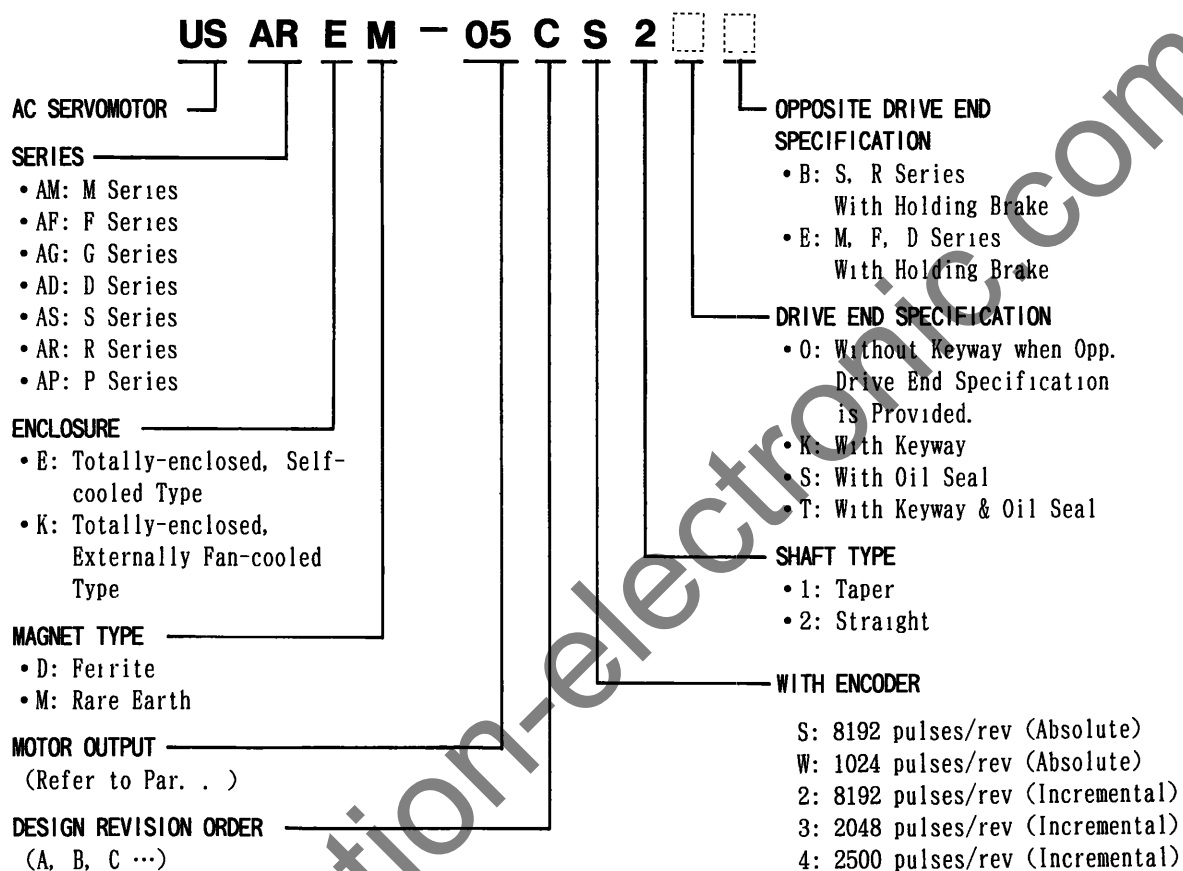
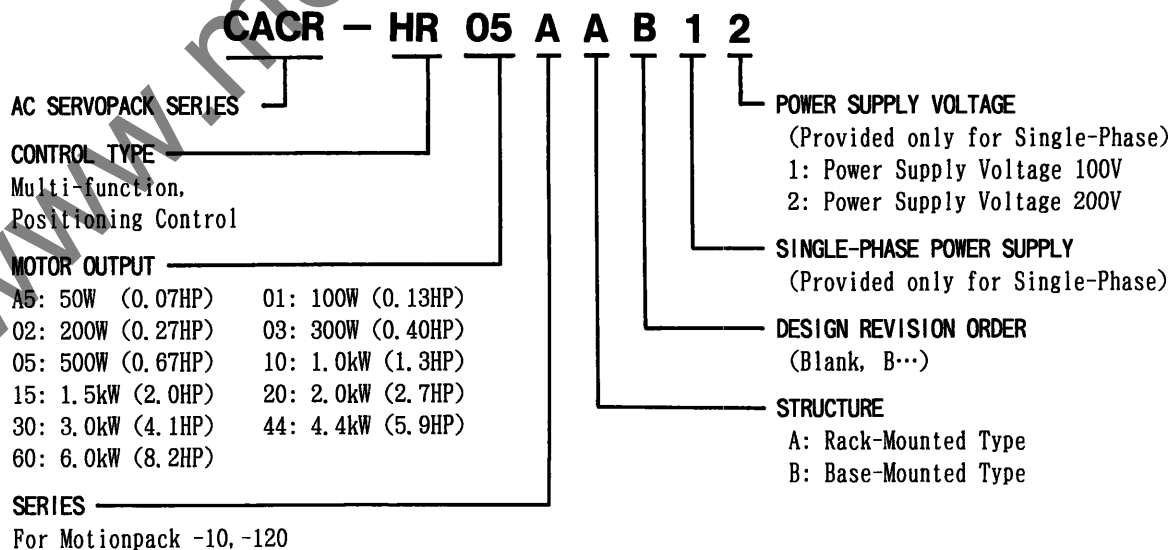


1.1 TYPE DESIGNATION

(1) Servomotor



(2) Servopack



2.1.5 S Series

(1) Ratings

Time Rating: Continuous

Insulation: Class B (Types USASEM-02A □ 2,
-03A □ 2, -05A □ 2)

Class F (Types USASEM-08A □ 1,
-15A □ 1, -30A □ 1)

Isolation Voltage: 1500 VAC, one minute

Insulation Resistance: 500 VDC, 10MΩ or more

Enclosure: Totally-enclosed, self-cooled

Ambient Temperature: 0 to + 40°C

Ambient Humidity: 20% to 80%
(non-condensing)

Vibration: 15 μm or below

Finish in Munsell Notation: N1.5

Excitation: Permanent magnet

Mounting: Flange mounted

Drive Method: Direct drive

(2) Combination with encoder

• Standard

USASEM- □□□ AS : With absolute encoder (8192 pulses/rev)

USASEM- □□□ A3 : With incremental encoder (2048 pulses/rev)

• Semi-Standard

USASEM- □□□ AW : With absolute encoder (1024 pulses/rev)

USASEM- □□□ A4 : With incremental encoder (2500 pulses/rev)


Table 2.5 Ratings and Specifications of S Series AC Servomotors

Item	Motor Type USASEM-	02A □ 2	03A □ 2	05A □ 2	08A □ 1	15A □ 1	30A □ 1
Rated Output*	W (HP)	154 (0.2)	308 (0.4)	462 (0.6)	771 (1.0)	1540 (2.1)	3080 (4.1)
Rated Torque*	N·m (lb·in)	0.49 (4.3)	0.98 (8.7)	1.47 (13)	2.45 (22)	4.90 (43)	9.80 (87)
Continuous Max Torque*	N·m (lb·in)	0.57 (5.0)	1.18 (10)	1.67 (15)	3.33 (30)	6.17 (55)	12.2 (108)
Instantaneous Peak Torque*	N·m (lb·in)	1.47 (13)	2.94 (26)	4.02 (36)	7.35 (65)	13.7 (122)	29.0 (257)
Rated Current*	A	2.1	3.0	4.2	5.3	10.4	19.9
Rated Speed*	r/min	3000					
Instantaneous Max Speed*	r/min	4000					
Torque Constant	N·m/A (lb·in/A)	0.25 (2.19)	0.35 (3.10)	0.37 (3.25)	0.51 (4.49)	0.50 (4.43)	0.52 (4.64)
Moment of Motor Inertia $J_M (=GD^2/4)$	kg·m ² × 10 ⁻⁴ (lb·in·s ² × 10 ⁻³)	0.13 (0.11)	0.51 (0.45)	0.75 (0.67)	2.85 (2.53)	3.3 (2.88)	5.74 (5.09)
Power Rate*	kW/s	18.5	18.9	28.9	21	74	167
Inertia Time Constant	ms	1.8	2.2	1.8	1.9	0.7	0.4
Inductive Time Constant	ms	1.5	2.7	3.1	6.2	13	26

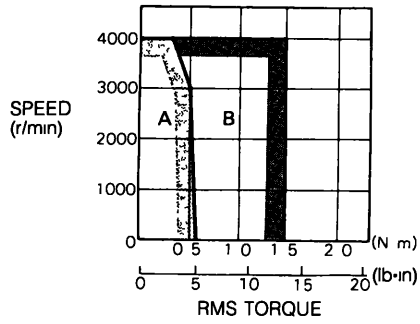
* Typical value at armature winding temperature of 100°C, in combination with Servopack
Other values at 20°C.

(3) Speed-torque characteristics

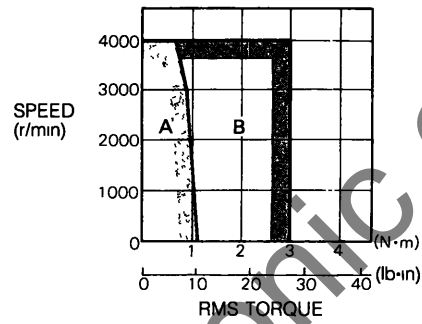
Typical at 100°C (Armature Winding Temp)


 A Continuous Duty Zone
 B Intermittent Duty Zone

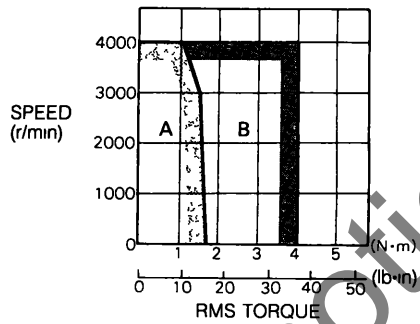
USASEM-02A



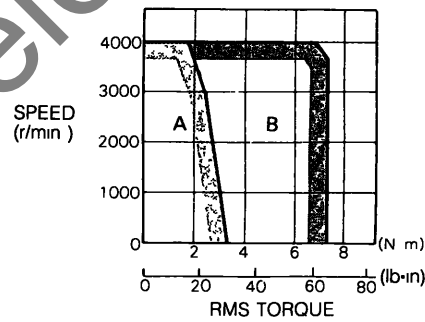
USASEM-03A



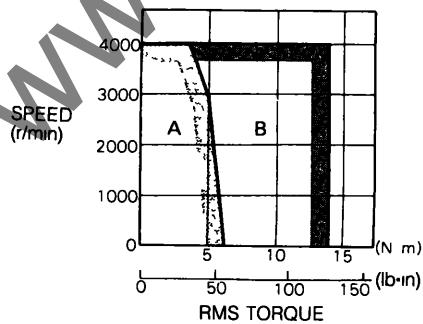
USASEM-05A



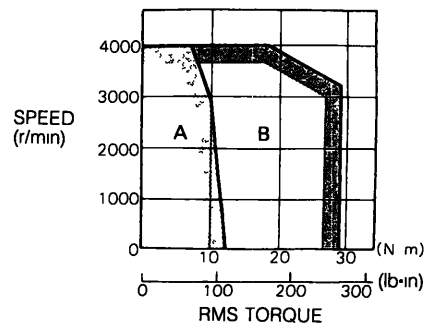
USASEM-08A



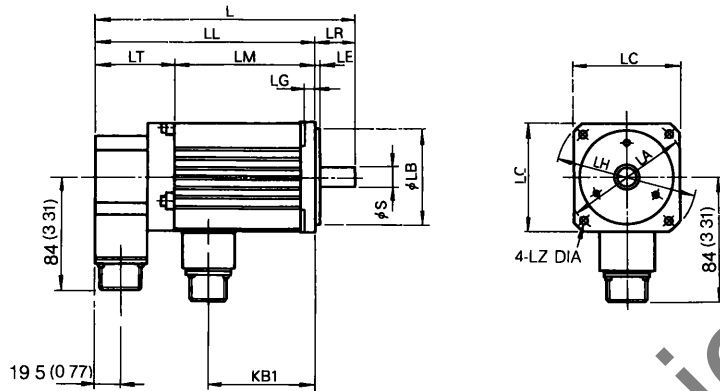
USASEM-15A



USASEM-30A



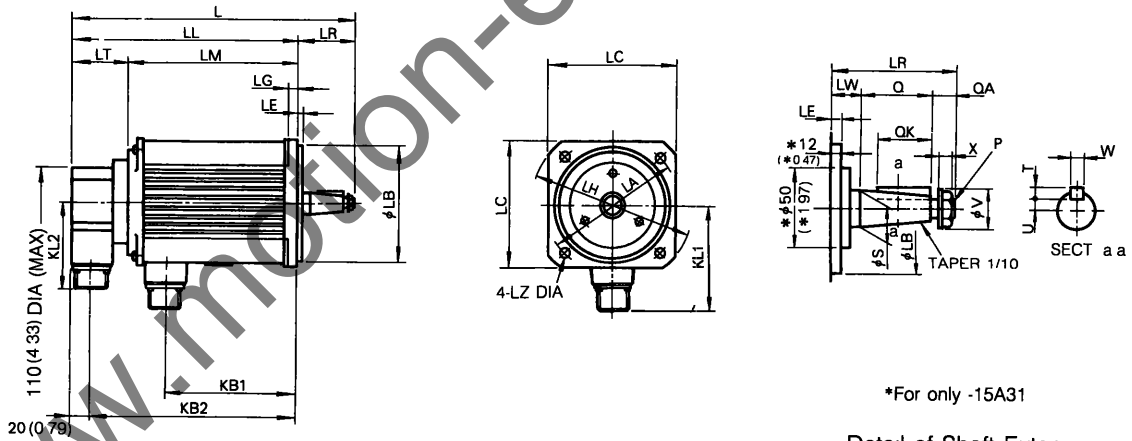
Drawing 1 USASEM-02A32, -03A32, -05A32 (Straight Shaft)



Notes

- 1 Type USASEM-02A32 terminates in bare wires with a waterproof gland (seal) fitting. Therefore, the MS-connector part differs from the figure above. For details, contact your YASKAWA representative.
- 2 Plug and clamp are not attached for receptacle connection.
- 3 Motor should be mounted with connectors down.

Drawing 2 USASEM-08A31, -15A31, -30A31 (Taper Shaft)



Notes

- 1 Hexagon socket head bolts should be used to mount the motor.
- 2 Plug and clamp are not attached for receptacle connection.
- 3 Key and keyway comply with JIS B 1301-1976 (Parallel key precise class).
- 4 Motor should be mounted with connectors down.

