



Norbro 33 Series 180° Actuator



Experience In Motion

Norbro's Series 33 pneumatic 180° actuator is derived from the world-renowned 40R actuator. In the Series 33, the support rod guided pistons are fitted with steel racks to drive the 180° pinion.

The 33 Series is ideal for driving any 180° valve including Flowserve Worcesters' 14, 18 and 19 Series. It can also be used for any other 180° driven device.

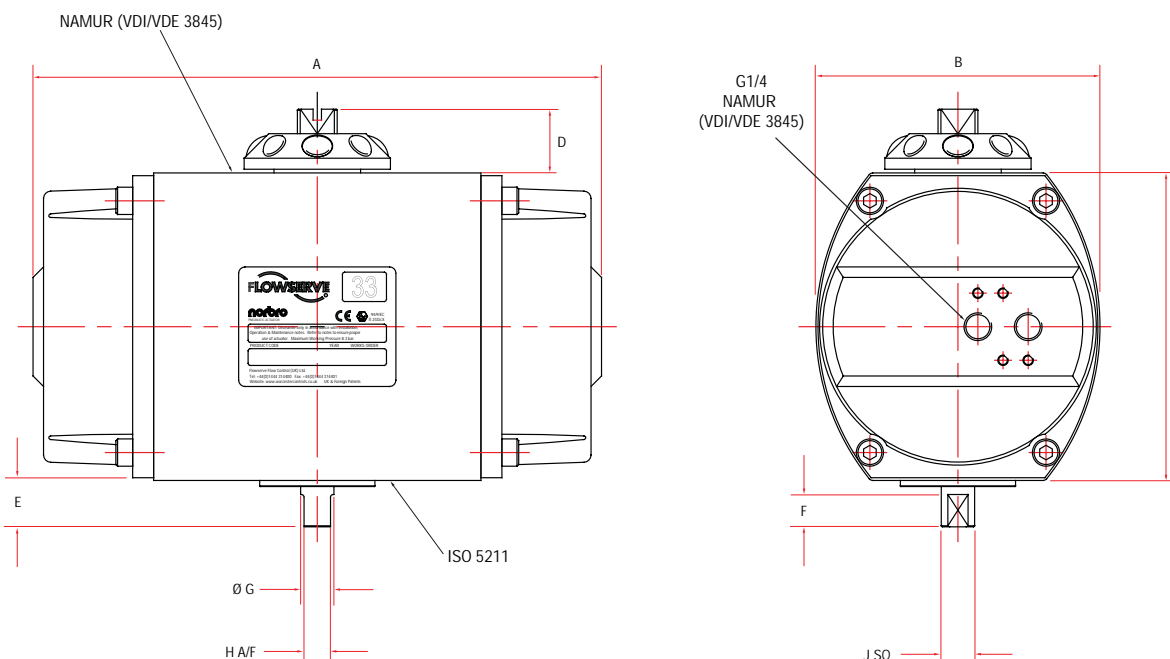
Available in Double Acting and Spring Return versions, standard or reverse acting operation. Reduced spring options for balancing of air pressure/torque requirements can be supplied.

0°-180°, 0°-90°-180° positional control can be achieved with a positioner, or a top mounted switchbox used with a 3 position solenoid. Bespoke control packages are available on request through the Technical Sales team.

The envelope dimensions are identical to the 40R Norbro actuator range including its ISO 5211 mounting interface, however please note, this series is only available in male drive. (Note size 45 and 50 have the Norbro mounting interface, not ISO 5211).

All other details are as the 40R, including Namur (VDE / VDI 3845) solenoid valve connection and top mounting pattern for switchbox / positioners.

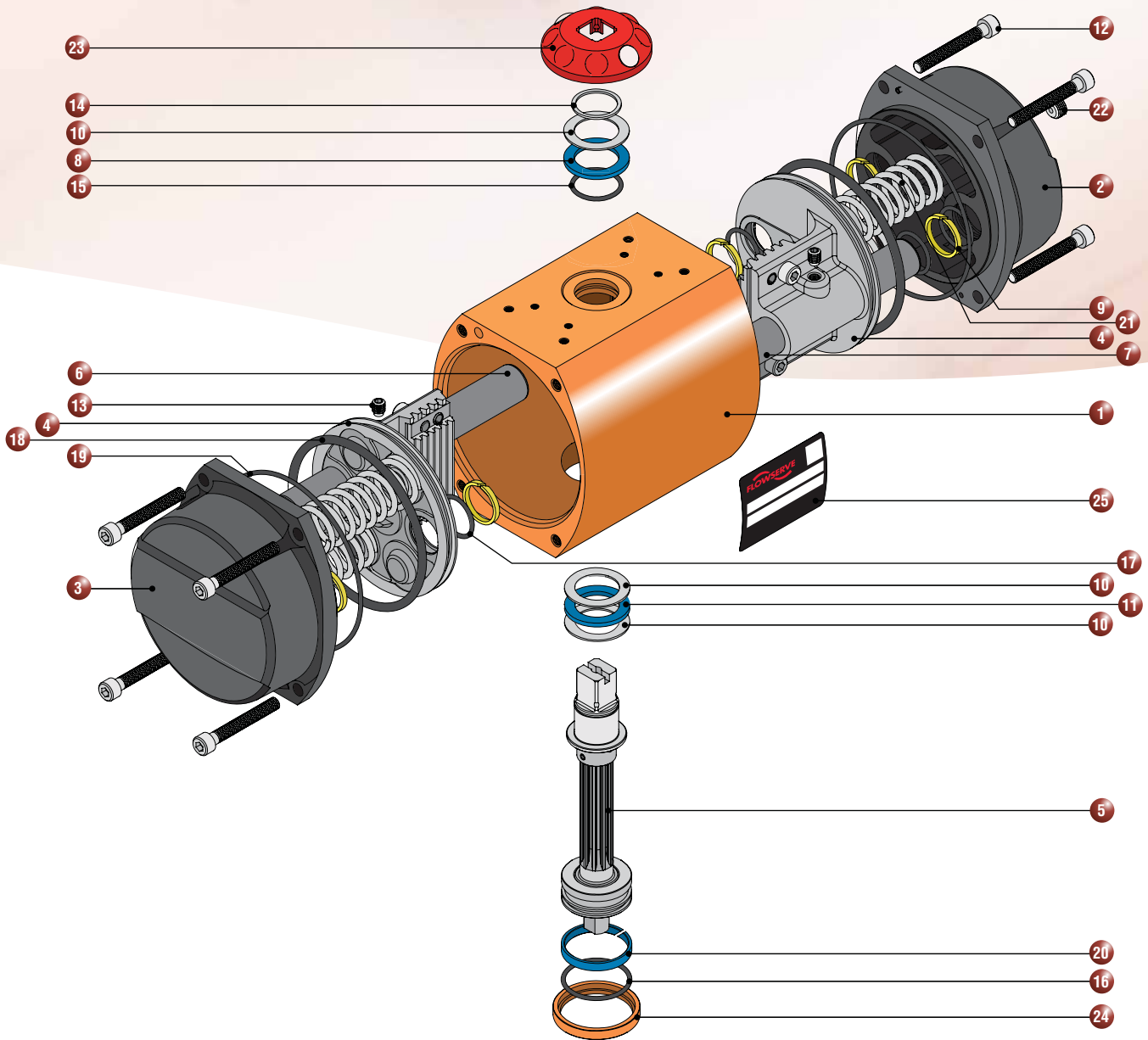
The Series 33 uses a standard 40R repair kit.



Output drive dimensions (mm) For all other dimensions, please refer to Norbro 40R Actuator Catalogue.

Actuator Size	ISO Size	A	B	C	D	E	F	Ø G	H A/F	J SQ
25	F07	269.9	135.5	146.6	30.0	22.1	15.4	16.0	12.70/12.57	-
30	F10	324.7	155.0	167.5	30.0	22.1	15.4	20.3	12.70/12.57	-
33	F12	397.1	206.0	214.0	30.0	30.3	22.2	25.1	-	19.05/18.92
35	F12	422.3	213.0	217.0	30.0	30.3	22.2	28.6	-	22.23/22.10
40	F14	508.4	244.9	276.0	50.0	32.8	30.5	36.5	-	28.58/28.45
42	F16	615.7	283.0	316.0	50.0	39.4	30.5	36.5	-	28.58/28.45
45	330.2x158.7 M16	575.9	334.9	341.6	50.0	49.8	35.8	45.7	-	34.93/34.80
50	393.7x190.5 M16	626.0	387.5	393.7	50.0	58.4	38.1	66.7	-	50.80/50.67

Parts List / Materials Specification



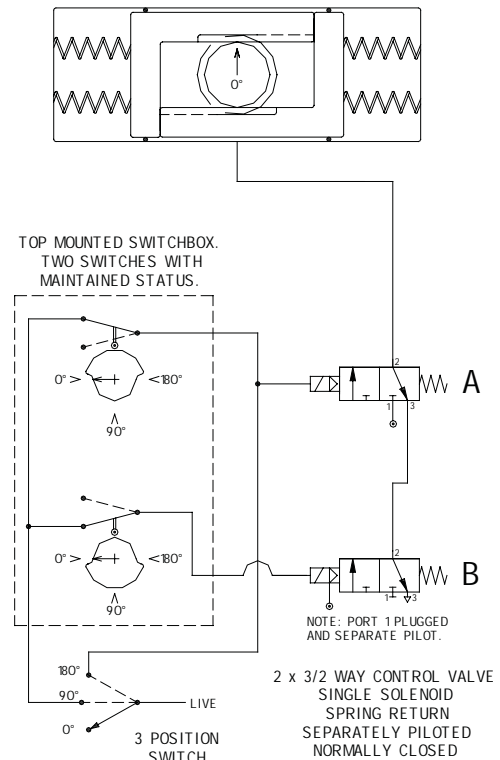
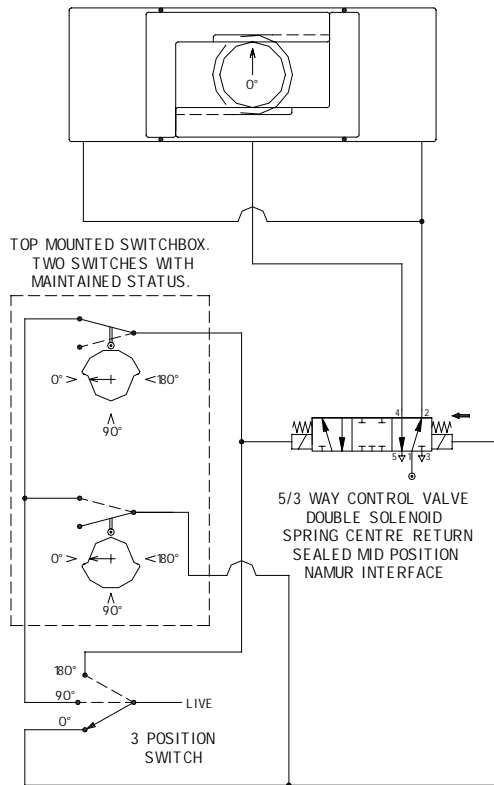
No.	Part	Finish	No.	Part	Finish
1	Body	Aluminium/Anodised	14	Spiral Retaining Ring	Stainless Steel/Natural
2	Inlet End Cap	Aluminium/Anodised	15	O-Ring	Nitrile (Standard Temperature)
3	Switch End cap	Aluminium/Anodised	16	O-Ring	Nitrile (Standard Temperature)
4	Piston	Aluminium/Natural	17	O-Ring	Nitrile (Standard Temperature)
5	Pinion Assembly	Carbon Steel/Gas Nitride	18	O-Ring	Nitrile (Standard Temperature)
6	Support Rod (inlet)	Stainless Steel/Natural	19	O-Ring	Nitrile (Standard Temperature)
7	Support Rod (Blank)	Stainless Steel/Natural	20	Bottom Bearing	Acetal Resin
8	Top Bearing	Acetal Resin	21	Spring*	Chrome Silicone Steel/Corrosion Resistant Coated
9	Support Rod Bearing	Acetal Resin	22	Vent Plug*	Acetal Resin
10	Thrust Washer	Stainless Steel/Natural	23	Position Indicator	Polyethelene
11	Thrust Bearing	Acetal Resin	24	ISO Location Ring	Aluminium/Anodised
12	End Cap Screw	Stainless Steel/Natural	25	Label	Acrylic Polyester
13	Grub Screw	Carbon Steel/Plated	*Spring Return Version Only		

Torque Output (Nm) at 5.5 bar Operating Pressure

Actuator Size	Double Acting	Spring Return					
		Start Air 0°	90°	End Air 180°	Start Spring 180°	90°	End Spring 0°
25	96	60	48	36	56	45	34
30	150	95	77	58	86	69	53
33	313	187	149	111	190	155	121
35	373	231	188	146	213	174	136
40	602	370	291	211	368	294	221
42	997	614	476	339	620	493	366
45	1492	931	669	407	1035	785	536
50	2309	1441	1019	598	1635	1231	872

NB: Torque figures at reduced air pressures available on request.

Pneumatic Diagram Examples



FCD NBEBR0002-02 Printed in Germany.

To find your local Flowserve representative:

For more information about Flowserve Corporation, visit www.flowserve.com or call USA 1 800 225 6989



Flowserve Flow Control

A Division of Flowserve GB Ltd.
Burrell Road, Haywards Heath
West Sussex RH16 1TL
United Kingdom

Telephone: +44 (0)1444 314400

Telefax: +44 (0)1444 314401

Email: wvukinfo@flowserve.com

Due to continuous development of our product range, we reserve the right to alter the dimensions and information contained in this leaflet as required. Information given in this leaflet is made in good faith and based upon specific testing but does not, however, constitute a guarantee.