Frameless torque motors

TK series up to 21 000 Nm

Reducing costs and increasing machines reliability

Delivered as separate rotor and stator to be integrated into the mechanical structure of the machine, **TK torque motors help to simplify machines designs, reduce their cost and increase their stiffness and accuracy.**

TK Series distinguishes from existing solutions by an exceptional robustness, making them particularly adapted to harsh environments.

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

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Features and benefits:

- Simplified mechanical designs
- Reduced sizes and weights
- Reduced maintenance costs
- Increased lifetimes
- Increased stiffness and accuracy
- Smooth rotation at low speed
- High positioning accuracy
- High dynamic performances
- Energy savings (suppression of mechanical losses)

Parker

ENGINEERING YOUR SUCCESS.

Applications

The load is directly connected to the motor's moving part, leading to simplified mechanical designs, reduced sizes and lighter weights. No more mechanical parts subject to wear means that the lifetime of the whole system is increased, and the maintenance costs are reduced.
The absence of gears also suppresses backlashes and looseness inherent to mechanical transmissions, resulting into higher stiffness and superior accuracy.

High performances applications

Parker TK series offers tremendous advantages in high performances applications requiring smooth rotation, high positioning accuracy and / or high dynamic performances, including :

- Indexing tables
- Rotary transfer systems
- Machine-Tools axis...

Process applications

Parker TK series are also suitable for process applications where mechanical transmission elements represent high operation costs and important loss of space, such as :

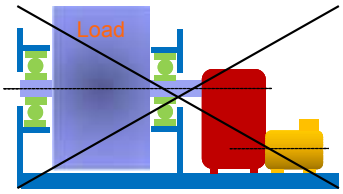
- Mixers
- Pulpers
- Crushers
- Winders...

Traditional solution :

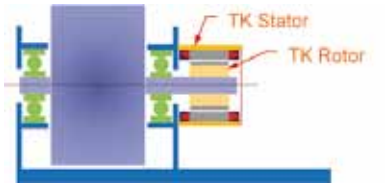
- Standard AC or DC motor
- Mechanical transmission
- Support structure

☹ Complex and costly design
☹ High maintenance costs
☹ High energy costs due to mechanical losses
☹ Important loss of space

Before



After



Parker solution :

- TK rotor and stator
- Frame with water cooling circuit
- Feedback sensor

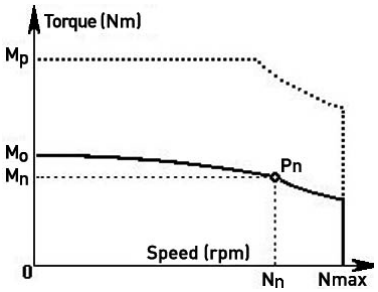
☺ Simple and cost effective design
☺ No maintenance costs
☺ Increased lifetime
☺ Energy savings
☺ Space savings

TK series general characteristics

Shaft-heights	130 - 200 - 315 - 400 mm
Mounting	tapped holes on rotor and stator periphery
Power supply	400 VAC three-phased
Nominal torque	Up to 21000 Nm
Stator winding's insulation according to CEI 60034-1	Class F
Cooling method	Water cooling (standard) or natural ventilation (available with derating, consult us)
Thermal protection	PTC and KTY probes fitted into the stator winding
Feedback sensor	To be chosen taking into account mechanical conditions, accuracy required and drive's specificities : resolver, sin/cos encoder…
Electrical connections	Flying cables without connectors, 2m length

TK torque motors can be controlled by Parker AC890 servo drives.

References



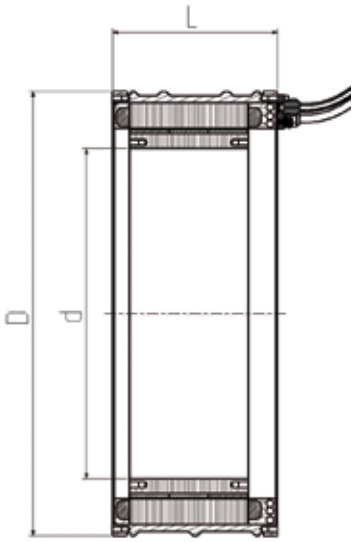
Power supply 400V

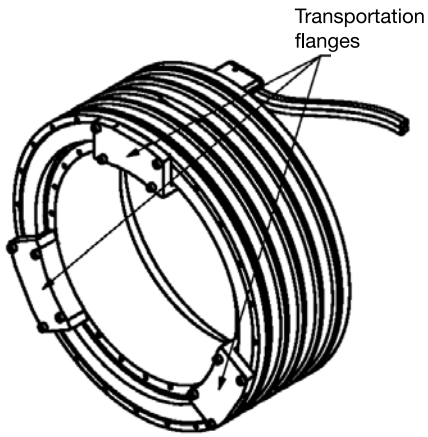
Motor	Nominal power	Nominal speed	Nominal torque	Nominal current	Low speed torque	Low speed current	Peak torque	Peak current
	Pn (kW)	Nn (rpm)	Mn (Nm)	In (Arms)	Mo (Nm)	Io (Arms)	M peak (Nm)	I peak (Arms)
TKW131HC	17,9	2500	68,3	35,1	90	44,3	200	111
TKW132HF	22,2	1120	189	47,5	205	50,6	415	118
TKW133HH	30,7	980	299	66,7	320	70,4	625	158
TKW134HN	15,3	340	431	37,9	435	38	850	85,9
TKW134HF	46,3	1100	402	101	435	108	850	243
TKW135HG	53,9	1000	515	116	550	123	1060	273
TKW136HF	71	1100	616	155	660	164	1280	367
TKW201HF	20,64	900	219	39,9	275	48,6	650	143
TKW202HF	44,99	895	480	87,7	610	108	1300	286
TKW203HD	57,46	670	819	115	960	133	1950	334
TKW203HR	18,13	185	936	42,2	960	43,2	1950	108
TKW204HV	18,77	140	1280	46,1	1300	46,5	2600	114
TKW205HH	80,59	520	1480	167	1650	184	3250	445
TKW205HU	22,19	130	1630	54,6	1650	55,1	3250	134
TKW206HG	91,93	485	1810	192	2000	209	3900	501
TKW206HS	30,79	150	1960	75,1	2000	76,1	3900	182
TKW208HF	106,03	405	2500	226	2700	242	5200	572
TKW208HS	29,36	105	2670	76,6	2700	77,1	5200	182
TKW301HB	36,17	695	497	67,4	680	87,6	1200	162
TKW301HJ	14,66	215	651	30,2	680	31,1	1200	57,6
TKW302HE	64,17	475	1290	124	1520	143	2400	235
TKW302HP	23,25	150	1480	49,7	1520	50,7	2400	83,5
TKW303HC	83,25	375	2120	166	2380	183	3600	288
TKW303HN	30,50	125	2330	67,4	2380	68,4	3600	108
TKW304HG	96,42	310	2970	196	3250	211	4800	324
TKW304HN	44,67	135	3160	97,1	3250	99,1	4800	152
TKW305HG	99,29	245	3870	203	4100	213	6000	324
TKW305HO	42,41	100	4050	99,3	4100	100	6000	152
TKW306HF	113,45	230	4710	235	4950	245	7200	370
TKW306HO	41,30	80	4930	101	4950	101	7200	152
TKW308HC	140,75	210	6400	296	6740	309	9600	457
TKW308HO	39,23	56	6690	103	6740	103	9600	152
TKW30AHD	161,37	190	8110	340	8450	351	12000	518
TKW30AHO	35,40	40	8450	104	8450	103	12000	152
TKW401HA	45,76	380	1150	87,2	1460	108	3300	295
TKW402HG	78,81	265	2840	158	3270	180	6600	434
TKW403HC	105,75	220	4590	215	5100	237	9900	550
TKW404HI	123,99	185	6400	260	6900	278	13200	635
TKW405HH	134,24	155	8270	292	8800	308	16500	688
TKW406HQ	63,78	58	10500	154	10600	155	19800	344
TKW408HF	166,20	115	13800	365	14400	379	26400	825
TKW40AHM	88,10	47	17900	223	18100	225	33000	486
TKW40CHD	206,47	93	21200	469	21900	482	39600	1030

Please consult your Parker contact to know the complete list of our motors..

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	620	795
TK402	180		
TK403	230		
TK404	280		
TK405	350		
TK406	400		
TK408	500		
TK40A	605		
TK40C	710		





Complementary to this frameless range, Parker offers the TMA-TMW Torque motors integrated range especially designed for low speed operation. They advantageously replace traditional gearbox based systems in applications such as extruders and injection molding machines.

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