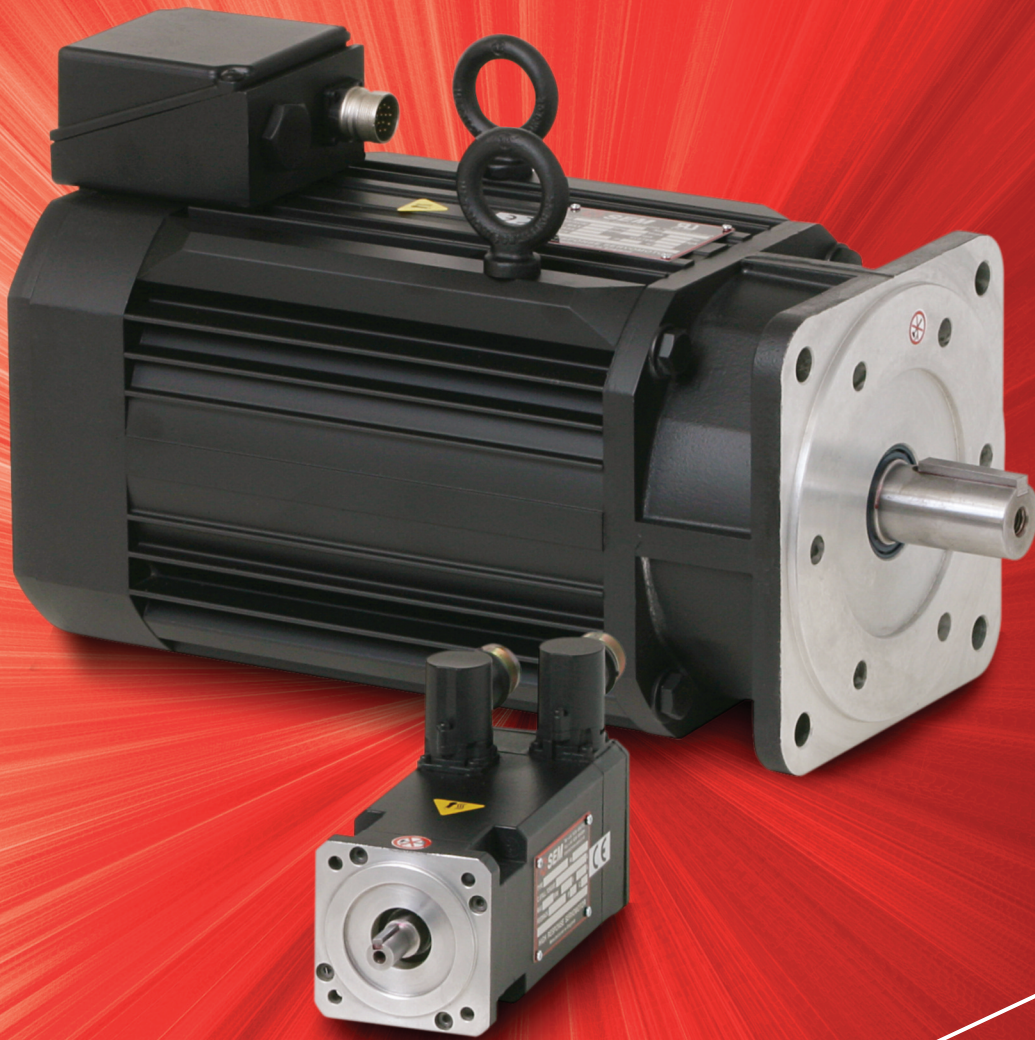


HR SERIES

ISSUE **10**



Brushless AC Servomotors



SEM

controlled motor technology

MOTOR TYPE DEFINITION

For example:

HR70C4-64S

- HR** High Response brushless servomotor.
Also - HRS Shortened version
- 70** 70mm square frame servomotor.
- C** Motor length with A as shortest.
- 4** Number of motor poles.
- 64** Voltage gradient (peak voltage per 1000 RPM between two phases).
- S** Sinusoidal normally fitted with resolver.

PERFORMANCE DATA

- ◆ Inertia values include the feedback device.
- ◆ Temperature rise ΔT on the windings is 110°C and applies to all rated torque values.
- ◆ TENV (IC400) = Totally Enclosed Non Ventilated.
- ◆ Tolerance: $\pm 10\%$

Except for voltage gradient (V/1000rpm) and torque constant (Nm/A) values which are to +15%/-5% tolerance.

- ◆ Heatsink torque ratings apply to motors fitted with an aluminium plate as follows:

FRAME	PLATE SIZE (mm)
70	150 x 150 x 6
92/115	300 x 300 x 12
142/190	500 x 500 x 20

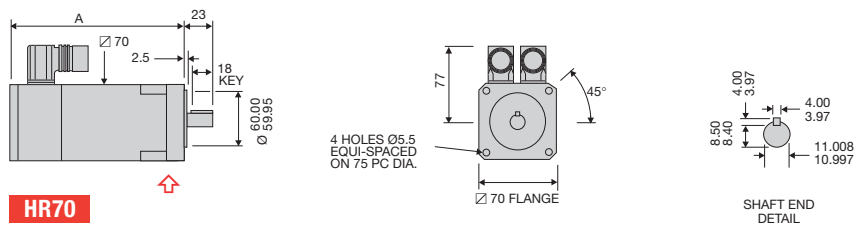
- ◆ Performance curves showing continuous/intermittent duties are available for selected drive DC link voltages

STANDARD FEATURES

- ◆ Sinusoidal three phase back EMF waveform.
- ◆ Integral Resolver feedback.
- ◆ Industry standard shaft and flange sizes.
- ◆ IP65 enclosure protection. Shaft protection IP64 with seal fitted.
- ◆ Shaft with keyway or plain shaft.
- ◆ Temperature sensor mounted in motor winding.
- ◆ Class F insulation.
- ◆ Matt black paint finish.
- ◆ Motor and feedback connector. Counterpart plugs optional.

In accordance with our policy of continual product improvement, SEM reserves the right to amend the specification of these products without prior notification

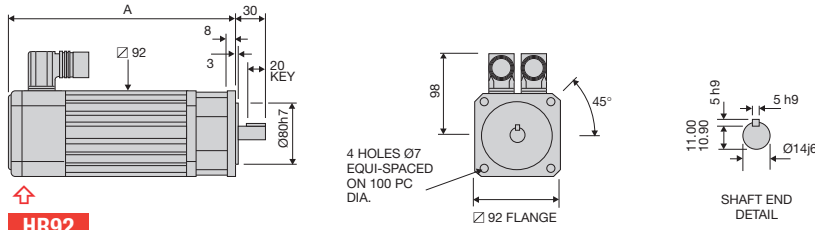
Dimensions shown on the drawings are in millimetres.



HR70

FOR INCREMENTAL ENCODER ADD 18mm TO DIMENSION 'A'
FOR ABSOLUTE ENCODER ADD 28mm TO DIMENSION 'A'

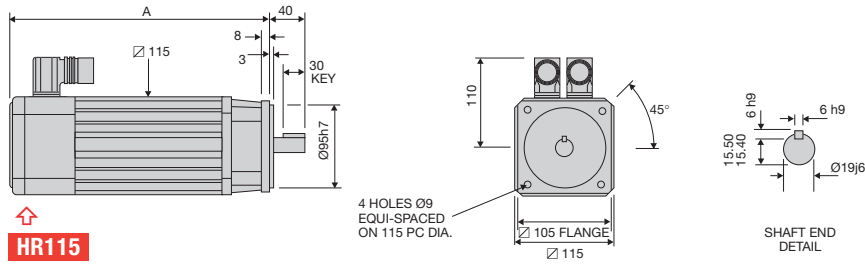
Frame	Dimension 'A'	
	without brake	with brake
70A	131	158
70C	158	185
70E	185	212



HR92

NO ADDITIONAL LENGTH FOR INCREMENTAL OR ABSOLUTE ENCODERS

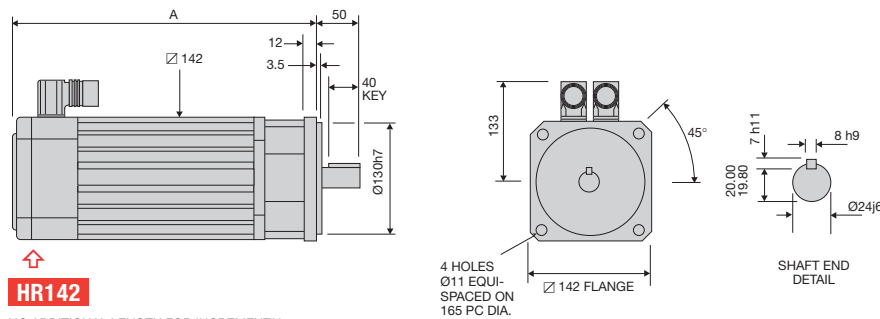
Frame	HR Dimension 'A'	
	without brake	with brake
92C	230	230
92E	250	250
92G	270	270
92J	290	290



HR115

NO ADDITIONAL LENGTH FOR INCREMENTAL OR ABSOLUTE ENCODERS

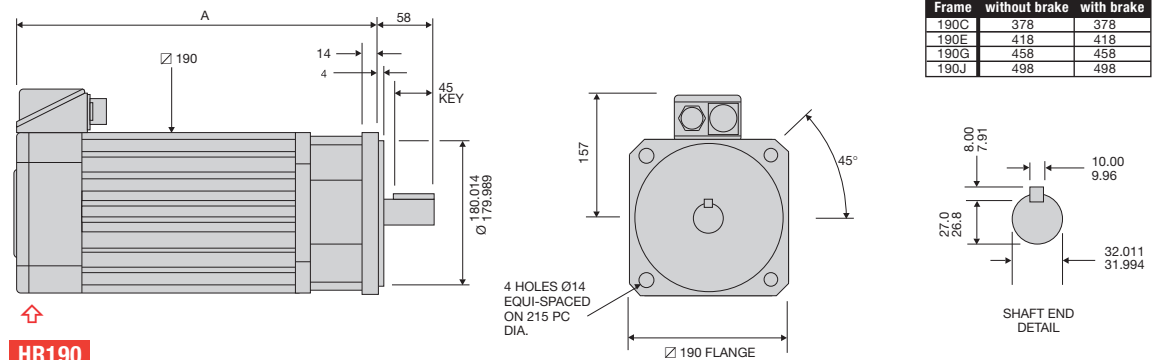
Frame	HR Dimension 'A'	
	without brake	with brake
115A	235	235
115B	255	255
115C	275	275
115E	315	315



HR142

NO ADDITIONAL LENGTH FOR INCREMENTAL OR ABSOLUTE ENCODERS

Frame	HR Dimension 'A'	
	without brake	with brake
142C	295	295
142E	335	335
142G	375	375
142J	415	415



HR190

NO ADDITIONAL LENGTH FOR INCREMENTAL OR ABSOLUTE ENCODERS

Frame	Dimension 'A'	
	without brake	with brake
190C	378	378
190E	418	418
190G	458	458
190J	498	498

⬆ = Fixed Bearing

FRAME SIZE		HR VOLTAGE GRADIENT AVAILABILITY												
		8	11	16	22	32	44	64	88	130	180	260	360	520
70	A													
	C													
	E													
92	C													
	E													
	G													
	J													
115	A													
	B													
	C													
	E													
142	C													
	E													
	G													
	J													
190	C								⊕	⊕	⊕	⊕	⊕	⊕
	E								+	+	+	+	+	+
	G									+	+	+	+	+
	J										+	+	+	+

⊕ - Available with size 1.5 power connector or terminal box only.
 + - Terminal box only

SEM BRUSHLESS AC SERVOMOTORS

With a wealth of experience supplying world markets with quality servomotors, SEM designs, develops and manufactures all its products.

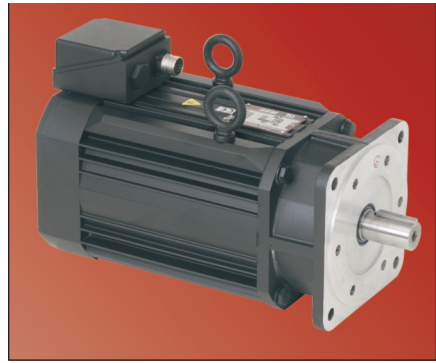
HR Series The HR range of servomotors combine Neodymium Iron Boron magnets with low inertia rotors giving cost effective performance.

OPTIONS

STANDARD / OPTIONAL FEATURES		SERVOMOTOR TYPE				
DESCRIPTION	OPTIONS	70	92	115	142	190
WAVEFORM	SINUSOIDAL	■	■	■	■	■
MECHANICAL	FLANGE MOUNTED	■	■	■	■	■
	KEYWAY	■	■	■	■	■
	PLAIN SHAFT	●	●	●	●	●
	IP65 (IP64 AT SHAFT WITH SEAL FITTED)	■	■	■	■	■
	HRS COMPACT VERSION	○	■	■	■	○
	HRL LOW INERTIA VERSION	○	○	○	○	●
ELECTRICAL CONNECTION	INTERCONNECTRON MOTOR AND FEEDBACK CONNECTORS	■	■	■	■	●
	MS VERTICAL CONNECTORS	○	○	○	○	●
	TERMINAL BOX WITH FEEDBACK CONNECTOR	○	○	○	○	■
	FLYING LEADS	●	●	●	●	●
FAILSAFE HOLDING BRAKE	24V D.C. SPRING APPLIED	●	●	●	●	●
	90V D.C. SPRING APPLIED	●	○	○	○	●
	110V A.C. SPRING APPLIED	●	○	○	○	●
	ZERO BACKLASH 24V D.C. PERMANENT MAGNET	●	●	●	●	●
FEEDBACK DEVICE	2 POLE RESOLVER	■	■	■	■	■
	INCREMENTAL ENCODER WITH BLOCK COMMUTATION	●	●	●	●	●
	SINGLE OR MULTITURN ABSOLUTE ENCODER	●	●	●	●	●
	ENCODER MOUNTING KIT TO SUIT CUSTOMER SPECIFIED ENCODER	●	●	●	●	●
UL APPROVAL	UL CERTIFICATION	●	●	●	●	●

■ STANDARD FEATURE ○ OPTION NOT AVAILABLE
 ● OPTION

FOR OPTIONS NOT INCLUDED IN THE ABOVE LIST, PLEASE CONTACT SEM



HR190 with terminal box



HR70 with optional flying leads



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