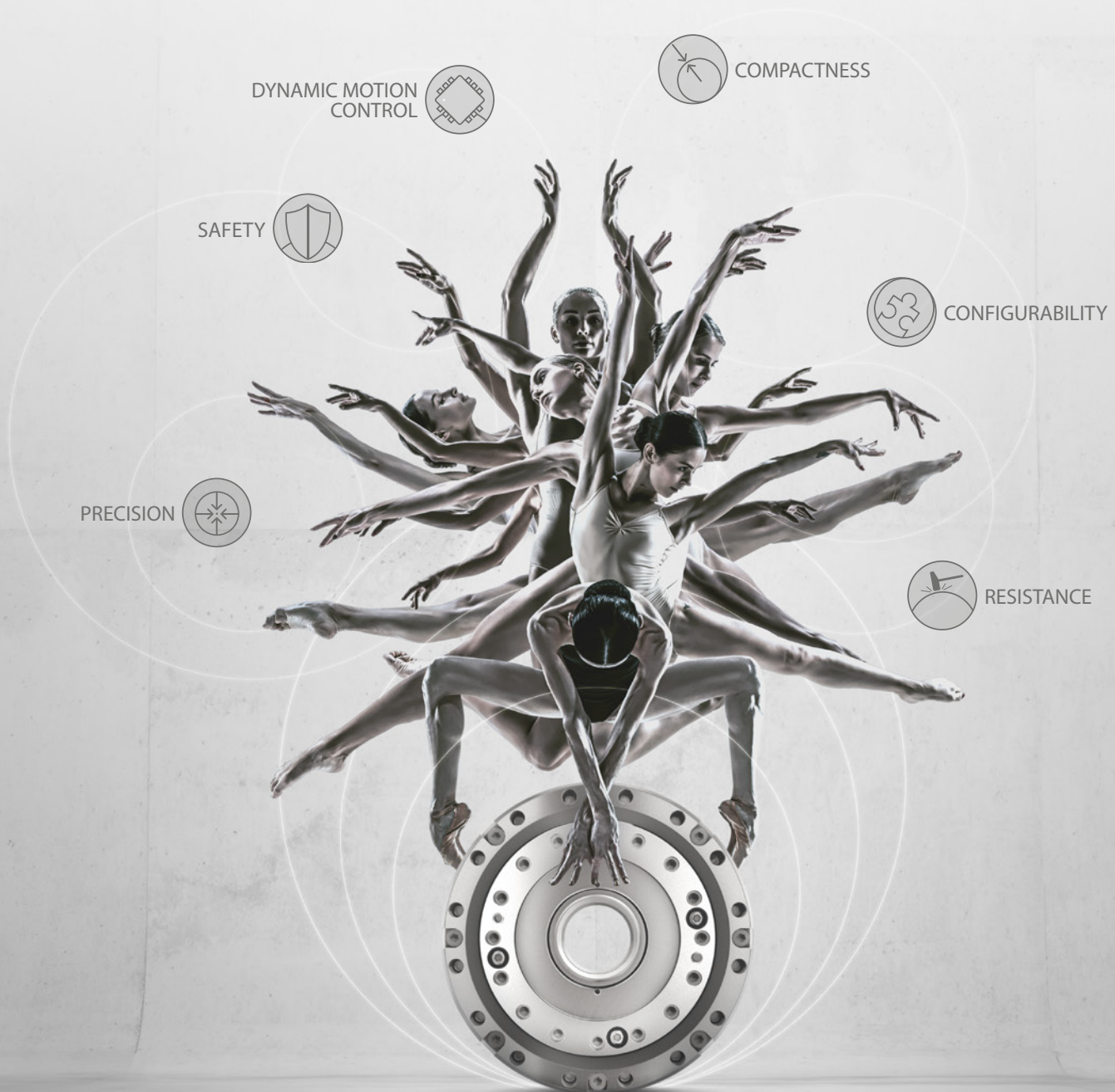


TUAKA. PERFECTION IN MOTION.

A perfect interaction between human and machine, that is the basis of all our work.

With the utmost passion and feeling for the biggest and the smallest details, our engineers take the Sumitomo Drive Technologies DNA to the next level with the **TUAKA** product family.

Welcome **TUAKA**. Welcome future.



HUMAN AND MACHINE – HAND IN HAND.

TUAKA actuators combine the mindset of German engineering with the highest demand for configurable technology. With this ultra-compact product line, we set a new benchmark in actuator technology which puts us one step ahead of the industrial standard.

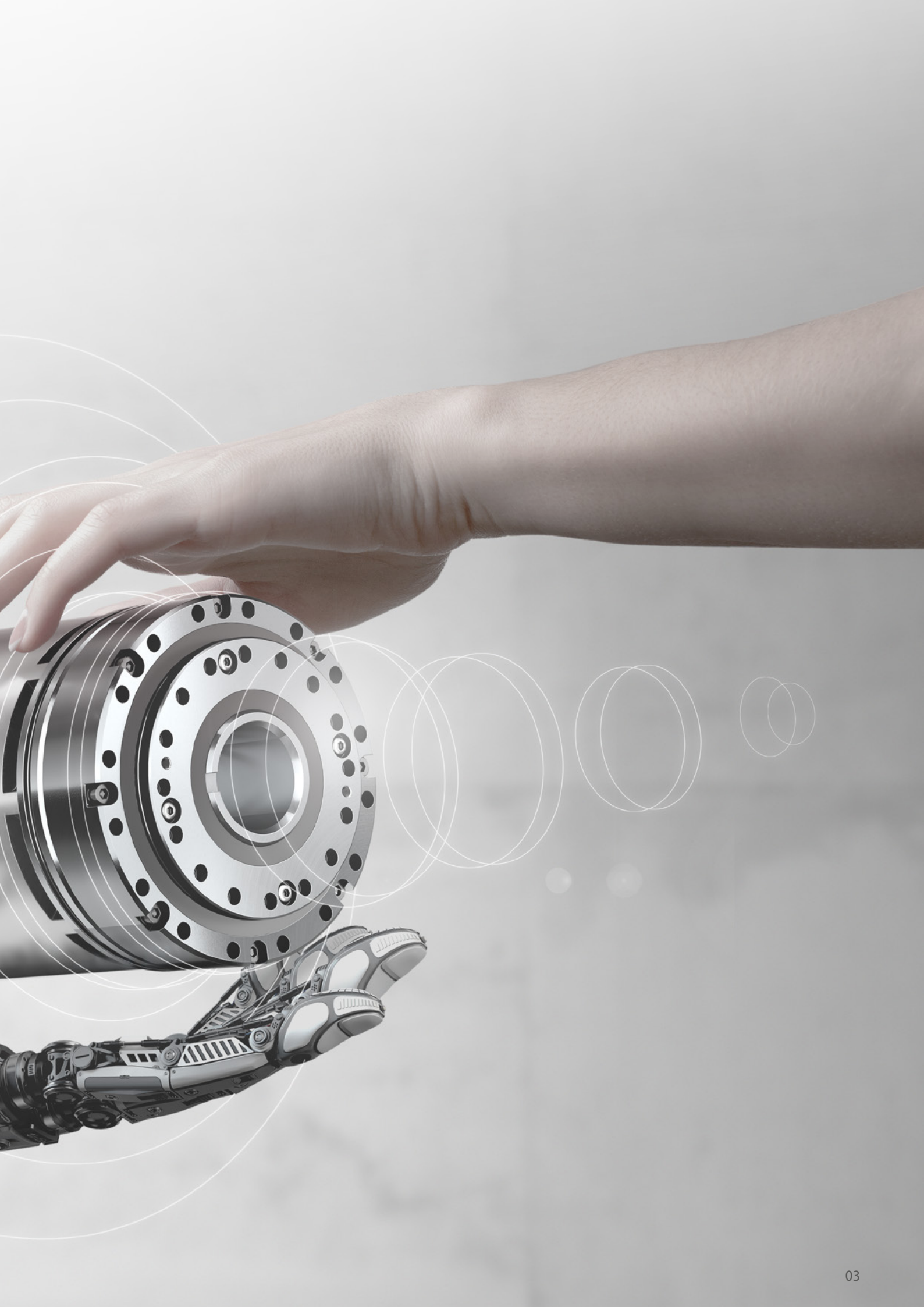
Because our demand is to exceed yours.
Shake on it!

COMPACTNESS



CONFIGURABILITY



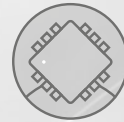


EN GARDE!

Since time immemorial, we have always taken on new challenges in industrial drive technology. With the development of the **TUAKA** actuators, our engineers have achieved the highest accolade. This has allowed us to achieve the highest expansion stage (V3) within the **TUAKA** family, which is itself a true master in terms of precision and dynamic motion control.

Made in Germany – Reborn.

DYNAMIC MOTION
CONTROL





PRECISION



SAFETY IN FOCUS.

The **TUAKA** product family redefines the highest standard for safety and durability. This allows our new technology to unfold its full potential, because the symbiosis between human and machine always remains perfectly controllable.

Reassuringly safe.



RESISTANCE



SAFETY



K

A

THE BASIC OPTIONS:



Integrated disc brake
matched to the motor torque



Integrated torque sensor
matched to the entire torque range of the gearbox



Choice of encoder
SICK SES/SEM, Heidenhain KBI1335, RLS AksIM-2™



Second Encoder at gear output
Absolute multiturn



Advanced safety functions
SS1, SS2, SLS, SLP, SBT, Safe process data (FSOE)

THE ACCESSORIES:



Internal protection of hollow shaft for cable installation
Static tube made from resin material to protect wires



Housing protection according IP class 50 or 62 or 66
Standard protection: IP20



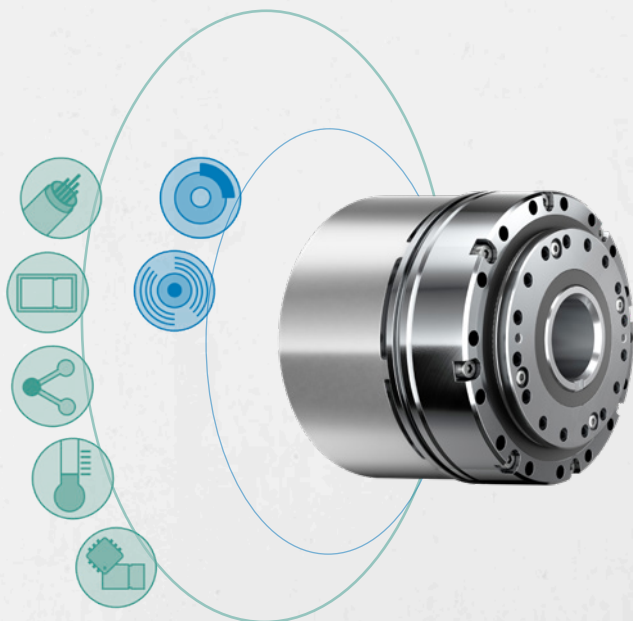
Standard connector set (all industrial types)
Standard wires without connectors (ferrules only)



Additional heat sink
For increase of power consumption, designed around the available space of the customer

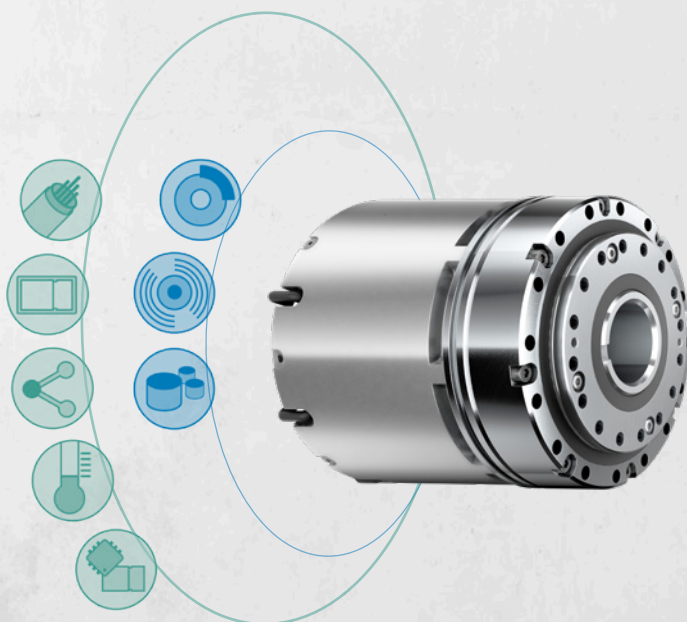


External Driver
Wired to the axis and configured Plug & Play



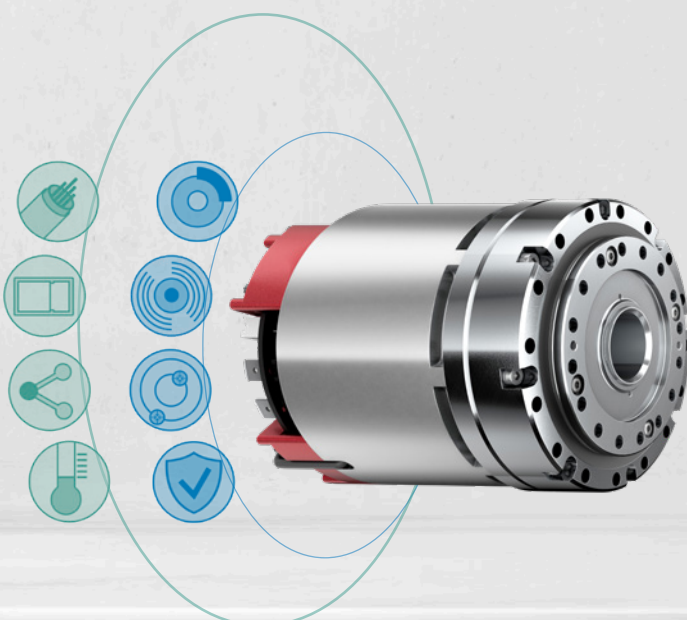
TUAKA ACTIVE

Gearbox + Motor



TUAKA SERVO

Gearbox + Motor + Encoder



TUAKA DRIVE

Gearbox + Motor + Encoder +
Safety Driver (SBC, STO)

THE SPECIFICATIONS:

	FRAME	107			103		
	Ratio	100	80	50	100	80	50
General							
Operating ambient temperature	°C	10 ... 55					
Operating ambient humidity (no condensation)	% rH	20 ... 80					
Storage Temperature (no condensation)	°C	0 ... 60					
Max. installation altitude	m	1000					
Lifetime (rated)	h	7000			7000		
Common data (for more Gearbox details see Sumitomo ECY-Catalogue)							
Gearbox outer diameter	mm	Ø95			Ø74		
Peak output torque	Nm	157	137	98	54	43	34
Rated output torque	Nm	67	63	39	24	22	16
Max. rotation output speed	1/min	28	35	56	62	77	123
	deg/s	167	209	334	370	463	740
Max. rotation angle	°	infinite					
Rated power consumption	W	333	391	388	287	336	388
Max. power consumption	W	1453			1259		
Supply voltage	V	48					
Brake specification – option							
Type	–	Disc – spring type – overexcitation implemented					
Max. allowable braking work per 1 cycle	J	78			44		
Total work capacity	J	15500			8700		
Geometry Information							
Max. outer diameter	mm	Ø96 Exception: SERVO (SICK): Ø106			Ø75 Exception: SERVO (SICK): Ø79		
Hollow shaft diameter que	mm	Ø26.5 Exception: SERVO (RLS, Heidenhain): Ø22.5 SERVO (Heidenhain dual): Ø18.0 DRIVE (output encoder): Ø22.0			Ø19.5 Exception: SERVO (Heidenhain dual): Ø15.0 DRIVE (output encoder): Ø15.0		
Overall basic length	mm	ACTIVE: 78.1 SERVO (RLS, Heidenhain): 87.6 SERVO (Heidenhain dual): 95.7 SERVO (SICK): 107.4 DRIVE: 107.7			ACTIVE: 59.3 SERVO (RLS, Heidenhain): 68.7 SERVO (Heidenhain dual): 79.2 SERVO (SICK): 86.5 DRIVE: 89.6		
Brake option	mm	+ 18,1			+ 17,6		
Torque Sensor option	mm	+ 0 (!) [space neutral]			+ 0 (!) [space neutral]		
Overall basic weight	g	ACTIVE: 2330 SERVO (RLS, Heidenhein): 2590 SERVO (Heidenhain dual): 2720 SERVO (SICK): 2750 DRIVE: 2880			ACTIVE: 1100 SERVO (RLS, Heidenhein): 1250 SERVO (Heidenhain dual): 1380 SERVO (SICK): 1380 DRIVE: 1380		
Brake option	g	+ 420			+ 290		
Torque Sensor option	g	+ 0 (!) [weight neutral]			+ 0 (!) [weight neutral]		
Inertia Input	kgmm ²	452,5			132,5		
Inertia Output	kgmm ²	333,4			89,5		

	FRAME	107			103		
	Ratio	100	80	50	100	80	50
Encoder specification							
Encoder resolution	bit	SERVO: 19 SERVO (Heidenhain dual) @ input: 19 SERVO (Heidenhain dual) @ output: 20 DRIVE @ input: 20 DRIVE @ output (option): 20			SERVO: 19 SERVO (Heidenhain dual) @ input: 19 SERVO (Heidenhain dual) @ output: 20 DRIVE @ input: 19 DRIVE @ output (option): 19		
Encoder accuracy	arcsec	SERVO: ±90 SERVO (Heidenhain dual) @ input: ±120 SERVO (Heidenhain dual) @ output: ±40 DRIVE @ input: ±72 DRIVE @ output (option): ±72			SERVO: ±90 SERVO (Heidenhain dual) @ input: ±120 SERVO (Heidenhain dual) @ output: ±40 DRIVE @ input: ±90 DRIVE @ output (option): ±72		
Encoder Repeatability	arcsec	SERVO: Less than unit of resolution DRIVE @ input: ±13 DRIVE @ output (option): ±8			SERVO: Less than unit of resolution DRIVE @ input: ±25 DRIVE @ output (option): ±14		
Encoder multi-turn	–	SERVO (RLS): yes, non-volatile memory, 16bit SERVO (Heidenhain): yes, battery-based, 16bit (battery available as an option) SERVO (Heidenhain dual): no SERVO (SICK): yes, mechanical DRIVE input: no DRIVE output: yes, battery-based, 18bit (battery available as an option)					
Encoder communication	–	SERVO (RLS): BiSS, RS422 (UART), SPI, SSI, PWM [not recommended] SERVO (Heidenhain): EnDat 2.2 SERVO (Heidenhain dual): EnDat 2.2 SERVO (SICK): Hiperface® DRIVE: integrated (BiSS-C)					
Driver Option ACTIVE & SERVO							
Type	–	Synapticon Somanet Node (external – but wired and configured)					
Communication	–	EtherCAT, DS402, CoE, FoE, FSoE					
Hardware protections	–	Overcurrent, overvoltage, undervoltage, overtemperature, PWM deadtime, PWM shoot through					
Input/output (GPIO)	–	4x GPIO/SPI**/I ² C**/UART, 2x single-ended 0–10 V, 2x differential ±5 V					
Standard safety functions	–	STO/SBC according to SIL 3 PL-e cat.3					
Driver DRIVE							
Type	–	Synapticon Circulo 9			Synapticon Circulo 7		
Communication	–	EtherCAT, DS402, CoE, FoE, FSoE					
Hardware protections	–	Overcurrent, overvoltage, undervoltage, overtemperature, PWM deadtime, PWM shoot through					
Input/output (GPIO)	–	5x DIO(3.3/5V), 1x DO(3.3/5V), 1x DI(24V), 1x Analog In Single Ended (0–10V), 1x Analog In Differential (not available in combination with Torque Sensor)					
Standard safety functions	–	STO/SBC according to SIL 3 PL-e cat.3					
Safe Motion Module – option	–	FSoE, STO, SBC, SS1/2, SOS, SMS, 4x SLS, Safe Process Data (position, velocity), 2x safe digital inputs, 1x safe digital output (OSSD), 1x safe analog input (not available in combination with Torque Sensor)					

Updated specifications
can be found here:



Or visit us at:
sumitomodrive.eu/TUAKA-Actuators

