LINEAR ACTUATORS

SMX 04-SMX 05

Thrusts 0—700 Kgf
Strokes 0—800mm

- All Electric
- Clean and Compact
- Easily Installed
- Simple Construction

ELECTRIC ACTUATOR
COMPANY LIMITED

Bolling Road Bradford BD4 7BZ
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TECHNICAL DATA

SIZE	PUSH/PULL FORCE kgf	PUSH/PULL FORCE lb.	PUSH/PULL SPEED mm/sec	PUSH/PULL SPEED ins./sec.	STROKE mm	STROKE ins.	NETT WEIGHT kg	NETT WEIGHT lb.	MOTOR SPEED rpm	MOTOR Hp
SMX04	450	1000	100	3·9	0—100 0—200 0—300 0—400 0—600 0—800	0—3·9 0—7·9 0—11·8 0—15·7 0—23·6 0—31·5	64 68 73 77 84 91	140 150 160 170 185 200	1500	1·5
			64	2·5					1000	
SMX05	700	1540	89	3·5	0—100 0—200 0—300 0—400 0—600 0—800	0—3·9 0—7·9 0—11·8 0—15·7 0—23·6 0—31·5	68 73 77 82 89 96	150 160 170 180 195 210	1500	2·25
			58	2·3					1000	

The above Data table shows motor speeds and linear speeds on 50 Hz supply. Other frequencies give speeds pro rata.

ADDITIONAL FEATURES

CODE 7 Two adjustable end-of-stroke limit switches.

CODE 4 Two adjustable signal switches.

CODE 6 Potentiometer for position indication or control.

Combinations

Code 7 + 4

Code 6 + 7

Code 6 + 4

Code 6 + 4 + 7

Hard chromed Shaft — for abrasive or corrosive conditions.

Bellows — for protection of push/pull shaft.

Tropical finish — for working in high humidity or tropical areas.

High temperature — for high ambient temperatures and for sustained switching.

Thermistors — for thermal protection of motor winding.

Current Sensor — to adjust to the thrust required and to switch off the actuator if the demand exceeds the selected thrust.

Hand Winding — with electrical interlock.

Brake — electro magnetic type for accurate positioning.

MOUNTING

Trunnion

Fixing centres can be interchangeable with previous designs.

ENCLOSURE

Weatherproof.

PRINCIPLE

Rotation of an electric motor is converted into linear motion by using a long motor spindle as a lead screw. The push/pull shaft is connected to a nut and is either extended or retracted as the nut travels along the lead screw. Reversal of the motor reverses the direction of the push/pull shaft. The lead screw is protected from ingress of dust and dirt by the push/pull tube, and a dust seal fitted in the front guide bush. The drive nut is mounted between disc springs to provide cushioning and also to absorb the rotor kinetic energy if there is an obstruction or when the actuator reaches the end of its stroke.

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ELECTRICS

MOTOR – The motor is a 3-phase squirrel cage unit with a die-cast aluminium rotor, designed with a low starting current and a low inertia. These are desirable features, since an actuator is required to start and stop frequently, rarely running for more than a few seconds on each stroke.

THERMISTORS – can be fitted in the motor winding to prevent overheating.

STARTING – by reversing contactors with pushbuttons. When part of an automatic system, the actuator can be controlled by timers.

POTENTIOMETER – when fitted, will provide remote indication of the shaft position, or can be used with proportional control units. Accurate positioning may require a brake to be fitted.

SWITCHES – for end-of-stroke and signalling. They are adjustable with locking cams.

Inductive Ratings: 10 amps at 110 volts A.C.
10 amps at 240 volts A.C.
5 amps at 415 volts A.C. 0.5 amps at 80 volts D.C.

The switch housing provides easy access for switch setting and potentiometer adjustment.

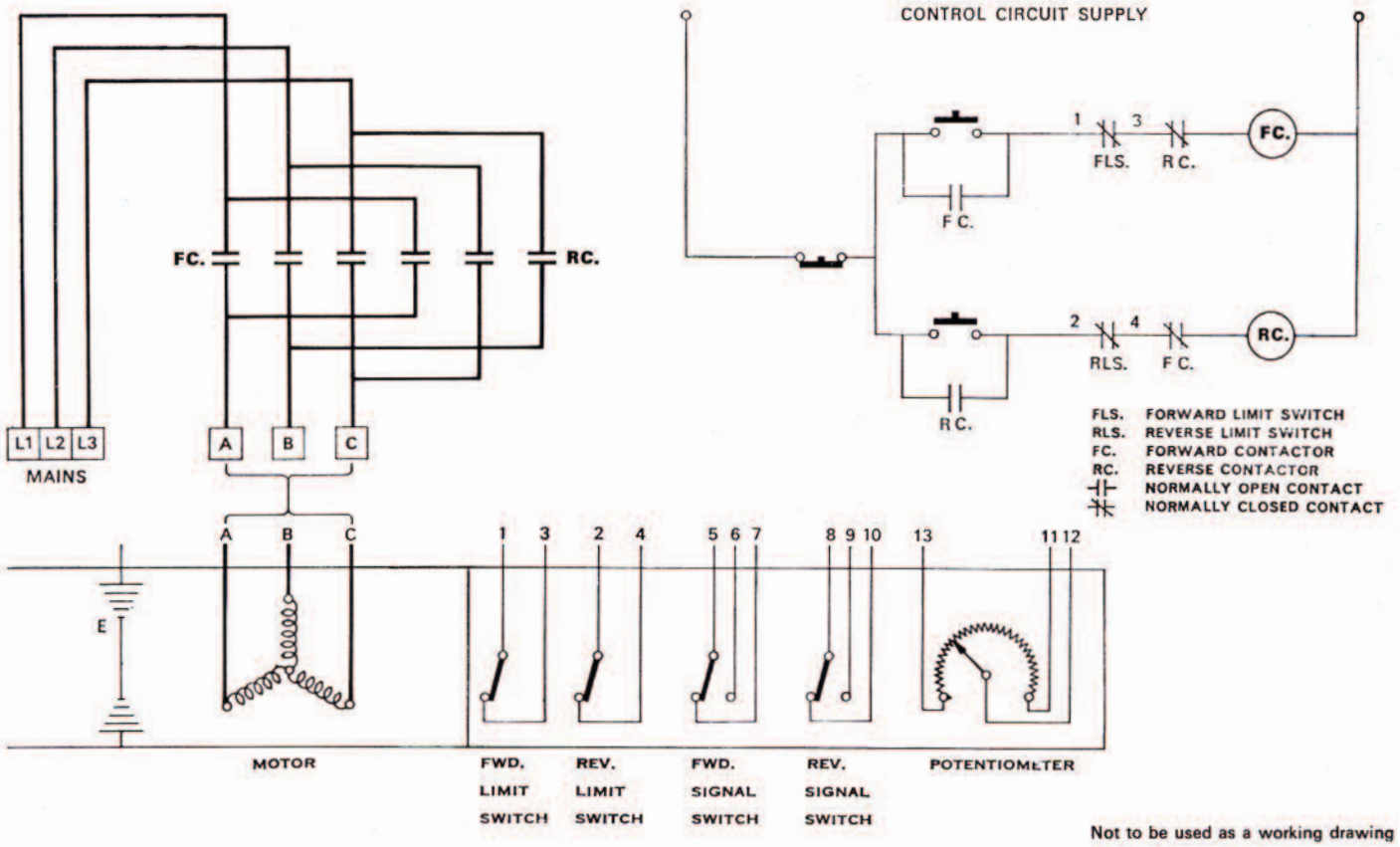
SUPPLY – A.C. three-phase up to 600 volts; frequencies up to 60 Hz.
D.C. up to 440 volts. Available on request.

CABLES – 25mm Conduit tapped holes provided for incoming cable glands. Mains and control connections are made in weatherproof terminal boxes with ample space for cabling.

CURRENT SENSOR – Adjustable to trip the contactors at a pre-selected push pull force.

POSITION INDICATOR – Shows the position of the actuator shaft on a remote mounting meter.

SCHEMATIC



Not to be used as a working drawing

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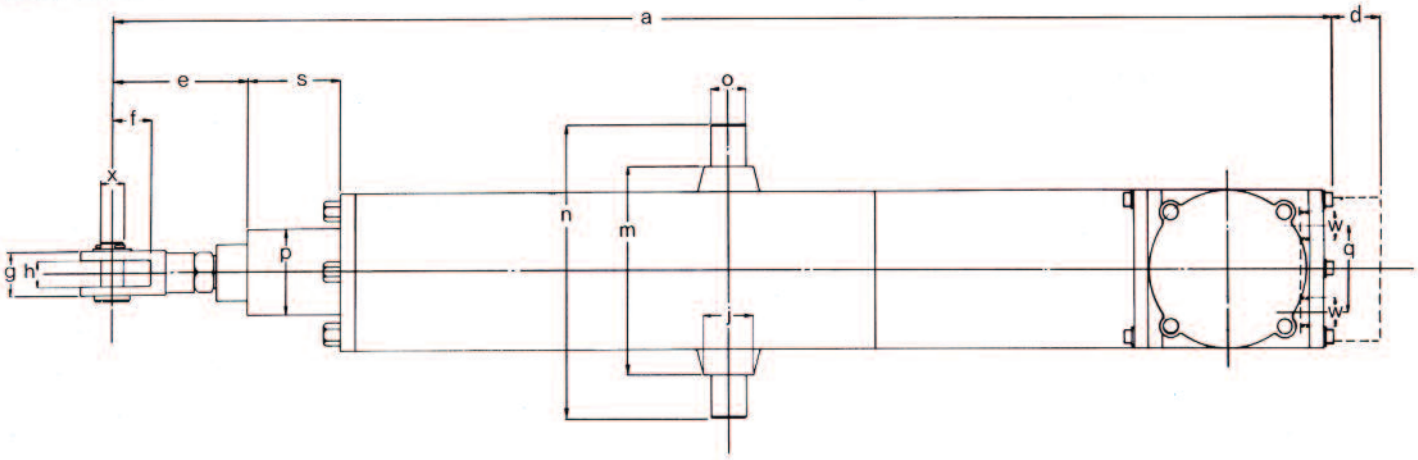
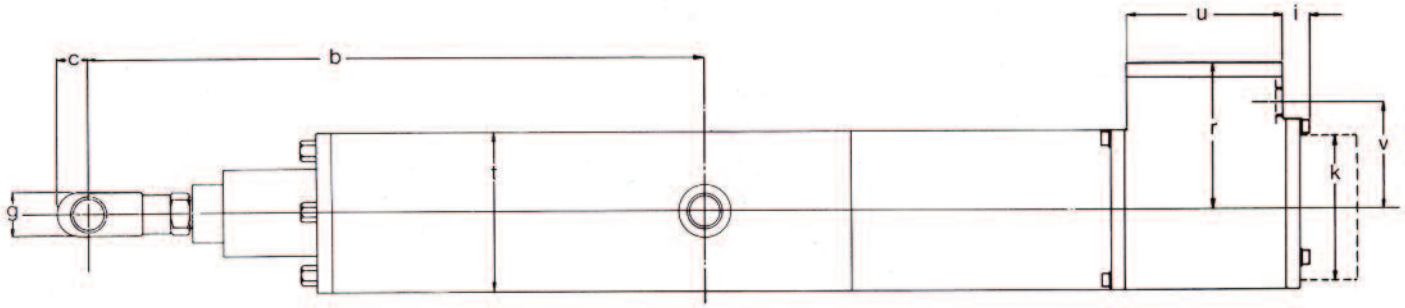
DIMENSIONS





TYPE	STROKE	SMX04 a	SMX05 a	b	c	e	f	g	h	i	j	k	m	n	o	p	q
SMX04 and SMX05	0–100 mm 0–3·9″	987 38·85	1067 42·05	489 19·25	27 1·1	159 6·25	38 1·5	57·1 2·25	25·4 1	20 0·79	45 1·8	127 5·0	185 7·3	259 10·2	30 1·181	76 3·0	76 3·0
	0–200 mm 0–7·9″	1087 42·75	1167 45·95	564 22·20													
	0–300 mm 0–11·8″	1187 46·75	1267 49·95	639 25·15													
	0–400 mm 0–15·7″	1287 50·65	1367 53·85	714 28·10													
	0–600 mm 0–23·6″	1487 58·55	1567 61·75	864 34·01													
	0–800 mm 0–31·5″	1687 66·42	1767 69·62	1014 39·91													

TYPE	STROKE	r	s	t	u	v	w	x
SMX04 and SMX05	0–100 mm 0–3·9″	127 5·0	83 3·3	140 5·5	140 5·5	92 3·6	25mm Conduit	25·1 ·987
	0–200 mm 0–7·9″							
	0–300 mm 0–11·8″							
	0–400 mm 0–15·7″							
	0–600 mm 0–23·6″							
	0–800 mm 0·31·5″							

Bellows diameter 134mm (5.25″) when fitted

Add the following dimensions 'd' for extras –

TYPE	Code 7 Code 4 Code 6 Code 7 + 4 Code 6 + 7 Code 6 + 4	Code 6 + 4 + 7
SMX04 and SMX05	71 2·8	154 6·05

LUBRICATION

ROCOL GRADE MTS 1000. Inject grease through the grease nipple located at the clevis end of the push/pull shaft every 200,000 operations or 12 months for normal working.

APPLICATIONS

Mechanical handling of components, covers, flaps, chutes and doors; Parcel sorting and packaging equipment; Valves and switchgear isolators: Conveyor ploughs and cranes; Boiler and furnace dampers; Machine tools; Dust removal and filters; Hydraulic pump control; Switch points and signalling; Remote control of heating and air conditioning equipment.