

ST

ROTATING UNITS | ST TORQUE ROTATING UNIT



ST TORQUE ROTARY UNITS

CABLE CONNECTION

Compact connector for any orientation of cable connection



FREELY AND INTUITIVELY PROGRAMMABLE

W.A.S. 2 – WEISS Application Software: secure and fast commissioning with free-of-charge user software.



The ST 140 rotary unit operating in perfect harmony with the LS 280 linear assembly system. The installation at Jouhsen-bündgens Maschinenbau GmbH is used to produce medical needles at high speeds. Thanks to the new system, it has been possible to almost double the output.



The ST rotating units with absolute rotary encoder are the ideal choice for precise and highly dynamic rotary, swivel and gripping movements. Whether used to supply and position components, as swivel units for grippers or as a replacement for servomotors with planetary gears, the ST rotating units offer the perfect solution. Their compactness, light weight, versatile attachment options, as well as the various designs and other options available allow a broad range of applications to be covered.

ADVANTAGES

- Extremely dynamic
- Long lifetime
- No maintenance cost
- Compact design – low weight
- Rigid mechanical design
- Absolute encoder
- High power density
- Optionally available with electric holding brake

ALLGEMEINE ANGABEN

- The ST model range comprises direct-drive rotating units (with the exception of ST55)
- ST rotating units are user-programmable
- Possible installation location: any
- The ST rotating units are “lubricated for life”
- All motors are equipped with overtemperature protection (PTC)
- For a surcharge, a positioning accuracy measurement report can also be drawn up and a compensation table incorporated for error compensation in a further step. However, this requires a mechanical zero point alignment.

ST 55 A

GENERAL INFORMATION

- Max. recommended diameter of rotating plate D_{tp} : approximately 200 mm
- Lightweight and compact rotating unit with transmission for end-of-arm applications

TECHNICAL DATA

U	Voltage range:	15-330 V
n_{2N}	Nominal speed:	30 1/min
n_{2Max}	Max. output speed:	70 1/min
T_{2P}	Peak torque:	36 Nm
I_P	Peak current:	2.9 A
	Indexing precision:	60 arcsec ($\pm 30''$)
m	Weight:	1.1 kg

LOAD DATA (for the output flange)

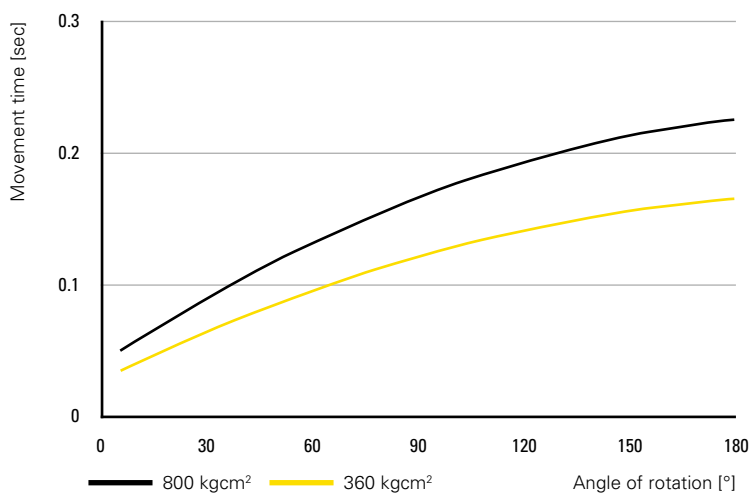
M_{2T stat}	Permitted static tilting moment:	44 Nm
F_{2A stat}	Permitted static axial force:	1900 N
F_{2R stat}	Permitted static radial force:	1440 N

Combined loads and permitted process forces only after inspection by WEISS.

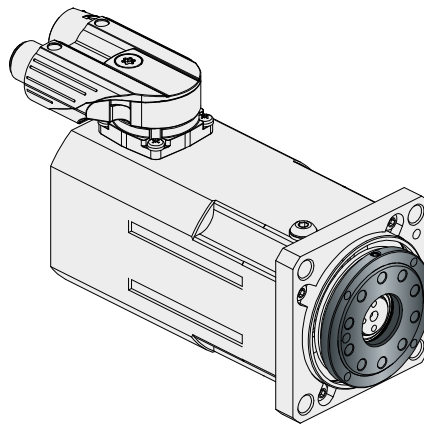
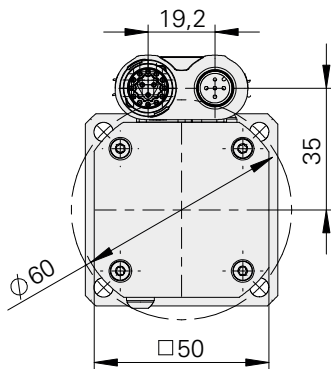
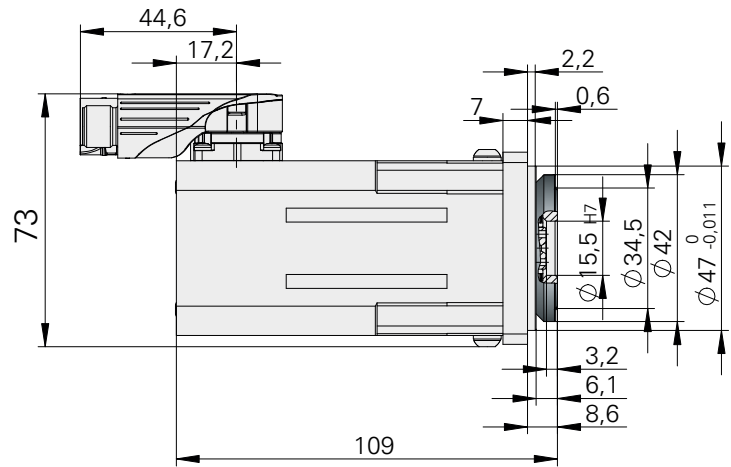
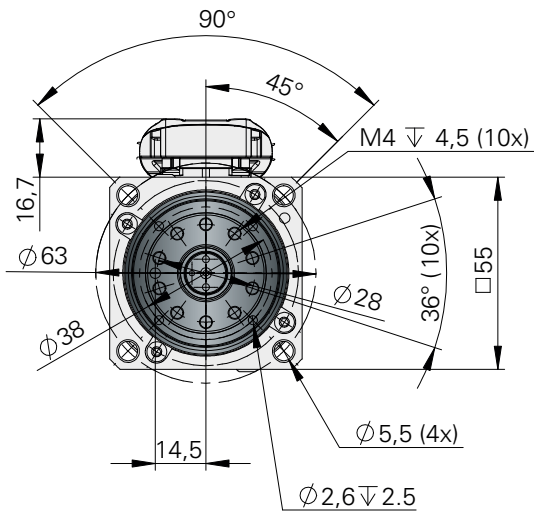
ENCODER

Sick-Stegmann SEL37	Hiperface
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TIMING DIAGRAM



DIMENSIONS



ST 75 A

GENERAL INFORMATION

- Max. recommended diameter of rotating plate D_{tp} : approximately 400 mm
- Small compact rotating units for end-of-arm or small rotary applications
- The rotating units are available in three different motor sizes with the same flange dimensions

OPTIONS

- The rotating units can optionally be equipped with a brake
- A choice of various encoder accuracies ensures maximum design flexibility

TECHNICAL DATA

		ST 75-1	ST 75-2	ST 75-3
U	Voltage range:	200-600 V	200-600 V	200-600 V
n_{1 Max}	Max. speed(230 V):	1000 1/min	400 1/min	450 1/min
n_{1 Max}	Max. speed (400 V):	3100 1/min	1700 1/min	1600 1/min
T_{1N}	Nominal torque:	0.5 Nm	1.0 Nm	1.4 Nm
T_{1P}	Peak torque:	1.4 Nm	2.8 Nm	4.2 Nm
I_P	Peak current:	1.6 A	1.9 A	2.2 A
	Indexing precision:	s. encoder	s. encoder	s. encoder
A_r	Axial run-out of the drive flange:	± 0.01 mm	± 0.01 mm	± 0.01 mm
C_r	Concentricity of the output flange:	± 0.01 mm	± 0.01 mm	± 0.01 mm
m	Weight:	1.7 kg	2.2 kg	2.7 kg

LOAD DATA (for rotary plate)

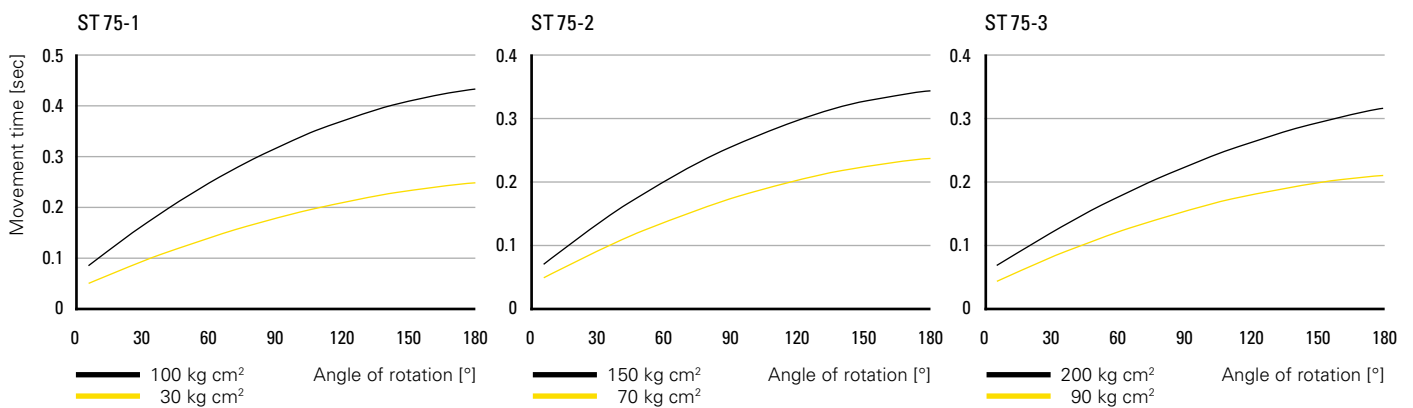
		ST 75-1	ST 75-2	ST 75-3
M_{2T dyn}	Perm. dynamic tilting moment:	20 Nm	25 Nm	35 Nm
M_{2T stat}	Perm. static tilting moment:	40 Nm	50 Nm	70 Nm
F_{2A dyn}	Permitted dynamic axial force:	150 N	150 N	150 N
F_{2A stat}	Permitted static axial force:	500 N	500 N	500 N
F_{2R dyn}	Permitted dynamic radial force:	200 N	220 N	250 N
F_{2R stat}	Permitted static radial force:	500 N	650 N	800 N

Combined loads and permitted process forces only after inspection by WEISS.

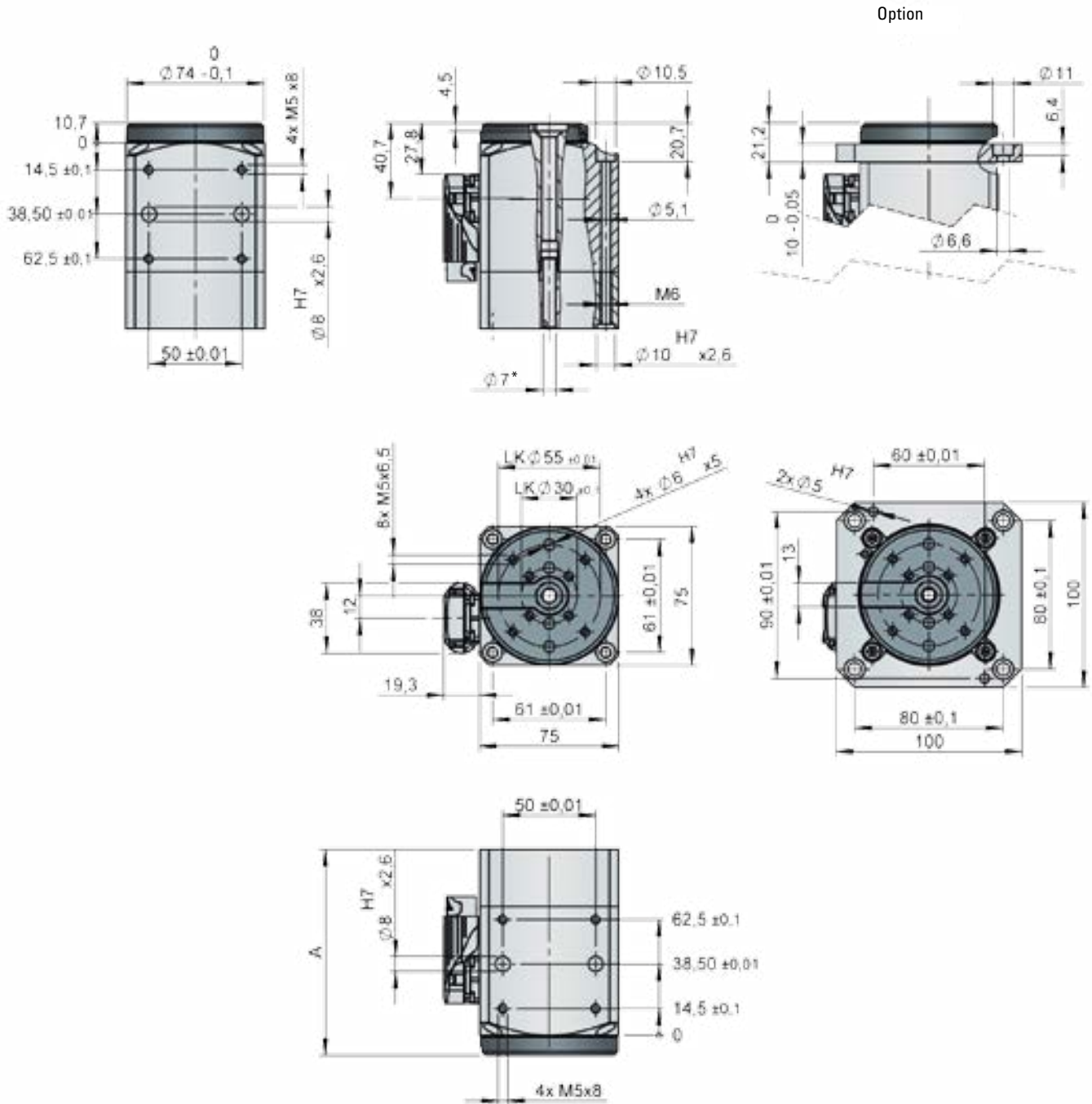
ENCODER

Sick-Stegmann SEK52 (absolute):	560 arcsec (± 280") Hiperface
Sick-Stegmann SKS36 (absolute):	240 arcsec (± 120") Hiperface
Heidenhain ECN413 (absolute):	120 arcsec (± 60") EnDat 2.1
Heidenhain ECN413 (absolute):	40 arcsec (± 20") EnDat 2.1

TIMING DIAGRAM



DIMENSIONS



* only with encoder SEK52"

	A					
	SEK52		SKS36		ECN413	
		Brake		Brake		Brake
ST0075-1	111	150	123	165	143	181
ST0075-2	131	170	143	185	163	201
ST0075-3	151	190	163	205	183	221

Length depending on encoder and brake options

ST 140 A

GENERAL INFORMATION

- Max. recommended diameter of rotating plate D_{tp} : approximately 700 mm
- Compact rotating units for end-of-arm or small rotary applications
- The rotating units are available in two different motor sizes with the same flange dimensions

OPTIONS

- The rotating units can optionally be equipped with a brake
- The connector outlet can be straight or angled 90° downward
- A choice of various encoder accuracies ensures maximum design flexibility

TECHNICAL DATA

		ST 140-1	ST 140-2
U	Voltage range:	200-600 V	200-600 V
n_{1 Max}	Max. speed(230 V):	600 1/min	600 1/min
n_{1 Max}	Max. speed (400 V):	1400 1/min	1200 1/min
T_{IN}	Nominal torque:	6 Nm	12 Nm
T_{1P}	Peak torque:	18 Nm	36 Nm
I_P	Peak current:	5.6 A	10.5 A
	Indexing precision:	s. encoder	s. encoder
A_r	Axial run-out of the drive flange:	± 0.01 mm	± 0.01 mm
C_r	Concentricity of the output flange:	± 0.01 mm	± 0.01 mm
m	Weight:	6.9 kg	8.6 kg

LOAD DATA (for rotary plate)

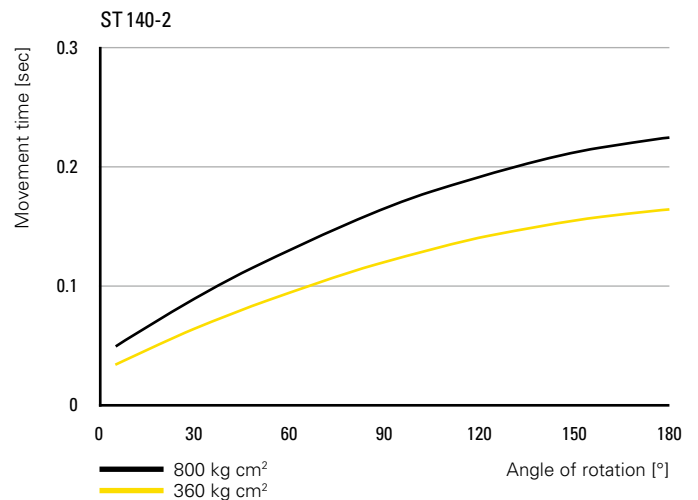
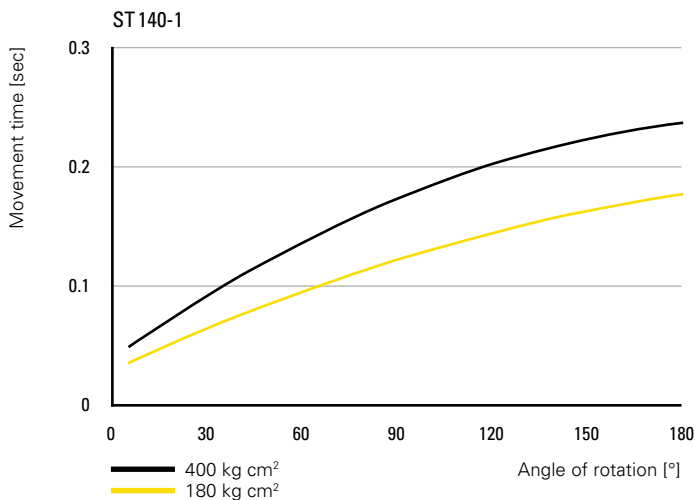
		ST 140-1	ST 140-2
M_{ZT dyn}	Permitted dynamic tilting moment:	65 Nm	90 Nm
M_{ZT stat}	Permitted static tilting moment:	130 Nm	180 Nm
F_{2A dyn}	Permitted dynamic axial force:	300 N	300 N
F_{2A stat}	Permitted static axial force:	800 N	800 N
F_{2R dyn}	Permitted dynamic radial force:	400 N	500 N
F_{2R stat}	Permitted static radial force:	800 N	1000 N

Combined loads and permitted process forces only after inspection by WEISS.

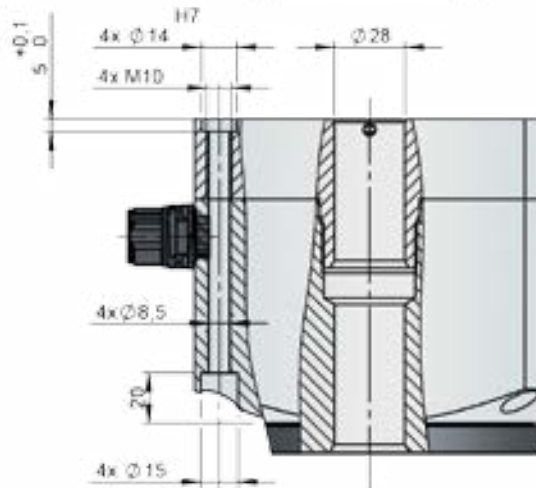
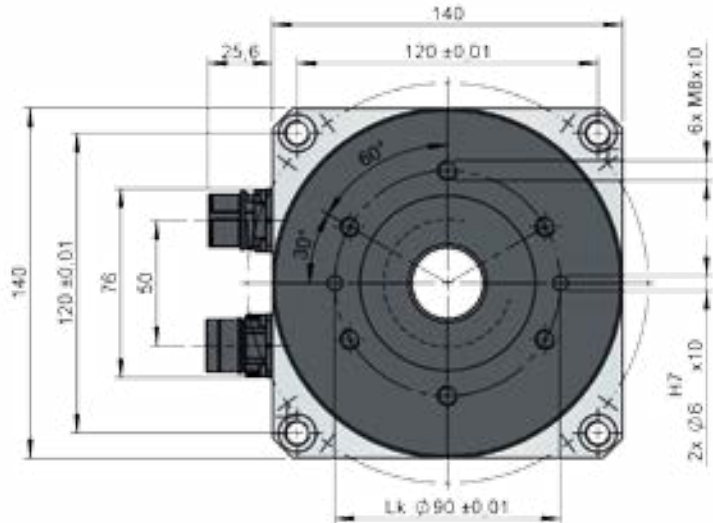
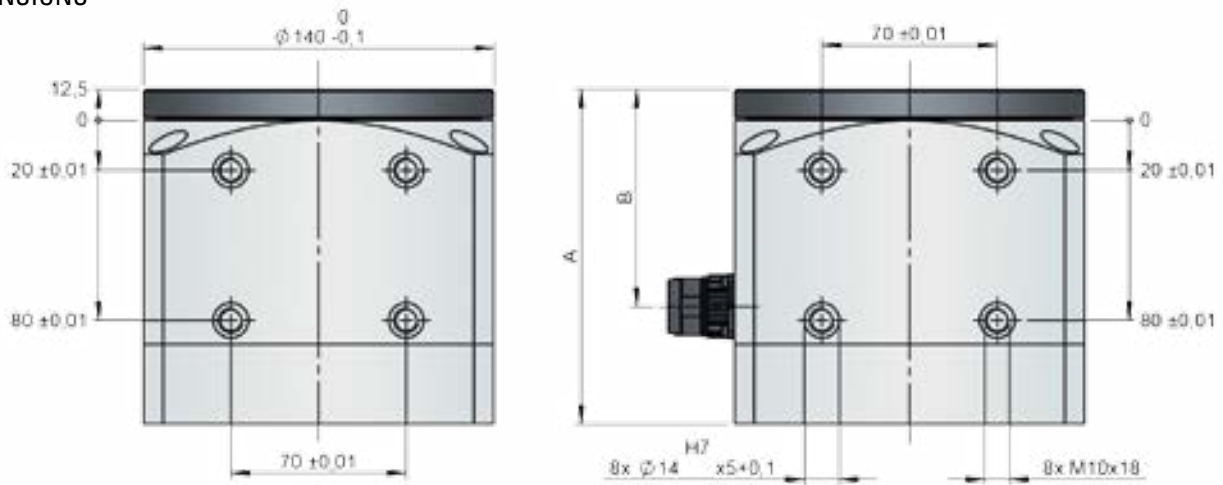
ENCODER

Sick-Stegmann SEK90 (absolute)	240 arcsec (± 120") Hiperface
Heidenhain ECN113 (absolute)	50 arcsec (± 25") EnDat 2.1
Heidenhain ECN225 (absolute)	30 arcsec (± 15") EnDat 2.1

TIMING DIAGRAM



DIMENSIONS



	A						B
	SEK90		ECN113		ECN225		
		Brake		Brake		Brake	
ST0140-1	134	189.5	168	224	168	224	87
ST0140-2	161.5	217	195.5	251.5	195.5	251.5	114.5

Length depending on encoder and brake options