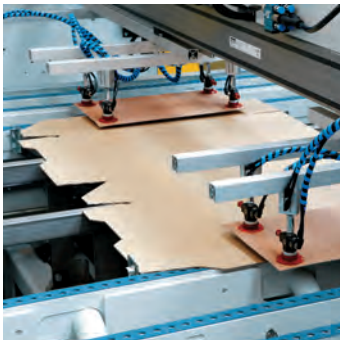




aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



TK Series

Frameless Servo Motor



ENGINEERING YOUR SUCCESS.



WARNING – USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
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Overview 5

Technical Data 6

Dimensions 8

Order Code..... 9

Parker Hannifin

- the global leader in motion and control technologies

A world class player on a local stage

Global Product Design

Parker Hannifin has more than 40 years experience in the design and manufacturing of drives, controls, motors and mechanical products. With dedicated global product development teams, Parker draws on industry-leading technological leadership and experience from engineering teams in Europe, North America and Asia.

Local Application Expertise

Parker has local engineering resources committed to adapting and applying our current products and technologies to best fit our customers' needs.

Manufacturing to Meet Our Customers' Needs

Parker is committed to meeting the increasing service demands that our customers require to succeed in the global industrial market. Parker's manufacturing teams seek continuous improvement through the implementation of lean manufacturing methods throughout the process. We measure ourselves on meeting our customers' expectations of quality and delivery, not just our own. In order to meet these expectations, Parker operates and continues to invest in our manufacturing facilities in Europe, North America and Asia.

Worldwide Manufacturing Locations

Europe

Littlehampton, United Kingdom
Dijon, France
Offenburg, Germany
Milan, Italy

Asia

Shanghai, China
Chennai, India

North America

Rohnert Park, California
Irwin, Pennsylvania
Wadsworth, Ohio
Charlotte, North Carolina
New Ulm, Minnesota



Offenburg, Germany

Local Manufacturing and Support in Europe

Parker provides sales assistance and local technical support through a network of dedicated sales teams and authorized technical distributors throughout Europe.

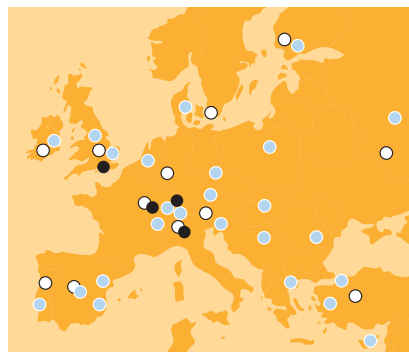
For contact information, please refer to the Sales Offices on the back cover of this document or visit www.parker.com



Milan, Italy



Littlehampton, UK



- Manufacturing
- Parker Sales Offices
- Distributors



Dijon, France

Frameless Servo Motor - TK Series

Overview

Description

Delivered as separate rotor and stator to be integrated into the mechanical structure of the machine, TK series torque motors lead to simplified designs, reduced costs, and increased accuracy.

TK series is distinguished from existing solutions by their exceptional robustness, making them particularly suited to harsh environments.

Benefiting from Parker's unprecedented know-how in the design and manufacture of torque motors, TK series can also be delivered as complete sub-assemblies including frame, cooling system, bearings, feedback sensor...

Advantages

- Simplified mechanical designs
- Reduced sizes and weights
- Reduced maintenance
- Increased rigidity and accuracy

Applications

- Material Forming
- Material Handling
- Tooling Machines
- Pulp & Paper

Features

- **Mounting**
Tapped holes on rotor and stator periphery
- **Cooling**
Water cooling (standard) or natural convection (available with derating, consult us)
- **Thermal protection**
PTC and KTY probes fitted into the stator winding
- **Feedback sensor**
Chosen depending upon mechanical conditions, required accuracy and drive specifics: resolver, sin/cos encoder...
- **Electrical connections**
Flying cables without connectors, 2 m length



Technical Characteristics - Overview

Shaft-heights	130 - 200 - 315 - 400 mm
Power supply	400 VAC three-phased
Torque	up to 21000 Nm
Stator winding's insulation according to CEI 60034-1	Class F

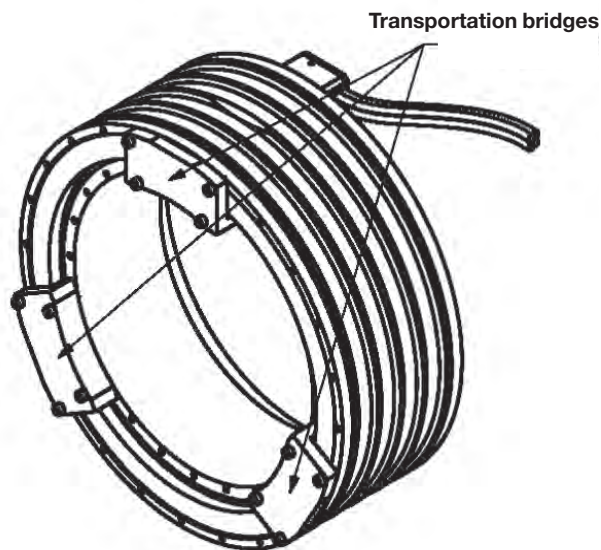
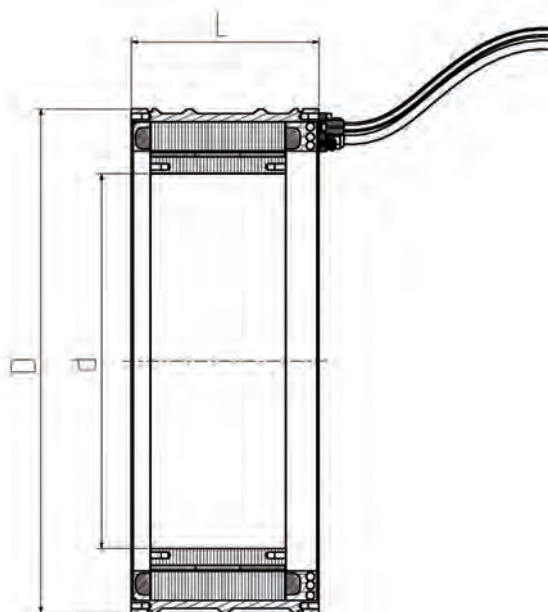
Technical Data

400 V power supply							
Motor	Nominal power P _n [kW]	Nominal speed N _n [min ⁻¹]	Nominal torque M _n [Nm]	Max. speed [min ⁻¹]	Low speed torque [Nm]	Low speed current I _o [A _{rms}]	Drive AC890
TKW131HL	6.9	750	88.3	935	90	15.2	AC890SD-532240C
TKW131HC	17.9	2500	68.3	2500	90	44.3	AC890SD-532590D
TKW132HL	10.1	480	201	720	205	23.4	AC890SD-532300C
TKW132HF	22.2	1120	189	1680	205	50.6	AC890SD-532590D
TKW133HN	14.8	450	314	675	320	35.2	AC890SD-532390D
TKW133HH	30.7	980	299	1470	320	70.4	AC890SD-432730E
TKW133HD	45.1	1550	278	2190	320	106	AC890SD-433145F
TKW134HN	15.3	340	431	510	435	38	AC890SD-532450D
TKW134HJ	27.8	630	422	945	435	64.6	AC890SD-432730E
TKW134HF	46.3	1100	402	1650	435	108	AC890SD-433145F
TKW135HM	27.7	490	540	735	550	65.4	AC890SD-432730E
TKW135HG	53.9	1000	515	1500	550	123	AC890SD-433156F
TKW136HM	30.9	450	656	675	660	72.7	AC890SD-432730E
TKW136HF	71.0	1100	616	1650	660	164	AC890SD-433216G
TKW201HF	20.6	900	219	1000	275	48.6	AC890SD-532590D
TKW201HM	10.0	365	262	540	275	21.6	AC890SD-532300C
TKW202HF	45	895	480	1040	610	108	AC890SD-433145F
TKW202HS	15.8	255	592	380	610	35.3	AC890SD-532450D
TKW203HD	57.5	670	819	940	960	133	AC890SD-433156F
TKW203HE	53.8	615	835	905	960	123	AC890SD-433156F
TKW203HR	18.2	185	936	275	960	43.2	AC890SD-532590D
TKW204HI	71.2	595	1140	890	1300	163	AC890SD-433250G
TKW204HV	18.9	140	1280	170	1300	46.5	AC890SD-532590D
TKW205HH	80.7	520	1480	780	1650	184	AC890SD-433316G
TKW205HM	51.8	315	1570	470	1650	118	AC890SD-433156F
TKW205HU	22.2	130	1630	195	1650	55.1	AC890SD-432730E
TKW206HG	92.1	485	1810	725	2000	209	AC890SD-433316G
TKW206HM	51.3	255	1920	380	2000	120	AC890SD-433156F
TKW206HS	30.9	150	1960	225	2000	76.1	AC890SD-432870E
TKW208HF	106	405	2500	605	2700	242	AC890SD-433361G
TKW208HM	51	185	2630	275	2700	121	AC890SD-433156F
TKW208HS	29.4	105	2670	135	2700	77.1	AC890SD-432870E
TKW301HB	36.1	695	497	695	680	87.6	AC890SD-433145F
TKW301HJ	14.7	215	651	320	680	31.1	AC890SD-532390D
TKW302HE	64	475	1290	605	1520	143	AC890SD-433216G
TKW302HJ	46	315	1390	470	1520	98.2	AC890SD-433145F
TKW302HP	23.2	150	1480	220	1520	50.7	AC890SD-432730E
TKW303HC	83.1	375	2120	550	2380	183	AC890SD-433316G
TKW303HJ	47.8	200	2270	295	2380	103	AC890SD-433145F
TKW303HN	30.5	125	2330	185	2380	68.4	AC890SD-432730E

400 V power supply							
Motor	Nominal power P _n [kW]	Nominal speed N _n [min ⁻¹]	Nominal torque M _n [Nm]	Max. speed [min ⁻¹]	Low speed torque [Nm]	Low speed current I _o [A _{rms}]	Drive AC890
TKW304HG	96.4	310	2970	465	3250	211	AC890SD-433316G
TKW304HM	51.1	155	3150	230	3250	112	AC890SD-433156F
TKW304HN	44.8	135	3160	195	3250	99.1	AC890SD-433145F
TKW305HG	99.1	245	3870	360	4100	213	AC890SD-433316G
TKW305HN	50.6	120	4030	175	4100	113	AC890SD-433156F
TKW305HO	42.4	100	4050	125	4100	100	AC890SD-433145F
TKW306HF	113	230	4710	340	4950	245	AC890SD-433361G
TKW306HM	53.9	105	4900	150	4950	122	AC890SD-433156F
TKW306HO	41.3	80	4930	120	4950	101	AC890SD-433145F
TKW308HC	141	210	6400	315	6740	309	AC890SD-433480H
TKW308HL	55.7	80	6650	115	6740	135	AC890SD-433216G
TKW308HO	39.2	56	6690	80	6740	103	AC890SD-433145F
TKW30AHD	162	190	8110	280	8450	351	AC890SD-433520H
TKW30AHL	52	59	8420	70	8450	135	AC890SD-433216G
TKW30AHO	35.4	40	8450	60	8450	103	AC890SD-433145F
TKW401HA	45.6	380	1150	415	1460	108	AC890SD-433145F
TKW401HG	24.4	170	1370	255	1460	53	AC890SD-432730E
TKW402HG	78.8	265	2840	375	3270	180	AC890SD-433316G
TKW402HI	69	225	2930	335	3270	155	AC890SD-433250G
TKW402HP	42.5	130	3110	195	3270	94.8	AC890SD-433145F
TKW403HC	106	220	4590	325	5100	237	AC890SD-433361G
TKW403HJ	66.3	130	4860	195	5100	148	AC890SD-433216G
TKW403HL	56.7	110	4910	160	5100	127	AC890SD-433156F
TKW404HI	124	185	6400	275	6900	278	AC890SD-433420H
TKW404HQ	63.7	90	6760	135	6900	151	AC890SD-433250G
TKW404HR	60.3	85	6770	125	6900	139	AC890SD-433216G
TKW405HH	134	155	8270	200	8800	308	AC890SD-433480H
TKW405HQ	65.1	72	8630	105	8800	154	AC890SD-433250G
TKW406HG	148	140	10100	210	10600	338	AC890SD-433520H
TKW406HP	71.4	65	10500	95	10600	169	AC890SD-433250G
TKW406HQ	63.9	58	10500	70	10600	155	AC890SD-433250G
TKW408HF	166	115	13800	170	14400	379	AC890SD-433590J
TKW408HN	84.8	57	14200	85	14400	211	AC890SD-433316G
TKW408HQ	59.9	40	14300	60	14400	158	AC890SD-433250G
TKW40AHE	184	100	17500	145	18100	424	AC890SD/5/0685K
TKW40AHM	88.3	47	17900	70	18100	225	AC890SD-433361G
TKW40AHQ	54.9	29	18100	40	18100	159	AC890SD-433250G
TKW40CHD	207	93	21200	135	21900	482	AC890SD/5/0798K
TKW40CHK	97.5	43	21700	60	21900	257	AC890SD-433420H

Dimensions

TK series dimensions			
Motor	L	d	D
TK131HL	90	132	230
TK131HC	100		
TK132HL/HN	140		
TK132HF	150		
TK133HN	190		
TK133HH	205		
TK133HD	215		
TK134HN	246		
TK134HJ	256		
TK134HF	261		
TK135HM	306		
TK135HG	311		
TK136HM	356		
TK136HF	376		
TK201	110	250	385
TK202HS	160		
TK202HF	170		
TK203HR	210		
TK203HE/HD	220		
TK204	270		
TK205	340		
TK206	390		
TK208	480		
TK301	110	420	565
TK302HP/HJ	160		
TK302HE	170		
TK303HN/HJ	210		
TK303HC	220		
TK304	275		
TK305	340		
TK306HO/HM	380		
TK306HF	395		
TK308HO/HL	485		
TK308HC	520		
TK30AHO/HL	590		
TK30AHD	650		
TK401	130		
TK402	180		
TK403	230		
TK404	280		
TK405	350		
TK406	400		
TK408	500		
TK40A	605		
TK40C	710		



Order Code

TK-Series

	1	2	3	4	5	6	7	8	9	10	11	12
Order example	TK	W	20	4HG	Y	Z	B	2	R	9	0	00

1 Motor type	TK	Frameless torque motors
2 Cooling method	W	Water cooling (standard)
	A	Natural convection (available with derating, consult us)
3 Shaft heights	13	130 mm
	20	200 mm
	30	315 mm
	40	400 mm
4 Torque/Speed characteristics	1HL	
	1HC	see table TK-Series technical data
	2HL	
	...	
5 Feedback sensor	Y	Without sensor
	B	Direct Endat encoder
6 Transportation bridge	B	Bridges on both sides
	C	Bridges on cables output side
	D	Bridges on cables output opposite side
	Z	Without bridges (standard)
7 Cables output	B	Output towards the rear
8 Cable length	2	2 m
9 Fix code	R	
10 Connections	1	Flying cables (3 phases + ground)
	9	Terminal box
11 Thermal protection	0	1 PTC 140°C + 1 PTC 150°C + 1 KTY (+1 in reserve)
12 Mechanical interface	00	Standard motor

Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374.



AEROSPACE

Key Markets

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

Key Products

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes



CLIMATE CONTROL

Key Markets

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

Key Products

- CO₂ controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



ELECTROMECHANICAL

Key Markets

- Aerospace
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

Key Products

- AC/DC drives & systems
- Electric actuators
- Controllers
- Gantry robots
- Gearheads
- Human machine interfaces
- Industrial PCs
- Inverters
- Linear motors, slides and stages
- Precision stages
- Stepper motors
- Servo motors, drives & controls
- Structural extrusions



FILTRATION

Key Markets

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

Key Products

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators



FLUID & GAS HANDLING

Key Markets

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

Key Products

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



HYDRAULICS

Key Markets

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

Key Products

- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



PNEUMATICS

Key Markets

- Aerospace
- Conveyor & material handling
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

Key Products

- Air preparation
- Compact cylinders
- Field bus valve systems
- Grippers
- Guided cylinders
- Manifolds
- Miniature fluidics
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves and controls
- Rodless cylinders
- Rotary actuators
- Tie rod cylinders
- Vacuum generators, cups & sensors



PROCESS CONTROL

Key Markets

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

Key Products

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds



SEALING & SHIELDING

Key Markets

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

Key Products

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management

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EMEA Product Information Centre

Free phone: 00 800 27 27 5374

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US Product Information Centre

Toll-free number: 1-800-27 27 537

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