101F, T102F, T151F, T152F, T161F, T162F, T100FS T101FDG, T102FDG, T101FIOL, T102FIOL (only available ex works)
1000926	4.00	T101F, T102F, T151F, T152F, T161F, T162F, T100FS T101FDG, T102FDG, T101FIOL, T102FIOL (only available ex works)

Other spring forces for T500-Serie

Order number	Spring force [N]	usable with
1001727	1.60	T501F, T502F, T521F, T522F, T523F, T524F T500FS, T521FS, T523FS T501FDG, T502FDG (only available ex works) T501FIOL, T502FIOL (only available ex works)

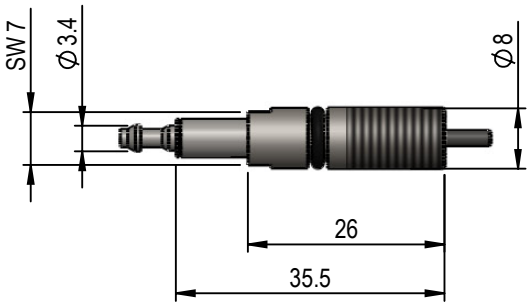
Other spring forces for T800-Serie

Order number	Spring force	usable with
1004467	0.40	T801, T802, T851, T852
1004468	0.63	T801, T802, T851, T852
1004469	1.60	T801, T802, T851, T852
1004470	2.00	T801, T802, T851, T852
1004471	2.50	T801, T802, T851, T852
1004472	4.00	T801, T802, T851, T852

Pneumatic cylinder T800

1002214

Pneumatic cylinder for T800 - series. Can be used for either pneumatic retraction or advance. Operating pressure max 4.5 bar.

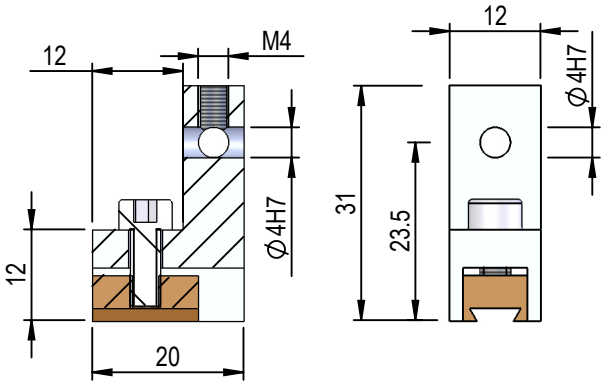


Transducer Accessories

T800 Series tip holder

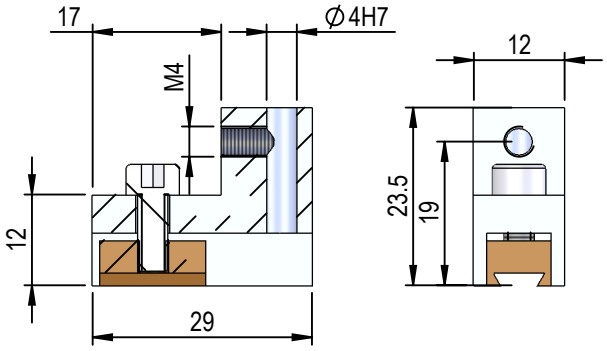
1003422

Tip holder T800 horizontal 4 mm



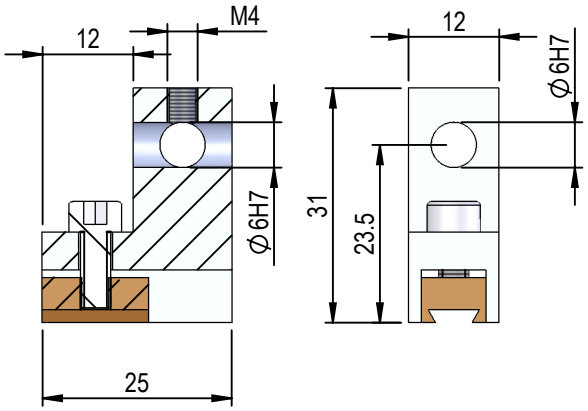
1003423

Tip holder T800 vertical 4 mm



1003424

Tip holder T800 horizontal 6 mm



1003425

Tip holder T800 vertical 6 mm