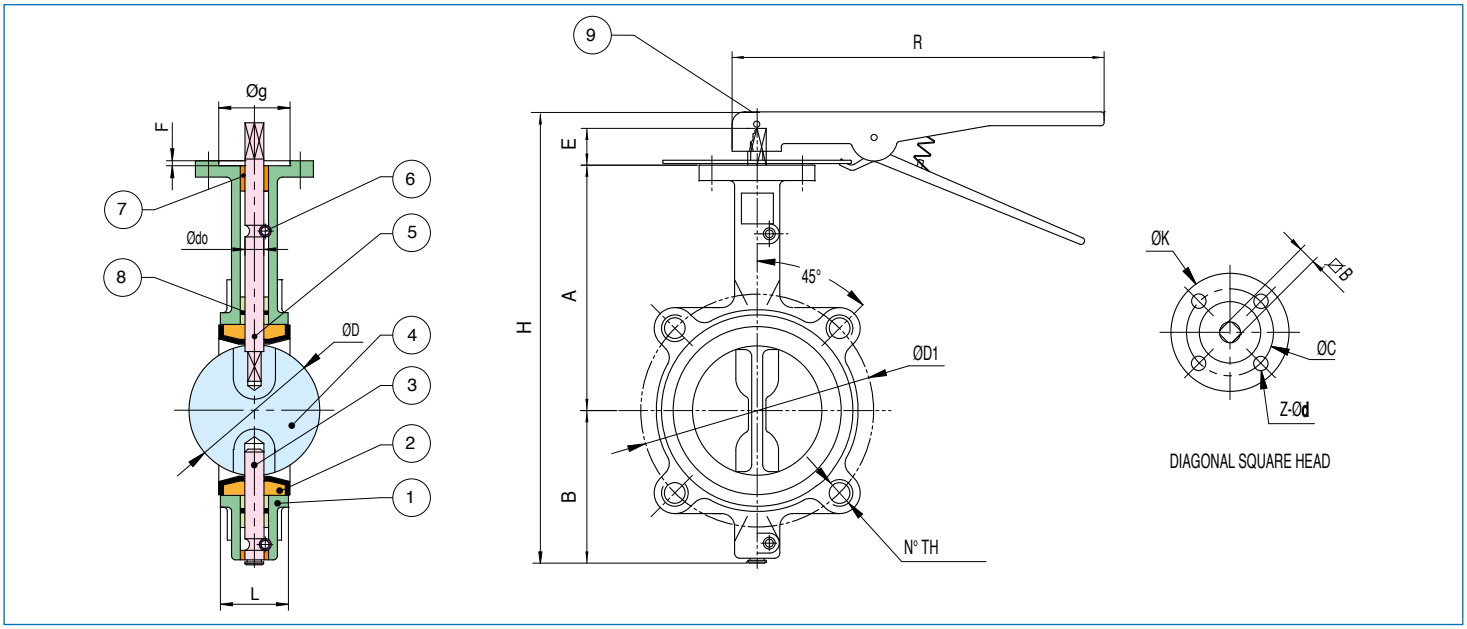
# SERIES 501N - 501S

**NYLON 11 COATED DISC** **CF8M SS DISC**

Manually operated butterfly valves.
- Epoxy coated ductile iron lug body.
- Full port sizes 1”1/2 to 12”.
- EPDM resilient seat -30°F to 250°F.
- API609 face to face flange.
- Floating dual shaft disc design.
- 10 position stop.
- MSS SP 67 compliant.
- No pins in disc prevent potential leak points.

531N-531S: VITON SEATS
541N-541S: BUNA-N SEATS




| | PART NAME | MATERIAL | N PCS |
|---|---|---|---|
| 1 | BODY | DUCTILE IRON | 1 |
| 2 | SEAT | EPDM (30F to 250F) | 1 |
| 3 | LOWER SHAFT | SS 416 | 1 |
| 4 | DISC 500N | IRON NYLON 11 | 1 |
| | DISC 500S | STAINLESS STEEL | |
| 5 | UPPER SHAFT | SS 416 | 1 |
| 6 | LOCATING PIN | CARBON STEEL | 1 |
| 7 | BUSHING | P.T.F.E. | 1 |
| 8 | O-RING | EPDM | 1 |
| 9 | LEVER | EPOXY-COATED CARBON STEEL | 1 |

| SIZE | ØC ISO | ⍁B | A | B | L | ØD | E | H | R | Ødo | UPPER FLANGE | | | | DISC | LUG | WT. | SEAT TORQUE | | CV (GPM@ 1psi) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | ØK | Z-d | Øg | F | ØD1 | N°-TH | Lbs | 100 psi | 200 psi | 50% OP | 100% OP |
| **1”1/2** | F05 | 9 mm | 5.71 | 2.97 | 1.61 | 1.67 | 0.47 | 12.95 | 10.63 | 0.50 | 3.03 | 4-0.28 | 1.38 | 0.12 | 4.74 | 4-5/8”-11 | 7.9 | 111 | 133 | 35 | 108 |
| **2”** | F05 | 9 mm | 6.34 | 3.15 | 1.65 | 2.07 | 0.47 | 13.94 | 10.63 | 0.50 | 3.03 | 4-0.28 | 1.38 | 0.12 | 4.74 | 4-5/8”-11 | 8.4 | 126 | 146 | 45 | 135 |
| **2”1/2** | F05 | 9 mm | 6.89 | 3.50 | 1.76 | 2.54 | 0.47 | 15.04 | 10.63 | 0.50 | 3.03 | 4-0.28 | 1.38 | 0.12 | 5.49 | 4-5/8”-11 | 9.3 | 134 | 167 | 65 | 220 |
| **3”** | F05 | 9 mm | 7.13 | 3.74 | 1.78 | 3.10 | 0.47 | 15.51 | 10.63 | 0.50 | 3.03 | 4-0.28 | 1.38 | 0.12 | 6.00 | 4-5/8”-11 | 10.4 | 205 | 223 | 70 | 300 |
| **4”** | F07 | 11 mm | 7.87 | 4.49 | 2.05 | 4.09 | 0.63 | 17 | 10.63 | 0.62 | 3.54 | 4-0.35 | 2.17 | 0.12 | 7.50 | 8-5/8”-11 | 19.8 | 339 | 386 | 140 | 605 |
| **5”** | F07 | 14 mm | 8.34 | 5.00 | 2.14 | 4.85 | 0.75 | 17.94 | 10.63 | 0.75 | 3.54 | 4-0.35 | 2.17 | 0.12 | 8.50 | 8-3/4”-10 | 24 | 523 | 602 | 235 | 1010 |
| **6”** | F07 | 14 mm | 8.90 | 5.47 | 2.20 | 6.13 | 0.75 | 19.06 | 10.63 | 0.75 | 3.54 | 4-0.35 | 2.17 | 0.12 | 9.50 | 8-3/4”-10 | 31.3 | 677 | 996 | 360 | 1620 |
| **8”** | F10 | 17 mm | 10.24 | 6.89 | 2.34 | 7.97 | 0.75 | 22.25 | 14.17 | 0.87 | 4.92 | 4-0.47 | 2.76 | 0.14 | 11.75 | 8-3/4”-10 | 40.1 | 1205 | 1864 | 715 | 3205 |
| **10”*** | F10 | 22 mm | 11.50 | 7.99 | 2.58 | 9.86 | 0.94 | 24.77 | 19.68 | 1.12 | 4.92 | 4-0.47 | 2.76 | 1.40 | 14.25 | 12-7/8”-9 | 59.1 | 1890 | 3140 | 1225 | 5305 |
| **12”*** | F10 | 22 mm | 13.27 | 9.53 | 3.03 | 11.87 | 0.94 | 28.31 | 19.68 | 1.24 | 5.51 | 4-0.47 | 2.76 | 1.40 | 17.00 | 12-7/8”-9 | 88.2 | 2808 | 4767 | 1900 | 8250 |

* 10” and 12” available in bare stem version only.

Type 4X Indoor Use Only Enclosure.

**DESIGN PROTECTED**

## GENERAL SPECIFICATIONS

The VALBIA electric actuators are suitable for the automation of ball and butterfly valves for the industrial and construction sector. The usage of electronic components of last generation, together with precise mechanic, thanks to a careful research and development, enables high performance and long-term reliability of the product.
The range has been manufactured with following characteristics:

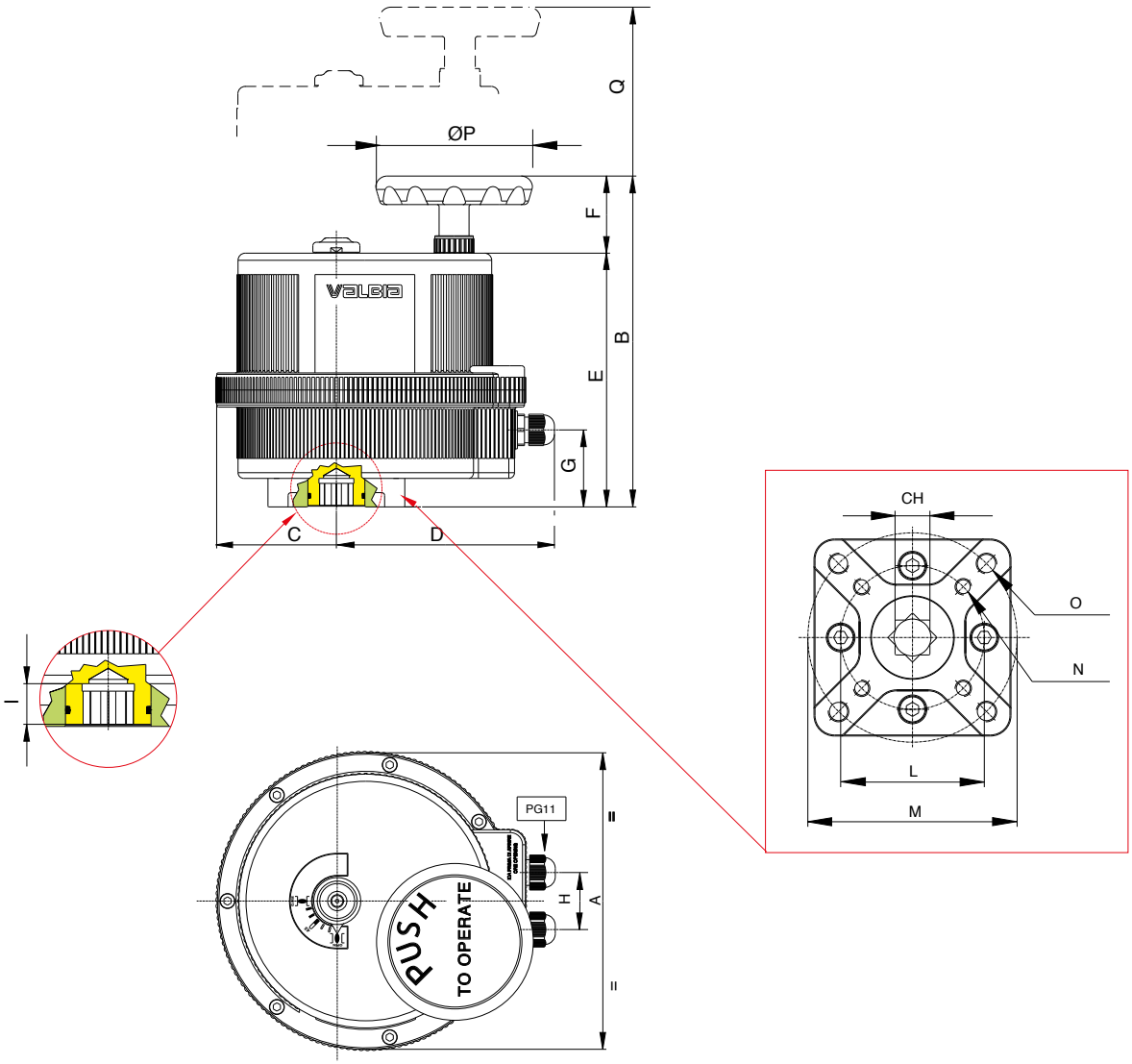
- The housing of the actuators provides a V0 self-extinguish class techno-polymer material.
- The kinematics is made by steel and techno-polymer gear wheels, sustained by hardened steel pinions, mounted on self-lubricating bushes and inserted in a strong structure of die-cast aluminium (excluding mod. VB015).
- The connection part of the actuators with the valves, is made by a die-casted and painted aluminium plate cataphoresis, with a dual drilling interface as per the ISO5211-DIN 3337 Standard.
- The electronic circuit adjusts automatically the motor speed depending on the mechanical load variations in order to drive the cycle always in the same time.
- The whole range of actuators is provided with an electronic safety system for the torque control (torque limiter).
- The whole range of actuators is standard provided of heater activated with the powered actuator.
- The whole range of actuators (except for mod. VB015) is modulable: and programmable in standard mode (4-20 mA or 0-10V) or reverse mode (20-4 mA or 10-0V)
- All electric actuators (except for mod. VB015) can be equipped with rotary potentiometer (5KΩ 1W).
- All electric actuators (except for mod. VB015 and for 12V power supply), can be equipped with battery backup for emergency control.

| MODEL | | VB015 | VB030 | VB060 | VB110 | VB190 | VB270 | VB350 |
|---|---|---|---|---|---|---|---|---|
| MAX WORKING TORQUE (IN-LBS) | | 133 | 266 | 530 | 975 | 1680 | 2390 | 3100 |
| VOLTAGE (V) | LOW VOLTAGE | 12V AC/DC | 12V AC/DC | 12V AC/DC | 12V AC/DC | 12V AC/DC | 12V AC/DC | 12V AC/DC |
| | | 24V AC/DC | 24V AC/DC | 24V AC/DC | 24V AC/DC | 24V AC/DC | 24V AC/DC | 24V AC/DC |
| | MULTIVOLTAGE | 100-240V AC | 100-240V AC | 100-240V AC | 100-240V AC | 100-240V AC | 100-240V AC | 100-240V AC |
| WORKING TIME (sec) | | 10 | 8 | 9 | 27 | 27 | 50 | 50 |
| TORQUE LIMITER | | STD | STD | STD | STD | STD | STD | STD |
| DUTY RATING | | 12VAC/24VAC 50% | 12VAC/DC 50% | 12VAC/DC 50% | 12VAC/DC 50% | 12VAC/DC 50% | 12VAC/DC 50% | 12VAC/DC 50% |
| | | 12VDC/24VDC 75% | 24VAC/DC 75% | 24VAC/DC 75% | 24VAC/DC 75% | 24VAC/DC 75% | 24VAC/DC 75% | 24VAC/DC 75% |
| | | 100-240VAC | 100-240VAC | 100-240VAC | 100-240VAC | 100-240VAC | 100-240VAC | 100-240VAC |
| PROTECTION | | IP65 | IP67 | IP67 | IP67 | IP67 | IP67 | IP67 |
| ROTATION | | 90° | 90° | 90° | 90° | 90° | 90° | 90° |
| UPON REQUEST | | 180° | 180° or 270° | 180° or 270° | 180° or 270° | 180° or 270° | 180° or 270° | 180° or 270° |
| MANUAL OVERRIDE | | STD | STD | STD | STD | STD | STD | STD |
| POSITION INDICATOR | | STD | STD | STD | STD | STD | STD | STD |
| WORKING TEMPERATURE | | -4°F + 131°F | -4°F + 131°F | -4°F + 131°F | -4°F + 131°F | -4°F + 131°F | -4°F + 131°F | -4°F + 131°F |
| HEATER | | STD | STD | STD | STD | STD | STD | STD |
| ADDITIONAL FREE LIMIT SWITCHES | | n°2 STD (type SPDT) | n°2 STD (type SPDT) | n°2 STD (type SPDT) | n°2 STD (type SPDT) | n°2 STD (type SPDT) | n°2 STD (type SPDT) | n°2 STD (type SPDT) |
| DRILLING ISO 5211 | | *F03 - F05 | *F03 - F05 | F05 - F07 | F07 - F10 | F07 - F10 | F07 - F10 | F07 - F10 |
| SQUARE (in) | | 0.43 | 0.43 | 0.55 | 0.67 | 0.67 | 0.87 | 0.87 |
| SQUARE UPON REQUEST | | 0.35 | 0.35-0.55 | 0.43-0.67 | 0.55-0.87 | 0.55-0.87 | 0.67 | 0.67 |
| FAIL-SAFE OPERATION (BATTERY BACKUP) | | NOT AVAILABLE | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST |
| | | | NOT AVAILABLE FOR MOD. 12V | | | | | |
| POSITIONER STD (4~20mA or 0~10 VDC) REVERSE (20~4mA or 10~0 VDC) | | NOT AVAILABLE | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST |
| LINEAR POTENTIOMETER (5K Ω 1W) | | NOT AVAILABLE | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST | UPON REQUEST |
| ELECTRICAL CONNECTIONS | | PG11 | PG11 | PG11 | PG11 | PG11 | PG11 | PG11 |
| WEIGHT (LBS) | | 3.09 | 5.07 | 7.28 | 10.80 | 10.80 | 13.23 | 13.23 |

* F04 or F07 upon request.

## POWER CONSUMPTION

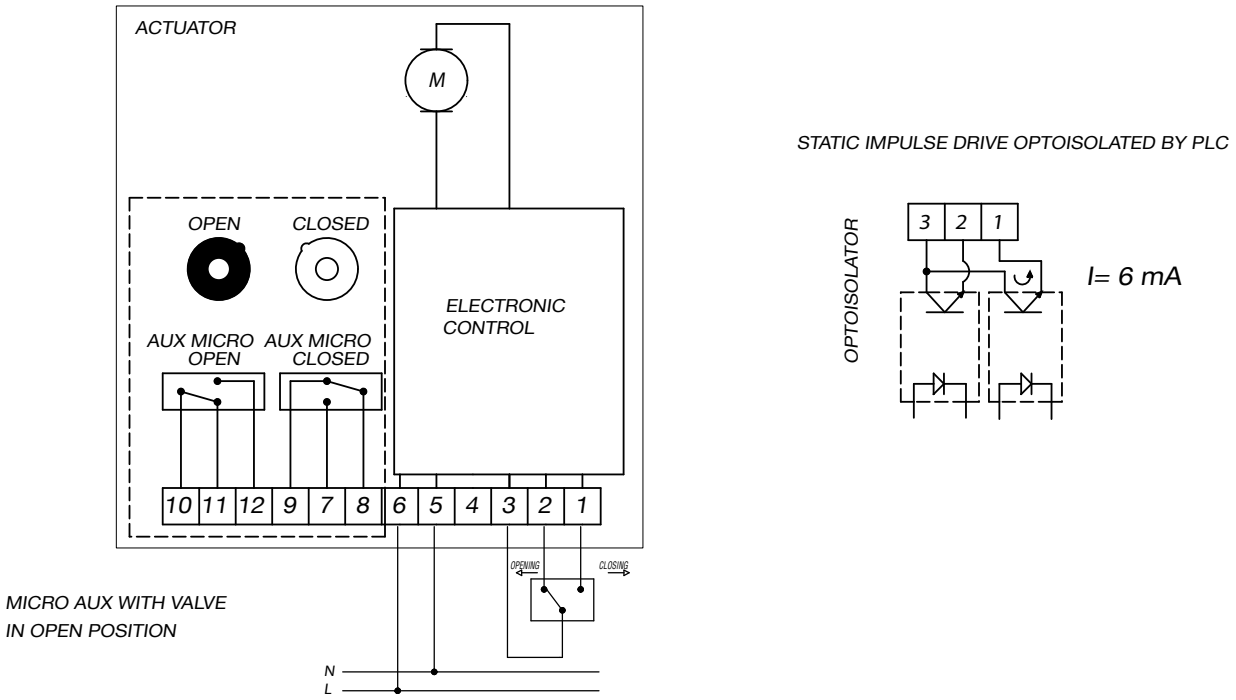
| MODEL | | VB015 | | VB030 | | VB060 | | VB110 | | VB190 | | VB270 | | VB350 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VERSION H | NOMINAL VOLTAGE | 100-240V AC | | | | | | | | | | | | | |
| | ABSORBED CURRENT | 0.3-0.19 A | | 0.4-0.2 A | | 0.6-0.3 A | | 0.4-0.2 A | | 0.6-0.3 A | | 0.6-0.3 A | | 0.75-0.4 A | |
| | ABSORBED POWER | 30-46 VA | | 40-48 VA | | 60-72 VA | | 40-48 VA | | 60-72 VA | | 60-72 VA | | 75-96 VA | |
| VERSION L | NOMINAL VOLTAGE | 12V AC/DC | 24V AC/DC | 12V AC/DC | 24V AC/DC | 12V AC/DC | 24V AC/DC | 12V AC/DC | 24V AC/DC | 12V AC/DC | 24V AC/DC | 12V AC/DC | 24V AC/DC | 12V AC/DC | 24V AC/DC |
| | ABSORBED CURRENT | 1.2 A | 0.6 A | 2.2-1.8 A | 1-0.7 A | 3.8-2.85 A | 1.8-1.2 A | 2.2-1.8 A | 1-0.7 A | 3.8-2.85 A | 1,8-1,2 A | 3.8-2.85 A | 1.8-1.2 A | 4.75-3.65 A | 1.95-1.65 A |
| | ABSORBED POWER | 15 VA | | 26,5-22 VA | 24-17 VA | 46-34 VA | 43-29 VA | 26,5-22 VA | 24-17 VA | 46-34 VA | 43-29 VA | 46-34 VA | 43-29 VA | 57-44 VA | 47-40 VA |
| | FREQUENCY | 50/60 HZ | | | | | | | | | | | | | |



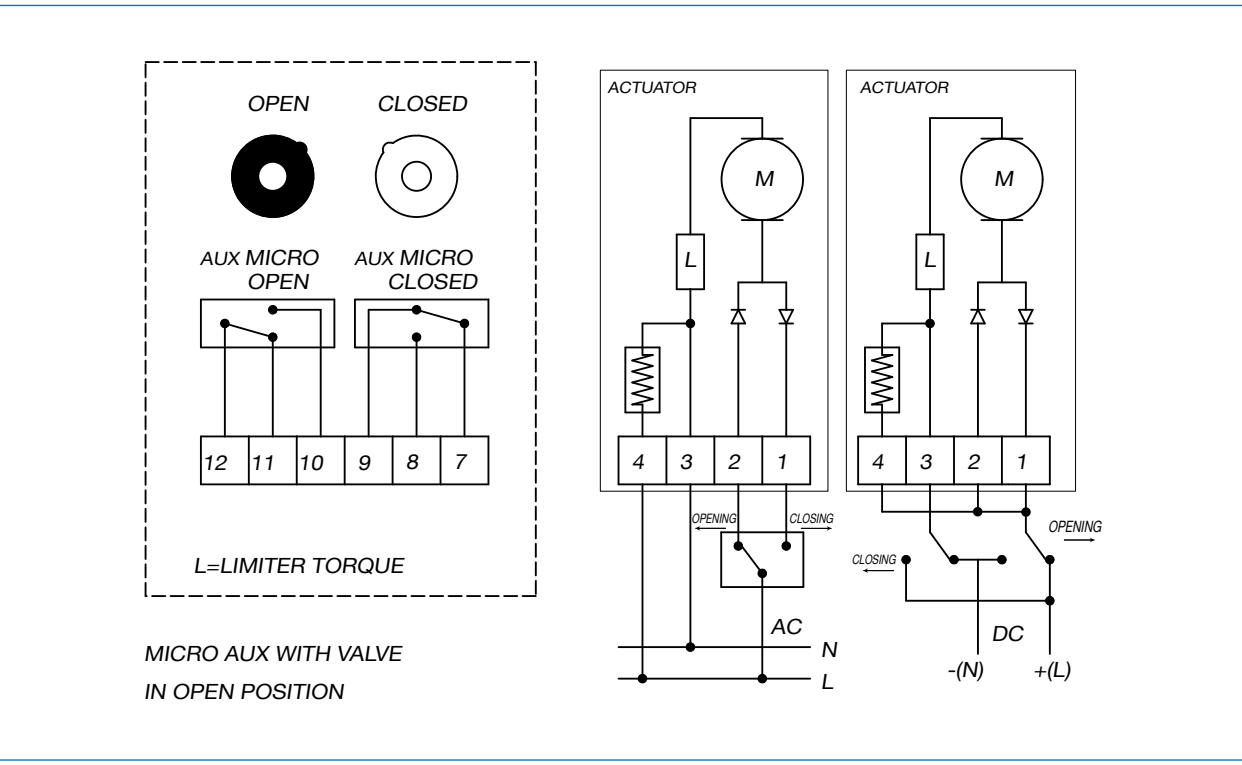

| MOD. | DRILLING ISO 5211 | CH | A | B | C | D | E | F | G | H | I | L | M | N | O | ØP | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VB015 | F03 * - F05 | 0.43 | 4.84 | 5.57 | 1.67 | 4.74 | 4.96 | 0.61 | 4.06 | 1.26 | 0.55 | 1.42 | 1.97 | 10-24 UNC 2BX0.47 | 1/4-20 UNC 2BX0.51 | 2.68 | 2.56 |
| VB030 | F03 * - F05 | 0.43 | 6.18 | 7.40 | 2.38 | 5.10 | 5.75 | 1.65 | 1.30 | 1.42 | 0.47 | 1.42 | 1.97 | 10-24 UNC 2BX0.47 | 1/4-20 UNC 2BX0.51 | 2.56 | 3.94 |
| VB060 | F05 - F07 | 0.55 | 7.28 | 8.46 | 2.66 | 5.77 | 6.81 | 1.65 | 2.01 | 1.42 | 0.63 | 1.97 | 2.76 | 1/4-20 UNC 2BX0.59 | 5/16-18 UNC 2BX0.63 | 2.56 | 4.33 |
| VB110 | F07 - F10 | 0.67 | 8.31 | 9.14 | 3.31 | 6.02 | 7.01 | 2.13 | 2.13 | 1.58 | 0.75 | 2.76 | 4.02 | 5/16-18 UNC 2BX0.75 | 3/8-16 UNC 2BX0.75 | 4.33 | 4.53 |
| VB190 | F07 - F10 | 0.67 | 8.31 | 9.14 | 3.31 | 6.02 | 7.01 | 2.13 | 2.13 | 1.58 | 0.75 | 2.76 | 4.02 | 5/16-18 UNC 2BX0.75 | 3/8-16 UNC 2BX0.75 | 4.33 | 4.53 |
| VB270 | F07 - F10 | 0.87 | 8.74 | 9.19 | 3.03 | 6.69 | 7.17 | 2.03 | 2.13 | 1.58 | 0.95 | 2.76 | 4.02 | 5/16-18 UNC 2BX0.75 | 3/8-16 UNC 2BX0.75 | 4.33 | 4.53 |
| VB350 | F07 - F10 | 0.87 | 8.74 | 9.19 | 3.03 | 6.69 | 7.17 | 2.03 | 2.13 | 1.58 | 0.95 | 2.76 | 4.02 | 5/16-18 UNC 2BX0.79 | 3/8-16 UNC 2BX0.75 | 4.33 | 4.53 |

* Upon request F04 or F07.

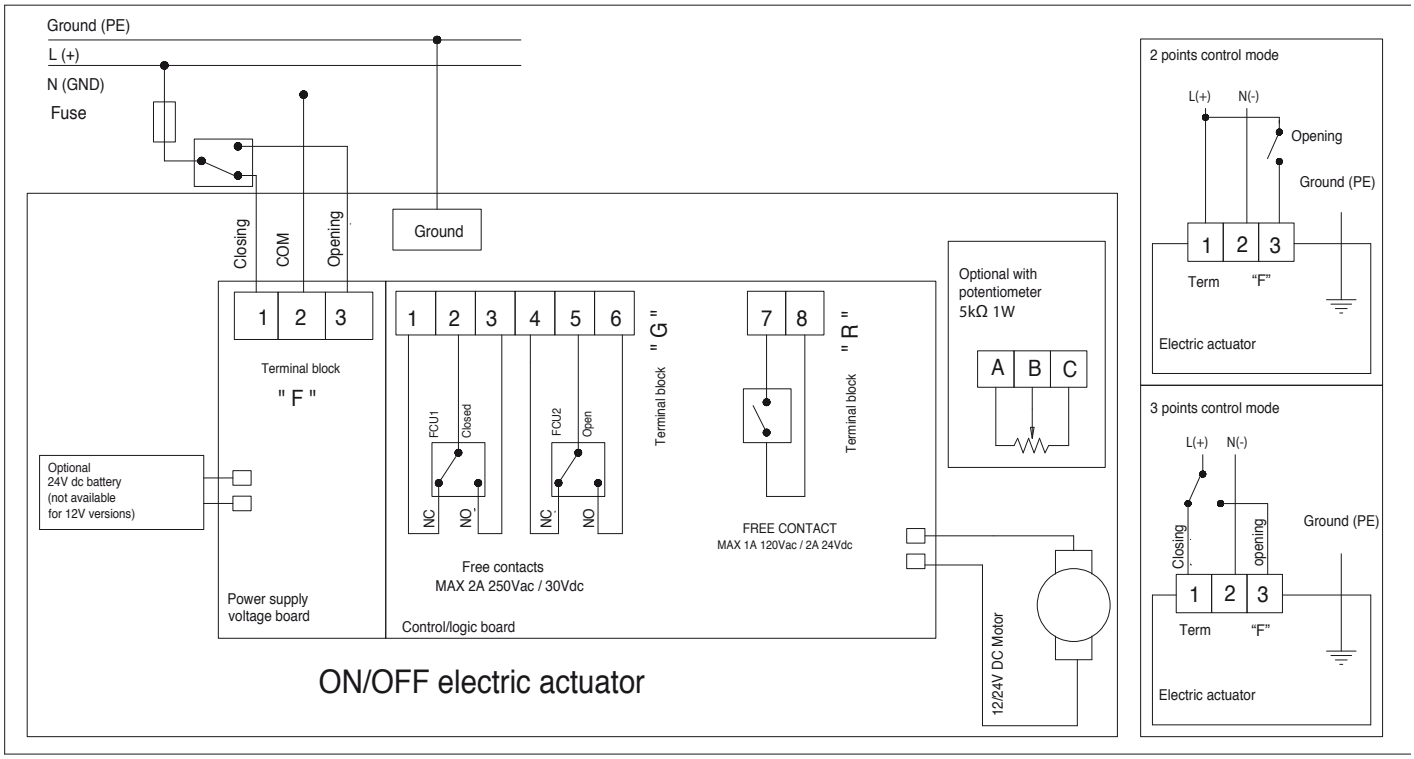
## ELECTRIC WIRING VB015 100-240V 50/60Hz




## ELECTRIC WIRING VB015 12V-24V AC/DC 50/60 Hz



## ELECTRIC WIRING FROM VB030 TO VB350 12V AC/DC 50/60 Hz, 24V AC/DC 50/60 Hz, 100-240V AC 50/60 Hz



## ELECTRIC WIRING WITH POSITIONER FROM VB030 TO VB350 12V AC/DC 50/60 Hz, 24V AC/DC 50/60 Hz, 100-240V AC 50/60 Hz