



## SPECIFICATIONS COMPARISON FOR THE PHANTOM® PREMIUM 1.5/6DOF & 1.5 HIGH FORCE/6DOF HAPTIC DEVICES



|  | PHANTOM Premium 1.5/6DOF                          |  | PHANTOM Premium 1.5 High Force/6DOF               |  |
|--|---|--|---|--|
| <b>Workspace</b>   | Translational                                     | 15 W x 10.5 H x 7.5 D inches<br>381 W x 267 H x 191 D mm | Translational                                     | 15 W x 10.5 H x 7.5 D inches<br>381 W x 267 H x 191 D mm |
|  | Rotational  |  | Rotational  |  |
|  | Yaw   | 297 degrees / 5.18 radians                               | Yaw   | 297 degrees / 5.18 radians                               |
|  | Pitch   | 260 degrees / 4.54 radians                               | Pitch   | 260 degrees / 4.54 radians                               |
|  | Roll  | 335 degrees / 5.85 radians                               | Roll  | 335 degrees / 5.85 radians                               |
| <b>Footprint</b>   | 13 W x 10 D inches / 330 W x 254 D mm             |  | 13 W x 10 D inches / 330 W x 254 D mm             |  |
| <b>Range of motion</b>   | Lower arm movement pivoting at elbow              |  | Lower arm movement pivoting at elbow              |  |
| <b>Nominal position resolution</b>   | Translational                                     | 860 dpi / 0.03mm   | Translational                                     | 3784 dpi / 0.007 mm                                      |
|  | Rotational  |  | Rotational  |  |
|  | Yaw & Pitch                                       | 0.0023 degrees<br>0.00004 radians                        | Yaw & Pitch                                       | 0.0023 degrees<br>0.00004 radians                        |
|  | Roll  | 0.0080 degrees<br>0.00014 radians                        | Roll  | 0.0080 degrees<br>0.00014 radians                        |
| <b>Backdrive friction (x, y, z)</b>  | 0.15 oz / 0.04 N                                  |  | 0.75 oz / 0.2 N                                   |  |
| <b>Maximum exertable force and torque at nominal position (orthogonal arms)</b>    | Translational                                     | 1.9 lbf / 8.5 N  | Translational                                     | 8.4lbf / 37.5N   |
|  | Rotational  |  | Rotational  |  |
|  | Yaw & Pitch                                       | 73 oz-in / 515 mNm                                       | Yaw & Pitch                                       | 73 oz-in / 515 mNm                                       |
|  | Roll  | 24 oz-in / 170 mNm                                       | Roll  | 24 oz-in / 170 mNm                                       |
| <b>Continuous exertable force and torque at nominal position (orthogonal arms)</b> | Translational                                     | 0.3 lbf / 1.4 N  | Translational                                     | 1.4 lbf / 6.2N   |
|  | Rotational  |  | Rotational  |  |
|  | Yaw & Pitch                                       | 27 oz-in / 188 mNm                                       | Yaw & Pitch                                       | 27 oz-in / 188 mNm                                       |
|  | Roll  | 7 oz-in / 48 mNm   | Roll  | 7 oz-in / 48 mNm   |
| <b>Stiffness</b>   | 20 lbf in <sup>-1</sup><br>3.5 N mm <sup>-1</sup> |  | 20 lbf in <sup>-1</sup><br>3.5 N mm <sup>-1</sup> |  |
| <b>Inertia (apparent mass at tip)</b>  | < 0.30 lbm<br>< 136 g                             |  | < 0.46 lbm<br>< 210 g                             |  |
| <b>Weight (device only)</b>  | ~ 20 lb<br>~ 9 Kg                                 |  | ~ 20 lb<br>~ 9 Kg                                 |  |
| <b>Force feedback</b>  | x, y, z, Tx, Ty, Tz                               |  | x, y, z, Tx, Ty, Tz                               |  |
| <b>Position sensing</b>  | x, y, z, roll, pitch, yaw                         |  | x, y, z, roll, pitch, yaw                         |  |
| <b>Interface</b>   | Parallel port                                     |  | Parallel port                                     |  |
| <b>Supported Platforms</b>   | Intel-based PCs                                   |  | Intel-based PCs                                   |  |
| <b>GHOST® SDK Compatibility</b>  | Yes   |  | Upon special request                              |  |
| <b>OpenHaptics™ Toolkit Compatibility</b>  | Yes   |  | Yes   |  |