

## NEW GENERATION NFB, NFX SPRING RETURN ACTUATORS

Belimo's new NFB and NFX Series sets a new standard for direct-coupled spring return actuators in the HVAC market. A compact size, low power consumption and 50% increase in minimum torque output set the new NFB and NFX apart from other market solutions. More torque combined with faster running times for both motor drive and spring return widen the application fields giving customers a cost effective solution with high quality.



### APPLICATIONS

- Control Dampers up to 22 sq ft
- Make Up Air Units
- Control Valves
- Retrofit & Replacement

### CUSTOMERS

- Control Contractors
- Controls OEMs
- Damper OEMs

### PRODUCT RANGE & TECHNICAL SPECIFICATIONS

Product Range		NFB24(-S) NFX24(-S)	NFBUP(-S) NFXUP(-S)	NFB24-SR(-S) NFX24-SR(-S)	NFB24-MFT(-S) NFX24-MFT(-S)
Power Supply		24VAC ±20% 50/60 Hz, 24 VDC, +20/- 10%	24...240 VAC -20 %/+10% 50/60Hz, 24...125 VDC +/- 10%	24VAC ±20% 50/60 Hz, 24 VDC, +20/-10%	
Transformer Sizing		8.5 VA	9.5 VA	6 VA	9 VA*
Power Consumption (Running / Holding)		6 W / 2.5 W		3.5 W / 2.5 W	6.5 W* / 3 W*
Angle of Rotation		Max. 95°, can be limited with built-in mechanical stop Electronically variable with MFT only			
Torque / Force		90 in-lbs (10 Nm)			
Running Time	Motor	<75 sec		95 sec	150 sec (default), 40 to 220 sec with MFT
	Spring Return	20 sec @ -4°F to 122°F [-20°C to 50°C]; <60 sec @ -22°F [-30°C]			
Auxiliary Switches (-S models)		Two SPDT 3A (0.5A inductive) @ 250V UL approved, one set at + 10°, one adjustable 10 to 90°			
Noise Level		Spring return: 57 dB(A) typical, 62dB(A) max			
Operating Temperature		-22°F to 122°F (-30 to 50°C)			
Agency Listing		cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC & 2006/95/EC			
Design Life		60,000 full cycles (motor and spring driving full 95° rotation) over the complete operating temperature and voltage range; 500,000 partial cycles (repositions)			

\* Programmed for 40 sec motor run time. At 150 sec motor run time, transformer sizing is 6.5 VA and power consumption is 4.5 W / 3 W.



## FEATURES & BENEFITS

- 90 in-lbs (10 Nm) min. torque. 50% more than original NF.
- New smaller housing for tight spaces, plus reduced shaft-center to edge distance: 1.25" compared to 1.97" with today's NF.
- Improved motor run times:
 

	<b>NFB, NFX</b>	<b>Original NF</b>
-SR:	95 sec	150 sec
-MFT:	40 to 220 sec	75 to 300 sec
- Improved spring return time:
 

<b>NFB, NFX:</b>	20 sec @ -4°F to 122°F [-20°C to 50°C]; <60 sec @ -22°F [-30°C]
<b>Original NF:</b>	<60 sec
- Manual override is now standard on all models. Provides same benefits as today's AF series; faster installation and easier maintenance of equipment with lock-in-place switch.
- Universal power supply (On/Off models only) can accept 24 up to 240 VAC. One actuator for all power supply voltages, ideal for customers with limited storage space (store rooms, service vehicles, etc)
- 3, 10 and 16 ft cable options just like non-spring return actuator (X models only)
- Built-in mechanical limit stop, a separate accessory no longer needed.

## PRODUCT COMPARISON

