

1.1. Servo Motor Sizes

The following servomotors are available

Servo Type	Max. Torque Nm	Max. Torque ft.lb
Small	4	3
Large	25	18
UNIC05	40	30
UNIC10	98	72
UNIC20	196	145
UNIC40	392	289

The load that the servomotor is used to drive should not exceed the maximum torque rating of the servomotor. With Autoflame supplied valves, the correct servomotor size is already specified by Autoflame.

To correctly size an Autoflame servomotors for use with a third party valves or dampers, the torque required to drive that valve or damper should be checked, this in order to select a servomotor with sufficient torque to drive the damper reliably. Please check the manufacturer's specifications for that valve or damper to check the torque requirements.

If this is unknown or the data is not available, then it is necessary to check the torque required to drive the valve/damper using a torque meter. The torque should be measured when the valve/damper is fully loaded. For example, for an air damper, that will be when the fan motor / VSD is driven at maximum speed. It is recommended that a nominal 20% is added to the measured torque value to determine the type of servomotor required for the application. This nominal 20% takes into account any factors such as dust, rust, and lack of lubrication experienced between service intervals which can make the valve/damper require more torque.

$$\text{Servomotor Torque} = \text{Measured torque at max. load} \times 1.2$$

For example if the measured torque to drive an air damper at full load is 19Nm;

$$\text{Servomotor Torque} = 19 \times 1.2 = 22.8Nm$$

Therefore a large servomotor may be selected for this damper.

2. SMALL SERVOMOTORS

Small servomotors provide a maximum torque of up to 4Nm, they are compact, lightweight, extremely durable and can be used for variety of applications including controlling air dampers, gas and oil fuel valves. The housing is made from high impact Acrylonitrile Butadiene Styrene (ABS) for lighter weight and easier installation.

ATEX approved version with metal housing is also available for use in hazardous environments where explosion proof equipment is necessary.

The following small servomotors are available:

Voltage – V AC	Frequency	Supplied Wiring Glands	Part #
230	50Hz	2x PG11 Metal Glands	MM10005
110	60Hz	2x M20 - 1/2" NPSM Adaptors	MM10005/A
24	50Hz	1x M20 - 1/2" NPSM and Blanking Plug	MM10005/C
24	60Hz	1x M20 - 1/2" NPSM and Blanking Plug	MM10005/D
110	50Hz	2x M20 - 1/2" NPSM Adaptors	MM10005/E

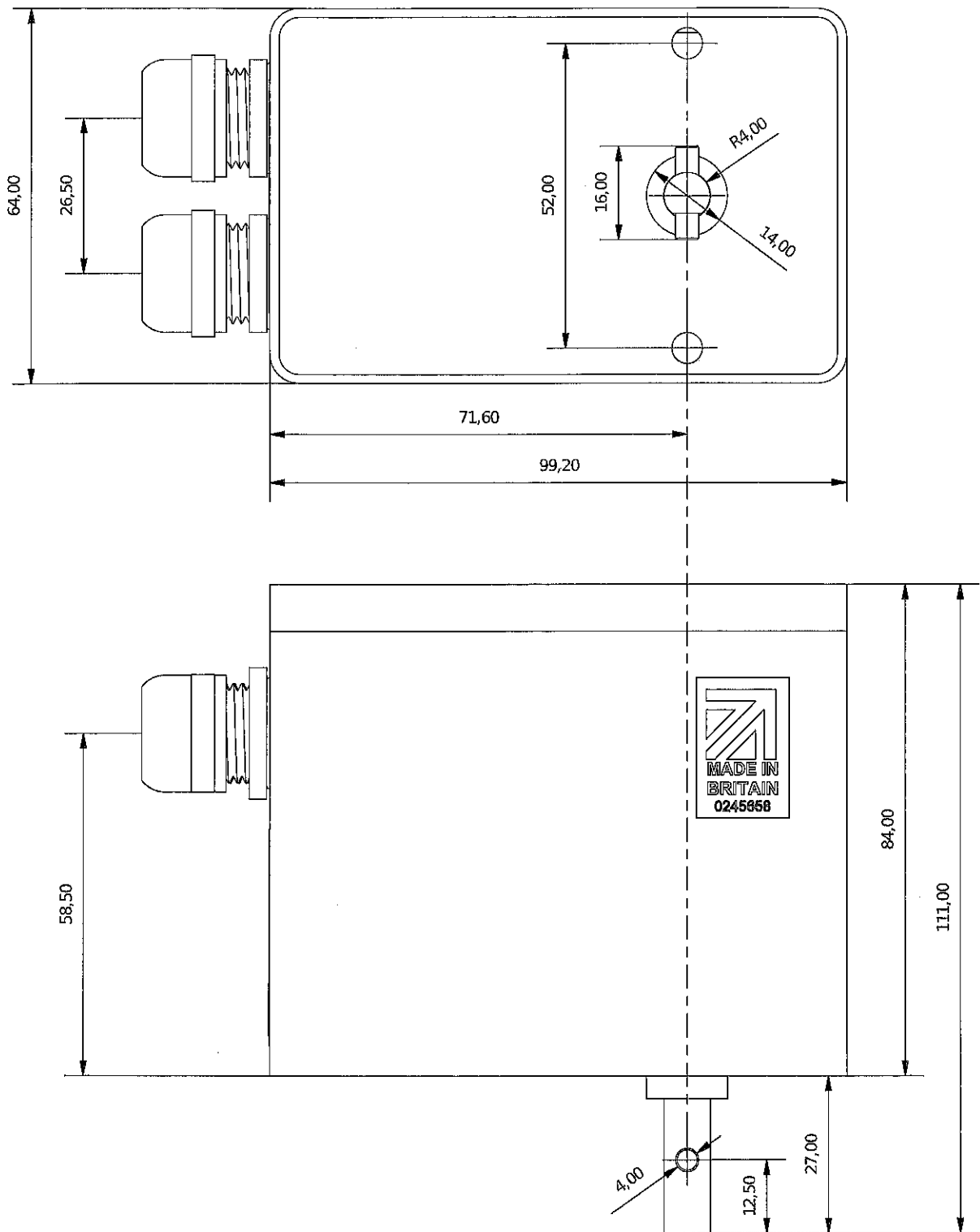
2.1. Specifications

Supply voltage	AC - Dependant on part number
Output torque at shaft	4Nm (3ft lbs)
Rotation angle	360°
Operation angle	-6° to 96°
Accuracy	Up to 0.1°, 900 positions available
Max. rated power	3W
Min. operation temperature	0°C (32° F)
Max. operation temperature	60° C (140° F)
Ingress Protection rating	IP54, NEMA3
Mounting angle	360°
Positioning	MM drive
Drive motor	Synchronous
Body material	High Impact Polycarbonate
Gear material	Polyoxymethylene
Plates material	Aluminium
Screws material	Stainless Steel
Dimension (LxWxH)	100 x 84 x 65.5 mm
Wiring connection (230V)	PG11 gland
Wiring connection (24V, 110V)	½" conduit adaptor and blanking plug
Lid screws	4 x M4 x10 Stainless steel socket head
Lid screw torque	0.2 to 0.4 Nm
Body mounting screws	2 x M5 x 25 Stainless socket head
Body mounting torque	1.2 – 2.6 Nm
Shipped Weight	0.55 kgs. (1.2 lbs)

2.2. External View



2.3. Dimensions



All dimension in millimetres: 1 inch = 25.4 mm