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# NAFSA - ECH SERIES

ECH90-25
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- Pull / push design, with optional spring
- Class B winding (130ºC)
- Duty cycle 0 to 100%
- Up to 2800N force
- Customer specific version available

### PRODUCT DESCRIPTION

The ECH series is simple linear solenoid where the stroke movement from start to final position is made by the electromagnetic forces.

Return to start position is done by external forces or from a spring built into the solenoid.

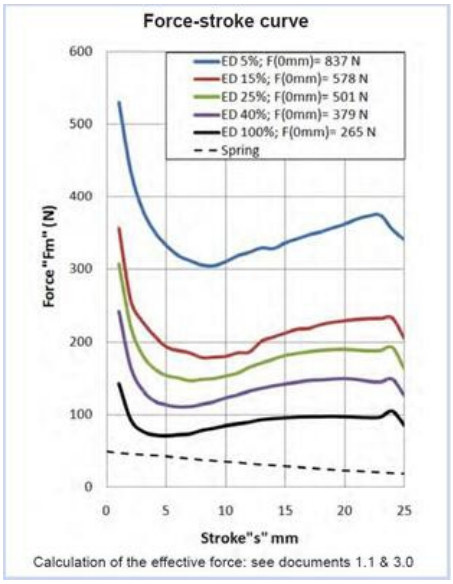
Featuring a plug in connector, the main body and electrical connector on the ECH series offers IP65 sealing.

The shaft mounting faces are IP40 and offer fixing locations with smooth surfaces for external sealing, depending on the applicaiton.

# TECHNICAL DATA

| | |
|---|---|
| **Absorbed power @ 20°C, 100% duty** | 55 W |
| **Absorbed power @ 20°C, 15% duty** | 300 W |
| **Absorbed power @ 20°C, 25% duty** | 190 W |
| **Absorbed power @ 20°C, 40% duty** | 125 W |
| **Absorbed power @ 20°C, 5% duty** | 900 W |
| **Beginning of stroke force at 100% duty** | 85 N |
| **Beginning of stroke force at 15% duty** | 205 N |
| **Beginning of stroke force at 25% duty** | 163 N |
| **Beginning of stroke force at 40% duty** | 126 N |
| **Beginning of stroke force at 5% duty** | 341 N |
| **End of stroke force at 100% duty** | 265 N |
| **End of stroke force at 15% duty** | 578 N |
| **End of stroke force at 25% duty** | 501 N |
| **End of stroke force at 40% duty** | 379 N |
| **End of stroke force at 5% duty** | 837 N |

| | |
|---|---|
| **Function** | push/pull |
| **Insulation class** | B(130ºC) |
| **IP class of solenoid body and connector** | IP40 |
| **IP class of solenoid mounting face** | IP65 |
| **Stroke** | 25 mm |
| **Total weight** | 5200 g |
| **Voltage ac max** | 230 V |
| **Voltage ac min** | 110 V |
| **Voltage dc max** | 205 V |
| **Voltage dc min** | 6 V |
| **Voltage type** | AC, DC |




| Duty-cycle | Standard voltages | | | | | | | | | Under demand voltages | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED% | VDC | | | | | | | VAC | | VDC | | VAC | |
| | 6 | 12 | 24 | 48 | 100 | 125 | 205 | 110 | 230 | Min | Max | Min | Max |
| 100% | x | o | o | o | o | o | o | o | o | 12 | 250 | 28 | 230 |
| 40% | x | x | o | o | o | o | o | o | o | 18 | 250 | 60 | 230 |
| 25% | x | x | o | o | o | o | o | o | o | 22 | 250 | 95 | 230 |
| 15% | x | x | o | o | o | o | o | x | o | 24 | 250 | 150 | 230 |
| 5% | x | x | o | o | o | o | o | x | x | 24 | 250 | x | x |

Layout: o = Available ; x = Unavailable

