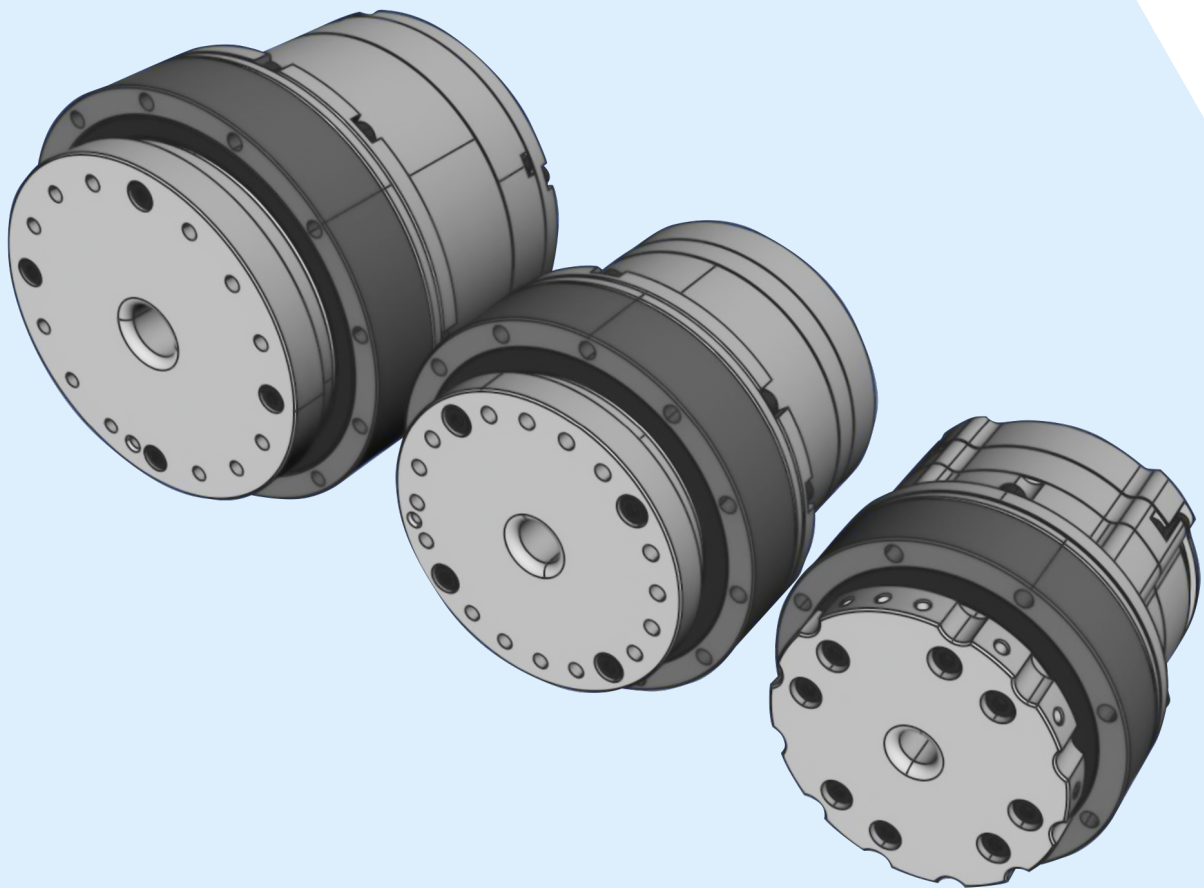


# AROS

**ASBIS ROBOTIC SOLUTIONS**

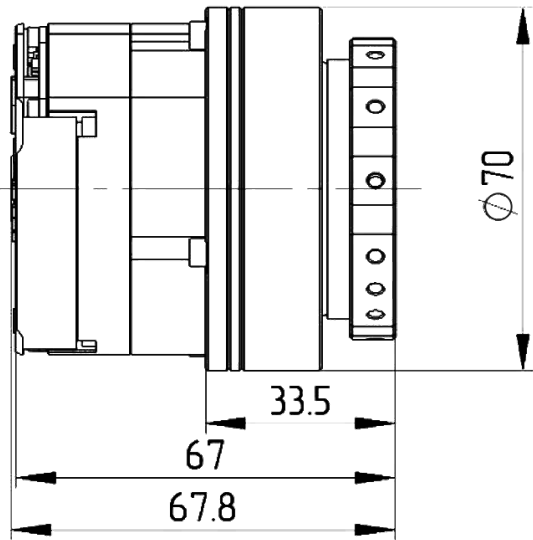
Robotic actuators with build-in frameless motor, strain wave gear, brakes, encoder and controller



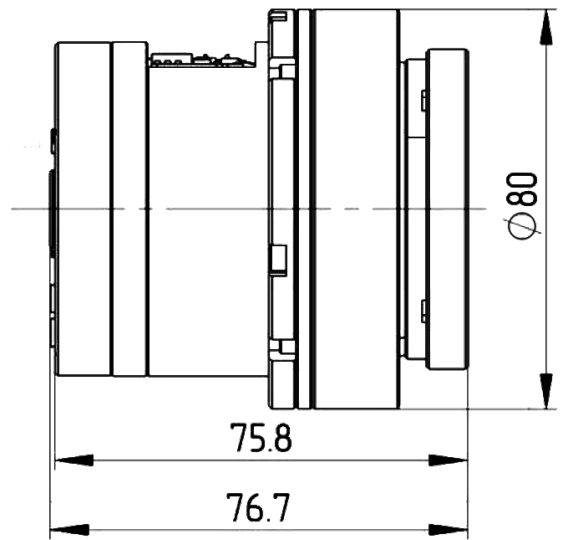
SPECIFICATION

Parameter	Units	D70	D80	D90	Note	
PHYSICAL PROPERTIES	Mass	g	800	1120	1720	
	Hollow shaft diam.	mm	7.5	9.5	11.5	
	Rated torque	Nm	16	49	62	
	Peak torque	Nm	37	66	108	
	Permissible static tilting moment,	Nm	144	328	515	
	Permissible dynamic tilting moment,	Nm	74	124	187	
	Gear ratio		100:1	100:1	100:1	
	Gear pitch diameter	inch (mm)	1.4 (35)	1.7 (43)	2.0 (51)	
	Max speed	RPM	50	35	35	From frameless motor datasheet (actual -TBD)
	Brakes holding torque	Nm	40	70	100	
INTERFACE	Communication	EtherCAT, CoE, FoE				
POWER	Nominal voltage	V	48			
	Under-voltage limit	V	20			
	Over-voltage limit	V	60			
OUTPUT POSITION SENSOR	Fast (motor) shaft position sensor	Absolute magnetic encoder				
	Output position sensor	Dual absolute multi-turn magnetic encoder with backup battery input (3.7V lithium)				
	Output position resolution	bit	19			
	Position accuracy	deg	0.005		Calibrated against external encoder	
OTHER	Brakes	Magnetic clutch				
	PWM frequency	kHz	20			
	Current/velocity loop frequency	kHz	20			
	Working modes	Synchronous cyclic torque/synchronous cyclic velocity with feed-forward				
	Protection	Comm. cycle time/over-current/overvoltage/under-voltage/motor overtemperature/switches over-temperature				
	Standard safety functions	STO and FSoE				
	Lifetime (rated), h		10000		(TBD)	
SOFTWARE	Controller features	Cogging torque compensation, output position calibration map, dynamic current limits, current feed-forward, redundant output position feedback, output encoder eccentricity compensation, hardware torque-off during undervoltage				
	Control software	Tunning utility/GUI (Windows/Linux), C/C++/python examples using opensource SOEM EtherCAT master				
CONNECTORS	Power terminals	M3 standoffs (suitable for M3 O-type terminals)				
	EtherCAT connectors	Molex PicoBlade 4-pin 1.25mm pitch				
	Multiturn battery connector	Molex PicoBlade 2-pin 1.25mm pitch				
	Load mounting		Radially oriented M3 bolts	Axially oriented M3 bolts		
ENVIRONMENT	Operating temperature (environment)	deg C	0-50		When mounted on the heatsink > 400cm <sup>2</sup> (TBD)	
	Operating temperature (case)	deg C	0-80		(TBD)	
	Operating ambient humidity (no condensation)		(TBD)			
	Storage Temperature (no condensation)		(TBD)			
	IP rating		IP20	IP30	IP30	Output shaft and bearings are sealed. IP could be improved up to IP65 by external housing

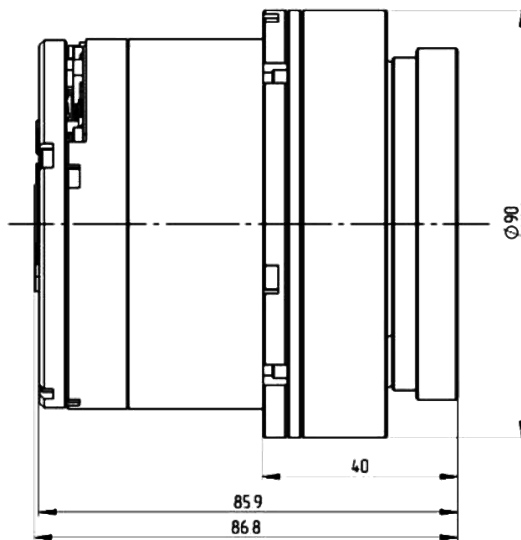
# DRAWING



D70



D80



D90