

# Actuated Valves Technical Electric Actuator Selection



**Revised: 12-20-2022**

## Step 2: Actuator Code Selection

Spears® actuated valves are available with either electric or pneumatic motors. Actuators are pre matched to each type and size of valve with proper operating torque and cycle time. Additional actuator accessories are selected and are factory installed on the Actuated Valve Package in Step 3 instructions

Select the applicable options from either the Electric Actuators (Selection Table 4) or Pneumatic Actuators (Selection Table 5) and enter the designated **Actuator Code** portion of the package part number.

**Table 4: ELECTRIC ACTUATORS (Voltage-Enclosure Rating-Manual Override-Duty Cycle)**

ACTUATOR CODE				Optional Control Number (not used on basic packages)							
1	2	3	4	5	6	7	8	9	10	11	12
Reserved for Valve					Reserved for Size						
<b>Voltage</b> (see note 1)					<b>Duty Cycle</b> (see note 3)						
A = 115 VAC 60 Hz					1 = 25%		7 = 40%				
B = 230 VAC 60 Hz					2 = 75%		8 = 60%				
C = 230 VAC 3-phase 50 Hz (EU)					3 = 100%		9 = 20%				
D = 230 VAC 3-phase 60 Hz					4 = 50%						
E = 24 VAC					5 = 70% (custom only)						
F = 12 VDC					6 = 80% (custom only)						
G = 24 VDC					<b>Manual Override</b> (see note 4)						
L = 460 VAC 3-Phase 50 Hz (EU)					0 = None						
M = 460 VAC 3-Phase 60 Hz					1 = Basic Manual Override						
N = 460 VAC 1-Phase 60 Hz					2 = Declutchable Manual Override						
R = 415 VAC 3-Phase 50 Hz					3 = Spring Return Open with Declutchable Manual Override (see note 5)						
S = 230 VAC 50 Hz (EU)					4 = Spring Return Close with Declutchable Manual Override (see note 5)						
T = 575 VAC 3-Phase 60Hz (EU)					5 = Spring Return Open no override (see note 5)						
U = 115 VAC 50 Hz (EU)					6 = Spring Return Close no override (see note 5)						
V = 208 VAC 3-Phase 60 Hz					7 = RCE Battery Backup Actuator						
X = Single Indicator Switch Only (see note 2)					8 = Spring Return Open with Basic Manual Override (see note 5)						
Y = Double Indicator Switch Only (see note 2)					9 = Spring Return Close with Basic Manual Override (see note 5)						
Z = Actuator Bracket Only (see note 2)					A = Super Capacitor Open with Basic Manual Override						
1 = 480 VAC 50 Hz					B = Super Capacitor Close with Basic Manual Override						
2 = 480 VAC 60 Hz					C = Super Capacitor Open with Declutchable Manual Override						
3 = 480 VAC 3-Phase 50 Hz					D = Super Capacitor Close with Declutchable Manual Override						
4 = 480 VAC 3-Phase 60 Hz											
5 = 380 VAC 3-Phase 60 Hz											
6 = 12 VAC 60 Hz											
7 = 440 VAC 3-Phase 60 Hz											
<b>Enclosure</b>											
1 = NEMA4		5 = NEMA		4 Double Powder Coated		9 = AWWA		C=NEMA 6P,prolonged			
2 = NEMA4x		6 = NEMA		4x Double Powder Coated		A = NEMA 7 Modulation enclosure		submersion at a limited depth.			
3 = NEMA 7		7 = NEMA		7 Double Powder Coated		(for 1/2"-2" modulated Ball /Butterfly)		D=NEMA 8			
4 = NEMA 9		8 = NEMA		9 Double Powder Coated		B = NEMA 6					

**Notes:**

- 1 - 460 VAC available on Butterfly Valves only.
- 2 - Bracket & Indicator Switch Only part numbers do not allow any other options(must be Z000, Y000, or X000).
- 3 - **Standard Duty Cycles** vary according to valve type and size as indicated in chart below. Standard Duty Cycles can be *upgraded* only.  
Note: 50% duty cycle available on non-standard, special order actuators only.

Valve Type	Size Range	25% Duty Cycle	75% Duty Cycle	100% Duty Cycle
Ball Valve	1/2" - 2"		X	
Ball Valve	2-1/2" - 4"	X		
Butterfly Valve	1-1/2" - 10"	X		
Butterfly Valve	12" - 24"			X
Diaphragm Valve	1/2" - 8"	X		

- 4 - Basic Manual Override is standard on Ball Valve sizes 1/2" - 3" with Declutchable Manual Override as an option. Declutchable Manual Override is standard on Ball Valve sizes 4" & larger and all Butterfly Valves. Standard Gate Valve and Diaphragm Valve packages have no override with Declutchable Manual Override as an option. Spring return not available on electric Diaphragm valves.
- 5 - Electric Spring Return Actuators come standard with no type of override. Need to verify if either Declutchable Manual Override or Basic Manual Overrides are available in all applications.