



Introduction:

Dynetics- dynamic in mechatronics

Dynetics, founded in 1994, with offices in Germany and the Netherlands assists engineers across Europe in selecting the best suitable motor for their mechatronic assignment.

Dynetics represents leading manufacturers for rotating or linear functions with various technologies: Our motors are available in different technologies, related specs, and with many features and options such as a gearhead, encoder, but can also be modified to suit your needs

- Rotating: Brushed-; brushless, stepper-, Servo-, piezo, synchronous-, torque-motors
- Linear: high precision lead/ball screws; linear shaft motors, stages, motors with integrated high precision lead screw an/or intelligence (driver, sensors, etc).

Many of our products can be "customized", like with double or modified shafts, encoders, altered windings, fitted with connectors per customer request. See also our electronic options (integrated or external) to drive the motor optimal at the most efficient way.

Equipment cooling:

Dynetics supports engineers in the selection of a suitable axial fans or radial blowers for your application. We represents a broad range of fans for an AC- or DC- power supply. The fans combine long life with high reliability. See for instance the L10 curves of selected fans showing 100.000 hrs at 20° C and 40.000 hrs at 60°C. Technologies can be combined with ball- or sleeve-bearing. Thanks to our close contacts with the engineering departments of the supplier we are involved with their continuous development of efficient and intelligent designs, suitable in a wide variety of applications.

Contact us also for customer specific solutions, like humidity protection, specific wirelength, connecor, etc.)

Dynetics helps economizing your design by offering solutions with optimum price-performance ratio.

logistics and services:

our logistic centre is located in The Netherlands:

"not only perfect for a European Distribution Center, but also as part of a global supply chain" a logistic/warehouse solution in The Netherlands for various reasons:

- Central location within the European market / Gateway to Europe and worldwide.
- Excellent sea- and airport facilities, and distribution infrastructure with Main ports Schiphol Airport and Rotterdam port
- Efficient Cargo communication
- Close co-operation between carriers, customs, handling agents, forwarders and other parties involved
- Able to interface late cut-off times and short lead times
- International orientation
- Optimising the supply chain management,
- Maximizes fab utilizations
- Matches inventory levels with the customer's demand
- Drives towards the best possible internal cycle time and schedule performance
- Multilingual capabilities

For more details, please visit our website: www.dynetics.eu



Brushless DC motors:

A brushless motor, also known as electronically commutated motor (ECM or EC motor) and synchronous DC motors. This type of motor will generate as much power as brushed motors, but considered more compact and more energy efficient, have a higher speed range and lower electric noise than brushed motors (mostly due to the absence of friction of brushes). The enhanced efficiency is greatest in the no-load and low-load region of the motor's performance curve. The absence of brushes eliminates problems associated with overheating and breakdowns. The service life of the brushless motor is therefore related to the bearings. With a brushless DC motor, the rotational speed is a linear function of the torque. In the same way, the absorbed current is also a linear function of the torque. Speed and current change a lot against applied torque.

These brushless DC motors are available as inner or outer rotor and with a gearhead and/or with integrated electronics (see also our coreless brushless motors and electronics)

Comparing the inner runner vs outer runner:

The main differences can be found in the basic design of the brushless motors . All different motor technologies use magnets to move. The function of the stator in the motor is to provide a charge that will result in a repel or attraction of the magnets and make the motor move. The rotor of the motor contain magnet material and result the motor to move. Advantage of an outer runner is that it shortens the overall motor length and a reduction of weight In contrast to the inner rotor type, this type of motor has coils on the inside and magnets on the outside, and these magnets serve as a rotor. This is called the outer rotor type.

Compared with the inner runner type, the rotating shaft of the outer rotor type motor has a greater moment of inertia. However, due to the fact the magnet does not have to be downsized, the ease of coil winding becomes a structural advantage.

Outer runner type motors are adopted for hard disk drive motors, etc. Other structural varieties include a thin motor that has a flat rotor with the coil directly installed on the printed circuit board. This type is adopted for floppy disk drive motors, brushless fans, etc.

For the requested commutation, we offer different electronic solutions (ASIC's, Board level, boxes) see our options and peripherals or visit our dedicated website

The output power is calculated using the formula:

$$Pn [W] = Mn \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot Mn$$

Since the supply voltage is constant, whereas the current increases in a linear manner as the torque increases, the absorbed power trend is a straight line going up. Efficiency is shown from the ratio between the output power and the absorbed power.

Dynetics B.V. De Rijn 12 5684PJ Best, The Netherlands Tel: +31-(0)499-371007 | Fax: +31-(0)499-372008

Dynetics GmbH Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland Tel: +49-(0)2157-128990 | Fax: +49-(0)2157-128999





Options / Customizations

- Encoders
- shaft modifications



In addition to from ground up customer-specific designing of the motor, our manufacturers offer various modifications for their standard motors (see below).

All standard series Motors can be modified to best meet the needs of your application. Dynetics can advise you on the possibilities of product customization or fully customized Motor design.



Flat(s)



Knurling



V-Groove



Thru-Hole



Threading



Pinion Gear (press fit, set screw or spring pin)



Extended Shaft



Double Shaft



Slot



Worm Gear

Additional Modifications



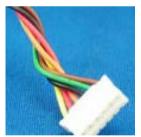
Longer or Shorter Lead Length



Connectors



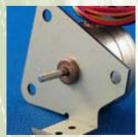
Plastic Tubing (regular or heat shrink)



Twisted Leads



Ball Bearings



Flange



Lead Wire Exit Location



Mesh Tubing



Stopper

Dynetics B.V. De Rijn 12 5684PJ Best, The Netherlands Tel: +31-(0)499-371007 | Fax: +31-(0)499-372008

Dynetics GmbH Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland Tel: +49-(0)2157-128990 | Fax: +49-(0)2157-128999



OUTERROTOR-Models

	part nr.		speed	Voltage		sizes	shaft Ø	torque	direction	driver	gearbox
Brushless DC motor (outerrr	oter)		rpm	V	mA	mm	mm	mNm	rotation	contr	
	MRB25L03PNK00	NKW	2200	3,3	20	Ø17.5 x 10	3,5	0,167	cw/ccw	ext	
	WINBESEOSFIANOO	Ž	2200	3,3	20	Ø17.5 x 10	3,3	0,107	CVV/CCVV	EXT	
	nort nr		spood	Voltage		sizos	shaft Ø	torano	direction	driver	gearbox
Developed DC market (automor	part nr.		speed	- 0		sizes					gearbox
Brushless DC motor (outerrre	bterj		rpm	V	mA	mm	mm	mNm	rotation	contr	
	2011	Nidec	1000	12	200	dar12	_	0.7	contecon		
	20N	ž	1000	12	300	Ø25 x 13	2	9,7	cw/ccw	ext	
	-					_	1 5	_			_
- 11 11	part nr.		speed	Voltage		sizes	shaft Ø	torque	direction	driver	gearbox
Brushless DC motor (outerrr			rpm	V	mA	mm	mm	mNm	rotation	contr	
	FY6S6N-D3	1	1500	24	700	61sq x 32,6	8	39	cw/ccw	ext	
	FY6S6NPD3 (+palmdriver)		1500	24	700	61sq x 64,6	8	39	cw/ccw	ext set	
	FY6S6NSD3 (+simpledriver)		1500	24	700	61sq x 64,6	8	39	cw/ccw	ext set	
	FY6S6-D3+6H5FBN-100	Nidec	300	24	700	61sq x 64,6	8	160	cw/ccw	ext	spur
=	FY6S6-D3+6H15FBN-100	ž	100	24	700	61sq x 64,6	8	470	cw/ccw	ext	spur
1 1 1	FY6S6-D3+6H25FBN-100		60	24	700	61	8	720	cw/ccw	ext	spur
21 20	FY6S6-D3+6H30FBN-100		50	24	700	61	8	850	cw/ccw	ext	spur
AND SEASON CONTRACTOR	FY6S6-D3+6H50FBN-100		30	24	700	61	8	1400	cw/ccw	ext	spur
	part nr.		speed	Voltage		sizes	shaft Ø	torque	direction	driver	gearbox
Brushless DC motor (outerrre	oter)		rpm	V	mA	mm	mm	mNm	rotation	contr	
	FY8S15-D3		1500	24	1400	80sq x 39	8	98	cw/ccw	ext	
	FYD815PD3 (+palmdriver)	1	1500	24	1400	80sq x 39	10	98	cw/ccw	ext set	
2010	FYD815SD3 (+simpledriver)	1	1500	24	1400	80sq x 39	10	98	cw/ccw	ext set	
	FY8S15-D3 + 8H5FBN-100	Nidec	300	24	1400	80	10	390	cw/ccw	ext	spur
	FY8S15-D3 + 8H15FBN-100	ğ	100	24	1400	80	10	1200	cw/ccw	ext	spur
1 1	FY8S15-D3 + 8H25FBN-100	1	60	24	1400	80	10	1800	cw/ccw	ext	spur
· 11 11 1	FY8S15-D3 + 8H30FBN-100	1	50	24	1400	80	10	2100	cw/ccw	ext	spur
AND AND THE RESIDENCE OF THE SECRETARY O	FY8S15-D3 + 8H50FBN-100	1	30	24	1400	80	10	3100	cw/ccw	ext	spur
	part nr.		speed	Voltage		sizes	shaftØ	torque	direction	driver	gearbox
Brushless DC motor (outerrr	<u>-</u> '		rpm	v	mA	mm	mm	mNm	rotation	contr	
brasiless be motor foatem	FYD825D3		2300	24	2300	80sq x 45	8	157	cw/ccw	ext	
	FY8S25HD3 (+palmdriver)	1	2300	24	2300	80sq x 45	8	157	cw/ccw	ext set	
A	FY8S25HD3 (+powerdriver)	1	2300	24	2300	80sq x 45	8	157	cw/ccw	ext set	
	FY8S25-D3+8H5FBN-100	2	300	24	2300	80sq x 45	10	640	cw/ccw	ext	spur
	FY8S25-D3+8H15FBN-100	Nidec	100	24	2300	80sq x 45	10	1900	cw/ccw	ext	spur
	FY8S25-D3+8H25FBN-100	_	60	24	2300	80sq x 45	10	2800	cw/ccw	_	
*-11 11 11//	FY8S25-D3+8H30FBN-100	1	50	24	2300	80sq x 45	10	3400	cw/ccw	ext ext	spur
A R R R R R R R R R R R R R R R R R R R	FY8S25-D3+8H50FBN-100	1	30	24	2300	80sq x 45	10	5100	cw/ccw		spur
-							shaftØ			ext driver	spur
Drughlage DC /	part nr.		speed	Voltage		sizes		torque	direction		gearbox
Brushless DC motor (outerrr	, '		rpm	V 24	mA	mm	mm	mNm	rotation	contr	
	FY9S40-D3	-	2000	24	3400	90 sq x 61,5	10	250	cw/ccw	ext	
	FYD940SD3 (+palmdriver)	-	2000	24	3400	90 sq x 61,5	10	250	cw/ccw	ext set	
	FYD940HD3 (+powerdriver)	U	2000	24	3400	90 sq x 61,5	10	250	cw/ccw	ext set	
	FY9S40-D3 + 9H5FBN-100	Nidec	300	24	3400	90 sq x 61,5	12	1000	cw/ccw	ext	spur
_ = 1000 hours	FY9S40-D3 + 9H15FBN-100	Ž	100	24	3400	90 sq x 61,5		3100	cw/ccw	ext	spur
	LEVOCAO DO LOUGEEDNI 400	1	60	24	3400	90 sq x 61,5	12	4600	cw/ccw	ext	spur
1. 1	FY9S40-D3 + 9H25FBN-100	-									
1 1 1 1 1	FY9S40-D3 + 9H30FBN-100 FY9S40-D3 + 9H30FBN-100 FY9S40-D3 + 9H50FBN-100		50	24 24	3400 3400	90 sq x 61,5 90 sq x 61,5	12	5600 8300	cw/ccw cw/ccw	ext	spur



INNERROTOR-Models

BLDC 2,6W + compact plane	tarv gear head		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	8
1000	TG-22A		4270	24	190	sq 22 x 40	6	5,88	cw/ccw	ext	
	TG-22D	İ	4270	12	380	sq 22 x 40	6	5,88	cw/ccw	ext	
201]				·					
	TG-22A-FU-4		1026	24	190	22sq x 59,5	6	49	cw/ccw	ext	plan
	TG-22A-FU-16	Sa	257	24	190	22sq x 64,5	6	98	cw/ccw	ext	plan
80	TG-22A-FU-64	Tsukasa	67	24	190	22sq x 69,5	6	196	cw/ccw	ext	plan
TG-22A	TG-22A-FU-256	-S	18,5	24	190	22sq x 74,5	6	294	cw/ccw	ext	plan
	TG-22D-FU-4		1026	12	380	22sq x 59,5	6	49	cw/ccw	ext	plan
	TG-22D-FU-16		257	12	380	22sq x 64,5	6	98	cw/ccw	ext	plan
27.50	TG-22D-FU-64		67	12	380	22sq x 69,5	6	196	cw/ccw	ext	plan
1 140 NORM 1 RE (200 500) (p* on)	TG-22D-FU-256		18,5	12	380	22sq x 74,5	6	294	cw/ccw	ext	plan
BLDC 3,5W + compact plane	etary gear head		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG611B		5700	24	280	22sq x 28	6	5,88	cw/ccw	ext	
3		g									
T0-6118(24Y)	TG-611B-FU-4	Sukasa	1380	24	280	22sq x 47,5	6	19,6	cw/ccw	ext	plan
	TG-611B-FU-16	T _S	345	24	280	22sq x 52,5	6	68,6	cw/ccw	ext	plan
	TG-611B-FU-64		90,8	24	280	22sq x 57,5	6	196	cw/ccw	ext	plan
FIRE SEE SEE SEE SEE SEE	TG-611B-FU-256		25,5	24	280	22sq x 62,5	6	294	cw/ccw	ext	plan
Brushless DC motor (innerrro			speed	Voltage	current	sizes	shaftØ	torque		driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	13H-12, Type 1	-	11000	12	570	Ø24,2 x 19,1	2	2,5	CW	ext	
	13H-12, Type 2		9300	12	600	Ø24,2 x 19,1	2	4,2	CW	ext	
	13H-12, Type 3		7700	12	520	Ø24,2 x 19,1	2	4,6	CW	ext	
	13H-12, Type 4	Ų.	6200	12	440	Ø24,2 x 19,1	2	5,2	CW	ext	
	13H-12, Type 5 CMC 13H-12	Nidec	5000 13000	12 12	370 300	Ø24,2 x 19,1 Ø24,2 x 19,1	2	5,6 3	CW	ext ext	
	13H-24, Type 1	_	17800	24	300	Ø24,2 x 19,1	2	3	CW	ext	
	13H-24, Type 1		14550	24	390	Ø24,2 x 19,1	2	2,2	CW	ext	
	13H-24, Type 3		12000	24	380	Ø24,2 x 19,1	2	3,4	CW	ext	
	13H-24, Type 4		8700	24	310	Ø24,2 x 19,1	2	4,5	CW	ext	
	CMC_13H-24		15300	24	240	Ø24,2 x 19,1	2	3	CW	ext	
Brushless DC motor (innerrro			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	22H-12, type 1		6550	12	1360	Ø35,8 x 40	4	13	CW	ext	
	22H-12, type 2]	5300	12	1640	Ø35,8 x 40	4	22	CW	ext	
	22H-12, type 3		4100	12	1470	Ø35,8 x 40	4	29	CW	ext	
	22H-12, type 4	ပ္က	2850	12	880	Ø35,8 x 40	4	33	CW	ext	
	22h-24, type 1	Nidec	8650	24		Ø35,8 x 40	4		CW	ext	
	22h-24, type 2	_	7000	24	940	Ø35,8 x 40	4	14	CW	ext	
7	22h-24, type 3		5000	24	910	Ø35,8 x 40	4	27	CW	ext	
	22h-24, type 4		3300	24	740	Ø35,8 x 40	4	36	CW	ext	
	22h-24, type 5		2150	24	530	Ø35,8 x 40	4	42	CW	ext	
3-phase, 12-pole; Low noise/			speed	Voltage	current	sizes	shaftØ	torque		driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	27H-24, type 1	U	6000	24	1100	Ø48,9 x 31,7	3,17	32	CW/CCW	ext	
	27H-24, type 2	Nidec	5000	24	1170	Ø48,9 x 31,7	3,17	45	CW/CCW	ext	
_ 💓	27H-24, type 3	z	4000	24	1130	Ø48,9 x 31,7		55	CW/CCW	ext	
low poice low-ribration	27H-24, type 4		3100	24	990	Ø48,9 x 31,7	3,17	63	CW/CCW	ext	goarhau
low noise, low vibration	integr driver		speed	Voltage	current	sizes	shaftØ	torque		driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	CMC-24H 12V	ပ္က	3900	12	900	Ø42 x 34	4	25	cw/ccw	integr	
	CMC-24H 12V CMC-24H 24V	Nidec	4200	24	700	Ø42 x 34 Ø42 x 34	4	25	cw/ccw	integr	
	CIVIC-2411 24V	_	4200	24	700	V-12 V 34		2.5	CVV/ CCVV	megi	
	1		I	L		L	l				L



Ф22 mm x 34mm,Compact	fully integrated electronics		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	DYTP-3641A-24		2390	24	311	Ф36 х 41	2,5	19,6	cw/ccw	ext	
	DYTP-3641B-24	Sa	3890	24	501	Ф36 х 41	2,5	19,6	cw/ccw	ext	
	DYTP-3641C-24	sukasa	5090	24	712	Ф36 х 41	2,5	23,52	cw/ccw	ext	
	DYTP-3641D-12	ī	2450	12	483	Ф36 х 41	2,5	15,68	cw/ccw	ext	
	DYTP-3641E-12		4150	12	848	Ф36 х 41	2,5	15,68	cw/ccw	ext	
Ф22 mm x 34mm,Compact f	fully integrated electronics		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	DYTP-3641 AA-24 2P		2466	24	326	Ф36 х 41	2,5	19,6	cw/ccw	integr	
	DYTP-3641 BA-24 2P		3800	24	483	Ф36 х 41	2,5	19,6	cw/ccw	integr	
	DYTP-3641 CA-24 2P		5000	24	742	Ф36 х 41	2,5	23,5	cw/ccw	integr	
	DYTP-3641 DA-12 2P	o o	2363	12	521	Ф36 х 41	2,5	15,7	cw/ccw	integr	
	DYTP-3641 EA-12 2P	Tsukasa	4160	12	920	Ф36 х 41	2,5	15,7	cw/ccw	integr	
	DYTP-3641 AB-24 9P	Isu	2463	24	324	Ф36 х 41	2,5	19,6	cw/ccw	integr	
	DYTP-3641 BB-24 9P		3810	24	480	Ф36 х 41	2,5	19,6	cw/ccw	integr	
	DYTP-3641 CB-24 9P		5032	24	745	Ф36 х 41	2,5	23,5	cw/ccw	integr	
	DYTP-3641 DB-12 9P		2312	12	520	Ф36 х 41	2,5	15,7	cw/ccw	integr	
	DYTP-3641 EB-12 9P		4104	12	920	Ф36 х 41	2,5	15,7	cw/ccw	integr	
Ф22 mm x 34mm,Compact f	fully integrated electronics		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
		g									
	DYTP-2234A-24	Tsukasa	5130	24	252	Ф22 х 34	2	5,9	cw/ccw	ext	
		ī									
	<u> </u>						1 5 4	_			
BLDC 1,6 ~ 8,8W; 3-phase;			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.	_	rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-609A	asa	2870	24	1425	42	8	78,4	cw/ccw	no	spur
2).	TG-609B	Tsukasa	3270	24	1475	42	8	78,4	cw/ccw	no	spur
n. n. o.	TG-609C	_	3270	24	1475	42	8	78	cw/ccw	no	spur
BLDC 1,6 ~ 8,8W; 3-phase;			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
_	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-609C-BM-10 24V	-	325	24	1475	42	8	588	cw/ccw	no	spur
	TG-609C-BM-18 24V	Sa	180	24	1475	42	8	980	cw/ccw	no	spur
	TG-609C-BM-30 24V	sukasa	107	24	1475	42	8	1666	cw/ccw	no	spur
10.	TG-609C-BM-50 24V TG-609C-BM-100 24V	ī	66 35,5	24 24	1475 1475	42 42	8	2450 2450	cw/ccw	no	spur
	TG-609C-BM-180 24V		22	24	1475	42	8	2450	cw/ccw	no no	spur spur
BLDC 1,6 ~ 8,8W; long-life	1		speed	Voltage	current	sizes	shaftØ		direction		gearbox
bebe 1/0 % 0/0 W/ Tolly life	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	Bearbox
	TG-609AA 24V		2812	24	1450	42 x 80	8	78,4	cw/ccw		
	TG-609B	asa	3270	24	1475	42 x 80	8	78,4	cw/ccw		
.2)	TG-609A	sukasa	2870	24	1425	42 x 80	8	78,4	cw/ccw		
	TG-609C	ř	3270	24	1475	42 x 80	8	78	cw/ccw		
BLDC 1,6 ~ 8,8W; long-life			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	3
	TG-609C-BM-5 24V		651	24	1450	60	8	294	cw/ccw		spur
	TG-609C-BM-10 24V	1	325	24	1450	60	8	588	cw/ccw		spur
	TG-609C-BM-18 24V	g	180	24	1450	60	8	980	cw/ccw		spur
-	TG-609C-BM-30 24V	Tsukasa	107	24	1450	60	8	1666	cw/ccw		spur
972-4 133-4	TG-609C-BM-50 24V	TsT	66	24	1450	60	8	2450	cw/ccw		spur
	TG-609C-BM-100 24V	1	35,5	24	1450	60	8	2450	cw/ccw		spur
	TG-609C-BM-180 24V	1	22	24	1450	60	8	2450	cw/ccw		spur
	1	_									



BLDC 1,6 ~ 8,8W; long-l	ife, 3-phase; motor on	ly	speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
		sa									
	TG-631A 24V	uka	9400	24	350	30	3	3,92	cw/ccw	integr	
		_S				·					

TG-631 available gear heads









M	AGD/AN

BLDC 1,6 ~ 8,8W; 3-p	hase; planetary gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-631A-FU-4 24V	, ro	2354,1	24	350	Ø30	6	9,8	cw/ccw	integr	plan
	TG-631A-FU-16 24V	Tsukasa	582	24	350	Ø30	6	39,2	cw/ccw	integr	plan
	TG-631A-FU-64 24V	굗	142,7	24	350	Ø30	6	166,8	cw/ccw	integr	plan
	TG-631A-FU-256 24V		37,7	24	350	Ø30	6		cw/ccw	integr	plan
BLDC 1,6 ~ 8,8W; 3-p	hase; spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-631A-SV-28 24V		305,5	24	350	Ø37	6	137,3	cw/ccw	integr	spur
	TG-631A-SV-30 24V		282,4	24	350	Ø37	6	148,6	cw/ccw	integr	spur
	TG-631A-SV-65 24V		128,4	24	350	Ø37	6	294,3	cw/ccw	integr	spur
	TG-631A-SV-76 24V		112,4	24	350	Ø37	6	294,3	cw/ccw	integr	spur
	TG-631A-SV-90 24V		95,3	24	350	Ø37	6	294,3	cw/ccw	integr	spur
	TG-631A-SV-100 24V		87,3	24	350	Ø37	6	294,3	cw/ccw	integr	spur
	TG-631A-SV-109 24V		80,5	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-152 24V		54,3	24	350	Ø37	6	588	cw/ccw	integr	spur
and a	TG-631A-SV-180 24V		46,7	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-195 24V	Sa	43,2	24	350	Ø37	6	588	cw/ccw	integr	spur
0.5	TG-631A-SV-250 24V	Tsukasa	34,4	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-300 24V	ı,	28,9	24	350	Ø37	6	588	cw/ccw	integr	spur
Jan 1	TG-631A-SV-360 24V		23,6	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-408 24V		20,9	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-450 24V		19	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-495 24V		17,3	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-540 24V		15,9	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-700 24V		12,4	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-770 24V		11,3	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-900 24V		9,7	24	350	Ø37	6	588	cw/ccw	integr	spur
	TG-631A-SV-1006 24V		8,7	24	350	Ø37	6	588	cw/ccw	integr	spur
BLDC 1,6 ~ 8,8W; 3-p	hase; spur gearhead										
			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		speed rpm	Voltage V	current mA	sizes mm	shaftØ mm	torque mNm	direction rotation	driver contr	gearbo
							-				gearbo: spur
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	Ü
	part nr. TG-631A-SM-15 24V		rpm 613,1	V 24	mA 350	mm Ø37	mm 6	mNm 39,2	rotation CW/CCW	contr integr integr	spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V		rpm 613,1 508,6	V 24 24	mA 350 350	mm Ø37 Ø37	mm 6 6	mNm 39,2 49,1 68,7	rotation CW/CCW CW/CCW	contr integr integr integr	spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V		rpm 613,1 508,6 365,9	24 24 24 24	mA 350 350 350	mm Ø37 Ø37 Ø37	mm 6 6	mNm 39,2 49,1 68,7 78,5	rotation CW/CCW CW/CCW CW/CCW	contr integr integr integr integr	spur spur spur
8	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V		rpm 613,1 508,6 365,9 306,5	24 24 24 24 24	mA 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37	6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3	rotation CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr	spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V		rpm 613,1 508,6 365,9 306,5 254,3	24 24 24 24 24 24	mA 350 350 350 350 350	937 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5	rotation CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr	spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V	es	rpm 613,1 508,6 365,9 306,5 254,3 182,3	24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr integr	spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V TG-631A-SM-60 24V	ukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6	24 24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V TG-631A-SM-50 24V TG-631A-SM-75 24V	Tsukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6 121,9	V 24 24 24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4 245,3	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V TG-631A-SM-60 24V TG-631A-SM-75 24V TG-631A-SM-100 24V	Tsukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6 121,9 91,6	V 24 24 24 24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4 245,3 245,3	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V TG-631A-SM-60 24V TG-631A-SM-75 24V TG-631A-SM-120 24V	Tsukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6 121,9 91,6 76,9	V 24 24 24 24 24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4 245,3 245,3 343,4	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V TG-631A-SM-50 24V TG-631A-SM-100 24V TG-631A-SM-120 24V TG-631A-SM-150 24V	Tsukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6 121,9 91,6 76,9 60,8	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4 245,3 245,3 343,4 441,5	rotation CW/CCW	integr integr integr integr integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-50 24V TG-631A-SM-50 24V TG-631A-SM-50 24V TG-631A-SM-100 24V TG-631A-SM-120 24V TG-631A-SM-120 24V TG-631A-SM-120 24V	Tsukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6 121,9 91,6 76,9 60,8 45,8	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4 245,3 245,3 343,4 441,5 539,6	rotation CW/CCW	integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V TG-631A-SM-50 24V TG-631A-SM-75 24V TG-631A-SM-100 24V TG-631A-SM-120 24V TG-631A-SM-120 24V TG-631A-SM-250 24V TG-631A-SM-250 24V	Tsukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6 121,9 91,6 76,9 60,8 45,8 36,7	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 350 350 350 350 350 350 350 350 350 350	mm Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37 Ø37	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4 245,3 245,3 343,4 441,5 539,6 588,6	rotation CW/CCW	integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur
	part nr. TG-631A-SM-15 24V TG-631A-SM-18 24V TG-631A-SM-25 24V TG-631A-SM-30 24V TG-631A-SM-36 24V TG-631A-SM-50 24V TG-631A-SM-50 24V TG-631A-SM-100 24V TG-631A-SM-120 24V TG-631A-SM-120 24V TG-631A-SM-120 24V TG-631A-SM-250 24V TG-631A-SM-200 24V	Tsukasa	rpm 613,1 508,6 365,9 306,5 254,3 182,3 152,6 121,9 91,6 76,9 60,8 45,8 36,7 30,9	24 24 24 24 24 24 24 24 24 24 24 24 24 2	mA 350 350 350 350 350 350 350 350	### ### ### ### ### ### #### #### ######	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 39,2 49,1 68,7 78,5 88,3 127,5 147,2 186,4 245,3 245,3 343,4 441,5 539,6 588,6	rotation CW/CCW	integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur



BLDC 1,6 ~ 8,8W; 3-p	hase; spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	ν	mA	mm	mm	mNm	rotation	contr	
	TG-631A-AGD-5 24V		1903,4	24	350	Ø43	6	9,8	cw/ccw	integr	spur
	TG-631A-AGD-10 24V		918,4	24	350	Ø43	6	29,4	cw/ccw	integr	spur
	TG-631A-AGD-15 24V		613,1	24	350	Ø43	6	39,2	cw/ccw	integr	spur
	TG-631A-AGD-18 24V		508,6	24	350	Ø43	6	49,1	cw/ccw	integr	spur
	TG-631A-AGD-25 24V		365,9	24	350	Ø43	6	68,7	cw/ccw	integr	spur
	TG-631A-AGD-30 24V		306,5	24	350	Ø43	6	78,5	cw/ccw	integr	spur
	TG-631A-AGD-36 24V		254,3	24	350	Ø43	6	88,3	cw/ccw	integr	spur
	TG-631A-AGD-50 24V		182,3	24	350	Ø43	6	127,5	cw/ccw	integr	spur
2	TG-631A-AGD-60 24V	Sa	152,6	24	350	Ø43	6	147,2	cw/ccw	integr	spur
Lines	TG-631A-AGD-75 24V	Tsukasa	121,9	24	350	Ø43	6	186,4	cw/ccw	integr	spur
	TG-631A-AGD-100 24V	ļ.	91,6	24	350	Ø43	6	245,3	cw/ccw	integr	spur
	TG-631A-AGD-120 24V		76,9	24	350	Ø43	6	245,3	cw/ccw	integr	spur
	TG-631A-AGD-150 24V		60,8	24	350	Ø43	6	343,4	cw/ccw	integr	spur
	TG-631A-AGD-200 24V		45,8	24	350	Ø43	6	441,5	cw/ccw	integr	spur
	TG-631A-AGD-250 24V		36,7	24	350	Ø43	6	539,6	cw/ccw	integr	spur
	TG-631A-AGD-300 24V		30,9	24	350	Ø43	6	588,6	cw/ccw	integr	spur
	TG-631A-AGD-500 24V		19,1	24	350	Ø43	6	588,6	cw/ccw	integr	spur
	TG-631A-AGD-750 24V		13	24	350	Ø43	6	588,6	cw/ccw	integr	spur
	TG-631A-AGD-1000 24V		9,9	24	350	Ø43	6	588,6	cw/ccw	integr	spur
BLDC 1,6 ~ 8,8W; 3-p	hase; spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-631A-AMD-5 24V		1903,4	24	350	Ø43	6	9,8	cw/ccw	integr	spur
	TG-631A-AMD-10 24V		918,4	24	350	Ø43	6	29,4	cw/ccw	integr	spur
	TG-631A-AMD-15 24V		613,1	24	350	Ø43	6	39,2	cw/ccw	integr	spur
	TG-631A-AMD-18 24V		508,6	24	350	Ø43	6	49,1	cw/ccw	integr	spur
	TG-631A-AMD-25 24V		365,9	24	350	Ø43	6	68,7	cw/ccw	integr	spur
	TG-631A-AMD-30 24V		306,5	24	350	Ø43	6	78,5	cw/ccw	integr	spur
	TG-631A-AMD-36 24V		254,3	24	350	Ø43	6	88,3	cw/ccw	integr	spur
	TG-631A-AMD-50 24V	Sa	182,3	24	350	Ø43	6	127,5	cw/ccw	integr	spur
	TG-631A-AMD-60 24V	sukasa	152,6	24	350	Ø43	6	147,2	cw/ccw	integr	spur
	TG-631A-AMD-75 24V	L _S	121,9	24	350	Ø43	6	186,4	cw/ccw	integr	spur
6	TG-631A-AMD-100 24V		91,6	24	350	Ø43	6	245,3	cw/ccw	integr	spur
	TG-631A-AMD-120 24V		76,9	24	350	Ø43	6	249,3	cw/ccw	integr	spur
	TG-631A-AMD-150 24V		61,5	24	350	Ø43	6	343,4	cw/ccw	integr	spur
	TG-631A-AMD-200 24V		45,8	24	350	Ø43	6	441,5	cw/ccw	integr	spur
	TG-631A-AMD-250 24V		36,7	24	350	Ø43	6	539,6	cw/ccw	integr	spur
			36,7 30,9	24 24	350 350	Ø43 Ø43	6	539,6 686,7	cw/ccw	integr integr	spur spur



Dynetics B.V. De Rijn 12 5684PJ Best, The Netherlands Tel: +31-(0)499-371007 | Fax: +31-(0)499-372008

Dynetics GmbH Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland Tel: +49-(0)2157-128990 | Fax: +49-(0)2157-128999

e-Mail: info@dynetics.eu

www.dynetics.eu



CW/CCW integr

spur

589

6

speed Voltage current sizes shaftØ torque direction driver gearbox

DEDC 1,0 % 0,0 W, 3-pilas	e, motor only		speeu	Voltage	current	31203	Silaity	torque	unection	unver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55LA 24V		2400	24	420	35,8	3	19,6	cw/ccw	yes	
		-60			-				-		
			1		5	3		3			3
	60		(3)	60	W 6	3	2	The last	200	100	
		,	200	25.	4					ARE	
	KU KL	JP	SU	SI	/	SM	AM	D	BE	AP	•
								l .			
BLDC 1,6 ~ 8,8W; 3-phas		ead	speed	Voltage	current	sizes	shaftØ	torque	direction		gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55LA-SU-3,6 24V	_	672	24	420	35,8	6	58,8	cw/ccw		plan
	TG-55LA-SU-4,8 24V		479	24	420	35,8	6	88,2	cw/ccw		plan
	TG-55LA-SU-13,2 24	_	188	24	420	35,8	6	196	cw/ccw		plan
	TG-55LA-SU-17,6 24		135	24	420	35,8	6	294	cw/ccw		plan
-	TG-55LA-SU-23,5 24		101	24	420	35,8	6	392	cw/ccw		plan
	TG-55LA-SU-47,9 24	N S	49,1	24	420	35,8	6	686	CW/CCW	integr	plan
- 0	TG-55LA-SU-63,9 24	— 	36,5	24	420	35,8	6	980	CW/CCW		plan
	TG-55LA-SU-85,3 24			24	420	35,8	6	980	cw/ccw		plan
	TG-55LA-SU-114 24		25,2	24	420	35,8	6	980	CW/CCW	integr	plan
	TG-55LA-SU-174 24	_	17,2	24	420	35,8	6	980	CW/CCW	integr	plan
	TG-55LA-SU-232 24		13,6	24	420	35,8	6	980	CW/CCW	integr	plan
	TG-55LA-SU-310 24	_	10,5	24	420	35,8	6	980	CW/CCW		plan
	TG-55LA-SU-413 24		8	24	420	35,8	6	980	cw/ccw		plan
	TG-55LA-SU-552 24\		6,1	24	420	35,8	6	980	cw/ccw		plan
BLDC 1,6 ~ 8,8W; 3-phas		ead	speed	Voltage V	current	sizes	shaftØ	torque	direction rotation		gearbox
	part nr.	,	rpm		mA 420	mm 42.4	mm	mNm		contr	nlan
	TG-55LA-KU-24 24V	_	111	24	420	43,4	8	343	cw/ccw		plan
	TG-55LA-KU-75 24V	as —	34,8 30	24 24	420 420	43,4	8	980 980	cw/ccw	integr	plan
	TG-55LA-KU-96 24V TG-55LA-KU-144 24	—	22,2	24	420	43,4 43,4	8	980	cw/ccw		plan
	TG-55LA-KU-216 24	•	15,7	24	420	43,4	8	980	cw/ccw		plan plan
BLDC 1,6 ~ 8,8W; 3-phas	1		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
DEDC 1,0 % 0,0W, 5 pilds	part nr.	Juu	rpm	V	mA	mm	mm	mNm	rotation	contr	Bearbox
	TG-55LA-SV-10 24V		283	24	420	43,4	6	98,1	cw/ccw	integr	spur
	TG-55LA-SV-20 24V		146	24	420	43,4	6	196	cw/ccw	integr	spur
	TG-55LA-SV-30 24V		105	24	420	43,4	6	196	cw/ccw		spur
	TG-55LA-SV-33 24V		98	24	420	43,4	6	196	cw/ccw		spur
	TG-55LA-SV-50 24V		64,3	24	420	43,4	6	294	cw/ccw		spur
	TG-55LA-SV-60 24V		55	24	420	43,4	6	294	cw/ccw		spur
And I	TG-55LA-SV-76 24V		44,6	24	420	43,4	6	294	cw/ccw		spur
	TG-55LA-SV-100 24V	v	34.7	24	420	43,4	6	294	cw/ccw		spur
0 10	TG-55LA-SV-124 24V	v asa	26,8	24	420	43,4	6	589	cw/ccw		spur
	TG-55LA-SV-149 24V	— ¥	22,9	24	420	43,4	6	589	cw/ccw		spur
Lave, a	TG-55LA-SV-180 24V		19,3	24	420	43,4	6	589	cw/ccw		spur
	TG-55LA-SV-196 24V		17,9	24	420	43,4	6	589	cw/ccw		spur
	TG-55LA-SV-250 24V	_	14,3	24	420	43,4	6	589	cw/ccw		spur
	TG-55LA-SV-300 24V		12	24	420	43,4	6	589	cw/ccw		spur
	TG-55LA-SV-360 24	_	10,1	24	420	43,4	6	589	cw/ccw		spur
		_							· ·		<u> </u>
	TG-55LA-SV-495 24\	V	7,4	24	420	43,4	6	589	cw/ccw	integr	spur
	TG-55LA-SV-495 24V		5	24	420 420	43,4 43,4	6	589 589	cw/ccw		spur

420

43,4

24

3,7

TG-55LA-SV-1006 24V

BLDC 1,6 ~ 8,8W; 3-phase; motor only

BLDC 1,6 ~ 8,8W; 3-phase;			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55LA-SM15 24V		180	24	420	43,4	6	196	cw/ccw	integr	spur
	TG-55LA-SM 18 24V		160	24	420	43,4	6	196	cw/ccw	integr	spur
	TG-55LA-SM 25 24V		126	24	420	43,4	6	196	cw/ccw	integr	spur
	TG-55LA-SM 30 24V		109	24	420	43,4	6	196	cw/ccw	integr	spur
	TG-55LA-SM 36 24V		84,6	24	420	43,4	6	294	cw/ccw	integr	spur
	TG-55LA-SM 50 24V		65,2	24	420	43,4	6	294	cw/ccw	integr	spur
	TG-55LA-SM 60 24V		55,9	24	420	43,4	6	294	cw/ccw	integr	spur
	TG-55LA-SM 75 24V	asa	46	24	420	43,4	6	294	cw/ccw	integr	spur
	TG-55LA-SM 100 24V	Tsukasa	35,4	24	420	43,4	6	294	cw/ccw	integr	spur
-500	TG-55LA-SM 120 24V	-	27,5	24	420	43,4	6	588	cw/ccw	integr	spur
100	TG-55LA-SM 150 24V		22,7	24	420	43,4	6	588	CW/CCW	integr	spur
	TG-55LA-SM 200 24V		17,6	24	420	43,4	6	588	CW/CCW	integr	spur
	TG-55LA-SM 250 24V		14,3	24	420	43,4	6	588	CW/CCW	integr	spur
	TG-55LA-SM 300 24V		12	24	420	43,4	6	588	CW/CCW	integr	spur
	TG-55LA-SM 500 24V		7,4	24	420	43,4	6	588	CW/CCW	integr	spur
	TG-55LA-SM 750 24V		5	24	420	43,4	6	588	CW/CCW	integr	spur
ning 4.5 a nitt n = b =	TG-55LA-SM 1000 24V		3,8	24	420	43,4	6	588	CW/CCW	integr	spur
BLDC 1,6 ~ 8,8W; 3-phase; s			speed	Voltage V	current	sizes	shaftØ	torque	direction rotation	driver	gearbox
	part nr. TG-55LA-AMD-18 24V		rpm 148	24	mA 420	mm 43	mm 6	mNm 245	CW/CCW	contr integr	spur
	TG-55LA-AMD-25 24V		106	24	420	43	6	343	cw/ccw	integr	spur
	TG-55LA-AMD-30 24V		90,1	24	420	43	6	392	cw/ccw	integr	spur
	TG-55LA-AMD-36 24V		80,2	24	420	43	6	392	cw/ccw	integr	spur
	TG-55LA-AMD-50 24V		57,8	24	420	43	6	490	cw/ccw	integr	spur
O C	TG-55LA-AMD-60 24V		50,7	24	420	43	6	490	cw/ccw	integr	spur
	TG-55LA-AMD-75 24V	asa	42,7	24	420	43	6	490	cw/ccw	integr	spur
Linux	TG-55LA-AMD-100 24V	Fsukasa	31,7	24	420	43	6	686	cw/ccw	integr	spur
	TG-55LA-AMD-120 24V	Ë	27,3	24	420	43	6	686	cw/ccw	integr	spur
	TG-55LA-AMD-150 24V		22,6	24	420	43	6	686	cw/ccw	integr	spur
	TG-55LA-AMD-200 24V		17,3	24	420	43	6	686	cw/ccw	integr	spur
	TG-55LA-AMD-250 24V		14,1	24	420	43	6	686	cw/ccw	integr	spur
	TG-55LA-AMD-300 24V		11,9	24	420	43	6	686	cw/ccw	integr	spur
	TG-55LA-AMD-500 24V		7,4	24	420	43	6	686	cw/ccw	integr	spur
BLDC 1,6 ~ 8,8W; 3-phase; s	pur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
				0		SILCO			an conon	direct	Bearson
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	Bearson
	TG-55LA-AP-20 24V		rpm 147	V 24	mA 420	mm 43			rotation CW/CCW		spur
	TG-55LA-AP-20 24V TG-55LA-AP-27 24V		147 107	V 24 24	mA 420 420	mm 43 43	mm 6 6	mNm 245 343	rotation CW/CCW CW/CCW	contr integr integr	
	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V	asa	147 107 65,2	V 24 24 24	mA 420 420 420	43 43 43	6 6 6	mNm 245 343 539	rotation CW/CCW CW/CCW	contr integr integr integr	spur spur spur
	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V	sukasa	147 107 65,2 42,3	V 24 24 24 24 24	mA 420 420 420 420	mm 43 43 43 43	mm 6 6 6 6	mNm 245 343 539 833	rotation CW/CCW CW/CCW CW/CCW	contr integr integr integr integr	spur spur spur spur
	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V	Tsukasa	147 107 65,2 42,3 35,3	V 24 24 24 24 24 24	mA 420 420 420 420 420	mm 43 43 43 43 43	mm 6 6 6 6 6	mNm 245 343 539 833 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW	contr integr integr integr integr integr	spur spur spur spur spur
	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V		147 107 65,2 42,3 35,3 33,1	V 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43	mm 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	contr integr integr integr integr integr integr	spur spur spur spur spur spur
	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V		147 107 65,2 42,3 35,3 33,1 24,3	24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420	43 43 43 43 43 43 43 43	mm 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V pur gearhead		147 107 65,2 42,3 35,3 33,1 24,3 speed	24 24 24 24 24 24 24 24 24 Voltage	mA 420 420 420 420 420 420 420 420 current	43 43 43 43 43 43 43 43 43 8izes	mm 6 6 6 6 6 6 shaftø	mNm 245 343 539 833 980 980 680 torque	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction	contr integr integr integr integr integr integr integr driver	spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V pur gearhead part nr.		147 107 65,2 42,3 35,3 33,1 24,3 speed rpm	24 24 24 24 24 24 24 24 Voltage V	mA 420 420 420 420 420 420 420 420 current mA	43 43 43 43 43 43 43 43 43 mm	mm 6 6 6 6 6 6 6 shaftØ	mNm 245 343 539 833 980 980 680 torque mNm	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation	integr integr integr integr integr integr integr integr driver contr	spur spur spur spur spur spur spur gearbox
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V pur gearhead		147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209	24 24 24 24 24 24 24 24 Voltage V	mA 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 60	mm 6 6 6 6 6 6 6 shaftØ mm 6	mNm 245 343 539 833 980 980 680 torque mNm 196	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr integr integr integr integr integr integr integr driver contr integr	spur spur spur spur spur spur spur gearbox
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-AP-135 24V TG-55LA-BE-12.5 24V		147 107 65,2 42,3 35,3 33,1 24,3 speed rpm	24 24 24 24 24 24 24 24 Voltage V	mA 420 420 420 420 420 420 420 420 current mA	43 43 43 43 43 43 43 43 43 mm	mm 6 6 6 6 6 6 6 shaftØ	mNm 245 343 539 833 980 980 680 torque mNm	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation	integr integr integr integr integr integr integr integr driver contr	spur spur spur spur spur spur spur gearbox
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-AP-135 24V TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V		147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148	24 24 24 24 24 24 24 24 Voltage V 24 24	mA 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 60 60	mm 6 6 6 6 6 6 6 5 shaftØ mm 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW CW/CCW	integr integr integr integr integr integr integr driver contr integr integr	spur spur spur spur spur spur spur gearbox
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115	24 24 24 24 24 24 24 Voltage V 24 24 24 24	mA 420 420 420 420 420 420 420 420	43 43 43 43 43 43 43 5izes 60 60	mm 6 6 6 6 6 6 shaftø mm 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr driver contr integr integr integr	spur spur spur spur spur spur spur gearbox
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V TG-55LA-BE-25 24V TG-55LA-BE-30 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1	V 24 24 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 60 60 60	mm 6 6 6 6 6 6 shaftø mm 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr driver contr integr integr integr integr integr integr	spur spur spur spur spur spur spur gearbox spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V TG-55LA-BE-25 24V TG-55LA-BE-30 24V TG-55LA-BE-75 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2	V 24 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 60 60 60 60	mm 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr driver contr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-25 24V TG-55LA-BE-30 24V TG-55LA-BE-75 24V		147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9	V 24 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 60 60 60 60 60	mm 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	integr integr integr integr integr integr integr driver contr integr integr integr integr integr integr integr integr integr integr	spur spur spur spur spur spur gearbox spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V TG-55LA-BE-30 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-150 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3	V 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 sizes mm 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr integr integr integr integr integr integr integr integr driver contr integr	spur spur spur spur spur spur gearbox spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-75 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-100 24V TG-55LA-BE-100 24V TG-55LA-BE-100 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8	V 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 sizes mm 60 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr integr integr integr integr integr integr integr integr driver contr integr	spur spur spur spur spur spur gearbox spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-30 24V TG-55LA-BE-150 24V TG-55LA-BE-150 24V TG-55LA-BE-150 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5	V 24 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 sizes mm 60 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur spur spur
BLDC 1,6 ≈ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-30 24V TG-55LA-BE-100 24V TG-55LA-BE-150 24V TG-55LA-BE-200 24V TG-55LA-BE-300 24V TG-55LA-BE-300 24V TG-55LA-BE-300 24V TG-55LA-BE-300 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2	V 24 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 sizes mm 60 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr integr integr integr integr integr integr integr integr driver contr integr	spur spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; s	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-81 24V TG-55LA-AP-83 24V TG-55LA-BE-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-30 24V TG-55LA-BE-100 24V TG-55LA-BE-200 24V TG-55LA-BE-300 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-750 24V TG-55LA-BE-750 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 8izes mm 60 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 torque	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-81 24V TG-55LA-AP-83 24V TG-55LA-AP-133 24V pur gearhead part nr. TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V TG-55LA-BE-30 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-300 24V TG-55LA-BE-300 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-750 24V TG-55LA-BE-1000 24V TG-55LA-BE-1000 24V TG-55LA-BE-1000 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm	V 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 sizes mm 60 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 torque mNm	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur gearbox spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V TG-55LA-BE-75 24V TG-55LA-BE-75 24V TG-55LA-BE-75 24V TG-55LA-BE-75 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-750 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209	V 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 sizes mm 60 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 8 8 8 8	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 torque mNm 196	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur gearbox spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V TG-55LA-BE-25 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-100 24V TG-55LA-BE-200 24V TG-55LA-BE-300 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-1000 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148	V 24 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 8 8 8 8 8	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 torque mNm 196 245	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-18 24V TG-55LA-BE-25 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148 106	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 43	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 100 100 100 100 100 100 100 100 100 1	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-25 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V	Tsukasa Tsu	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148 106 90,1	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 43	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 980 980 380 980 407 196 245 343 392	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-30 24V TG-55LA-BE-100 24V	Tsukasa Tsu	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148 106 90,1 52,9	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 43	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 980 980 380 980 380 407 408 408 408 408 408 408 408 408 408 408	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-13 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-15 24V TG-55LA-BE-100 24V	Tsn	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148 106 90,1 52,9 35,2	V 24 24 24 24 Voltage V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 43	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 980 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	contr integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-13 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-15 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-1000 24V	Tsukasa Tsu	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148 106 90,1 52,9 35,2 26,1	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 980 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	contr integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-13 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-15 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-200 24V TG-55LA-BE-100 24V TG-55LA-BE-200 24V TG-55LA-BE-300 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-1000 24V TG-55LA-BE-1000 24V TG-55LA-BB-1000 24V TG-55LA-BB-1000 24V TG-55LA-BB-150 24V	Tsukasa Tsu	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148 106 90,1 52,9 35,2 26,1 22,1	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	mm 43 43 43 43 43 43 43 43 43 60 60 60 60 60 60 60 60 60 60 60 60 60	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 980 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	integr	spur spur spur spur spur spur spur spur
E-180-181 3219	TG-55LA-AP-20 24V TG-55LA-AP-27 24V TG-55LA-AP-43 24V TG-55LA-AP-67 24V TG-55LA-AP-81 24V TG-55LA-AP-89 24V TG-55LA-AP-133 24V TG-55LA-BE-13 24V TG-55LA-BE-12.5 24V TG-55LA-BE-12.5 24V TG-55LA-BE-15 24V TG-55LA-BE-75 24V TG-55LA-BE-100 24V TG-55LA-BE-500 24V TG-55LA-BE-500 24V TG-55LA-BE-1000 24V	Tsukasa Tsu	147 107 65,2 42,3 35,3 33,1 24,3 speed rpm 209 148 115 90,1 35,2 28,9 21,3 16,8 11,5 7,2 4,9 3,7 speed rpm 209 148 106 90,1 52,9 35,2 26,1	V 24 24 24 24 24 24 24 24 24 24 24 24 24	mA 420 420 420 420 420 420 420 420 420 420	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 245 343 539 833 980 980 680 torque mNm 196 245 294 392 931 980 980 980 980 980 980 980 980 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	contr integr	spur spur spur spur spur spur spur spur



BLDC 1,6 ~ 8,8W; 3-phase;	spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	ν	mA	mm	mm	mNm	rotation	contr	
	TG-55N-SU-3,6 12V		730	12	510	Ø35,8 x 55,5	6	29,4	cw/ccw	ext	plan
	TG-55N-SU-4,8 12V	1	549	12	510	Ø35,8 x 55,5	6	39,2	cw/ccw	ext	plan
	TG-55N-SU-13,2 12V	1	197	12	510	Ø35,8 x 73,6	6	107,8	cw/ccw	ext	plan
	TG-55N-SU-17,6 12V	1	147	12	510	Ø35,8 x 73,6	6	147	cw/ccw	ext	plan
and the second	TG-55N-SU-23,5 12V	1	110	12	510	Ø35,8 x 73,6	6	196	cw/ccw	ext	plan
	TG-55N-SU-47,9 12V		53,9	12	510	Ø35,8 x 80,6	6	343	cw/ccw	ext	plan
0	TG-55N-SU-63,9 12V	ass	40,1	12	510	Ø35,8 x 80,6	6	490	cw/ccw	ext	plan
	TG-55N-SU-85,3 12V	Tsukasa	30,5	12	510	Ø35,8 x 80,6	6	637	cw/ccw	ext	plan
	TG-55N-SU-114 12V		22,5	12	510	Ø35,8 x 80,6	6	882	cw/ccw	ext	plan
	TG-55N-SU-174 12V		15,3	12	510	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55N-SU-232 12V		12,6	12	510	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55N-SU-310 12V		9,9	12	510	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55N-SU-413 12V		7,7	12	510	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55N-SU-552 12V		5,9	12	510	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
BLDC 1,6 ~ 8,8W; 3-phase;	spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	٧	mA	mm	mm	mNm	rotation	contr	
	TG-55L-SM-5 24V		522	24	420	Ø35,8 x 65	6	78,4	cw/ccw	ext	spur
	TG-55L-SM-10 24V		307	24	420	Ø35,8 x 65	6	98	cw/ccw	ext	spur
	TG-55L-SM-15 24V		180	24	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-18 24V]	160	24	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-25 24V		126	24	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-30 24V		109	24	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-36 24V		84,6	24	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55L-SM-50 24V		65,2	24	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
1	TG-55L-SM-60 24V	Sa	55,9	24	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55L-SM-75 24V	Tsukasa	46	24	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
0.00	TG-55L-SM-100 24V	ļ.	35,4	24	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
-910	TG-55L-SM-120 24V		27,5	24	420	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
1000	TG-55L-SM-150 24V		22,7	24	420	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
6.	TG-55L-SM-200 24V		17,6	24	420	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55L-SM-250 24V		14,3	24	420	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55L-SM-300 24V		12	24	420	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55L-SM-500 24V		7,4	24	420	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55L-SM-750 24V		5	24	420	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55L-SM-1000 24V		3,8	24	420	Ø35,8 x 75	6	588	cw/ccw	ext	spur
BLDC 1,6 ~ 8,8W; 3-phase;	spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55L-SM-5 12V		140	12	420	Ø35,8 x 65	6	78,4	cw/ccw	ext	spur
	TG-55L-SM-10 12V		111	12	420	Ø35,8 x 65	6	98	cw/ccw	ext	spur
	TG-55L-SM-15 12V		52	12	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-18 12V		52,7	12	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-25 12V		47,4	12	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-30 12V		42,9	12	420	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55L-SM-36 12V		30,3	12	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
-	TG-55L-SM-50 12V		25,7	12	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55L-SM-60 12V	Tsukasa	22,9	12	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
No.	TG-55L-SM-75 12V	Ι Υ	19,4	12	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
100		I/A	15.4	1.2	420	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55L-SM-100 12V	, E	15,4	12							
		Ts	11	12	420	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55L-SM-100 12V	Ts					6 6	588 588	cw/ccw		spur spur
	TG-55L-SM-100 12V TG-55L-SM-120 12V	Ts	11	12	420	Ø35,8 x 72,5			cw/ccw	ext	
	TG-55L-SM-100 12V TG-55L-SM-120 12V TG-55L-SM-150 12V	Ts	11 9,5	12 12	420 420	Ø35,8 x 72,5 Ø35,8 x 72,5	6	588	cw/ccw cw/ccw	ext ext	spur
	TG-55L-SM-100 12V TG-55L-SM-120 12V TG-55L-SM-150 12V TG-55L-SM-200 12V	Ts	9,5 7,6	12 12 12	420 420 420	Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5	6 6 6	588 588	cw/ccw cw/ccw cw/ccw	ext ext ext	spur spur
	TG-55L-SM-100 12V TG-55L-SM-120 12V TG-55L-SM-150 12V TG-55L-SM-200 12V TG-55L-SM-250 12V	T S	9,5 7,6 6,3	12 12 12 12	420 420 420 420	Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5	6 6 6	588 588 588	cw/ccw cw/ccw	ext ext ext ext	spur spur spur
	TG-55L-SM-100 12V TG-55L-SM-120 12V TG-55L-SM-150 12V TG-55L-SM-200 12V TG-55L-SM-250 12V TG-55L-SM-300 12V	T S	11 9,5 7,6 6,3 5,4	12 12 12 12 12	420 420 420 420 420	Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5 Ø35,8 x 72,5	6 6 6	588 588 588 588	cw/ccw cw/ccw cw/ccw	ext ext ext ext ext	spur spur spur spur



BLDC 1,6 ~ 8,8W; 3-phase;	spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
bebe 1/0 % 0/011/ 5 phase/	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	Bearbox
	TG-55M-SM-5 24V		1071	24	570	Ø35,8 x 65	6	58,8	cw/ccw	ext	spur
	TG-55M-SM-10 24V	1	556	24	570	Ø35,8 x 65	6	98	cw/ccw	ext	spur
	TG-55M-SM-15 24V	1	358	24	570	Ø35,8 x 67,5	6	156,8	cw/ccw	ext	spur
	TG-55M-SM-18 24V	1	299	24	570	Ø35,8 x 67,5	6	186,2	cw/ccw	ext	spur
	TG-55M-SM-25 24V	1	227	24	570	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55M-SM-30 24V	1	194	24	570	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
100	TG-55M-SM-36 24V	1	154	24	570	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55M-SM-50 24V	1	116	24	570	Ø35,8 x 70	6	294	cw/ccw	ext	spur
6.00	TG-55M-SM-60 24V	g	99,1	24	570	Ø35,8 x 70	6	294	cw/ccw	ext	spur
- 500	TG-55M-SM-75 24V	Tsukasa	80,9	24	570	Ø35,8 x 70	6	294	cw/ccw	ext	spur
1000	TG-55M-SM-100 24V	ıΣ	61,9	24	570	Ø35,8 x 70	6	294	cw/ccw	ext	spur
0.	TG-55M-SM-120 24V	1	49	24	570	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-150 24V	1	40,1	24	570	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-200 24V	1	30,8	24	570	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-250 24V	1	24,9	24	570	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-300 24V	1	21	24	570	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-500 24V	1	12,8	24	570	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55M-SM-750 24V	1	8,6	24	570	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55M-SM-1000 24V	1	6,5	24	570	Ø35,8 x 75	6	58,8	cw/ccw	ext	spur
BLDC 1,6 ~ 8,8W; 3-phase;			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	8
	TG-55M-SM-5 12V		424	12	560	Ø35,8 x 65	6	98	cw/ccw	ext	spur
	TG-55M-SM-10 12V	1	230	12	560	Ø35,8 x 65	6	156,8	cw/ccw	ext	spur
	TG-55M-SM-15 12V	1	142	12	560	Ø35,8 x 67,5	6	186,2	cw/ccw	ext	spur
	TG-55M-SM-18 12V	1	119	12	560	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55M-SM-25 12V	1	95,7	12	560	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55M-SM-30 12V	1	84,1	12	560	Ø35,8 x 67,5	6	294	cw/ccw	ext	spur
	TG-55M-SM-36 12V	1	63,1	12	560	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55M-SM-50 12V	1	50,5	12	560	Ø35,8 x 70	6	294	cw/ccw	ext	spur
0	TG-55M-SM-60 12V	g	43,9	12	560	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55M-SM-75 12V	Tsukasa	36,5	12	560	Ø35,8 x 70	6	294	cw/ccw	ext	spur
100	TG-55M-SM-100 12V	ış.	28,5	12	560	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55M-SM-120 12V	1	21,4	12	560	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-150 12V	1	18	12	560	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-200 12V	1	14,1	12	560	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-250 12V	1	11,5	12	560	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-300 12V	1	9,8	12	560	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55M-SM-500 12V	1	6	12	560	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55M-SM-750 12V	1	4,1	12	560	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55M-SM-1000 12V	1	3,1	12	560	Ø35,8 x 75	6	588	cw/ccw	ext	spur
BLDC 1,6 ~ 8,8W; 3-phase;	spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	tion of rot	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55N-SM-10 24V		722	24	540	Ø35,8 x 65	6	78,4	cw/ccw	ext	spur
	TG-55N-SM-15 24V	1	486	24	540	Ø35,8 x 67,5	6	98	cw/ccw	ext	spur
	TG-55N-SM-18 24V	1	401	24	540	Ø35,8 x 67,5	6	127,4	cw/ccw	ext	spur
	TG-55N-SM-25 24V	1	289	24	540	Ø35,8 x 67,5	6	176,4	cw/ccw	ext	spur
	TG-55N-SM-30 24V	1	243	24	540	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55N-SM-36 24V	1	204	24	540	Ø35,8 x 70	6	196	cw/ccw	ext	spur
	TG-55N-SM-50 24V	1	146	24	540	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55N-SM-60 24V	1	124	24	540	Ø35,8 x 70	6	294	cw/ccw	ext	spur
0	TG-55N-SM-75 24V	Tsukasa	101	24	540	Ø35,8 x 70	6	294	cw/ccw	ext	spur
6	TG-55N-SM-100 24V	Suk	77,6	24	540	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55N-SM-120 24V	ř	61,3	24	540	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55N-SM-150 24V	1	50,2	24	540	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55N-SM-200 24V	1	38,5	24	540	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55N-SM-250 24V	1	31,3	24	540	Ø35,8 x 72,5		588	cw/ccw	ext	spur
	TG-55N-SM-300 24V	1	26,3	24	540	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55N-SM-500 24V	1	16	24	540	Ø35,8 x 72,3	6	588	cw/ccw	ext	spur
	TG-55N-SM-750 24V	1	10,8	24	540	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	. 5 5514-5141-750 Z4V	1		24							
	TG-55N-SM-1000 24V		8,1	24	540	Ø35,8 x 75	6	588	cw/ccw	ext	spur

BLDC 1,6 ~ 8,8W; 3-phase	spur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55N-SM-5 12V		614	12	510	Ø35,8 x 65	6	39,2	cw/ccw	ext	spur
	TG-55N-SM-10 12V		307	12	510	Ø35,8 x 65	6	78,4	cw/ccw	ext	spur
	TG-55N-SM-15 12V		209	12	510	Ø35,8 x 67,5	6	98	cw/ccw	ext	spur
	TG-55N-SM-18 12V		170	12	510	Ø35,8 x 67,5	6	127,4	cw/ccw	ext	spur
	TG-55N-SM-25 12V		123	12	510	Ø35,8 x 67,5	6	176,4	cw/ccw	ext	spur
	TG-55N-SM-30 12V		105	12	510	Ø35,8 x 67,5	6	196	cw/ccw	ext	spur
	TG-55N-SM-36 12V		89	12	510	Ø35,8 x 70	6	196	cw/ccw	ext	spur
	TG-55N-SM-50 12V		62,8	12	510	Ø35,8 x 70	6	294	cw/ccw	ext	spur
	TG-55N-SM-60 12V	asa	54,7	12	510	Ø35,8 x 70	6	294	cw/ccw	ext	spur
9	TG-55N-SM-75 12V	sukasa	45,7	12	510	Ø35,8 x 70	6	294	cw/ccw	ext	spur
100	TG-55N-SM-100 12V	-	35,7	12	510	Ø35,8 x 70	6	294	CW/CCW	ext	spur
6.	TG-55N-SM-120 12V	-	26,7	12 12	510	Ø35,8 x 72,5	6	588 588	cw/ccw	ext	spur
	TG-55N-SM-150 12V TG-55N-SM-200 12V	1	22,4 17,6	12	510 510	Ø35,8 x 72,5 Ø35,8 x 72,5	6	588	cw/ccw	ext ext	spur
	TG-55N-SM-250 12V	1	14,5	12	510	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur spur
	TG-55N-SM-300 12V	1	12,3	12	510	Ø35,8 x 72,5	6	588	cw/ccw	ext	spur
	TG-55N-SM-500 12V	1	7,6	12	510	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55N-SM-750 12V	1	5,2	12	510	Ø35,8 x 75	6	588	cw/ccw	ext	spur
	TG-55N-SM-1000 12V	1	3,9	12	510	Ø35,8 x 75	6	588	cw/ccw	ext	spur
BLDC 1,6 ~ 8,8W; 3-phase;			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55L-AP-8 24V		361	24	420	43sq x 72	6	98	cw/ccw	no	spur
	TG-55L-AP-13 24V		207	24	420	43sq x 72	6	196	cw/ccw	no	spur
	TG-55L-AP-16 24V		183	24	420	43sq x 72	6	196	cw/ccw	no	spur
	TG-55L-AP-20 24V		147	24	420	43sq x 72	6	245	cw/ccw	no	spur
	TG-55L-AP-27 24V		107	24	420	43sq x 72	6	343	cw/ccw	no	spur
Control of the contro	TG-55L-AP-32 24V	g	86,5	24	420	43sq x 72	6	441	cw/ccw	no	spur
	TG-55L-AP-43 24V	Tsukasa	65,2	24	420	43sq x 72	6	539	cw/ccw	no	spur
- Carrier	TG-55L-AP-53 24V	_ાડ	54,3	24	420	43sq x 72	6	637	CW/CCW	no	spur
	TG-55L-AP-67 24V		42,3	24	420	43sq x 72	6	833	CW/CCW	no	spur
	TG-55L-AP-81 24V	-	35,3	24	420	43sq x 72	6	980	cw/ccw	no	spur
	TG-55L-AP-89 24V	-	33,1	24	420	43sq x 72	6	980	CW/CCW	no	spur
	TG-55L-AP-108 24V		28,7	24	420	43sq x 72	6	980	cw/ccw	no	spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V		28,7 24,3	24 24	420 420	43sq x 72 43sq x 72	6 6	980 980	cw/ccw	no no	spur spur
BIDC 1.6 v 8.8W: 3-phase	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V		28,7 24,3 124	24 24 12	420 420 420	43sq x 72 43sq x 72 43sq x 72	6 6 6	980 980 98	cw/ccw cw/ccw	no no no	spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase,	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V		28,7 24,3 124 speed	24 24	420 420 420 current	43sq x 72 43sq x 72 43sq x 72 sizes	6 6 6 shaftØ	980 980 98 torque	cw/ccw cw/ccw cw/ccw direction	no no no driver	spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead		28,7 24,3 124	24 24 12 Voltage	420 420 420	43sq x 72 43sq x 72 43sq x 72	6 6 6	980 980 98	cw/ccw cw/ccw	no no no	spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr.		28,7 24,3 124 speed rpm	24 24 12 Voltage V	420 420 420 current mA	43sq x 72 43sq x 72 43sq x 72 43sq x 72 sizes mm	6 6 6 shaftø mm	980 980 98 torque mNm	cw/ccw cw/ccw cw/ccw direction rotation	no no no driver contr	spur spur spur gearbox
BLDC 1,6 ~ 8,8W; 3-phase	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V		28,7 24,3 124 speed rpm 125	24 24 12 Voltage V	420 420 420 current mA 420	43sq x 72 43sq x 72 43sq x 72 43sq x 72 sizes mm 43	6 6 6 shaftØ mm 6	980 980 98 torque mNm 98	CW/CCW CW/CCW direction rotation CW/CCW	no no no driver contr no	spur spur spur gearbox spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V		28,7 24,3 124 speed rpm 125 59	24 24 12 Voltage V 12	420 420 420 current mA 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43	6 6 6 shaftØ mm 6	980 980 98 torque mNm 98 196	CW/CCW CW/CCW CW/CCW direction rotation CW/CCW CW/CCW	no no no driver contr no no	spur spur spur gearbox spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V		28,7 24,3 124 speed rpm 125 59 60,1	24 24 12 Voltage V 12 12	420 420 420 current mA 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43	6 6 8 shaftØ mm 6 6	980 980 98 torque mNm 98 196	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw	no no no driver contr no no	spur spur spur gearbox spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V Spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V	ısa	28,7 24,3 124 speed rpm 125 59 60,1 48,1	24 24 12 Voltage V 12 12 12	420 420 420 current mA 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43	6 6 8haftØ mm 6 6 6	980 980 98 torque mNm 98 196 196	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw cw/ccw	no no no driver contr no no no	spur spur spur gearbox spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V Spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-27 12V	ukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4	24 24 12 Voltage V 12 12 12 12	420 420 420 current mA 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43	6 6 6 shaftØ mm 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw	no no no driver contr no no no no	spur spur spur gearbox spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-27 12V TG-55L-AP-32 12V TG-55L-AP-33 12V TG-55L-AP-33 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4	24 24 12 Voltage V 12 12 12 12 12 12 12 12	420 420 420 current mA 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43	6 6 8haftØ mm 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637	cw/ccw cw/ccw direction rotation cw/ccw	no no driver contr no	spur spur spur gearbox spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-27 12V TG-55L-AP-32 12V TG-55L-AP-33 12V TG-55L-AP-33 12V TG-55L-AP-67 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12	420 420 420 current mA 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 8haftØ mm 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833	cw/ccw cw/ccw direction rotation cw/ccw	no no no driver contr no	spur spur spur gearbox spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-27 12V TG-55L-AP-32 12V TG-55L-AP-33 12V TG-55L-AP-67 12V TG-55L-AP-67 12V TG-55L-AP-67 12V TG-55L-AP-81 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12	420 420 420 current mA 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 8haftØ mm 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980	cw/ccw cw/ccw direction rotation cw/ccw	no no driver contr no	spur spur gearbox spur spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-67 12V TG-55L-AP-67 12V TG-55L-AP-81 12V TG-55L-AP-81 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12	420 420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980	cw/ccw cw/ccw direction rotation cw/ccw	no no no driver contr no	spur spur gearbox spur spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-67 12V TG-55L-AP-67 12V TG-55L-AP-89 12V TG-55L-AP-89 12V TG-55L-AP-89 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980	cw/ccw cw/ccw direction rotation cw/ccw	no no no driver contr no	spur spur gearbox spur spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V **spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-67 12V TG-55L-AP-89 12V TG-55L-AP-89 12V TG-55L-AP-89 12V TG-55L-AP-108 12V TG-55L-AP-133 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 420 current mA 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980	cw/ccw cw/ccw direction rotation cw/ccw	no no no driver contr no	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-108 12V TG-55L-AP-133 12V TG-55L-AP-133 12V part nr.	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 8 8haftØ	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 torque	cw/ccw cw/ccw direction rotation cw/ccw direction	no no no driver contr no	spur spur gearbox spur spur spur spur spur spur spur spur
BLDC 1,6 ~ 8,8W; 3-phase; BLDC 1,6 ~ 8,8W; 3-phase;	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-108 12V TG-55L-AP-108 12V TG-55L-AP-133 12V TG-55L-AP-133 12V part nr. spur gearhead	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 Voltage V	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 shaftØ mm	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 torque mNm	cw/ccw cw/ccw direction rotation cw/ccw	no no no driver contr no	spur spur gearbox spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-108 12V TG-55L-AP-108 12V TG-55L-AP-108 12V TG-55L-AP-133 12V part nr. spur gearhead TG-55M-AP-8 24V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 8 8haftØ mm 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 torque mNm 98	cw/ccw cw/ccw direction rotation cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-133 12V TG-55L-AP-108 12V TG-55L-AP-133 12V TG-55L-AP-133 12V TG-55L-AP-133 12V TG-55L-AP-133 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8	cw/ccw cw/ccw direction rotation cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-31 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-13 12V TG-55L-AP-13 12V TG-55L-AP-108 12V TG-55L-AP-108 12V TG-55L-AP-133 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 8 8haftØ mm 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 torque mNm 98	cw/ccw cw/ccw direction rotation cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-133 12V TG-55L-AP-108 12V TG-55L-AP-133 12V TG-55L-AP-133 12V TG-55L-AP-133 12V TG-55L-AP-133 12V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 shaftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2	cw/ccw cw/ccw direction rotation cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-133 24V TG-55L-AP-6 12V TG-55L-AP-6 12V TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-31 12V TG-55L-AP-67 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-133 12V TG-55L-AP-108 12V TG-55L-AP-108 12V TG-55L-AP-133 12V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342 285	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196	cw/ccw cw/ccw direction rotation cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-133 24V TG-55L-AP-6 12V TG-55L-AP-6 12V TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-67 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-108 12V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342 285 205	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 12	420 420 current mA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196 294	cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V TG-55L-AP-6 12V TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-13 12V TG-55L-AP-13 12V TG-55L-AP-108 12V	Tsukasa	28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342 285 205 166	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 14 24 24 24 24	420 420 current MA 420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 8 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196 294 392	cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V TG-55L-AP-6 12V TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-21 212V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-31 12V TG-55L-AP-81 12V TG-55L-AP-13 12V TG-55L-AP-13 12V TG-55L-AP-108 12V TG-55L-AP-13 24V TG-55M-AP-13 24V TG-55M-AP-13 24V TG-55M-AP-16 24V TG-55M-AP-20 24V TG-55M-AP-20 24V TG-55M-AP-32 24V TG-55M-AP-32 24V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342 285 205 166 124	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 14 24 24 24 24 24	420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196 294 392 490	cw/ccw	no no no driver contr no	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-133 24V TG-55L-AP-6 12V TG-55L-AP-6 12V TG-55L-AP-13 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-21 212V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-31 12V TG-55L-AP-31 12V TG-55L-AP-13 12V TG-55L-AP-13 12V TG-55L-AP-13 12V TG-55L-AP-108 12V TG-55L-AP-13 24V TG-55M-AP-13 24V TG-55M-AP-13 24V TG-55M-AP-16 24V TG-55M-AP-20 24V TG-55M-AP-32 24V TG-55M-AP-32 24V TG-55M-AP-32 24V TG-55M-AP-33 24V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342 285 205 166 124 102	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 14 24 24 24 24 24 24	420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196 294 392 490 588	cw/ccw	no n	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-108 12V TG-55M-AP-108 24V TG-55M-AP-108 24V TG-55M-AP-108 24V TG-55M-AP-208 24V TG-55M-AP-208 24V TG-55M-AP-308 24V TG-55M-AP-308 24V TG-55M-AP-308 24V TG-55M-AP-67 24V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342 285 205 166 124 102 80,8	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 24 24 24 24 24 24 24 24	420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 8 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196 294 392 490 588 735	cw/ccw	no no no driver contr no	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-133 24V TG-55L-AP-6 12V TG-55L-AP-6 12V TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-21 212V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-31 12V TG-55L-AP-31 12V TG-55L-AP-108 12V TG-55M-AP-108 12V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,2 10,5 9,5 speed rpm 660 412 342 285 205 166 124 102 80,8 66,9	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 4 24 24 24 24 24 24 24 24 24	420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 8haftØ mm 6 6 6 6 6 6 6 6 6 8 8haftØ mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196 294 392 490 588 735 882	cw/ccw cw/ccw direction rotation cw/ccw	no no no driver contr no	spur spur spur spur spur spur spur spur
	TG-55L-AP-108 24V TG-55L-AP-133 24V TG-55L-AP-6 12V spur gearhead part nr. TG-55L-AP-8 12V TG-55L-AP-8 12V TG-55L-AP-13 12V TG-55L-AP-16 12V TG-55L-AP-20 12V TG-55L-AP-20 12V TG-55L-AP-32 12V TG-55L-AP-32 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-81 12V TG-55L-AP-108 12V TG-55M-AP-108 24V		28,7 24,3 124 speed rpm 125 59 60,1 48,1 34,4 26,7 20,6 17,4 13,3 11,3 11,2 10,5 9,5 speed rpm 660 412 342 285 205 166 124 102 80,8 66,9 60,6	24 24 12 Voltage V 12 12 12 12 12 12 12 12 12 12 12 12 4 24 24 24 24 24 24 24 24 24 24 24	420 420 420 420 420 420 420 420 420 420	43sq x 72 43sq x 72 43sq x 72 sizes mm 43 43 43 43 43 43 43 43 43 43 43 43 43	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	980 980 98 torque mNm 98 196 196 245 343 441 539 637 833 980 980 980 980 156,8 186,2 196 294 392 490 588 735 882 980	cw/ccw	no n	spur spur spur spur spur spur spur spur



BLDC 1,6 ~ 8,8W; 3-phase; sp	our gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55M-AP-6 12V		372	12	560	43	6	68,6	cw/ccw	no	spur
	TG-55M-AP-8 12V		266	12	560	43	6	6 98	cw/ccw	no	spur
	TG-55M-AP-13 12V		163	12	560	43	6	156,8	cw/ccw	no	spur
	TG-55M-AP-16 12V		136	12	560	43	6	186,2	cw/ccw	no	spur
	TG-55M-AP-20 12V		118	12	560	43	6	196	cw/ccw	no	spur
	TG-55M-AP-27 12V		82,9	12	560	43	6	294	cw/ccw	no	spur
2	TG-55M-AP-32 12V	Tsukasa	65,4	12	560	43	6	392	cw/ccw	no	spur
Consultation of the Consul	TG-55M-AP-43 12V		49	12	560	43	6	490	cw/ccw	no	spur
	TG-55M-AP-53 12V		40,6	12	560	43	6	588	cw/ccw	no	spur
	TG-55M-AP-67 12V		32,2	12	560	43	6	735	cw/ccw	no	spur
	TG-55M-AP-81 12V		26,7	12	560	43	6	882	cw/ccw	no	spur
	TG-55M-AP-89 12V		24,2	12	560	43	6	980	cw/ccw	no	spur
	TG-55M-AP-108 12V		21,6	12	560	43	6	980	cw/ccw	no	spur
	TG-55M-AP-133 12V		18,7	12	560	43	6	980	cw/ccw	no	spur
BLDC 1,6 ~ 8,8W; 3-phase; sp	ur gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55N-AP-8 24V		878	24	540	43	6	68,6	cw/ccw	no	spur
	TG-55N-AP-13 24V		560	24	540	43	6	98	cw/ccw	no	spur
	TG-55N-AP-16 24V		458	24	540	43	6	127,4	cw/ccw	no	spur
	TG-55N-AP-20 24V		370	24	540	43	6	127,4	cw/ccw	no	spur
	TG-55N-AP-27 24V		274	24	540	43	6	196	cw/ccw	no	spur
	TG-55N-AP-32 24V	sa	225	24	540	43	6	245	cw/ccw	no	spur
	TG-55N-AP-43 24V	Tsukasa	169	24	540	43	6	294	cw/ccw	no	spur
	TG-55N-AP-53 24V		138	24	540	43	6	392	cw/ccw	no	spur
	TG-55N-AP-67 24V		109	24	540	43	6	490	cw/ccw	no	spur
	TG-55N-AP-81 24V		89,8	24	540	43	6	588	cw/ccw	no	spur
	TG-55N-AP-89 24V		81,8	24	540	43	6	637	cw/ccw	no	spur
	TG-55N-AP-108 24V		67,4	24	540	43	6	784	cw/ccw	no	spur
	TG-55N-AP-133 24V		54,3	24	540	43	6	980	cw/ccw	no	spur
BLDC 1,6 ~ 8,8W; 3-phase; sp	our gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55N-AP-6 12V		518	12	510	43	6	49	cw/ccw	no	spur
	TG-55N-AP-8 12V		375	12	510	43	6	68,6	cw/ccw	no	spur
	TG-55N-AP-13 12V		241	12	510	43	6	98	cw/ccw	no	spur
	TG-55N-AP-16 12V		194	12	510	43	6	127,4	cw/ccw	no	spur
	TG-55N-AP-20 12V		157	12	510	43	6	156,8	cw/ccw	no	spur
	TG-55N-AP-27 12V	m	118	12	510	43	6	196	cw/ccw	no	spur
0	TG-55N-AP-32 12V	kasa	96,6	12	510	43	6	245	cw/ccw	no	spur
	TG-55N-AP-43 12V	Z.	73,1	12	510	43	6	294	cw/ccw	no	spur
	TG-55N-AP-53 12V		58,7	12	510	43	6	392	cw/ccw	no	spur
	TG-55N-AP-67 12V	1	46,4	12	510	43	6	490	cw/ccw	no	spur
	TG-55N-AP-81 12V		38,4	12	510	43	6	588	cw/ccw	no	spur
	TG-55N-AP-89 12V]	35,1	12	510	43	6	637	cw/ccw	no	spur
	TG-55N-AP-108 12V	1	28,8	12	510	43	6	784	cw/ccw	no	spur
	TG-55N-AP-133 12V		23,2	12	510	43	6	980	cw/ccw	no	spur



Dynetics B.V. De Rijn 12 5684PJ Best, The Netherlands Tel: +31-(0)499-371007 | Fax: +31-(0)499-372008

Dynetics GmbH Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland Tel: +49-(0)2157-128990 | Fax: +49-(0)2157-128999



BLDC 1,6 ~ 8,8W; 3-phase; p	lanetami geambead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
BLDC 1,6 ≈ 6,6W; 3-phase; p	part nr.		rpm	Voltage	mA	mm	mm	mNm	rotation	contr	gearbox
	TG-55L-SU-13,2, 12V		44,7	12	420	Ø35,8 x 73,6	6	196	cw/ccw	ext	plan
	TG-55L-SU-17,6, 12V		28,1	12	420	Ø35,8 x 73,6	6	294	cw/ccw	ext	plan
	TG-55L-SU-23,5 12V	1	21,1	12	420	Ø35,8 x 73,6	6	392	cw/ccw	ext	plan
	TG-55L-SU-47,9, 12V	1	10	12	420	Ø35,8 x 80,6	6	686	cw/ccw	ext	plan
	TG-55L-SU-63,9, 12V	1	7,2	12	420	Ø35,8 x 80,6	6	980	cw/ccw	ext	plan
	TG-55L-SU-85,3, 12V	Tsukasa	8,7	12	420	Ø35,8 x 80,6	6	980	cw/ccw	ext	plan
(2)	TG-55L-SU-114, 12V	š	8,3	12	420	Ø35,8 x 80,6	6	980	cw/ccw	ext	plan
	TG-55L-SU-174 12V	-	6,1	12	420	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55L-SU-232 12V		5,2	12	420	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55L-SU-310 12V		4,2	12	420	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55L-SU-413 12V		3,3	12	420	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55L-SU-552 12V		2,5	12	420	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
BLDC 1,6 ~ 8,8W; 3-phase; p	lanetary gearhead		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	TG-55M-SU-3,6 24V		1357	24	570	Ø35,8 x 55,5	6	49	cw/ccw	ext	plan
	TG-55M-SU-4,8 24V	-	1045	24	570	Ø35,8 x 55,5	6	58,8	cw/ccw	ext	plan
	TG-55M-SU-13,2 24V	-	375	24	570	Ø35,8 x 73,6	6	166,6	cw/ccw	ext	plan
	TG-55M-SU-17,6 24V	-	290	24	570	Ø35,8 x 73,6	6	196	cw/ccw	ext	plan
	TG-55M-SU-23,5 24V	-	212	24	570	Ø35,8 x 73,6	6	294	cw/ccw	ext	plan
	TG-55M-SU-47,9 24V	-	105	24	570	Ø35,8 x 80,6	6	490	CW/CCW	ext	plan
_	TG-55M-SU-63,9 24V	-	77,3	24	570	Ø35,8 x 80,6	6	735	CW/CCW	ext	plan
	TG-55M-SU-85,3 24V TG-55M-SU-114 24V	-	58,1	24 24	570 570	Ø35,8 x 80,6	6	980 980	cw/ccw	ext	plan
	TG-55M-SU-174 24V		46,2 31,2	24	570	Ø35,8 x 80,6 Ø35,8 x 87,7	6	980	cw/ccw	ext ext	plan plan
	TG-55M-SU-232 24V	-	24,4	24	570	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55M-SU-310 24V	1	18,7	24	570	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55M-SU-413 24V	1	14,2	24	570	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	TG-55M-SU-552 24V	1	10,8	24	570	Ø35,8 x 87,7	6	980	cw/ccw	ext	plan
	-	ß	_								
BLDC 1,6 ~ 8,8W; 3-phase; p	lanetary gearhead	(O	speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
BLDC 1,6 ~ 8,8W; 3-phase; p	part nr.	Suka	speed rpm	Voltage V	current mA	sizes mm	shaftØ mm	torque mNm	direction rotation	driver contr	gearbox
BLDC 1,6 ~ 8,8W; 3-phase; p		Tsukasa									plan
BLDC 1,6 ∼ 8,8W; 3-phase; p	part nr.	Tsuka	rpm	v	mA	mm	mm	mNm	rotation	contr	
BLDC 1,6 ≈ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V	Tsuka	rpm 485	V 12	mA 560	mm Ø35,8 x 55,5	mm 6	mNm 49	rotation CW/CCW	contr ext	plan
BLDC 1,6 ≈ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V	Tsuka	rpm 485 387	V 12 12	mA 560 560	mm Ø35,8 x 55,5 Ø35,8 x 55,5	mm 6	mNm 49 58,8	rotation CW/CCW CW/CCW	contr ext ext	plan plan
BLDC 1,6 ~ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V	Tsuka	rpm 485 387 134 109 76,8	V 12 12 12 12 12	mA 560 560 560 560 560	mm Ø35,8 x 55,5 Ø35,8 x 55,5 Ø35,8 x 73,6	mm 6 6 6 6	mNm 49 58,8 166,6	rotation CW/CCW CW/CCW CW/CCW CW/CCW	ext ext ext	plan plan plan
BLDC 1,6 ∼ 8,8W; 3-phase; p	TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V	Tsuka	rpm 485 387 134 109 76,8 38,4	V 12 12 12 12 12 12 12	mA 560 560 560 560 560 560	mm Ø35,8 x 55,5 Ø35,8 x 73,6 Ø35,8 x 73,6 Ø35,8 x 73,6 Ø35,8 x 80,6	mm 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	ext	plan plan plan plan plan plan
BLDC 1,6 ∼ 8,8W; 3-phase; p	TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7	12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	ext	plan plan plan plan plan plan plan
BLDC 1,6 ∼ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-85,3 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	ext	plan plan plan plan plan plan plan plan
BLDC 1,6 ~ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-85,3 12V TG-55M-SU-114 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9	12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980	rotation CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW CW/CCW	ext	plan plan plan plan plan plan plan plan
BLDC 1,6 ~ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-85,3 12V TG-55M-SU-114 12V TG-55M-SU-174 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9	12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
BLDC 1,6 ~ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-232 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
BLDC 1,6 ~ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-85,3 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-232 12V TG-55M-SU-310 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
BLDC 1,6 ~ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-232 12V TG-55M-SU-310 12V TG-55M-SU-413 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-552 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560 560 560	### Ø35,8 x 55,5 Ø35,8 x 73,6 Ø35,8 x 73,6 Ø35,8 x 73,6 Ø35,8 x 80,6 Ø35,8 x 80,6 Ø35,8 x 80,6 Ø35,8 x 80,6 Ø35,8 x 87,7 Ø35,8 x 87,7 Ø35,8 x 87,7 Ø35,8 x 87,7	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
BLDC 1,6 ~ 8,8W; 3-phase; p BLDC 1,6 ~ 8,8W; 3-phase; p	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-175 12V TG-55M-SU-55M-SU-110 12V TG-55M-SU-551 12V TG-55M-SU-552 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560	mm	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 shaftØ	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 980 980 torque	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-4,8 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-552 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560 560 560	### Ø35,8 x 55,5 Ø35,8 x 73,6 Ø35,8 x 73,6 Ø35,8 x 73,6 Ø35,8 x 80,6 Ø35,8 x 80,6 Ø35,8 x 80,6 Ø35,8 x 80,6 Ø35,8 x 87,7 Ø35,8 x 87,7 Ø35,8 x 87,7 Ø35,8 x 87,7	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-55M-SU-174 12V TG-55M-SU-55M-SU-174 12V TG-55M-SU-55M-SU-174 12V TG-55M-SU-55M-SU-552 12V Ianetary gearhead part nr.	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560 560 560	mm	mm 6 6 6 6 6 6 6 6 6 6 6 6 shaftØ	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 980 torque mNm	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-310 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560 560 560	mm	mm 6 6 6 6 6 6 6 6 6 6 6 shaftØ mm 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 980 980 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-413 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 shaftØ mm 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 980 980 980 490 490 735	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-413 12V	Tsuka	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 980 980 980 107,8	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-232 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55M-SU-1310 12V		rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381	12 12 12 12 12 12 12 12 12 12 12 12 12 1	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 980 107,8 147	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-174 12V TG-55N-SU-174 12V TG-55N-SU-174 12V TG-55N-SU-174 12V TG-55N-SU-174 12V		rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381 285	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 107,8 147 196	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-413 12V TG-55M-SU-174 12V TG-55N-SU-174 12V TG-55N-SU-174 12V TG-55N-SU-174 12V TG-55N-SU-174 12V	Tsukasa	rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381 285 140	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 107,8 147 196 343	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-47,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55N-SU-175 12V TG-55N-SU-175 12V TG-55N-SU-176 24V TG-55N-SU-17,6 24V TG-55N-SU-17,6 24V TG-55N-SU-17,6 24V TG-55N-SU-17,6 24V TG-55N-SU-17,6 24V		rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381 285 140 104	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 980 107,8 147 196 343 490	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-63,9 12V TG-55M-SU-85,3 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55N-SU-175 12V Ianetary gearhead part nr. TG-55N-SU-13,2 24V TG-55N-SU-17,6 24V		rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381 285 140 104 78,6 58,6 39	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 107,8 147 196 343 490 637 882 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-63,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55N-SU-413 12V TG-55N-SU-43,6 24V TG-55N-SU-47,9 24V TG-55N-SU-17,6 24V TG-55N-SU-17,6 24V TG-55N-SU-47,9 24V TG-55N-SU-47,9 24V TG-55N-SU-63,9 24V TG-55N-SU-114 24V TG-55N-SU-174 24V TG-55N-SU-174 24V TG-55N-SU-174 24V		rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381 285 140 104 78,6 58,6 39 30,5	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 107,8 147 196 343 490 637 882 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-63,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55N-SU-413 12V TG-55N-SU-413 12V TG-55N-SU-4,8 24V TG-55N-SU-13,2 24V TG-55N-SU-17,6 24V		rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381 285 140 104 78,6 58,6 39 30,5 23,3	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 107,8 147 196 343 490 637 882 980 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan
	part nr. TG-55M-SU-3,6 12V TG-55M-SU-13,2 12V TG-55M-SU-17,6 12V TG-55M-SU-17,6 12V TG-55M-SU-23,5 12V TG-55M-SU-63,9 12V TG-55M-SU-63,9 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-114 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-174 12V TG-55M-SU-310 12V TG-55M-SU-310 12V TG-55M-SU-413 12V TG-55N-SU-413 12V TG-55N-SU-43,6 24V TG-55N-SU-47,9 24V TG-55N-SU-17,6 24V TG-55N-SU-17,6 24V TG-55N-SU-47,9 24V TG-55N-SU-47,9 24V TG-55N-SU-63,9 24V TG-55N-SU-114 24V TG-55N-SU-174 24V TG-55N-SU-174 24V TG-55N-SU-174 24V		rpm 485 387 134 109 76,8 38,4 27,7 20,9 17,9 12,6 10,3 8,1 6,2 4,8 speed rpm 1862 1397 508 381 285 140 104 78,6 58,6 39 30,5	V 12 12 12 12 12 12 12 12 12 12 12 12 12	mA 560 560 560 560 560 560 560 560 560 560	### ### ### ### ### ### ### ### ### ##	mm 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	mNm 49 58,8 166,6 196 294 490 735 980 980 980 980 980 107,8 147 196 343 490 637 882 980 980	rotation CW/CCW	ext	plan plan plan plan plan plan plan plan



Part nr. FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H5EBN FHD6P2	spur spur spur spur spur earbox
Speed Voltage Current Sizes ShaftØ torque direction driver ge FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H50EBN F	spur spur spur spur earbox
Part nr. FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H50EBN FHD6P20S-D3 + 6H50EB	spur spur spur spur earbox
Part nr. FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H5EBN FHD6P20S-D3 + 6H50EBN FHD6P20S-D3 + 6H50EB	spur spur spur spur earbox
FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H50EBN FHD6	spur spur spur earbox
FHD6P20S-D3 + 6H10EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H25EBN FHD6P20S-D3 + 6H50EBN FHD6	spur spur spur earbox
The property of the property	spur spur earbox
FHD6P20S-D3 + 6H50EBN 50 24 1800 61sq x 96 8 3500 CW/CCW ext	spur earbox
BLDC set set 40W+ SPEED CONTROL DRIVERS part nr. FHD6P40S-D3 +driver BLDC set 40W+ SPEED CONTROL DRIVERS + gear head part nr. FHD6P40S-D3 + 6H5EBN FHD6P40S-D3 + 6H5EBN FHD6P40S-D3 + 6H5EBN Speed Voltage current sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr with sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mn mNm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mn mn mNm mNm mNm mNm mNm mNm mNm mNm m	earbox
Part nr. rpm V mA mm mMm rotation contr	
Speed Spee	earbox
BLDC set 40W+ SPEED CONTROL DRIVERS + gear head part nr. FHD6P40S-D3 + 6H5EBN FHD6P40S-D3 + 6H5EBN Speed Voltage current sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm V mA mm mNm rotation contr sizes shaftØ torque direction driver ge rpm N m mNm rotation contr sizes shaftØ torque direction driver ge rpm N m mNm rotation contr sizes shaftØ torque direction driver ge rpm N m mNm rotation contr sizes shaftØ torque direction driver ge rpm N m m m m m m m m m m m m m m m m m m	earbox
part nr. FHD6P40S-D3 + 6H5EBN FD6 FD7	earbox
Part nr. PHD6P40S-D3 + 6H5EBN FND6P40S-D3 + 6H5EBN FND6P40S-	earbox
	spur
FHD6P40S-D3 + 6H10EBN 250 24 3100 61sq x 96 8 1600 CW/CCW ext	spur
FHD6P40S-D3 + 6H25EBN 100 24 3100 61sq x 96 8 3600 CW/CCW ext	spur
FHD6P40S-D3 + 6H50EBN 50 24 3100 61sq x 96 8 7100 CW/CCW ext	spur
BLDC 14,32W Compact fully integrated electronics speed Voltage current sizes shaftØ torque direction driver ge	earbox
part nr. rpm V mA mm mM rotation contr	
[
DCB2106 2346 24 190 Ø36 x 40 3,17 35,7 CW/CCW integr	
2	
BLDC ≤ 8Nm fully integrated electronics + gear head speed Voltage current sizes shaftØ torque direction driver ge	earbox
part nr. rpm V mA mm mMm rotation contr	
UBBD-T6 24V 400 400 24 190 63,5 x 92x 75 7,94 1300 CW/CCW integr	spur
5	
Well of the second seco	
2	
UBBD-T6 24V 20 20 24 190 63,5 x 92x 75 7,94 8000 CW/CCW integr	spur
BLDC ≤ 35Nm fully integrated electronics + gear head speed Voltage current sizes shaftØ torque direction driver ge	earbox
part nr. rpm V mA mm mm mNm rotation contr	
FBB-T3 24V 50 50 24 190 123 x 70 x 108 8,5 17000 CW/CCW integr	spur
Well of Mellon	
2	
FBB-T3 24V 0,4 0,4 24 190 123 x 70 x 108 8,5 35000 CW/CCW integr	spur



Dynetics B.V. De Rijn 12 5684PJ Best, The Netherlands Tel: +31-(0)499-371007 | Fax: +31-(0)499-372008

Dynetics GmbH Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland Tel: +49-(0)2157-128990 | Fax: +49-(0)2157-128999



Powerful miniature servo motors



Nippon Pulse Motor (NPM, represented by Dynetics GmbH) presents a new compact series of direct drive servo motors.

The brushless motors of the MDD family (micro-direct drive) are available in dimensions from 13 mm to 70 mm and with 3 lengths. Due to the special windings, the use of strong ball bearings and extra strong magnets, this motor in a compact housing makes it a robust motor with a very high torque (up to 1000 mNm, with peak values up to 3100 mNm) The overwhelming high stiffness, high speed and high accuracy of the MDD motors is achieved thanks to the design of the motor, whereby the shaft is directly connected to the gearbox.

For the realization of a precise positioning, the motors have an integrated encoder (absolute or incremental) with high resolution.

On request, the MDD series can be supplied with a hollow axis, and customer-specific adjustments (like a special sealing) are possible.

These robust and space-saving motors are extremely precise and are used in a variety of direct drive applications, with precise positioning, combined with force required examples include not only high-precision devices in cleanrooms such as Scara, pharmaceutical robots and small gantry, but also in industrial robotic scars such as for cobots, articulated arm robots for production plants with complex assembly operations in harsh conditions, and precision machines such as SMA





Incremental 2,592,000 (multiplied by 4)	16P Direct Drive Bru	ishless Servo		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
MOH121-4006 MOH 121-4018 MOH 1		part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr/enc.	
MOH121-4006 MOH 121-4018 MOH 1	Incremental: 2,592,	000 (multiplied l	by 4)	·				through h	ole		-	
MOH121_4012 25			<u> </u>	450	48	292	Ø40 x 31.5			cw/ccw	encoder	
MDH (12)-4018			≥ .	450	48	560			200	_		
Separation			z		48	833			280			
encoder: Increme: 2,592,000 (multiplied by 4) / Absolutes: 1,048,576 (20 bit) MDH(6)-4012	16P Direct Drive Bru			speed	Voltage	current		shaftØ	torque	-		gearbox
MOH-(6)-4006 MOH-(6)-4006 MOH-(6)-4006 MOH-(6)-4006 MOH-(6)-4006 MOH-(6)-4006 MOH-(6)-4006 MOH-(6)-4006 MOH-(6)-4008 MOH-(6)-4008 MOH-2012 MOH-(6)-4008 MOH-2012	part nr.		_			mm			rotation			
MOH-(6)-4010	encoder: Increm: 2,	592,000 (multipl	ied by	_	olute: 1,	048,576	(20 bit)	through h	ole		,	
MDH-16]-4012 A50 48 (247) 560 A50 A7,55 6 200 CW/CCW encoder	1160									cw/ccw	encoder	
MDH-001			≥					6	200	cw/ccw	encoder	
16P Direct Drive Brushless Servo part nr. pm v mA mm mm mNm rotation contr/enc.		<u> </u>	z				-	6	280			
Part nr. rpm V mA mm mm mNm rotation contr/enc.	16P Direct Drive Bru			speed				shaftØ	torque			gearbox
Month Mont										rotation		
MDH-2016 MDH-2018 encoder: Increment	tal: 288,000 (mul	tiplied	by 4) /	Absolute	: 262,14	4 (18 bit)	through h	ole				
MOH-2012 NOH-2018 1800									cw/ccw	encoder		
Month 2018 1500 24 708 \$20 x 43,5 6 40 CW/CCW encoder mart nr. mm v mm mm mm mm mm mm	ES TO		₹		24	417	-	6	30	_	encoder	
Speed Voltage Current Sizes Shaft		MDH -2018	z						40			
	16P Direct Drive Bru									-		gearbox
Moh-3012 Moh-3012 Moh-3013 Moh-3013 Moh-3014 Moh-3015 Moh-3012 Moh-3015 Moh-3012 Moh-3016			_									
MDH-3006 MDH-3012 MDH-3018 1000 48 313 Ø30 x 31,5 4 60 CW/CCW encoder	encoder: Increment	•	tiplica		-					12.17.017	any circ	
MDH-3012 MDH-3018 1000 48 417 Ø30 x 37,5 4 95 CW/CCW encoder 1000 48 625 Ø30 x 43,5 4 130 CW/CCW encoder 1000 48 625 Ø30 x 43,5 4 130 CW/CCW encoder 1000 48 625 Ø30 x 43,5 4 130 CW/CCW encoder 1000	THE S									cw/ccw	encoder	
MDH-3018	- 50 V		Σ									
Speed Voltage Current Sizes Shaft			Z									
Part Nr. Image: Control Part Nr. Image: Control Part Nr. Part Nr.	16P Direct Drive Bru											gearbox
MDH-6006 MDH-6012 MDH-6006 MDH-6012 MDH-6012 MDH-6018 MDH-6012 MDH-6018 MDH-7018 MDH-7012 MDH-7012 MDH-7012 MDH-7018			_									
MDH-6016 MDH-6012 MDH-6018 MDH-7018 MDH-7018 MDH-7018 MDH-7012 MDH-7018 MDH-7012 MDH-7018 MDH-7012 MDH-7018 MDH-7018 MDH-7012 MDH-7018 encoder: Increment		ultipli	_	/ Absolu	te: 1,048					•		
MDH-6012 MDH-6018 MDH-6018 MDH-6018 MDH-6018 MDH-6018 MDH-6018 MDH-7012 MDH-7012 MDH-7018 MDH-7012 MDH-7018 TO S						_			cw/ccw	encoder		
MDH-6018 300 48 1604 560 x43,5 20 770 CW/CCW encoder sizes shaft@ torque direction driver gearbox mNH mNH mNH mNH mNH rotation contr/enc. mNDH-7016 MDH-7018 200 48 625 Ø40 x 31,5 25 360 CW/CCW encoder MDH-7018 200 48 1250 Ø40 x 37,5 25 660 CW/CCW encoder mNDH-7018 200 48 1250 Ø40 x 37,5 25 660 CW/CCW encoder mNDH-7018 200 48 1250 Ø40 x 37,5 25 1000 CW/CCW encoder mNDH-7018 mNDH-7018 200 48 1250 Ø40 x 37,5 25 1000 CW/CCW encoder mNDH-7018		≥	300	48				580	_			
Speed Voltage Current Sizes ShaftØ torque direction driver gearbox mom mom	- Co		z		48							
Part nr. rpm V mA mm mMm mNm rotation contr/enc.	16P Direct Drive Bru			speed	Voltage	current			torque	_		gearbox
MDH-7006 MDH-7018	part nr.					mm			rotation			
MDH-7006 MDH-7018 encoder: Increment	tal: 2,592,000 (m	ultipli	ed by 4)	/ Absolu	te: 2,097	7,152 (21 bit	through h	ole				
MOH-7018 200 48 1875 640 x 43,5 25 1000 CW/CCW encoder	10	MDH-7006										
MOH-7018 200 48 1875 640 x 43,5 25 1000 CW/CCW encoder				200	48	625	Ø40 x 31,5	25	360	cw/ccw	encoder	
Part nr.	MDH-7012	<u> </u>										
MDS-1306 MDS-1312 MDS-1318		NPA	200	48	1250	Ø40 x 37,5	25	660	cw/ccw	encoder		
MDS-1306 MDS-1312 MDS-1318 MDS-2000 MDS-2006 MDS-2012 MDS-2012 MDS-2018 16P Direct Drive Bru	MDH-7018	NPA	200 200	48 48	1250 1875	Ø40 x 37,5 Ø40 x 43,5	25 25	660 1000	cw/ccw	encoder encoder	gearbox	
MDS-1312 MDS-1318 16P Direct Drive Bru	MDH-7018 Ishless Servo	NPN	200 200 speed	48 48 Voltage	1250 1875 current	Ø40 x 37,5 Ø40 x 43,5 sizes	25 25 shaftØ	660 1000 torque	CW/CCW CW/CCW direction	encoder encoder driver		
MDS-1318 3000 24 333 \(\phi 13 \times 37,4 \) 3 8 CW/CCW encoder		MDH-7018 ishless Servo part nr.	NPA	200 200 speed	48 48 Voltage	1250 1875 current	Ø40 x 37,5 Ø40 x 43,5 sizes	25 25 shaftØ	660 1000 torque	CW/CCW CW/CCW direction	encoder encoder driver	
MDS-1318 3000 24 333 \(\phi 13 \times 37,4 \) 3 8 CW/CCW encoder		MDH-7018 Ishless Servo part nr. 2,048 (11 bit)		200 200 speed rpm	48 48 Voltage V	1250 1875 current mA	Ø40 x 37,5 Ø40 x 43,5 sizes mm	25 25 shaftØ mm	660 1000 torque mNm	CW/CCW CW/CCW direction rotation	encoder encoder driver contr/enc.	
Part nr. Pm V mA mm mMm mNm rotation contr/enc.		MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306		200 200 speed rpm 3000	48 48 Voltage V	1250 1875 current mA 83	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4	25 25 shaftØ mm	660 1000 torque mNm	CW/CCW CW/CCW direction rotation CW/CCW	encoder encoder driver contr/enc. encoder	
MDS-2006 MDS-2012 MDS-2012 MDS-2018	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312		200 200 speed rpm 3000 3000	48 48 Voltage V	1250 1875 current mA 83 167	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4	25 25 shaftØ mm 3 3	660 1000 torque mNm 3 5,5	CW/CCW CW/CCW direction rotation CW/CCW CW/CCW	encoder encoder driver contr/enc. encoder encoder		
MDS-2006 MDS-2012 MDS-2018 encoder: Absolute:	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318		200 200 speed rpm 3000 3000 3000	48 48 Voltage V 24 24 24	1250 1875 current mA 83 167 333	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4	25 25 shaftØ mm 3 3 3	660 1000 torque mNm 3 5,5	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw	encoder encoder driver contr/enc. encoder encoder encoder		
MDS-2012 MDS-2018 encoder: Absolute:	MDH-7018 shless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 shless Servo		200 200 speed rpm 3000 3000 3000 speed	48 48 Voltage V 24 24 24 Voltage	1250 1875 current mA 83 167 333 current	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes	25 25 shaftØ mm 3 3 3 shaftØ	660 1000 torque mNm 3 5,5 8 torque	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw cw/ccw direction	encoder encoder driver contr/enc. encoder encoder encoder encoder driver		
MDS-2018 1500 24 708 Ø20 x 43,5 4 40 CW/CCW encoder	encoder: Absolute: 16P Direct Drive Bru	MDH-7018 shless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 shless Servo part nr.	APA	200 200 speed rpm 3000 3000 3000 speed rpm	48 48 Voltage V 24 24 24 Voltage V	1250 1875 current mA 83 167 333 current mA	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm	25 25 shaftØ mm 3 3 3 shaftØ	660 1000 torque mNm 3 5,5 8 torque	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw cw/ccw direction	encoder encoder driver contr/enc. encoder encoder encoder encoder driver	
MDS-2018 1500 24 708 Ø20 x 43,5 4 40 CW/CCW encoder	encoder: Absolute: 16P Direct Drive Bru	MDH-7018 shless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 shless Servo part nr. tal: 288,000 (mul	₹	200 200 speed rpm 3000 3000 3000 speed rpm by 4) /	48 48 Voltage V 24 24 24 Voltage V Absolute	1250 1875 current mA 83 167 333 current mA 2: 262,14	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit)	25 shaftØ mm 3 3 3 shaftØ mm	660 1000 torque mNm 3 5,5 8 torque mNm	cw/ccw direction rotation Cw/ccw cw/ccw cw/ccw direction rotation	encoder driver contr/enc. encoder encoder encoder encoder contr/enc.	
Part nr. rpm V mA mm mMm mNm rotation contr/enc.	encoder: Absolute: 16P Direct Drive Bru	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. tal: 288,000 (mul	₹	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500	48 48 Voltage V 24 24 24 Voltage V Absolute 24	1250 1875 current mA 83 167 333 current mA 2: 262,14 208	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5	25 25 shaftØ mm 3 3 3 shaftØ mm 4	660 1000 torque mNm 3 5,5 8 torque mNm	CW/CCW direction rotation CW/CCW CW/CCW CW/CCW direction rotation CW/CCW	encoder encoder driver contr/enc. encoder encoder encoder driver contr/enc.	
MDS-3006 MDS-3012 MDS-3018 encoder: Absolute: 16P Direct Drive Bru	MDH-7018 shless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 shless Servo part nr. tal: 288,000 (mul MDS-2006 MDS-2012	₹	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500	48 48 Voltage V 24 24 Voltage V Absolute 24 24	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 37,5	25 25 shaftØ mm 3 3 3 shaftØ mm	660 1000 torque mNm 3 5,5 8 torque mNm	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw direction rotation cw/ccw cw/ccw cw/ccw cw/ccw	encoder encoder contr/enc. encoder encoder encoder driver contr/enc. encoder		
MDS-3006 MDS-3012 MDS-3012 MDS-3018 encoder: Absolute: 16P Direct Drive Bru encoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. tal: 288,000 (mul MDS-2006 MDS-2012 MDS-2018	₹	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500	48 48 Voltage V 24 24 Voltage V Absolute 24 24 24 24 24 24	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5	25 25 shaftØ mm 3 3 3 shaftØ mm 4 4 4	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40	cw/ccw cw/ccw direction cw/ccw cw/ccw direction rotation cw/ccw direction cw/ccw cw/ccw cw/ccw	encoder encoder contr/enc. encoder encoder encoder driver contr/enc. encoder encoder encoder encoder	gearbox	
MDS-3012 AB A17 Ø30 x 37,5 5 95 CW/CCW encoder	encoder: Absolute: 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. Ital: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr.	tiplied Wdv	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm	48 48 Voltage V 24 24 24 Voltage V Absolute 24 24 24 Voltage V	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm	25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque	cw/ccw direction rotation Cw/ccw cw/ccw direction rotation cw/ccw direction cw/ccw cw/ccw direction	encoder driver contr/enc. encoder encoder encoder driver contr/enc. encoder driver contr/enc. encoder encoder encoder encoder	gearbox
MDS-3018 1000 48 625 Ø30 x 43,5 5 130 CW/CCW encoder	encoder: Absolute: 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. Ital: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr.	tiplied Wdv	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm	48 48 Voltage V 24 24 24 Voltage V Absolute 24 24 24 Voltage V	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm	25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque	cw/ccw direction rotation Cw/ccw cw/ccw direction rotation cw/ccw direction cw/ccw cw/ccw direction	encoder driver contr/enc. encoder encoder encoder driver contr/enc. encoder driver contr/enc. encoder encoder encoder encoder	gearbox
MDS-3018 1000 48 625 Ø30 x 43,5 5 130 CW/CCW encoder	encoder: Absolute: 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. tal: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. tal: 432,000 (mul	tiplied	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm by 4) /	48 48 Voltage V 24 24 Voltage V Absolute 24 24 Voltage V Absolute V	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit)	25 25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ mm	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw direction rotation cw/ccw direction rotation	encoder encoder contr/enc. encoder encoder encoder driver contr/enc. encoder driver contr/enc. encoder encoder encoder encoder encoder contr/enc.	gearbox
Part nr. rpm V mA mm mMm rotation contr/enc.	encoder: Absolute: 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. tal: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. tal: 432,000 (mul MDS-3006	tiplied	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm by 4) / 1000	48 48 Voltage V 24 24 Voltage V Absolute 24 Voltage V Absolute 48	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28 313	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5	25 shaftØ mm 3 3 shaftØ mm 4 4 4 shaftØ mm	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm 60	cw/ccw direction rotation cw/ccw cw/ccw direction rotation cw/ccw direction rotation cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw direction rotation	encoder	gearbox
MDS-4006 MDS-4012 encoder: Absolute: 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. Ital: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. Ital: 432,000 (mul MDS-3006 MDS-3012	tiplied	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm by 4) / 1000 1000	48 48 Voltage V 24 24 Voltage V Absolute 24 24 Voltage V Absolute 48 48	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28 313 417	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5 Ø30 x 37,5	25 shaftØ mm 3 3 shaftØ mm 4 4 shaftØ mm 5 5	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm 60 95	cw/ccw direction rotation Cw/ccw cw/ccw direction rotation cw/ccw direction rotation cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw direction rotation	encoder encoder driver contr/enc. encoder encoder encoder driver contr/enc. encoder encoder encoder encoder encoder encoder encoder encoder encoder driver contr/enc.	gearbox	
MDS-4006	encoder: Absolute: 16P Direct Drive Bruencoder: Increment encoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. tal: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. tal: 432,000 (mul MDS-3006 MDS-3012 MDS-3018	tiplied	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm by 4) / 1000 1000	48 48 Voltage V 24 24 Voltage V Absolute 24 24 Voltage V Absolute 48 48 48	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28 313 417 625	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5 Ø30 x 37,5 Ø30 x 43,5	25 25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ mm 5 5 5	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm 60 95 130	cw/ccw direction rotation Cw/ccw cw/ccw direction rotation cw/ccw direction rotation cw/ccw	encoder driver contr/enc. encoder encoder encoder encoder contr/enc. encoder	gearbox
MDS-4012 $\stackrel{>}{=}$ 450 48 562 Ø40 x 37,5 6 200 CW/CCW encoder	encoder: Absolute: 16P Direct Drive Bruencoder: Increment encoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. tal: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. tal: 432,000 (mul MDS-3006 MDS-3018 Ishless Servo	tiplied	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm by 4) / 1000 1000 1000 speed	48 48 Voltage V 24 24 Voltage V Absolute 24 Voltage V Absolute 48 48 48 48 Voltage	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28 313 417 625 current	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5 Ø30 x 37,5 Ø30 x 37,5 Ø30 x 43,5 sizes	25 25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ mm 5 5 5 shaftØ	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm 60 95 130 torque	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw direction rotation cw/ccw direction cw/ccw cw/ccw cw/ccw direction rotation	encoder encoder driver contr/enc. encoder encoder encoder driver contr/enc. encoder encoder encoder encoder encoder encoder encoder driver contr/enc.	gearbox gearbox gearbox
MDS-4012	encoder: Absolute: 16P Direct Drive Bruencoder: Increment encoder: Increment encoder: Increment 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. tal: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. tal: 432,000 (mul MDS-3006 MDS-3012 MDS-3018 Ishless Servo part nr.	tiplied Wd2	200 200 speed rpm 3000 3000 3000 speed rpm by 4) / 1500 1500 speed rpm by 4) / 1000 1000 1000 speed rpm	48 48 Voltage V 24 24 Voltage V Absolute 24 24 Voltage V Absolute 48 48 48 Voltage V	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28 313 417 625 current mA	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5 Ø30 x 37,5 Ø30 x 43,5 sizes mm 8,576 (20 bit	25 25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ mm 5 5 5 shaftØ mm	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm 60 95 130 torque	cw/ccw cw/ccw direction rotation cw/ccw cw/ccw direction rotation cw/ccw direction cw/ccw cw/ccw cw/ccw direction rotation	encoder encoder driver contr/enc. encoder encoder encoder driver contr/enc. encoder encoder encoder encoder encoder encoder encoder driver contr/enc.	gearbox gearbox gearbox
MDS-3018 450 48 833 Ø40 x 43,5 6 230 CW/CCW encoder	encoder: Absolute: 16P Direct Drive Bruencoder: Increment encoder: Increment encoder: Increment 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. Ital: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. Ital: 432,000 (mul MDS-3006 MDS-3012 MDS-3018 Ishless Servo part nr. Ital: 432,000 (mul IMDS-3006 IMDS-3018 Ishless Servo part nr. Ital: 2,592,000 (mul IMDS-3006 IMDS-3018 Ishless Servo Impart nr. Ital: 2,592,000 (mul IMDS-3006 (mul) IMDS-3018 Ishless Servo Impart nr. Ital: 2,592,000 (mul) IMDS-3006 (mul) IMDS-3018 ISHLESS SERVO IMDS-3018 (mul) IMDS-3018 (mu	tiplied tiplied	200 200 speed rpm 3000 3000 3000 speed rpm 1500 1500 1500 speed rpm 1by 4) / 1000 1000 1000 speed rpm 2000 1000 1000 speed rpm 2000 1000 speed rpm 2000 1000	48 48 Voltage V 24 24 Voltage V Absolute 48 48 48 48 Voltage V / Absolute	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28 313 417 625 current mA	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5 Ø30 x 37,5 Ø30 x 43,5 sizes mm 8,576 (20 bit	25 25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ mm 5 5 5 shaftØ mm	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm 60 95 130 torque mNm	cw/ccw direction rotation Cw/ccw cw/ccw direction rotation cw/ccw direction cw/ccw cw/ccw cw/ccw cw/ccw direction rotation cw/ccw direction rotation	encoder encoder driver contr/enc. encoder encoder encoder driver contr/enc. encoder encoder encoder encoder encoder encoder encoder driver contr/enc. encoder encoder encoder encoder encoder contr/enc.	gearbox gearbox gearbox
	encoder: Absolute: 16P Direct Drive Bruencoder: Increment encoder: Increment encoder: Increment 16P Direct Drive Bruencoder: Increment	MDH-7018 Ishless Servo part nr. 2,048 (11 bit) MDS-1306 MDS-1312 MDS-1318 Ishless Servo part nr. Ital: 288,000 (mul MDS-2006 MDS-2012 MDS-2018 Ishless Servo part nr. Ital: 432,000 (mul MDS-3006 MDS-3012 MDS-3018 Ishless Servo part nr. Ital: 2,592,000 (mul MDS-4006	tiplied tiplied	200 200 speed rpm 3000 3000 3000 speed rpm 1by 4) / 1500 1500 1500 1500 1000 1000 1000 speed rpm ed by 4) 450	48 48 Voltage V 24 24 Voltage V Absolute 48 48 48 48 48 Voltage V / Absolute 48	1250 1875 current mA 83 167 333 current mA 2: 262,14 208 417 708 current mA 2: 524,28 313 417 625 current mA te: 1,048 292	Ø40 x 37,5 Ø40 x 43,5 sizes mm Ø13 x 25,4 Ø13 x 31,4 Ø13 x 37,4 sizes mm 4 (18 bit) Ø20 x 31,5 Ø20 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5 Ø30 x 37,5 Ø30 x 43,5 sizes mm 8 (19 bit) Ø30 x 31,5 Ø30 x 31,5 Ø30 x 31,5	25 25 shaftØ mm 3 3 3 shaftØ mm 4 4 4 shaftØ mm 5 5 5 shaftØ mm 6	660 1000 torque mNm 3 5,5 8 torque mNm 14 30 40 torque mNm 60 95 130 torque mNm	cw/ccw direction rotation Cw/ccw cw/ccw direction rotation cw/ccw direction cw/ccw cw/ccw cw/ccw cw/ccw direction rotation cw/ccw direction rotation cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw cw/ccw direction rotation	encoder encoder driver contr/enc. encoder driver contr/enc. encoder	gearbox gearbox gearbox



ELRA INDIVIDUAL DRIVE TECHNOLOGY

As a leading supplier in Austria, ELRA develops superior drive solutions and motors that are in daily use worldwide. From prototype production, individual special solutions to complete assemblies, ELRA realises the best possible drive in each case. With innovative spirit and technical perfection, ELRA works hand in hand with customers from a wide range of industries to constantly optimise products and technologies. The ELRA quality guarantee ensures durability, profitability and clear time and cost advantages.

14p-BLDC high-torque; IP6	55		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
× >//	BL80TS	4	650	48	4900	70sq x 115	13,5	2200	cw/ccw	ext	
	BL80TM	ELRA	800	48	7400	70sq x 135	13,5	2800	cw/ccw	ext	
	BL80TL	ш	850	48	8700	70sq x 155	13,5	3500	cw/ccw	ext	
14p-BLDC high-torque; IP65			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
100	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
1	BL100TS	٨	700	48	7000	94sq x 135	19	3500	cw/ccw	ext	
**	BL100TM	ELRA	800	48	9000	94sq x 155	19	4000	cw/ccw	ext	
	BL100TL		800	48	12800	94sq x 175	19	5500	cw/ccw	ext	
8p-BLDC high-torque;			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	BL70S		3000	24	8800	70sq x 90	14	500	cw/ccw	ext	
	BL70M	ELRA	3000	24	18000	70sq x 120	14	1000	cw/ccw	ext	
	BL70L-1500	급	1500	48	6500	70sq x 150	14	1500	cw/ccw	ext	
	BL70L		3000	48	13000	70sq x 150	14	1500	cw/ccw	ext	
8p-BLDC high-torque; holl	low shaft		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	BL70S-48V+SG152-7.		400	48	8000	152 x 134	17	6000	cw/ccw	ext	helical
9	BL70S-48V+SG152-10	ELRA	300	48	8000	152 x 134	17	8000	cw/ccw	ext	helical
	BL70M-48V+SG152-7	급	400	48	14000	176 x 134	17	11000	cw/ccw	ext	helical
	BL70M-48V+SG152-1		300	48	14000	176 x 134	17	15000	cw/ccw	ext	helical
Brushless Bevel Gear Driv	e		speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
970	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	BL57AL-24V + SKG85-	ELRA	300	48	11000	85 x 254	14	5000	cw/ccw	ext	
•	BL57AL-48V + SKG85-	급	300	48	5500	85 x 254	14	5000	cw/ccw	ext	
Traction Drives for AGV's			speed	Voltage	current	sizes	shaftØ	torque	direction	driver	gearbox
A Company	part nr.		rpm	V	mA	mm	mm	mNm	rotation	contr	
	FABL60M-IF30-48V-2	ELRA	130	48	10600	116 x 238		20000	cw/ccw	ext	
	FABL60L-IF30-48V-22	급	130	48	16000	116 x 218		30000	cw/ccw	ext	



Dynetics B.V. De Rijn 12 5684PJ Best, The Netherlands Tel: +31-(0)499-371007 | Fax: +31-(0)499-372008

Dynetics GmbH Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland Tel: +49-(0)2157-128990 | Fax: +49-(0)2157-128999



Electronics: Drivers and controllers

The basic task of the driver is to generate an appropriate signal from the input data to move the motor axis. Different motors require different ways of controlling. Motor drives are becoming more efficient as power electronic devices such as Drivers and controllers are being incorporated. By entering the parameters we help you to find the most suitable driver or controller within our wide range of controls we offer different electronic solutions (ASIC's, Board level, boxes), but also different type of motors with integrated intelligence, including ultra-small OEM servo drivers and controllers.

Examples

SOMANET Node Series:



The SOMANET Node series is a family of ultra-compact, super-efficient and powerful servo drives that support all PMSM/Synchronous AC/BLDC motors up to 60V and 100 A / 66 Arms and feature an EtherCAT interface with CiA DS 402 protocol.

SOMANET Circulo:



Motion control for modern robotics in circular shape. SOMANET Circulo is the world's first integrated motion device: a complete servo-drive solution with outstanding features such as integrated high-resolution absolute encoders, integrated motor brake, numerous sensor interfaces, optimal mechanical integration, suitable for common actuator designs, and a high-speed EtherCAT interface (DS402, up to 4kHz).

OBLAC Drive Tools:

Very user-friendly commissioning and tuning software for fast and easy commissioning.

Fully featured high performance motion control software suite for any multi-axis kinematics.

PMX-series:



PMX box controllers utilize PCL60xx series advanced motion controller chips for 4-axis and 2-axis motion. The PMX series also features linear coordinated motion capabilities (as well as circular coordinated motion capabilities for fouraxis models). More available functions include encoder feedback support, multi-task standalone programming, and analog joystick control, to name just a few. These box controllers are available with USB, RS-485 and Ethernet communication options, and are easy to set up and run. The 2-axis model also includes two microstep drivers.



TITAN-NXS-series including TRUE EDGE REAL-TIME ANALYTICS



- Available in two versions: TITAN-NXS-SCX and TITAN-NXS-SPX
- is a Closed Loop Servo Driver and Standalone Controller that is able to handle most of the commonly used motors in the industry: Stepper, Brushless Servo, Linear, Shaft, DC and Voice Coil Motors
- Supports USB and RS485 communication *Comes with many advanced motion control features: Auto Parameter Detection, Auto Tuning, Force/Torque control, and Multi-thread Motion Programming
- Uses the intuitive and easy-to-use TITAN Software that enables anyone to startup the servo motion system within minutes

CMD (COMMANDER):



Advanced OEM 4-Axis Hybrid IC Motion Controller for Custom Solutions

Commander is a powerful, four-axis hybrid IC motion controller that bridges the gap between off-the-shelf and design-from-scratch controllers. Reduce development time and get your design to market faster, with Commander's advanced multi-axis functionality.

Commander fits a large range of applications and is easily scalable from prototype to production with no software changes required

Simple to use and Cost-effective

Based on Nippon Pulse's PCL6045BL motion control LSI, and an ARM Core processor

TITAN-CRX-8 (driver)



Intelligent. Simple. Powerful. Intuïtieve.

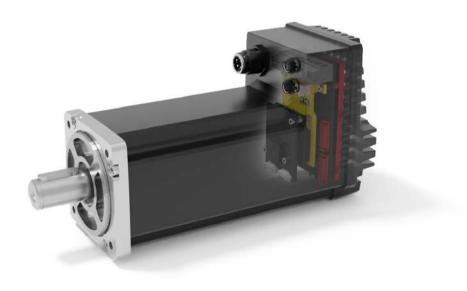
- is a single-axis servo core module that is part of the Titan Servo family and is ideal for customized, cost-sensitive, and high-volume OEM applications.
- Comes with a fan control port for easily attaching an external fan for continuous high-power motor control
- Comes with many advanced motion control features: Auto Parameter Detection, Auto Tuning,
 Force/Torque control, and Multi-thread Motion Programming
- Uses the intuitive and easy-to-use TITAN Software that enables anyone to startup the servo motion system within minutes
- TITAN has many advanced servo control feature and sets the foundation for the Servo 5.0 standard.



ASIC's:



Designed to provide the oscillating, high-speed pulses needed to drive stepper motors and servomotors (pulse string input types) using various commands. It can offer various types of control over the pulse strings and therefore the motor performance. These include continuous feeding, positioning, and origin return, etc. at a constant speed, linear acceleration/deceleration, and S-curve acceleration/deceleration. We offer the functionality of a driver and a controller next to a box version, also as board for OEM applications or in a compact hybrid/core modules that bridges the gap between off-the-shelf and design-from-scratch controllers.







Dynetics GmbH Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland

Tel: +49-(0)2157-128990 | Fax: +49-(0)2157-128999

Compact drive technology, ventilation and cooling





Brushless DC Motors



stepper motors

Hybrid, PM, tin-can low vibration, low noise Compact design up to 50 Nm, linearstep, 2 & 3-phase versions 0.6°-3.75° step angle, integrated driver electronics Manufacturers: Nidec Servo, Shinano Kenshi, NPM, KSS



Stepper and BLDC motor controller / driver boards and modules

Single & Multi axes 2,3,4 & 5 phases unipolar, bipolar Up to 4 axes, microstep, up to 8A. Various communication Fieldbus (CANopen, MODBUS) Ethernet, RS485, USB Manufacturers: Nidec Servo, SHS, NPM, Panasonic, Synapticon



Brushed motors and geared motors

Torque up to 35Nm Manufacturers: Nidec Servo, Tsukasa, 3P



Outside, or inside runners; Optionally with integrated driver electronics Manufacturers: Nidec, Tsukasa, 3P, Mellor



TEKCELEO

Motors with ironless rotor and gearbox

Brushed, or brushless 0.4-46W torque to 20Nm planetary gear Manufacturers: E-DriveSystem



10 to 150 mm, up to 3Nm, noiseless, short response time integrated speed / position torque sensors Manufacturers: Tekceleo



Linear servo motors / Electric cylinders and stages

Ultra-precise, Dynamic, Stable.

Height reproducibility, compact direct drive. Maintenance and cogging free shaft diameter from 4mm to 100mm stroke from 20mm to 4600mm captive / noncaptive. Top thrust force up to 10kN;

Manufacturer: NPM, KSS





D>TSUKASA

AC geared motors

Shaded pole & EC motors Motors up to 90W torque up to 30Nm Manufacturer: Nidec Servo, Mellor, DKM

Fans and blowers

Reliable, Ball bearing / sleeve bearing Lifetime up to 100,000 hours. Tested to VDE / UL / CSA IP54-65 versions Manufacturer: Nidec Servo, Nidec, Dynetics



One-chip stepper motor driver ICs, programmable pulse generators, integrated homing, anti-feedback, S-curve. Reduces engine noise Linear spiral, helical / circular interpolation

Manufacturer: Nippon Pulse



Linear Lead & Ball Screw; Linear bearings & Guides

High accuracy, minimal friction, integr. Ball feedback, high rigidity, smooth running Manufacturer: KSS



De Rijn 12 5684 PJ Best, Netherlands

Phone: +31 499 371007 Fax: +31 499 372008 e-mail: info@dynetics.eu

Klostergasse 6 D-41334 Nettetal-Kaldenkirchen, Deutschland

Phone: +49 2157 128990 Fax: +49 2157 128999 e-mail: info@dynetics.eu















