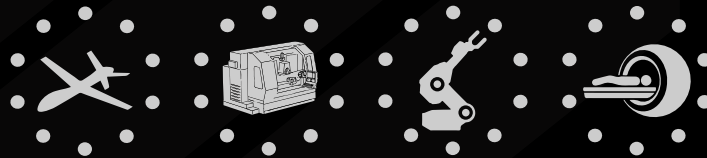


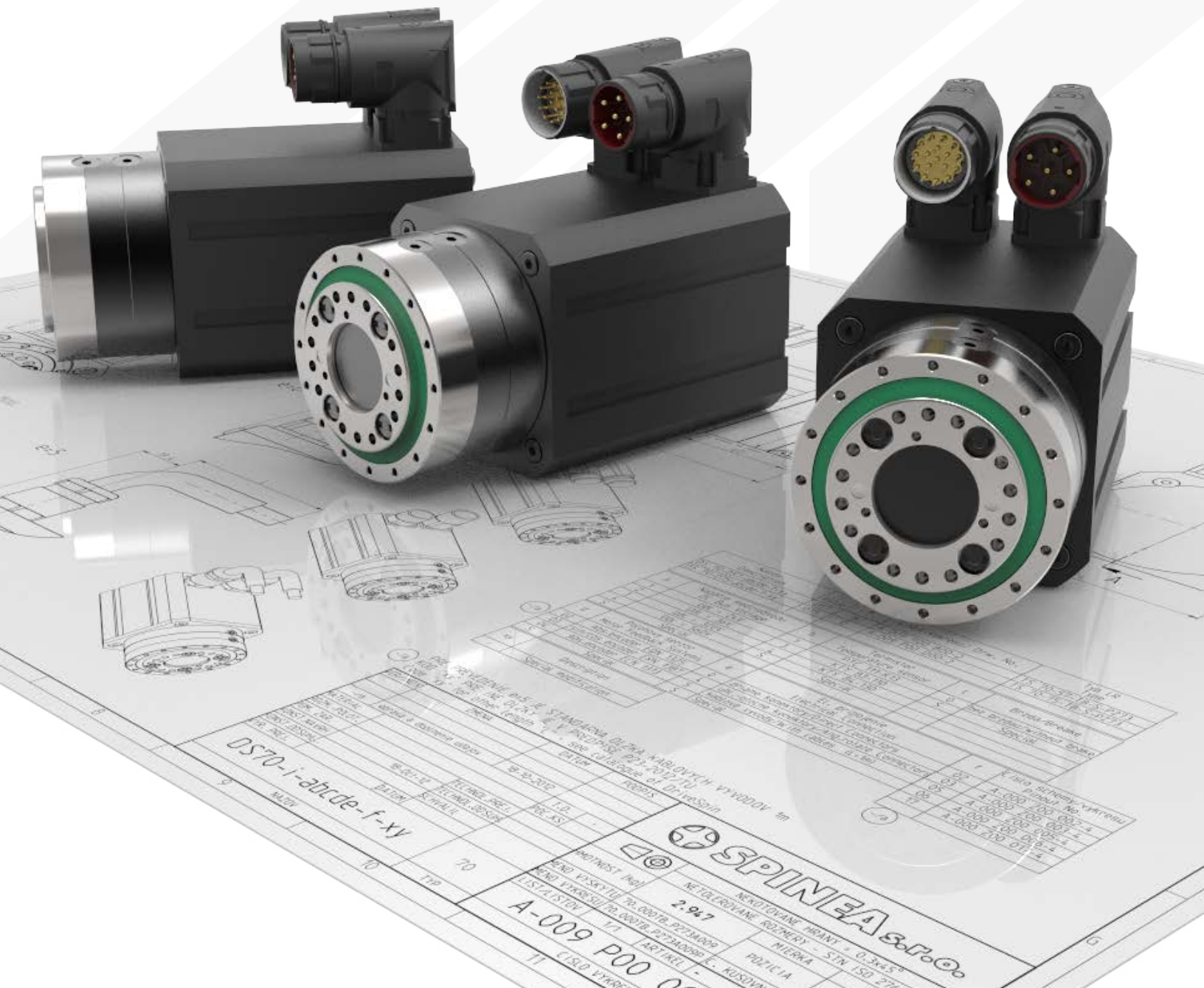


## DriveSpin DS/DSH/DSM 070

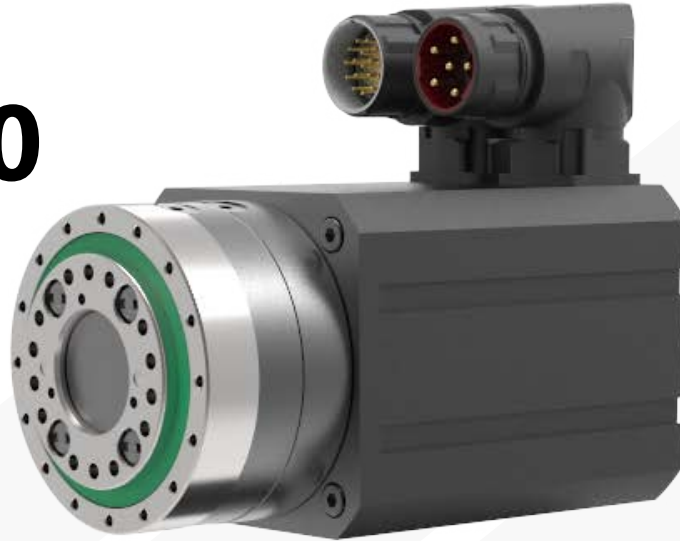
The high precision **DriveSpin DS 070** actuators represent the medium-size serially produced member of the DriveSpin product range, **meeting** even the most demanding **requirements** of customers from all industries. With their optimal **price/performance** ratio, they reliably provide parameters such as high accuracy and precision, high tilting and torsional stiffness, low weight, **compactness**, low vibrations, and a **wide range** of suitable technical solutions.



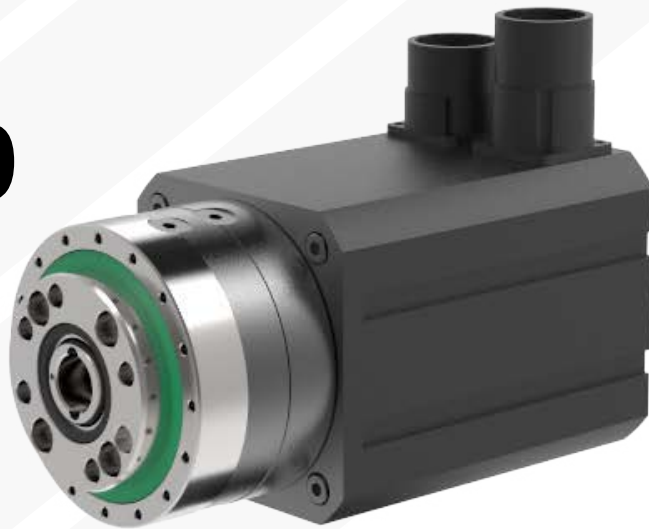
- LOW LOST MOTION,
- LOW MOMENT OF INERTIA,
- HIGH REDUCTION RATIO,
- HIGH KINEMATIC ACCURACY,
- HIGH MOMENT OVERLOAD CAPACITY,
- HIGH CAPACITY OF THE INTEGRATED RADIAL-AXIAL OUTPUT BEARINGS,
- HIGH DYNAMIC PERFORMANCE.



# DS 070

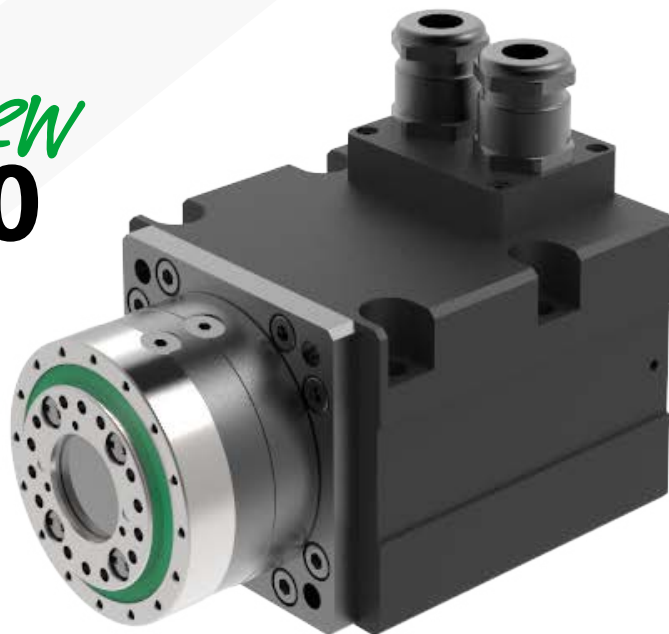


# DSH 070



*New*

# DSM 070



### **DS - DriveSpin Standard**

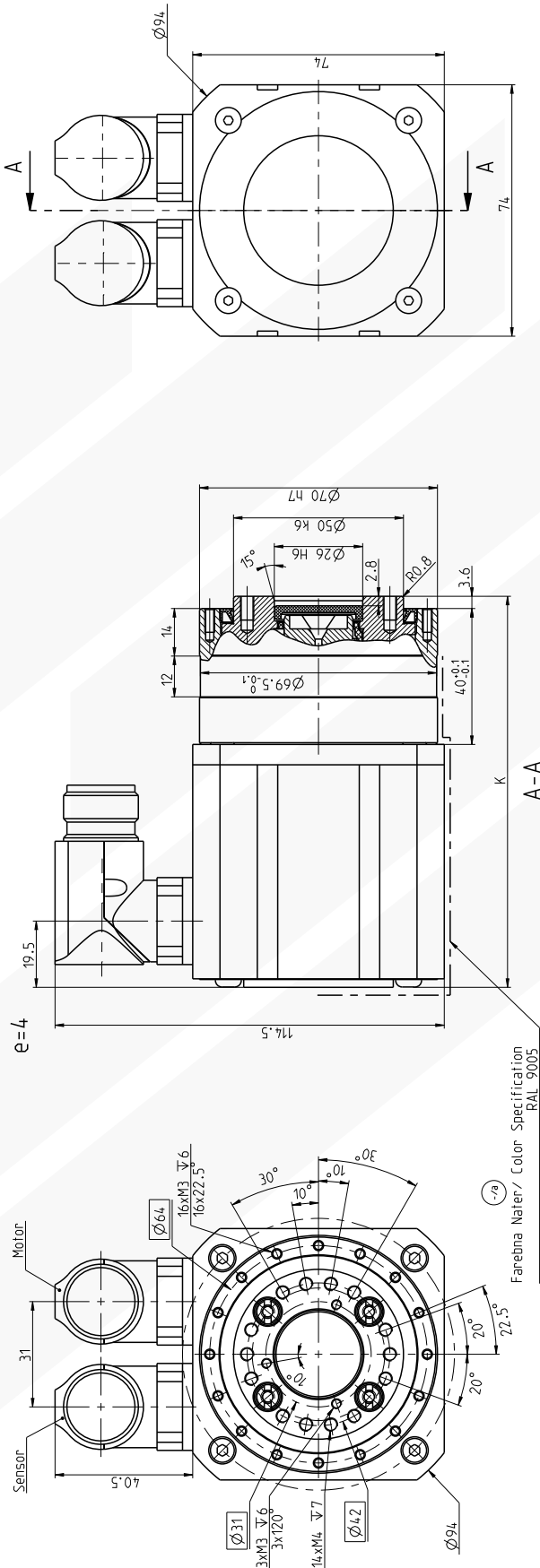
The DriveSpin electric rotary actuators, as the basic type of actuators, provide rotary motion and the transfer of output torque with a high radial-axial load capacity and are the most accurate and precise solution in their category. The DS actuators are characterized by high dynamics, guaranteed by an AC servomotor, and high robustness and overload capacity of their reduction gears. The voltage and feedback variability will widely satisfy all of customers' requirements.

### **DSH - DriveSpin Hollowshaft**

The DSH electric actuators are characterized by the possibility to use a through hole for routing cables, pipes, and drive shafts while maintaining the radial-axial and torque load capacity and the characteristic high overload capacity of the reduction gear and of the AC servomotor, featuring high dynamics. The voltage and feedback variability will widely satisfy all of customers' requirements.

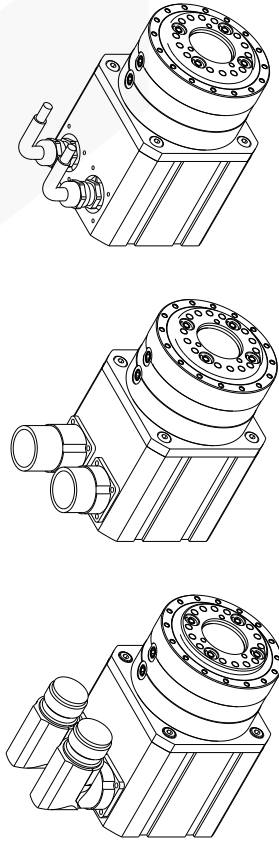
### **DSM - DriveSpin Modular**

The DSM modular rotary positioning modules provide controlled rotary motion and transfer of torque with a high positioning accuracy and precision. The output flange of the module allows to capture both radial and axial forces. The modules feature a special design of the case, which allows versatile connections, also without additional devices. The good design integration ability and small dimensions allow to create kinematic assemblies from DSM modules for end effectors, but also for additional devices and positioners. The selection of a module size depends on the required load-carrying capacity and the number of degrees of freedom of the motion axis.

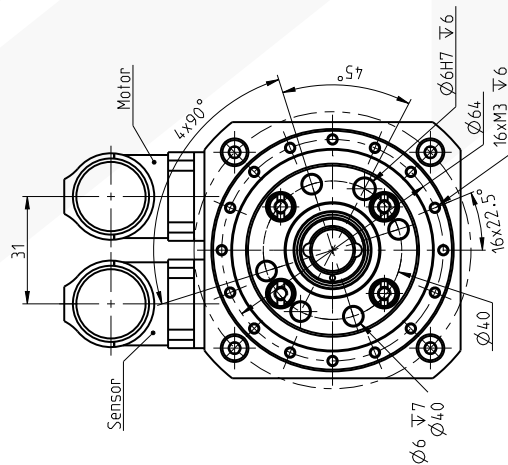
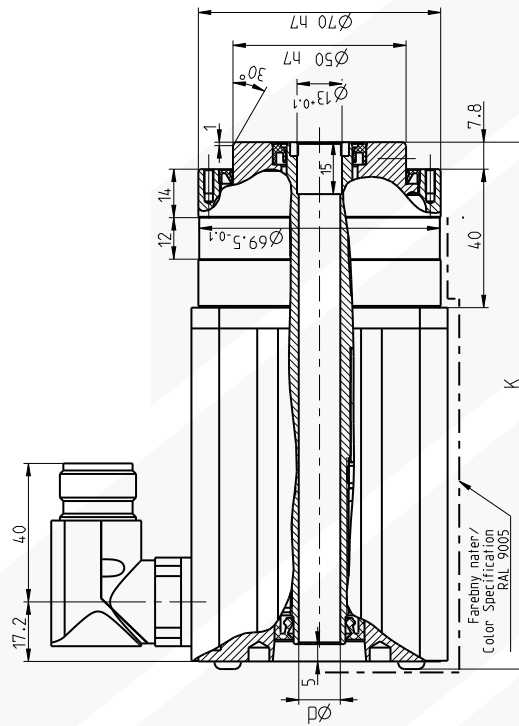
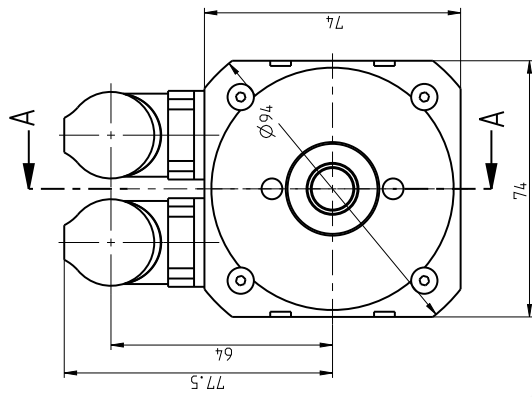


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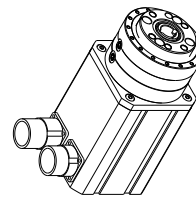
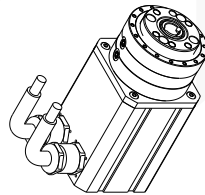
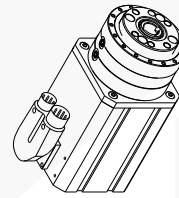
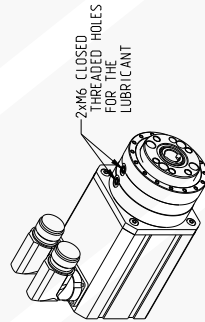
Dimension K	Without brake	With brake
Resolver	115 mm	168 mm
Sin/Cos	145.5 mm	199 mm
EnDat	145.5 mm	199 mm
HIPERFACE	142 mm	196.3 mm



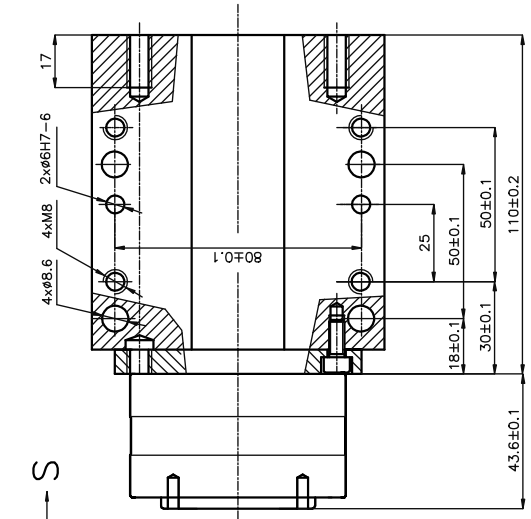
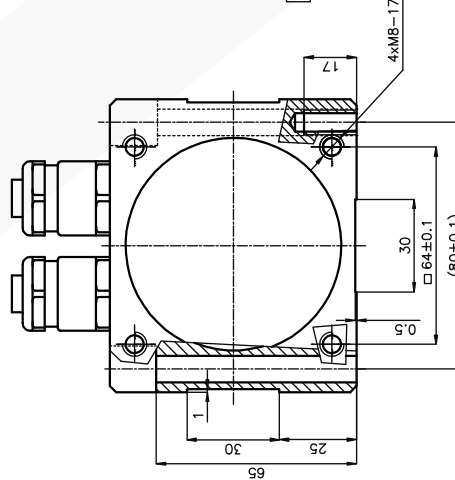
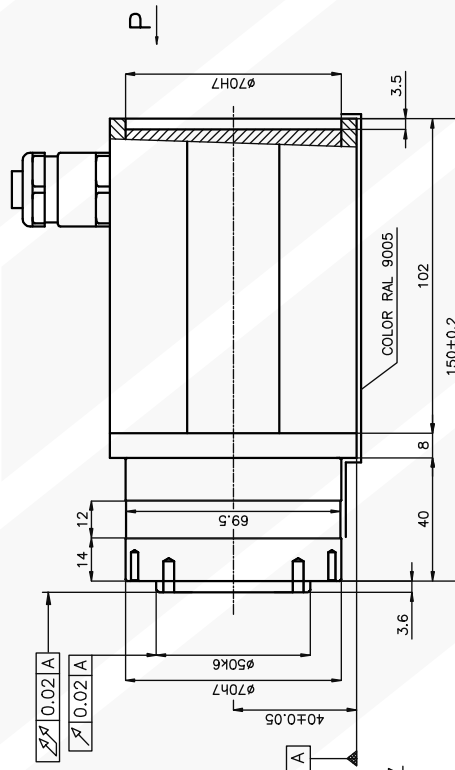
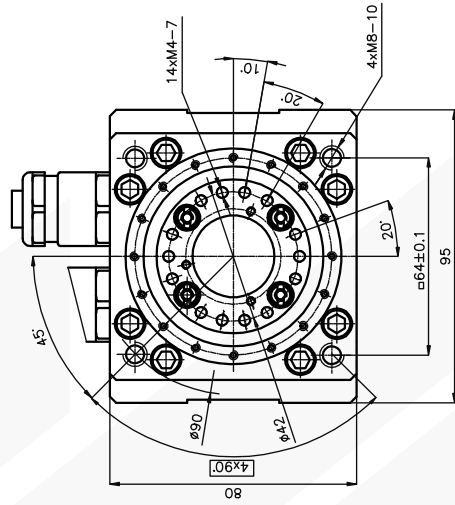
**DSH 070**

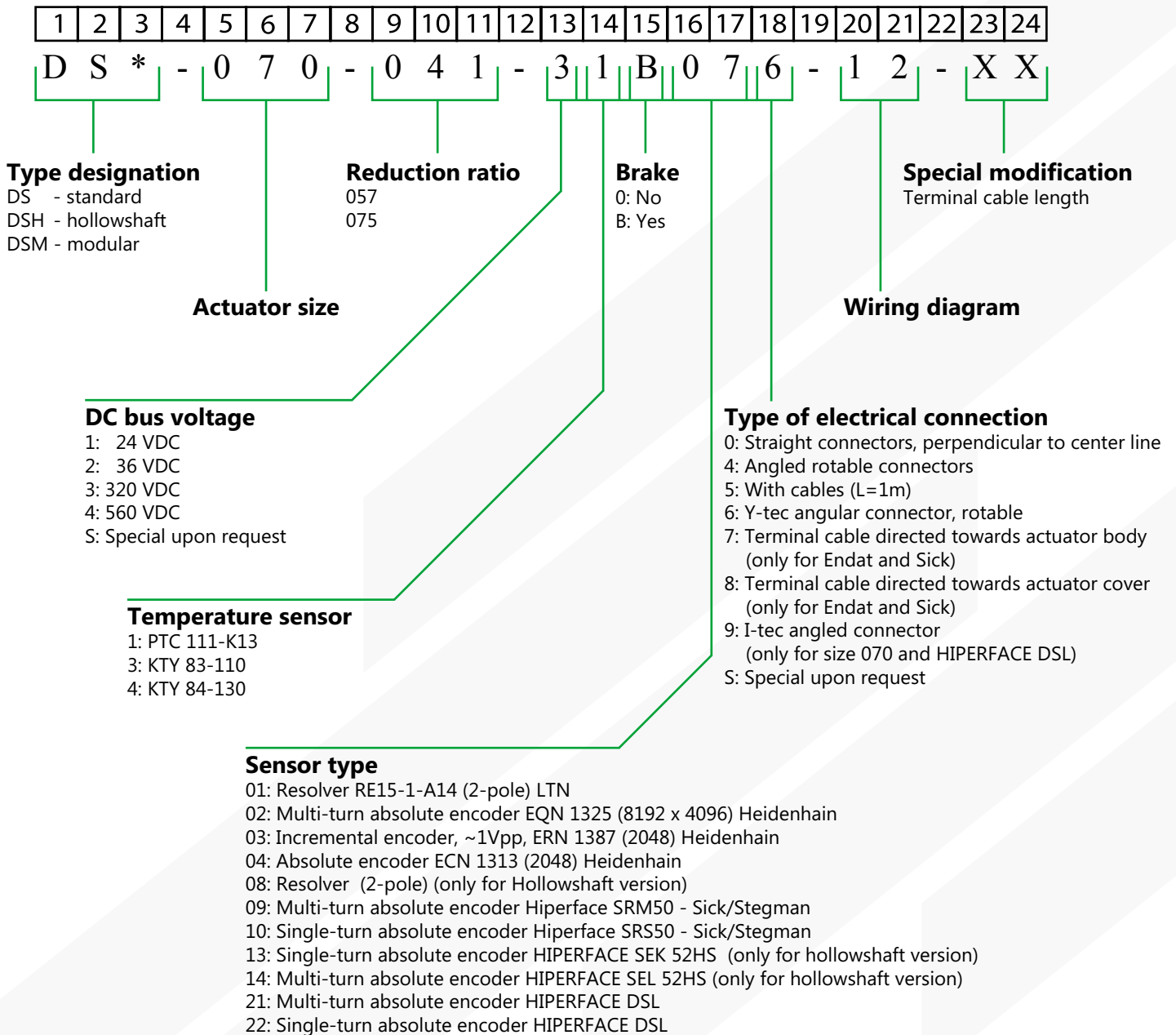


Dimension K	Without brake	With brake
Resolver	152.2 mm	-
HIPERFACE	132.4 mm	-



DSM 070



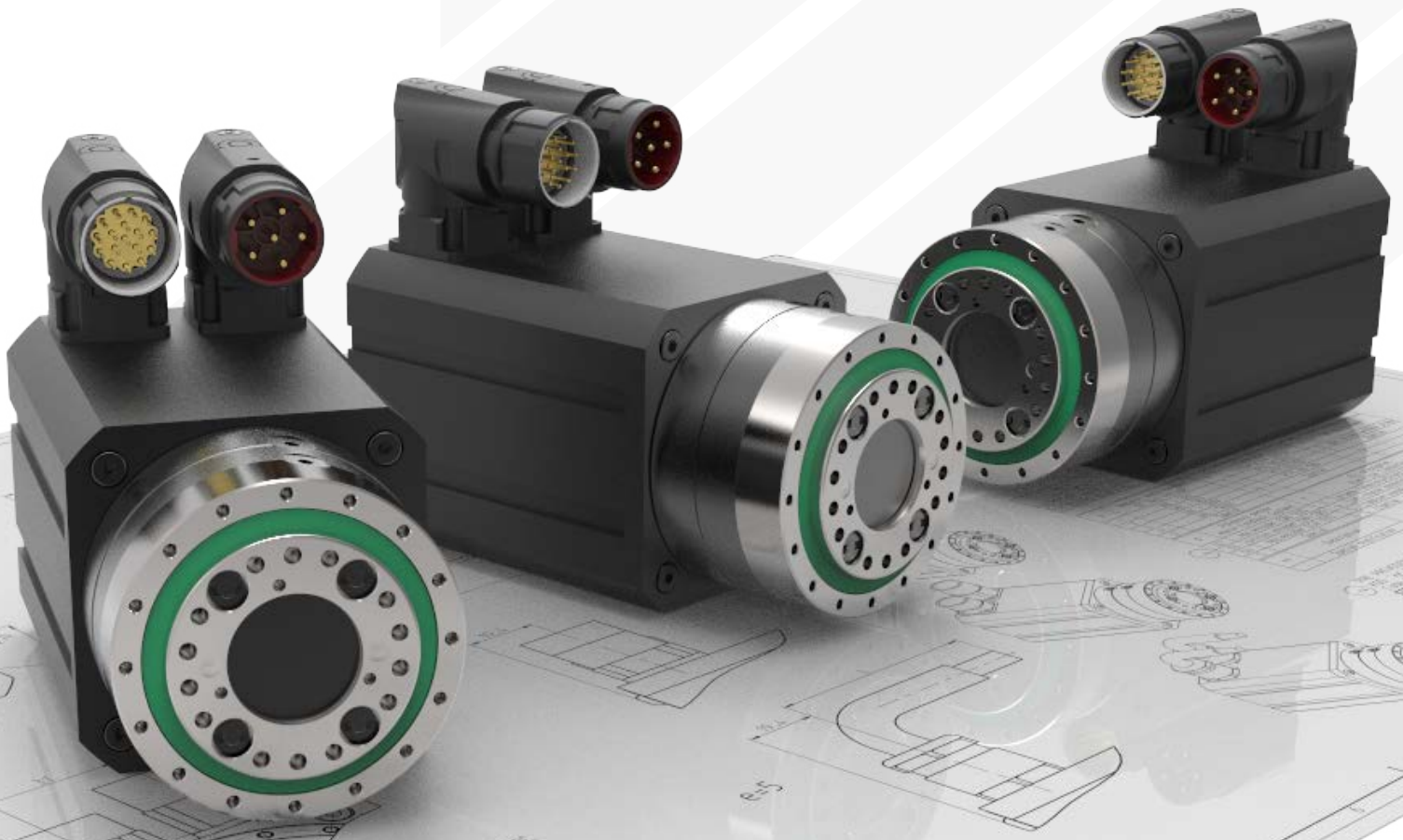
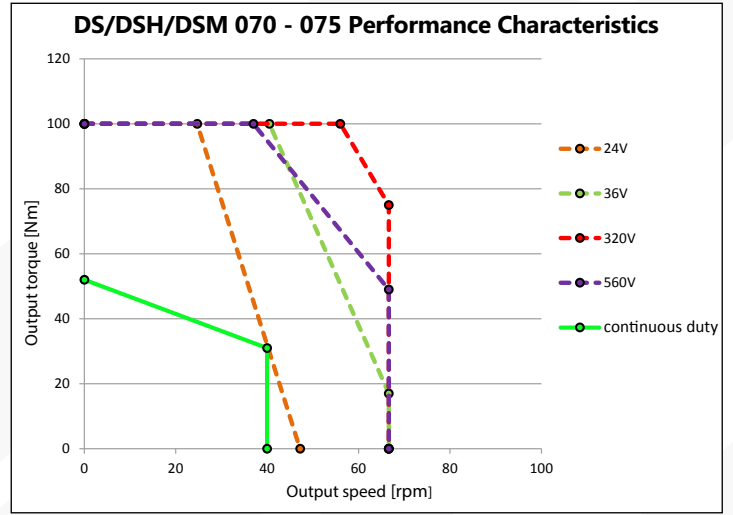
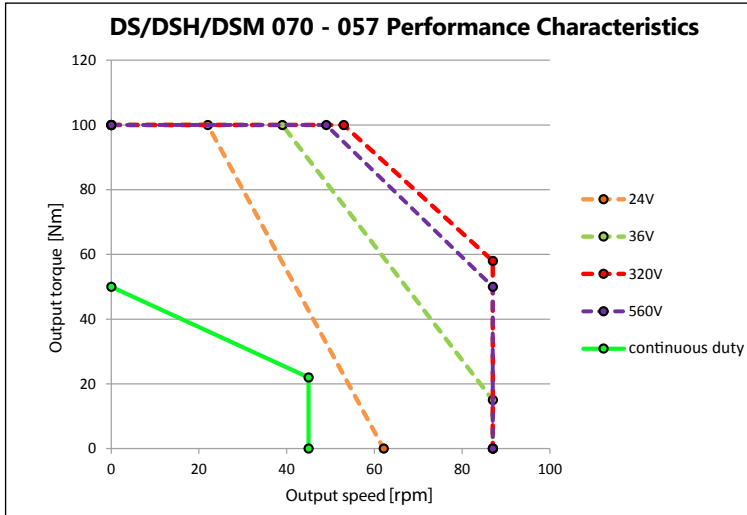




DS Actuator			DS 070/DSH 070/DSM 070			
Reduction ratio	I		57, 75			
Rated output torque	$T_r$	Nm	50			
Acceleration/braking output torque	$T_{max}$	Nm	100			
Rated input speed of the reduction gear	$n_r$	$\text{min}^{-1}$	2000			
Maximum allowed input speed of the reduction gear	$n_{max}$	$\text{min}^{-1}$	5000			
Tilting stiffness	1) 5) $M_t$	Nm/arcmin	35			
Torsional stiffness	1) 6) $k_t$	Nm/arcmin	7			
Maximum lost motion	LM	arcmin	<1.5			
Hysteresis	H	arcmin	<1.5			
Maximum tilting moment	2) 3) $M_{c\ max}$	Nm	142			
Rated radial force	2) $F_{rR}$	kN	2.8			
Maximum axial force	2) 4) $F_{a\ max}$	kN	4.1			
Allowed temperature range		$^{\circ}\text{C}$	-10 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$			
Reduction gear maximum allowed temperature		$^{\circ}\text{C}$	65 $^{\circ}\text{C}$			
Servo inverter DC bus voltage	$U_{dc}$	V	24	36	320	560
Servomotor rated speed	$n_n$	$\text{min}^{-1}$	2500	3000	4500	4500
Servomotor rated output torque	$M_n$	Nm	0.88	0.86	0.76	0.76
Servomotor rated current	$I_n$	A	13.5	13.2	1.87	1.04
Servomotor brake holding torque	$M_o$	Nm	0.95	0.95	0.95	0.95
Servomotor brake holding current	$I_o$	A	13.7	13.7	2.1	1.18
Servomotor maximum torque	$M_{max}$	Nm	2.4	2.4	2.4	2.4
Servomotor maximum current	$I_{max}$	A	50	50	7.8	4.4
Servomotor EMF constant	$K_E$	V/1000	4.2	4.2	27	48.5
Servomotor torque constant	$K_T$	Nm/A	0.07	0.07	0.45	0.8
Terminal resistance	$R_{2ph}$	$\Omega$	0.12	0.012	4.9	15.6
Terminal inductance	$L_{2ph}$	mH	0.33	0.35	14.7	46.7
Number of poles	2p	pol	10	10	10	10
Electrical time constant	$T_{el}$	ms	2.8	2.8	3.0	3.0
Mechanical time constant	$T_{mech}$	ms	2.8	3.2	3.2	3
Thermal time constant	$T_{th}$	min	25			
Nominal brake voltage		V	24			
Electromagnetic brake braking torque		Nm	4.5			
Protection class			IP64 as standard			
Lubricant			Grease Castrol Optitemp TT1			
Paint			black RAL 9005			
Insulation class			F			

SUBJECT TO CHANGES WITHOUT PRIOR NOTICE

- 1) Mean statistical value. For further information, see Chapter 9, Tilting Stiffness and Torsional Stiffness.
- 2) Load at output speed 15 rpm.
- 3) Tilting moment  $M_{c\ max}$  value at  $F_a=0$ . If  $F_a \neq 0$  see Chapter 9, Tilting Moment, of this document.
- 4) Axial force  $F_{a\ max}$  value at  $M_c=0$ . If  $M_c \neq 0$  see Chapter 9, Tilting Moment, of this document.
- 5) The parameter depends on the high precision reduction gear model.
- 6) The parameter depends on the high precision reduction gear model, reduction ratio, and lost motion value.
- 7) Moment of inertia and Weight. For further information, see Chapter 9, Moment of inertia and Weight, of this document.



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