

### 3 Piezo Scanner 39-48

3.1



#### Compact series

*Compact Structure, Capacitive Sensor Feedback*

41

3.1.1

#### S series, single axis, long travel range

*S100.xyz.C, S100.z.C, S300.x.C...*

43

3.1.2

#### SD series, high dynamic

*SD15.x.C, SD30.x.C...*

47

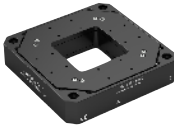
3.1.3

#### SH series, high load

*SH30.xyz.C*

48

3.2



#### Clear Aperture series

*Versatile Stage, Multi Degrees of Freedom, Capacitive Sensor Feedback*

49-64

3.2.1

#### Carrer.OB series, Objective Scanner

*Carrier.OB100.C, Carrier.OB200.C, Carrier.OB400.C .....*

51

3.2.2

#### Carrier.S series

*Carrier.S100, Carrier.S200, Carrier.S300*

55

3.2.3

#### Carrer.SL series

*Carrier.SL200*

62

3.3



#### Piezo Scanner Controller

63-64

# Carrier.OB Series

## Objective Focusing & Scanning

Travel Range up to 400  $\mu\text{m}$ , High Dynamic optional, High Load above 10 kg available, Z and XY types

|                                                                                     | Travel Range                   | Product Code       |
|-------------------------------------------------------------------------------------|--------------------------------|--------------------|
|    | 100 $\mu\text{m}$              | Carrier.OB100.C    |
|                                                                                     | 200 $\mu\text{m}$              | Carrier.OB200.C    |
|                                                                                     | 400 $\mu\text{m}$              | Carrier.OB400.C    |
|                                                                                     | 100 $\mu\text{m}$ (High Load)  | Carrier.OBHL100.C  |
|  | 200 $\times$ 200 $\mu\text{m}$ | Carrier.OB200.XY.C |

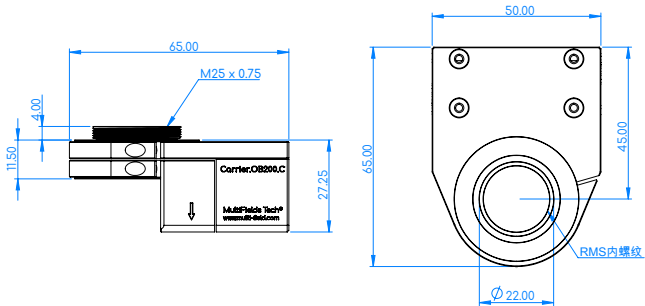
\* Non-magnetic, Ultra High Vacuum Versions available

# Objective Z Scanner — Carrier.OB.C

For Optical Microscopy

- ➔ Feature
- Piezo Stack Driving
  - Flexure Guiding
  - Sub-nanometer Resolution
  - CAP Sensor, Close-loop Control
  - Auto Focus Option

➔ Photo & Drawing



➔ Specification

|  | Carrier.OB100.C | Carrier.OB200.C | Carrier.OB400.C |
|--|-----------------|-----------------|-----------------|
|--|-----------------|-----------------|-----------------|

|    |                              |                                                                                     |           |           |
|----|------------------------------|-------------------------------------------------------------------------------------|-----------|-----------|
| 1  | Optional                     | .NM, Non-magnetic;<br>.HV, High Vacuum Version;<br>.UHV, Ultra High Vacuum Version; |           |           |
| 2  | Motion Direction             | Z                                                                                   |           |           |
| 3  | Travel Range                 | 100 μm                                                                              | 200 μm    | 400 μm    |
| 4  | Pitch/Yaw                    | ±10 μrad                                                                            | ±20 μrad  | ±30 μrad  |
| 5  | Linearity                    | 0.03%                                                                               |           |           |
| 6  | Resolution (Open-loop)       | 0.2 nm                                                                              | 0.4 nm    | 0.8 nm    |
| 7  | Resolution (Close-loop)      | 1 nm                                                                                | 3 nm      | 5 nm      |
| 8  | Repeatability                | 10 nm                                                                               |           |           |
| 9  | Sensor Type                  | Capacitive                                                                          |           |           |
| 10 | Response Time                | 15 ms                                                                               | 19 ms     | 24 ms     |
| 11 | Stiffness                    | 0.5 N/μm                                                                            | 0.35 N/μm | 0.25 N/μm |
| 12 | Resonant Frequency (no load) | 600 Hz                                                                              | 480 Hz    | 380 Hz    |
| 13 | Resonant Frequency (150 g)   | 250 Hz                                                                              | 220 Hz    | 165 Hz    |
| 14 | Mass                         | 270 g                                                                               |           | 350 g     |
| 15 | Material                     | Stainless Steel, Aluminum                                                           |           |           |
| 16 | Working Temperature          | 15 ~ 40 °C                                                                          |           |           |
| 17 | Controller                   | MC-Archimedes.N                                                                     |           |           |

\* For detail drawing and 3D model please contact us.