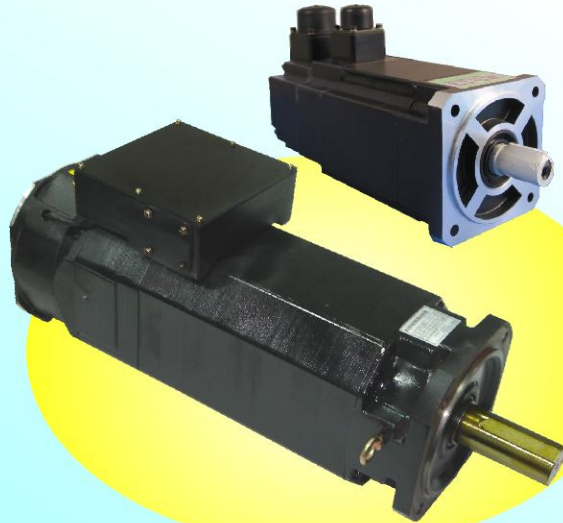




Bridging the Gap between Real World and Computer

Mokon Servo Motor



Reference Formulas

$$P(W) = T(N-m) \times \omega(\text{rad/s})$$

$$P(W) = T(\text{kgf-m}) \times \omega(\text{rad/s}) \times 9.8(\text{N/kgf})$$

$$T(N-m) = J(\text{kg-m}^2) \times \alpha(\text{rad/s}^2)$$

$$1\text{hp}(\text{British}) = 550\text{lb-ft/s} = 745.7\text{W}$$

$$1\text{hp}(\text{metric}) = 75\text{kgf-m} = 735.5\text{W}$$

$$1\text{kg} = 10^3\text{g} = 2.2046\text{lb} = 35.274\text{oz}$$

$$1\text{N} = 0.102\text{kp} = 0.102\text{kg} = 102\text{g} = 0.2248\text{lb} = 3.5968\text{oz}$$

$$1\text{Nm} = 0.102\text{kpm} = 0.738\text{lb-ft} = 141.61\text{oz-in} = 10.2\text{kg-cm}$$

$$1\text{kg-m}^2 = 1.02 \times 10^4\text{gm-cm-sec}^2 = 23.73\text{lb-ft}^2 = 0.737\text{ft-lb-sec}^2 = 5.467 \times 10^4\text{oz-in}^2 = 141.7\text{oz-in-sec}^2$$

200V Series

Model Number	YBL5C-12	YBL6S-148	YBL7S-76	YBL7S-92	YBL9D-130	YBL9D-160	YBL13S-75	YBL13S-95	YBL13S-115	YBL13S-155	YBL17B-100Z	YBL17B-200Z	YBL17B-300Z	YBL17B-300T	YBL17B-400	YBL17B-500	YBL210-400	YBL210-600	YIPM160-540	
Rated Power (W)	120W	400W			750W	1000W		1500W	2000W	3000W		4500W	6000W	7500W	8600W	11000W		15000W	22000W	
Matched Driver	YPV-040-V				YPV-075-V	YPV-100-V		YPV-150-V	YPV-200-V	YPV-300-V		YPV-450-V	YPV-600-V	YPV-750-V	YPV-860-V	YPV-1100-V		YPV-1500-V	YPV-2200-V	
Rated Torque (N-cm)	37.5	127.5	129.5	194	238.5	328.5	505	745	1000	1490	1530	2294	3216	3775	5647	7216	7000	9550	14200	
Instantaneous max. Torque (N-cm)	112.5	382.5	388.5	572.5	715.5	1000	1515	2118	2990	4441	4295	6882	9177	11324	16922	20205	17500	23870	28000	
Rated Speed (RPM)	3000		2000		3000		2000								1500					
Rated Current (A)	2.2	1.85	2.6	2.6	3.47	4.8	4.8	7.2	9.6	14	16	23.2	31.7	39.3	43.8	56	58	79.5	85	
Instantaneous max. Current (A)	6.6	5.6	7.8	7.8	10.5	16	16.5	25.5	32.4	42	45	65	88.8	111	122	156	145	198	170	
Rotor Inertia (Kg-cm ²)	0.127	0.318	0.479	0.566	1.61	1.92	7.82	10.62	13.43	19.04	46.4	84.5	123	125	161	199	330	410	667	
Encoder (ppr)	2500																			
Weight (Kg)	0.89	1.8	2.4	2.8	5.1	5.8	6.8	8.4	10	12.9	18	28	36	36.3	59	69	67	105	167.3	
Operating Ambient Environment	0 °C ~ +40 °C Below 90% RH (non-condensation)																			
Storage Ambient Environment	-20 °C ~ +60 °C Below 90% RH (non-condensation)																			
Thermal Protection	No	With 135 °C +/- 5% Thermostatic Switch																		
Dimension	YBL5C-12	YBL6S-148	YBL7S Series		YBL9D Series		YBL13S Series			YBL17B Series					YBL210 Series		YIPM160 Series			
Optional Brake	Rated Voltage	DC 24V																		
	Static Friction Torque (N-cm)	-	3		40.5		31			106					-	-	-			
	Inertial (kg-cm ²)	-	0.06		0.16		0.87			13					-	-	-			
	Rated Current (A)	-	0.44		0.44		0.95			1.33					-	-	-			
	Weight (kgf)	-	0.6		0.8		2.8			5					-	-	-			



Bridging the Gap between Real World and Computer

400V Series

Model Number	YBL13S-75H	YBL13S-95H	YBL13S-115H	YBL13S-155H	YBL17B-100H	YBL17B-200H	YBL17B-300H	YBL17B-300TH	YBL17B-400H	YBL210-400H	YBL210-600H	YBL160L-600H
Rated Power (W)	1000W	1500W	2000W	3000W		4500W	6000W	7500W	8600W	11000W	15000W	22000W
Matched Driver	YPV-H100-V	YPV-H150-V	YPV-H200-V	YPV-H300-V		YPV-H450-V	YPV-H600-V	YPV-H750-V	YPV-H860-V	YPV-H1100-V	YPV-H1500-V	YPV-H2200-V
Rated Torque (N-cm)	505	745	1000	1490	1530	2294	3216	3775	5400	7000	9550	14000
Instantaneous max. Torque (N-cm)	1515	2118	2990	4441	4294	6682	9177	11324	13500	17500	23870	30804
Rated Speed (RPM)	2000								1500			
Rated Current (A)	2.8	4.3	5.5	8.3	9.4	13.7	18.7	19.7	21.9	29	39.8	60
Instantaneous max. Current (A)	9.7	15	19	24.7	26.4	38.2	52.2	55.5	61	72.5	99	150
Rotor Inertia (Kg-cm ²)	7.82	10.62	13.43	19.04	46.4	84.5	123	125	161	330	410	789
Encoder (ppr)	2500											
Weight (Kg)	6.8	8.4	10	12.9	18	28	36	36.3	47	80	105	193
Operating Ambient Environment	0 °C ~ +40 °C Below 90% RH (non-condensation)											
Storage Ambient Environment	-20 °C ~ +60 °C Below 90% RH (non-condensation)											
Thermal Protection	With 135 °C +/- 5% Thermostatic Switch											
Dimension	YBL13S Series				YBL17B Series				YBL210 Series		YBL160L Series	
Optional Brake	Rated Voltage	DC 24V										
	Static Friction Torque (N-cm)	31				106				-	-	-
	Inertial (kg-cm ²)	0.87				13				-	-	-
	Rated Current (A)	0.95				1.33				-	-	-
	Weight (kgf)	2.8				5				-	-	-

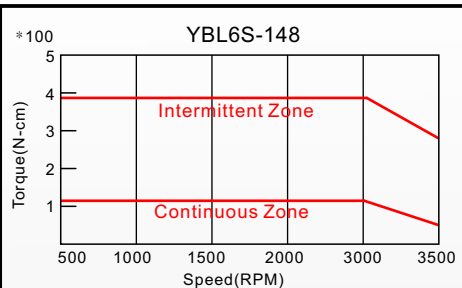
Note



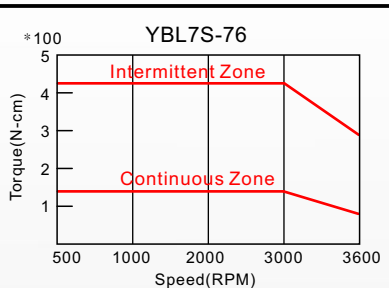
Bridging the Gap between Real World and Computer

Torque Speed Characteristics

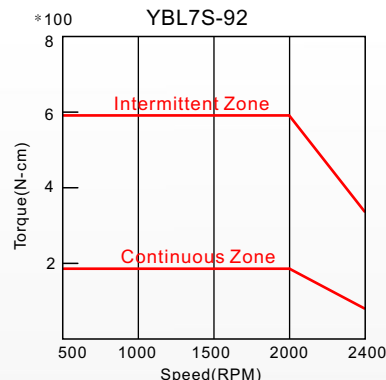
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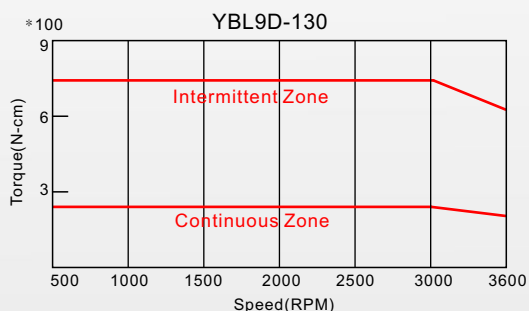
YBL7S



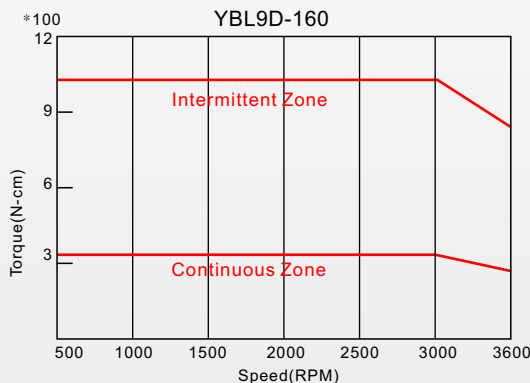
YBL7S-92



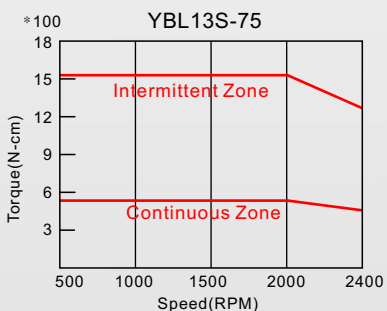
YBL9D



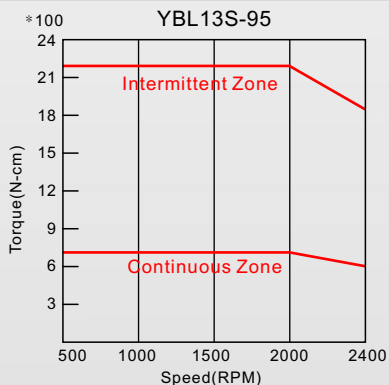
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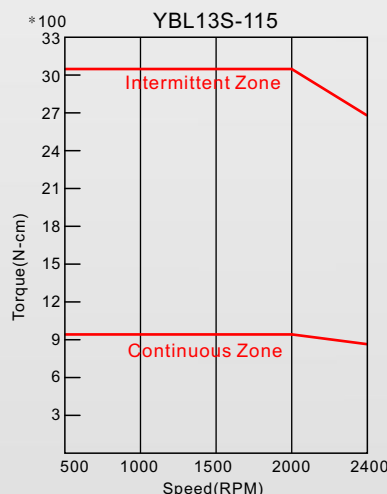
YBL13S-75



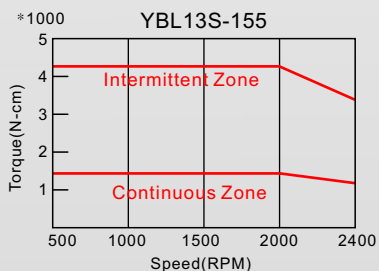
YBL13S-95



YBL13S-115



YBL13S-155



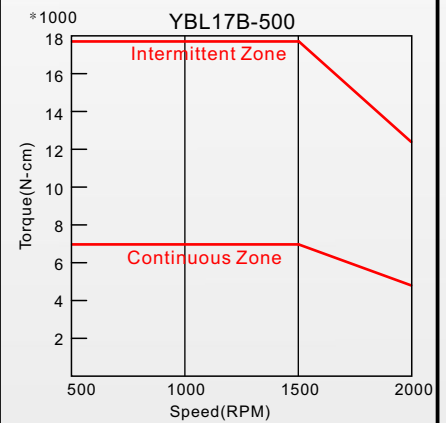
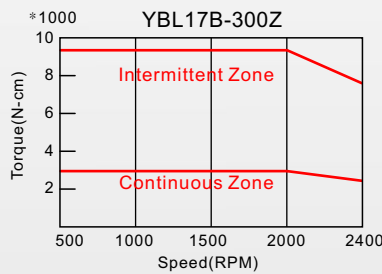
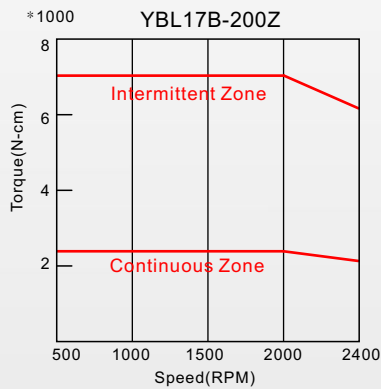
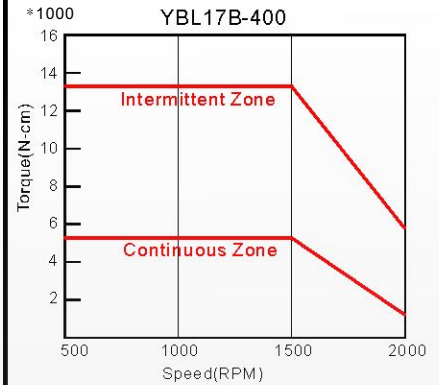
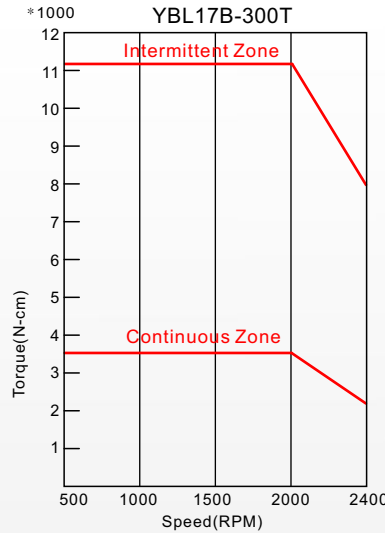
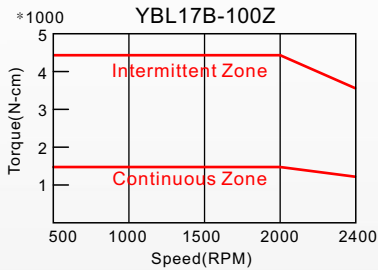
YBL13S



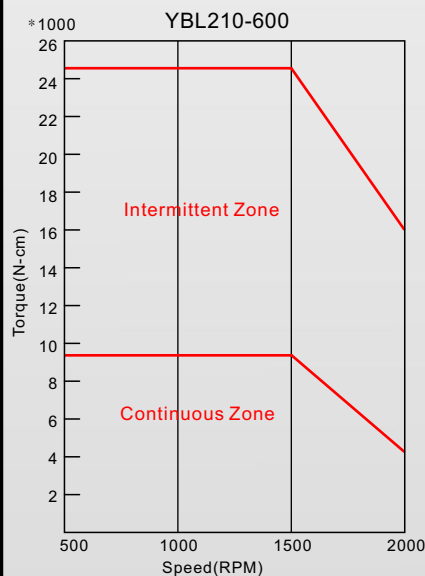
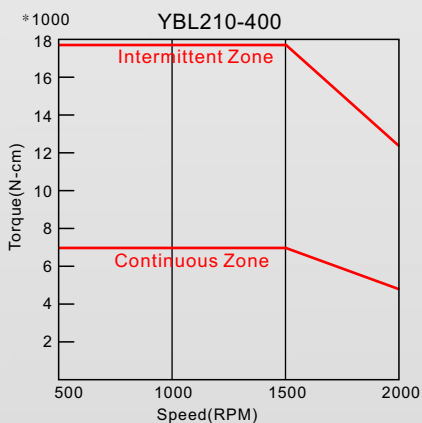
Bridging the Gap between Real World and Computer

Torque Speed Characteristics

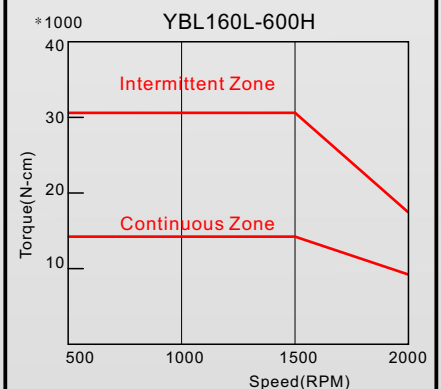
YBL17B



YBL210



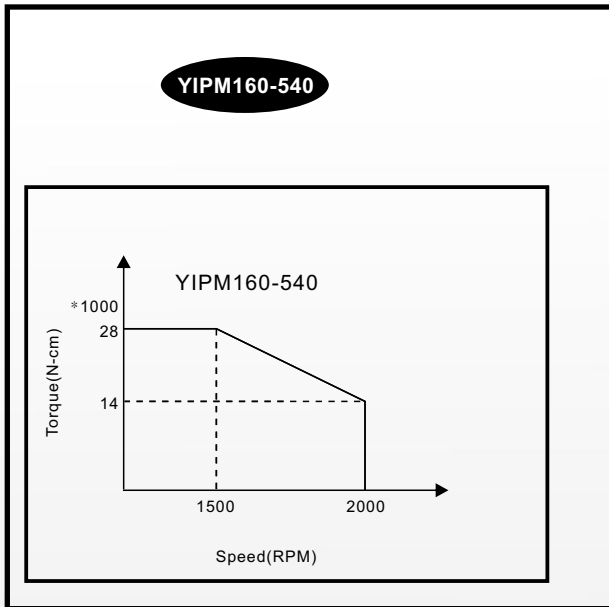
YBL160L-600H





Bridging the Gap between Real World and Computer

Torque Speed Characteristics

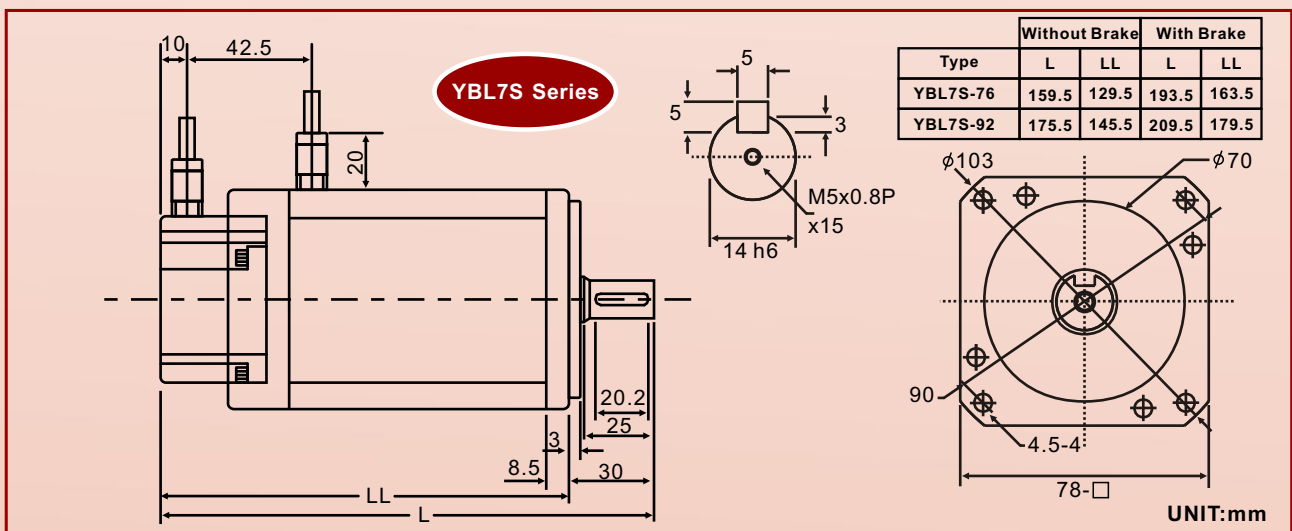
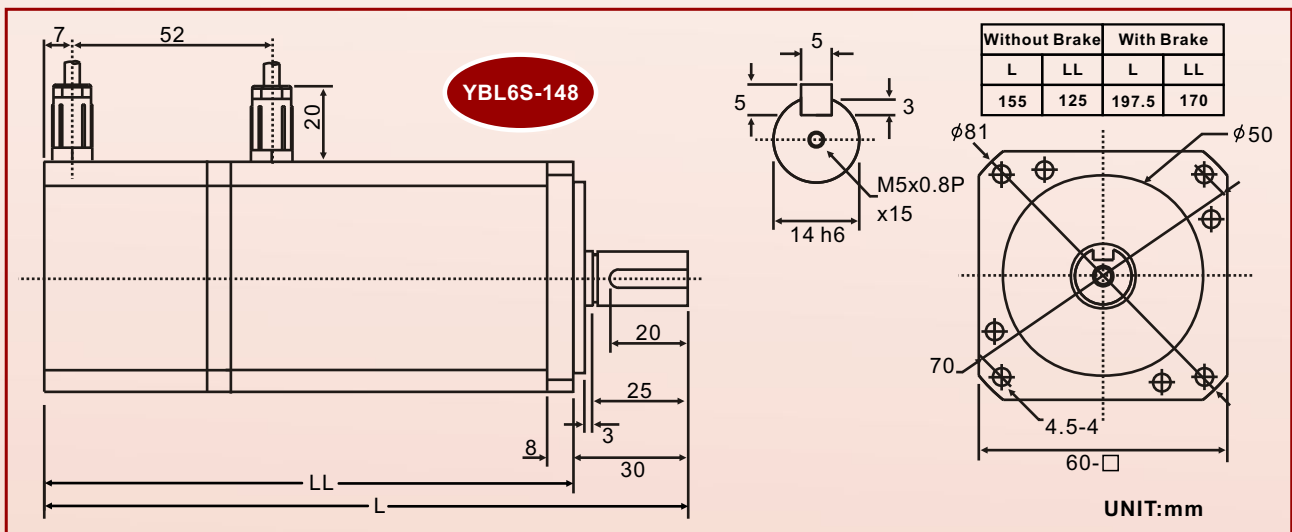
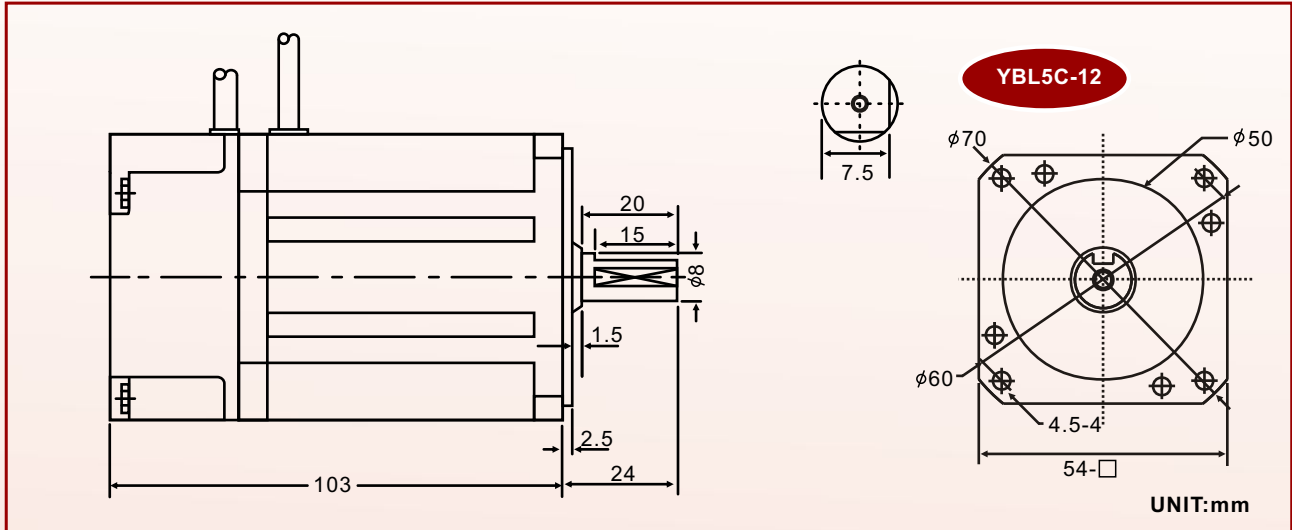


Note



Bridging the Gap between Real World and Computer

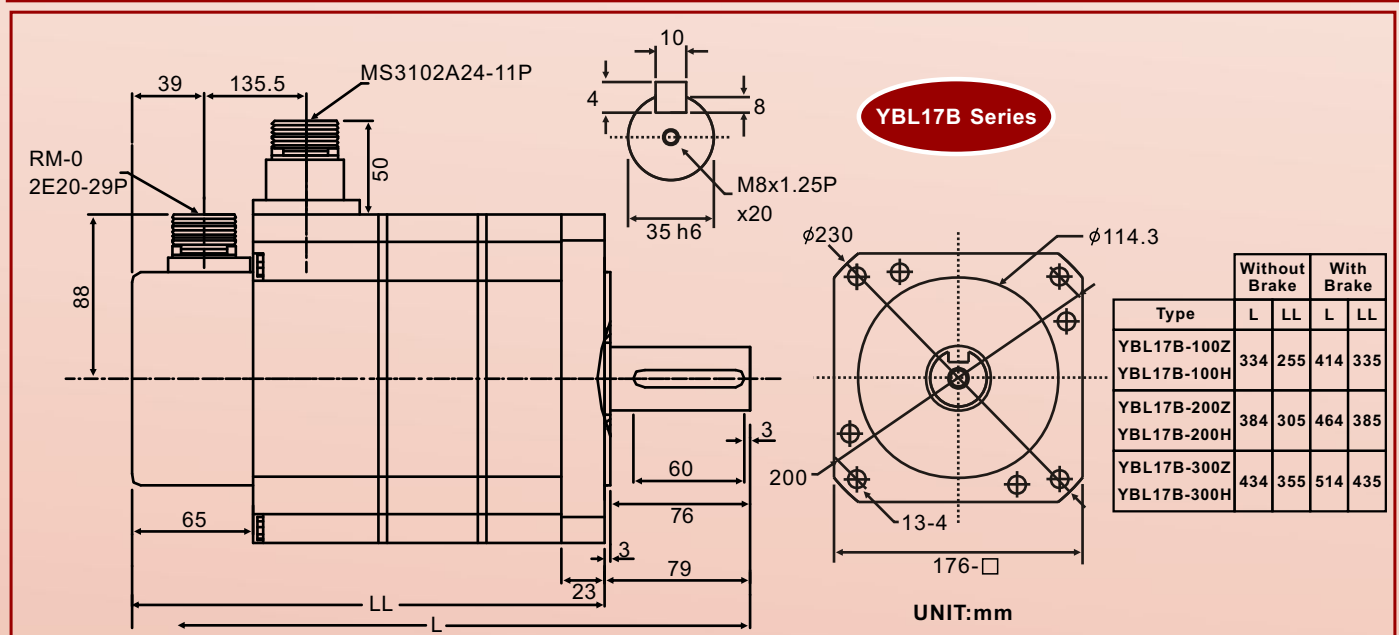
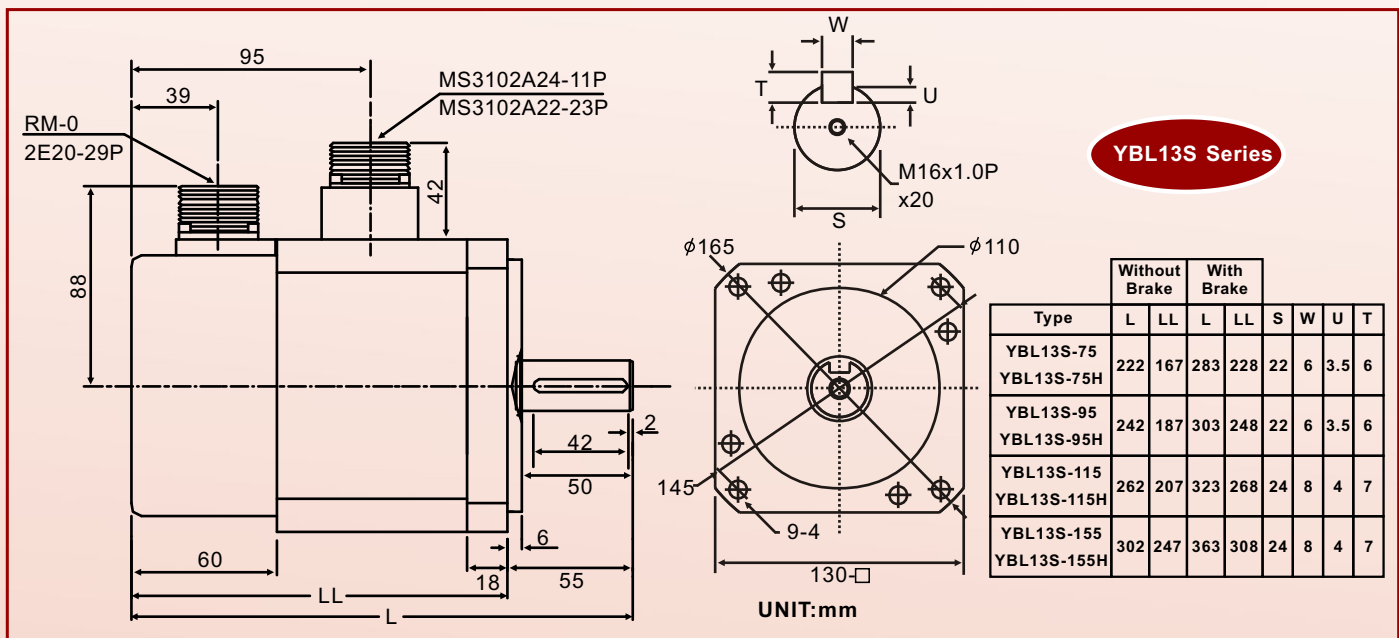
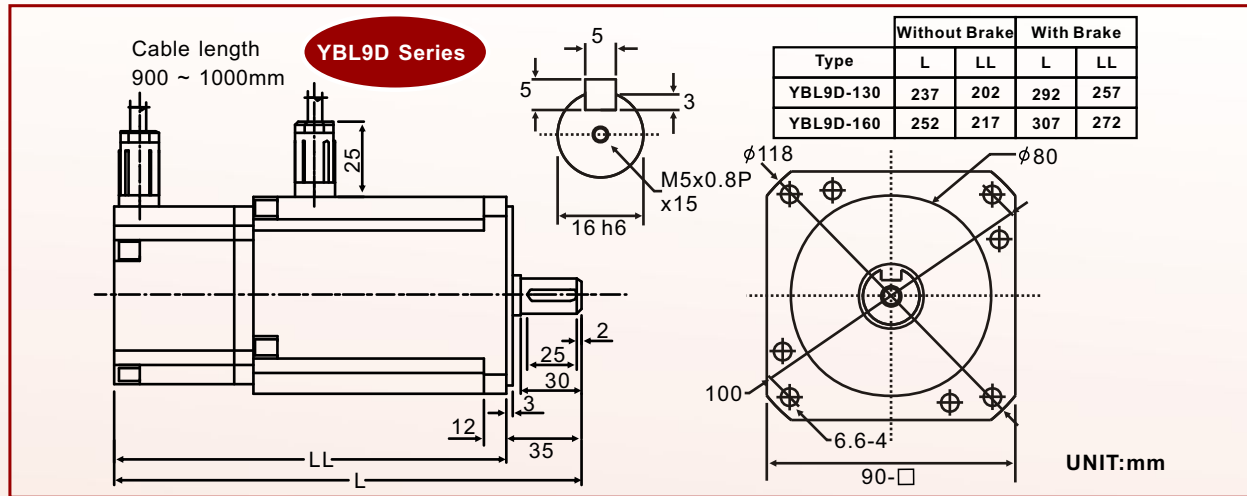
Dimensions





Bridging the Gap between Real World and Computer

Dimensions

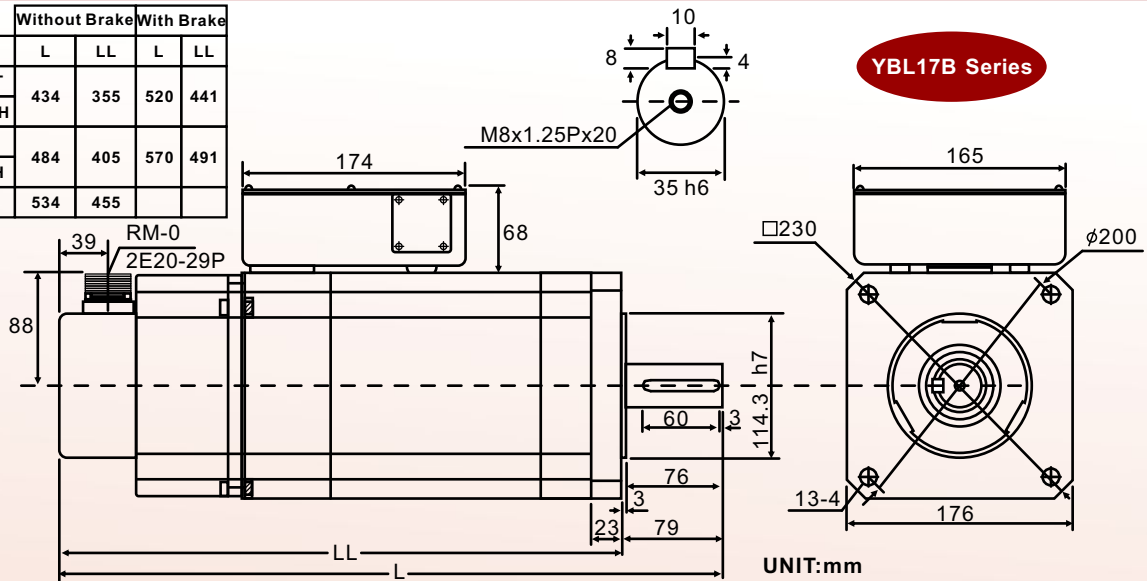




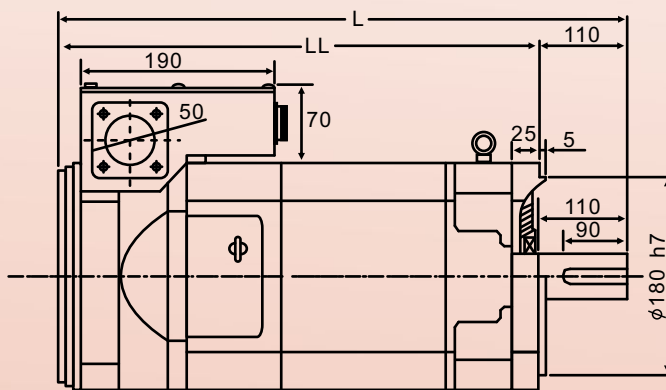
Bridging the Gap between Real World and Computer

Dimensions

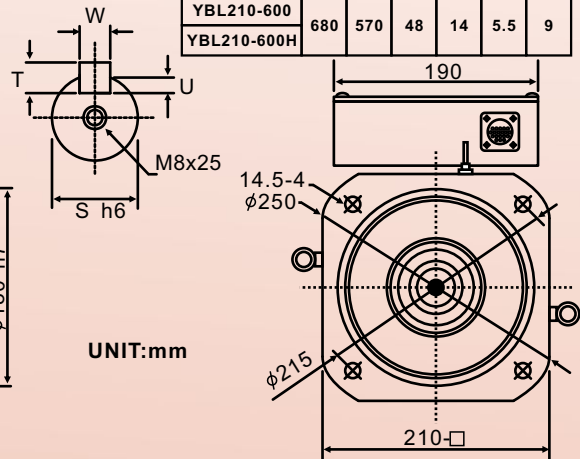
Type	Without Brake		With Brake	
	L	LL	L	LL
YBL17B-300T	434	355	520	441
YBL17B-300TH				
YBL17B-400	484	405	570	491
YBL17B-400H				
YBL17B-500	534	455		



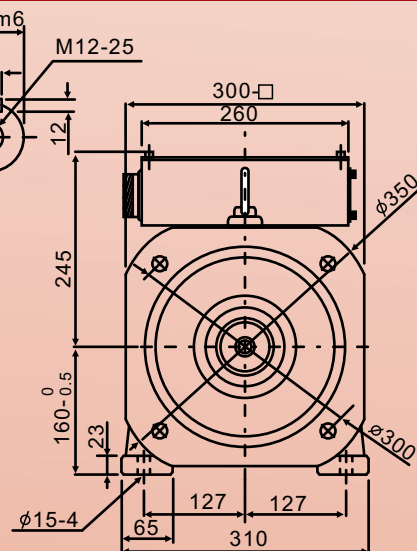
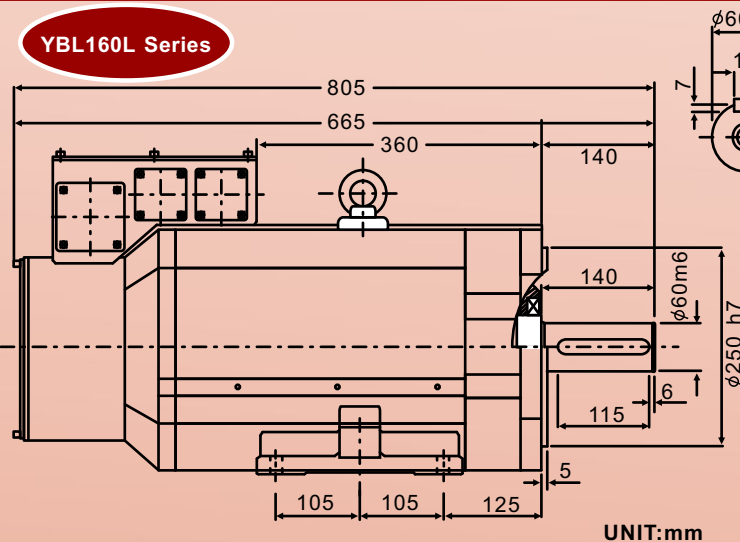
YBL210 Series



Type	L	LL	S	W	U	T
YBL210-400	612	532	42	12	5	8
YBL210-400H						
YBL210-600	680	570	48	14	5.5	9
YBL210-600H						



YBL160L Series

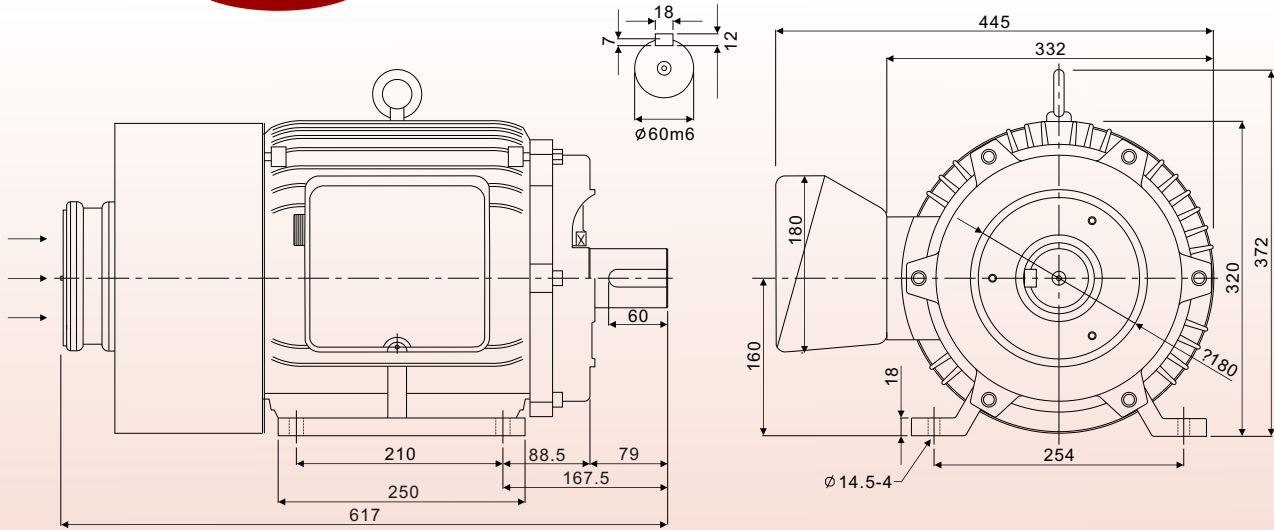




Bridging the Gap between Real World and Computer

Dimensions

YIPM160 Series



UNIT:mm

Note