



Simplified machine design and maintenance

- 23-bit resolution encoder
- Compact and small motor size
- Multi-turn encoder design without mechanics: 16-bit, 65536 turns
- Battery-free absolute multi-turn encoder
- Pre-assembled motor cables
- Designed for easy EMC compliance

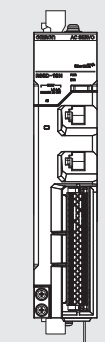
Ratings

- 230 VAC from 100 W to 1.5 kW (rated torque from 0.318 to 8.59 Nm)
- 400 VAC from 400 W to 3 kW (rated torque from 1.91 to 28.7 Nm)

Ordering information

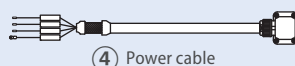
(Refer to servo drive chapter)

②
Drive options

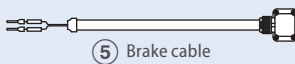


1S servo drive

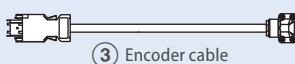
1S servo motor (Flange size 80 mm or less)



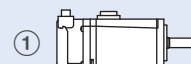
④ Power cable



⑤ Brake cable

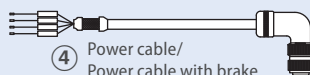


③ Encoder cable

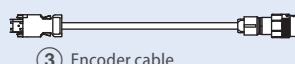


3000 rpm (100 W - 750 W)

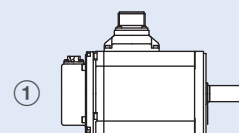
1S servo motor (Flange size 100 mm or more)



④ Power cable/
Power cable with brake



③ Encoder cable



3000 rpm (1 kW - 3 kW)
2000 rpm (400 W - 3 kW)
1000 rpm (900 W - 3 kW)

Servo motors

Note: ① Select motor from R88M-1_ family using motor tables in next pages.

Servo drives

Note: ② Refer to the 1S servo drive section for detailed drive specifications and selection of drive accessories.

Servo motors

Servo motors 3000 r/min (100 W to 3 kW)

Symbol	Specifications					Compatible 1S servo drive	Order code				
	Voltage	Encoder and design		Rated torque	Capacity			Flange size			
①	230 V	Absolute encoder (23-bit)	Without brake	0.318 Nm	100 W	40 mm	R88D-1SN01H-ECT	R88M-1M10030T-S2			
				0.637 Nm	200 W	60 mm	R88D-1SN02H-ECT	R88M-1M20030T-S2			
		Straight shaft with key and tap		Without brake	1.27 Nm	400 W	60 mm	R88D-1SN04H-ECT	R88M-1M40030T-S2		
					2.39 Nm	750 W	80 mm	R88D-1SN08H-ECT	R88M-1M75030T-S2		
					3.18 Nm	1 kW	100 mm	R88D-1SN15H-ECT	R88M-1L1K030T-S2 ^{*1}		
					4.77 Nm	1.5 kW	100 mm	R88D-1SN15H-ECT	R88M-1L1K530T-S2 ^{*1}		
			With brake		Without brake	0.318 Nm	100 W	40 mm	R88D-1SN01H-ECT	R88M-1M10030T-BS2	
						0.637 Nm	200 W	60 mm	R88D-1SN02H-ECT	R88M-1M20030T-BS2	
		1.27 Nm		400 W		60 mm	R88D-1SN04H-ECT	R88M-1M40030T-BS2			
		2.39 Nm		750 W		80 mm	R88D-1SN08H-ECT	R88M-1M75030T-BS2			
		3.18 Nm		1 kW		100 mm	R88D-1SN15H-ECT	R88M-1L1K030T-BS2 ^{*1}			
		4.77 Nm		1.5 kW		100 mm	R88D-1SN15H-ECT	R88M-1L1K530T-BS2 ^{*1}			
		400 V	Straight shaft with key and tap	Without brake	Without brake	2.39 Nm	750 W	100 mm	R88D-1SN10F-ECT	R88M-1L75030C-S2 ^{*1}	
						3.18 Nm	1 kW	100 mm	R88D-1SN10F-ECT	R88M-1L1K030C-S2 ^{*1}	
	4.77 Nm					1.5 kW	100 mm	R88D-1SN15F-ECT	R88M-1L1K530C-S2 ^{*1}		
	6.37 Nm					2 kW	100 mm	R88D-1SN20F-ECT	R88M-1L2K030C-S2 ^{*1}		
	9.55 Nm					3 kW	130 mm	R88D-1SN30F-ECT	R88M-1L3K030C-S2 ^{*1}		
	With brake			With brake	Without brake	Without brake	2.39 Nm	750 W	100 mm	R88D-1SN10F-ECT	R88M-1L75030C-BS2 ^{*1}
							3.18 Nm	1 kW	100 mm	R88D-1SN10F-ECT	R88M-1L1K030C-BS2 ^{*1}
							4.77 Nm	1.5 kW	100 mm	R88D-1SN15F-ECT	R88M-1L1K530C-BS2 ^{*1}
							6.37 Nm	2 kW	100 mm	R88D-1SN20F-ECT	R88M-1L2K030C-BS2 ^{*1}
							9.55 Nm	3 kW	130 mm	R88D-1SN30F-ECT	R88M-1L3K030C-BS2 ^{*1}

^{*1} Available soon.

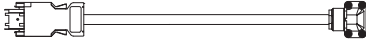
Servo motors 2000 r/min (400 W to 3 kW)

Symbol	Specifications					Compatible 1S servo drive	Order code	
	Voltage	Encoder and design		Rated torque	Capacity			Flange size
①	230 V	Absolute encoder (23-bit)	Without brake	4.77 Nm	1 kW	130 mm	R88D-1SN15H-ECT	R88M-1M1K020T-S2
				7.16 Nm	1.5 kW	130 mm	R88D-1SN15H-ECT	R88M-1M1K520T-S2
		Straight shaft with key and tap	With brake	4.77 Nm	1 kW	130 mm	R88D-1SN15H-ECT	R88M-1M1K020T-BS2
				7.16 Nm	1.5 kW	130 mm	R88D-1SN15H-ECT	R88M-1M1K520T-BS2
	400 V	Without brake		1.91 Nm	400 W	100 mm	R88D-1SN06F-ECT	R88M-1M40020C-S2
				2.86 Nm	600 W	100 mm	R88D-1SN06F-ECT	R88M-1M60020C-S2
				4.77 Nm	1 kW	130 mm	R88D-1SN10F-ECT	R88M-1M1K020C-S2
				7.16 Nm	1.5 kW	130 mm	R88D-1SN15F-ECT	R88M-1M1K520C-S2
				9.55 Nm	2 kW	130 mm	R88D-1SN20F-ECT	R88M-1M2K020C-S2
				14.3 Nm	3 kW	130 mm	R88D-1SN30F-ECT	R88M-1M3K020C-S2
		With brake		1.91 Nm	400 W	100 mm	R88D-1SN06F-ECT	R88M-1M40020C-BS2
				2.86 Nm	600 W	100 mm	R88D-1SN06F-ECT	R88M-1M60020C-BS2
				4.77 Nm	1 kW	130 mm	R88D-1SN10F-ECT	R88M-1M1K020C-BS2
				7.16 Nm	1.5 kW	130 mm	R88D-1SN15F-ECT	R88M-1M1K520C-BS2
				9.55 Nm	2 kW	130 mm	R88D-1SN20F-ECT	R88M-1M2K020C-BS2
				14.3 Nm	3 kW	130 mm	R88D-1SN30F-ECT	R88M-1M3K020C-BS2

Servo motors 1000 r/min (900 W to 3 kW)

Symbol	Specifications					Compatible 1S servo drive	Order code	
	Voltage	Encoder and design		Rated torque	Capacity			Flange size
①	230 V	Absolute encoder (23-bit)	Without brake	8.59 Nm	900 W	130 mm	R88D-1SN15H-ECT	R88M-1M90010T-S2
			With brake	8.59 Nm	900 W	130 mm	R88D-1SN15H-ECT	R88M-1M90010T-BS2
	400 V	Straight shaft with key and tap	Without brake	8.59 Nm	900 W	130 mm	R88D-1SN10F-ECT	R88M-1M90010C-S2
				19.1 Nm	2 kW	180 mm	R88D-1SN20F-ECT	R88M-1M2K010C-S2
				28.7 Nm	3 kW	180 mm	R88D-1SN30F-ECT	R88M-1M3K010C-S2
			With brake	8.59 Nm	900 W	130 mm	R88D-1SN10F-ECT	R88M-1M90010C-BS2
				19.1 Nm	2 kW	180 mm	R88D-1SN20F-ECT	R88M-1M2K010C-BS2
				28.7 Nm	3 kW	180 mm	R88D-1SN30F-ECT	R88M-1M3K010C-BS2

Encoder cables

Symbol	Appearance	Specifications		Order code
③		Encoder cable for servo motors R88M-1M(100/200/400/750)30T-__	1.5 m	R88A-CR1A001-5CF-E
			3 m	R88A-CR1A003CF-E
			5 m	R88A-CR1A005CF-E
			10 m	R88A-CR1A010CF-E
			15 m	R88A-CR1A015CF-E
		Encoder cable for servo motors R88M-1L(1K0/1K5)30T-__ R88M-1L(750/1K0/1K5/2K0/3K0)30C-__ R88M-1M(1K0/1K5)20T-__ R88M-1M(400/600/1K0/1K5/2K0/3K0)20C-__ R88M-1M90010T-__ R88M-1M(900/2K0/3K0)10C-__	1.5 m	R88A-CR1B001-5NF-E
			3 m	R88A-CR1B003NF-E
			5 m	R88A-CR1B005NF-E
			10 m	R88A-CR1B010NF-E
			15 m	R88A-CR1B015NF-E
			20 m	R88A-CR1B020NF-E

Power cables

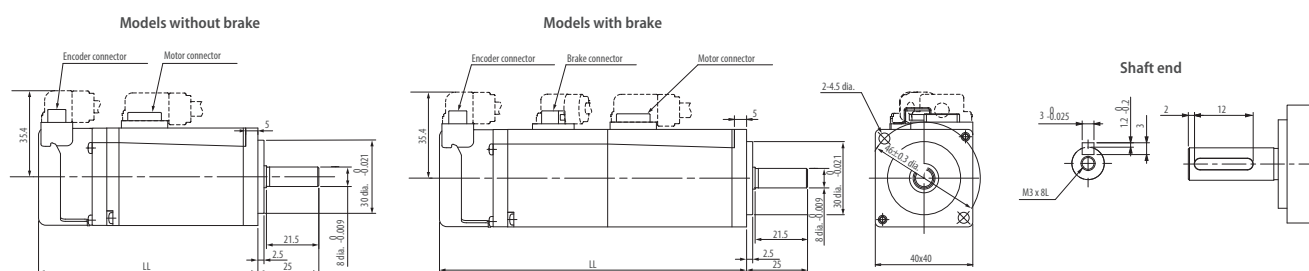
Symbol	Appearance	Specifications		Order code	
④		For 230 V servo motors R88M-1M(100/200/400/750)30T-_S2 Note: For servo motors with brake R88M-1M(100/200/400/750)30T-B52, the separate brake cable R88A-CA1A___BF-E is needed.	Without brake	1.5 m	R88A-CA1A001-5SF-E
				3 m	R88A-CA1A003SF-E
				5 m	R88A-CA1A005SF-E
				10 m	R88A-CA1A010SF-E
				15 m	R88A-CA1A015SF-E
				20 m	R88A-CA1A020SF-E
		For 230 V servo motors R88M-1L(1K0/1K5)30T-_S2 R88M-1M(1K0/1K5)20T-_S2 R88M-1M90010T-_S2	Without brake	1.5 m	R88A-CA1C001-5SF-E
				3 m	R88A-CA1C003SF-E
				5 m	R88A-CA1C005SF-E
				10 m	R88A-CA1C010SF-E
				15 m	R88A-CA1C015SF-E
				20 m	R88A-CA1C020SF-E
		For 230 V servo motors R88M-1L(1K0/1K5)30T-_S2 R88M-1M(1K0/1K5)20T-_S2 R88M-1M90010T-_S2	With brake	1.5 m	R88A-CA1C001-5BF-E
				3 m	R88A-CA1C003BF-E
				5 m	R88A-CA1C005BF-E
				10 m	R88A-CA1C010BF-E
				15 m	R88A-CA1C015BF-E
				20 m	R88A-CA1C020BF-E
		For 400 V servo motors R88M-1L(750/1K0/1K5/2K0)30C-_S2 R88M-1M(400/600/1K0/1K5/2K0)20C-_S2 R88M-1M90010C-_S2	Without brake	1.5 m	R88A-CA1C001-5SF-E
				3 m	R88A-CA1C003SF-E
				5 m	R88A-CA1C005SF-E
				10 m	R88A-CA1C010SF-E
				15 m	R88A-CA1C015SF-E
				20 m	R88A-CA1C020SF-E
		For 400 V servo motors R88M-1L(750/1K0/1K5/2K0)30C-_S2 R88M-1M(400/600/1K0/1K5/2K0)20C-_S2 R88M-1M90010C-_S2	With brake	1.5 m	R88A-CA1E001-5BF-E
				3 m	R88A-CA1E003BF-E
				5 m	R88A-CA1E005BF-E
				10 m	R88A-CA1E010BF-E
15 m				R88A-CA1E015BF-E	
20 m				R88A-CA1E020BF-E	
	For 400 V servo motors R88M-1L3K030C-_S2 R88M-1M3K020C-_S2 R88M-1M(2K0/3K0)10C-_S2	Without brake	1.5 m	R88A-CA1E001-5SF-E	
			3 m	R88A-CA1E003SF-E	
			5 m	R88A-CA1E005SF-E	
			10 m	R88A-CA1E010SF-E	
			15 m	R88A-CA1E015SF-E	
			20 m	R88A-CA1E020SF-E	
	For 400 V servo motors R88M-1L3K030C-_S2 R88M-1M3K020C-_S2 R88M-1M(2K0/3K0)10C-_S2	With brake	1.5 m	R88A-CA1E001-5BF-E	
			3 m	R88A-CA1E003BF-E	
			5 m	R88A-CA1E005BF-E	
			10 m	R88A-CA1E010BF-E	
			15 m	R88A-CA1E015BF-E	
			20 m	R88A-CA1E020BF-E	

Brake cables (for 230 V, 100 W to 750 W servo motors)

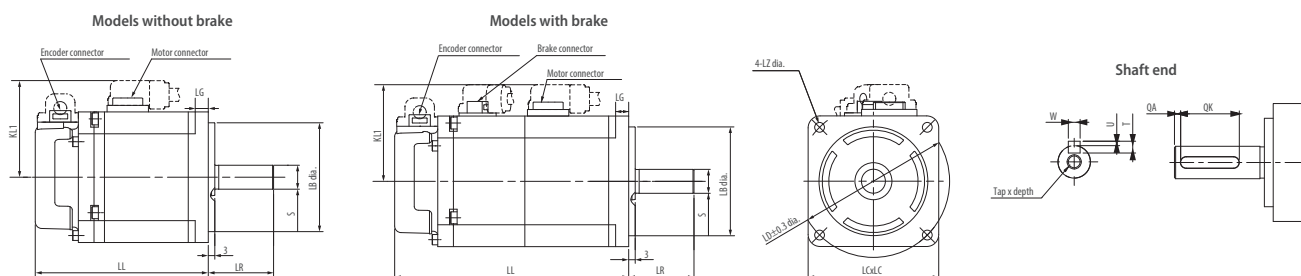
Symbol	Appearance	Specifications		Order code
⑤		Brake cable only For 230 V servo motors with brake R88M-1M(100/200/400/750)30T-B52	1.5 m	R88A-CA1A001-5BF-E
			3 m	R88A-CA1A003BF-E
			5 m	R88A-CA1A005BF-E
			10 m	R88A-CA1A010BF-E
			15 m	R88A-CA1A015BF-E
			20 m	R88A-CA1A020BF-E

Specifications		Applicable servo motor	Manufacturer	Order code
Connectors for encoder cables	Drive side (CN2)	All models	OMRON	R88A-CN101R
	Motor side	R88M-1M(100/200/400/750)30T-__	OMRON	R88A-CNK02R
		R88M-1L(1K0/1K5)30T-__	OMRON	R88A-CN104R
		R88M-1L(750/1K0/1K5/2K0/3K0)30C-__		
		R88M-1M(1K0/1K5)20T-__		
		R88M-1M(400/600/1K0/1K5/2K0/3K0)20C-__		
		R88M-1M90010T-__		
	R88M-1M(900/2K0/3K0)10C-__			
Connectors for power cables	Motor side	R88M-1M(100/200/400/750)30T-__S2	OMRON	R88A-CN111A
		R88M-1L(1K0/1K5)30T-S2	Amphenol	MS3108-EGM21-20-4S
		R88M-1M(1K0/1K5)20T-S2		
		R88M-1M90010T-S2		
		R88M-1L(750/1K0/1K5/2K0)30C-S2		
		R88M-1M(400/600/1K0/1K5/2K0)20C-S2		
		R88M-1M90010C-S2		
		R88M-1L(1K0/1K5)30T-BS2	Amphenol	MS3108-EGM21-20-18S-22S
		R88M-1M(1K0/1K5)20T-BS2		
		R88M-1M90010T-BS2		
	R88M-1L3K030C-S2	Amphenol	MS3108-EGM21-22-22S	
	R88M-1M3K020C-S2			
	R88M-1M(2K0/3K0)10C-S2			
	R88M-1L(750/1K0/1K5/2K0/3K0)30C-BS2	Amphenol	MS3108-EGM21-24-11S	
	R88M-1M(400/600/1K0/1K5/2K0/3K0)20C-BS2			
	R88M-1M(900/2K0/3K0)10C-BS2			
Connectors for brake cables	Motor side	R88M-1M(100/200/400/750)30T-BS2	OMRON	R88A-CN111B

Dimensions (mm)	Without brake	With brake	Approx. mass (kg)	
Model: R88M-1_	LL	LL	Without brake	With brake
M10030T-S2	90	126	0.52	0.77



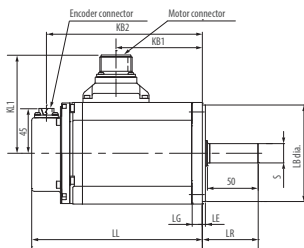
Dimensions (mm)	Without brake		With brake		LR	Flange surface					Shaft end							Approx. mass (kg)	
Model: R88M-1_	LL	KL1	LL	KL1		LB	LC	LD	LG	LZ	S	QA	QK	W	U	T	Tap x depth	Without brake	With brake
M20030T-_S2	79.5	44.6	107.5	44.6	30	50 dia. $\overset{0}{\underset{-0.025}{}}$	60	70	6	4.5	11 dia. $\overset{0}{\underset{-0.011}{}}$	2	20	4 $\overset{0}{\underset{-0.03}{}}$	1.5 $\overset{0}{\underset{-0.2}{}}$	4	M4 x 10L	1.0	1.3
M40030T-_S2	105.5		133.5										14 dia. $\overset{0}{\underset{-0.011}{}}$			5 $\overset{0}{\underset{-0.03}{}}$	2 $\overset{0}{\underset{-0.2}{}}$	5	M5 x 12L
M75030T-_S2	117.3	54.4	153	54.4	35	70 dia. $\overset{0}{\underset{-0.03}{}}$	80	90	8	6	19 dia. $\overset{0}{\underset{-0.013}{}}$	3	24	6 $\overset{0}{\underset{-0.03}{}}$	2.5 $\overset{0}{\underset{-0.2}{}}$	6		2.9	3.9



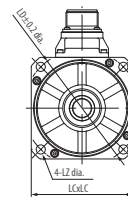
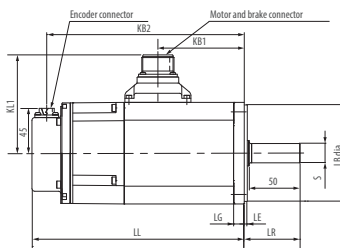
Type 3000 r/min motors (230 V, 1 kW to 1.5 kW / 400 V, 750 W to 3 kW)

Dimensions (mm)	Without brake				With brake				LR	Flange surface						Shaft end							Approx. mass (kg)	
Model: R88M-1_	LL	KB1	KB2	KL1	LL	KB1	KB2	KL1		LB	LC	LD	LE	LG	LZ	S	QA	QK	W	U	T	Tap x depth	Without brake	With brake
L1K030T-_S2	168	85	153	97	209	85	194	97	55	95 dia. $^{0}_{-0.035}$	100	115	3	10	9	19 dia. $^{0}_{-0.013}$	3	42	6 $^{0}_{-0.03}$	2.5 $^{0}_{-0.2}$	6	M5 x 12L	5.7	7.4
L1K530T-_S2					180	56	165	104															4.1	5.8
L75030C-_S2	139	56	124		209	85	194																5.7	7.4
L1K030C-_S2	168	85	153		220	96	205																6.4	8.1
L1K530C-_S2																								
L2K030C-_S2	179	96	164		230	112	215	119		110 dia. $^{0}_{-0.035}$	130	145	4	12	9	22 dia. $^{0}_{-0.013}$			8 $^{0}_{-0.036}$	3 $^{0}_{-0.4}$	7		11.5	12.5
L3K030C-_S2	184	112	169	116																				

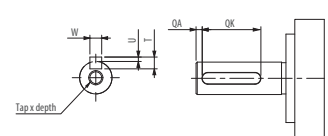
Models without brake



Models with brake



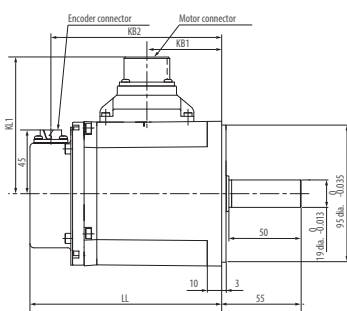
Shaft end



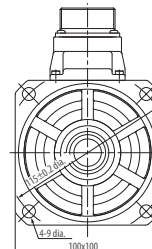
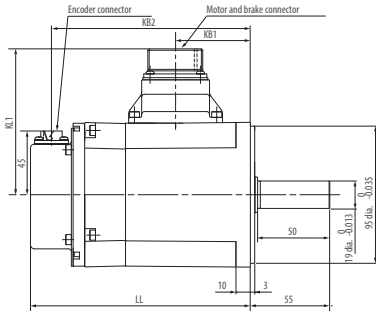
Type 2000 r/min motors (400 V, 400 W to 600 W)

Dimensions (mm)	Without brake				With brake				Approx. mass (kg)	
Model: R88M-1_	LL	KB1	KB2	KL1	LL	KB1	KB2	KL1	Without brake	With brake
M40020C-_S2	134.8	52	120.5	97	152.3	52	138	104	3.9	4.8
M60020C-_S2	151.8	69	137.5		169.3	69	155		4.7	5.8

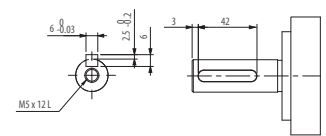
Models without brake



Models with brake



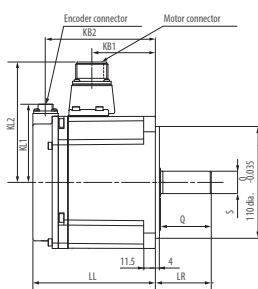
Shaft end



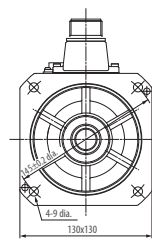
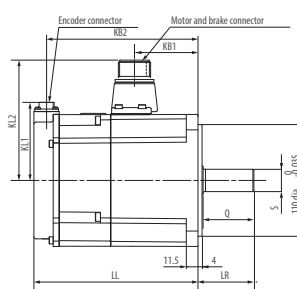
Type 2000 r/min motors (230 V, 1 kW to 1.5 kW / 400 V, 1 kW to 3 kW)

Dimensions (mm)	Without brake					With brake					LR	Shaft end								Approx. mass (kg)		
Model: R88M-1_	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1	KL2		S	Q	QA	QK	W	U	T	Tap x depth	Without brake	With brake	
M1K020T-_S2	120.5	63	109	76	118	162	63	149	76	118	55	22 dia. ⁰ _{-0.013}	50	3	42	8 ⁰ _{-0.036}	3 ⁰ _{-0.4}	7	M5 x 12L	6.6	8.6	
M1K520T-_S2	138	79	125			179	79	166													8.5	10.5
M1K020C-_S2	120.5	63	109			162	64	150	119												6.6	8.6
M1K520C-_S2	138	79	125			179	81	167													8.5	10.5
M2K020C-_S2	160	98	148			201	99	189													10.0	12.0
M3K020C-_S2	191	119	176	45	116	234	118	219	45	119	65	24 dia. ⁰ _{-0.013}	60		52				M8 x 20L	12.0	15.0	

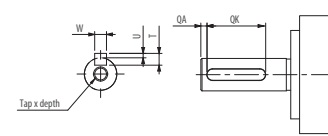
Models without brake



Models with brake



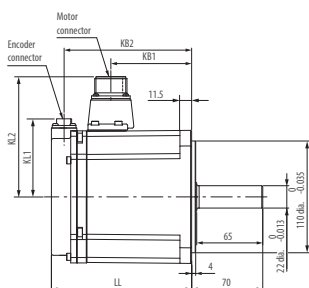
Shaft end



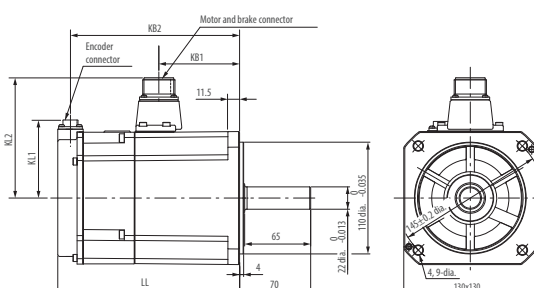
Type 1000 r/min motors (230 V, 900 W / 400 V, 900 W)

Dimensions (mm)	Without brake					With brake					Approx. mass (kg)	
Model: R88M-1_	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1	KL2	Without brake	With brake
M90010T-_S2	138	79	125	76	118	179	79	166	76	118	8.5	10.5
M90010C-_S2							81	167		117		

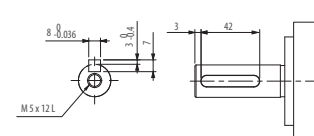
Models without brake



Models with brake



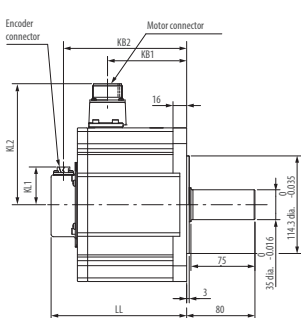
Shaft end



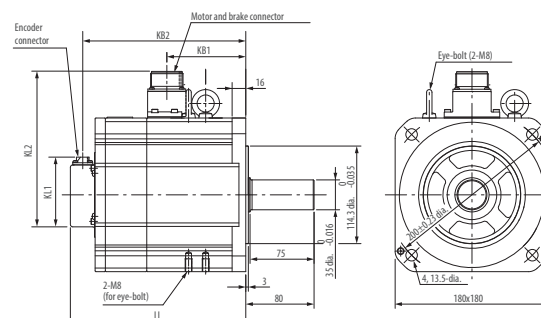
Type 1000 r/min motors (400 V, 2 kW)

Dimensions (mm)	Without brake					With brake					Approx. mass (kg)	
Model: R88M-1_	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1	KL2	Without brake	With brake
M2K010C-_S2	159	93	145	45	141	206	92	191	45	144	18.0	22.0

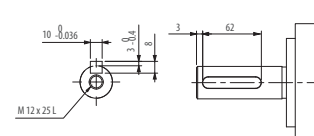
Models without brake



Models with brake



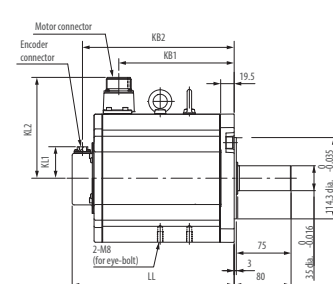
Shaft end



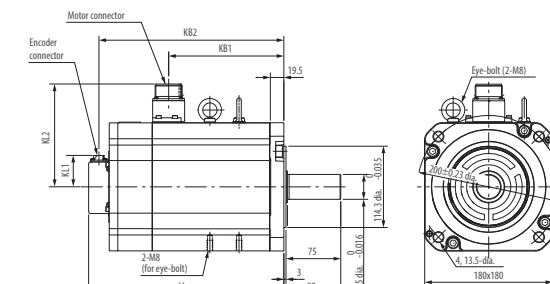
Type 1000 r/min motors (400 V, 3 kW)

Dimensions (mm)	Without brake					With brake					Approx. mass (kg)	
Model: R88M-1_	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1	KL2	Without brake	With brake
M3K010C-_S2	228	162	213	45	141	274	162	260	45	144	28.0	33.0

Models without brake



Models with brake



Shaft end

