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TECHSPEC<sup>®</sup> 20.0mm Dia. x -50 FL, YAG-BBAR, Plano-Concave Lens



Stock **#21-317** [CONTACT US](#)

-

1

+

₹3,776

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| Volume Pricing |                               |
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| Qty 1-9        | ₹3,776 each                   |
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General

Type:

Plano-Concave Lens

Physical & Mechanical Properties

Diameter (mm):

20.00

|                           |            |
|---------------------------|------------|
| Protective as needed      | Bevel:     |
| Center Thickness CT (mm): | 3.50 ±0.10 |
| Centering (arcmin):       | <1         |
| Clear Aperture CA (mm):   | 19.00      |
| Edge Thickness ET (mm):   | 5.21       |

|                                                       |                                                                                                              |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Optical Properties                                    |                                                                                                              |
| Effective Focal Length EFL (mm):                      | -50.00                                                                                                       |
| Substrate: <input type="checkbox"/>                   | N-BK7                                                                                                        |
| f/#:                                                  | 1.5                                                                                                          |
| Numerical Aperture NA:                                | 0.20                                                                                                         |
| Coating:                                              | YAG-BBAR (500-1100nm)                                                                                        |
| Wavelength Range (nm):                                | 500 - 1100                                                                                                   |
| Back Focal Length BFL (mm):                           | -52.31                                                                                                       |
| Coating Specification:                                | R <sub>abs</sub> <0.25% @ 532nm<br>R <sub>abs</sub> <0.25% @ 1064nm<br>R <sub>avg</sub> <1.0% @ 500 - 1100nm |
| Focal Length Specification Wavelength (nm):           | 587.6                                                                                                        |
| Focal Length Tolerance (%):                           | ±1                                                                                                           |
| Radius R <sub>1</sub> (mm):                           | -25.84                                                                                                       |
| Surface Quality:                                      | 40-20                                                                                                        |
| Damage Threshold, By Design: <input type="checkbox"/> | 5 J/cm <sup>2</sup> @ 532nm, 10ns                                                                            |
| Power (P-V) @ 632.8nm:                                | 1.5λ                                                                                                         |
| Irregularity (P-V) @ 632.8nm:                         | λ/4                                                                                                          |

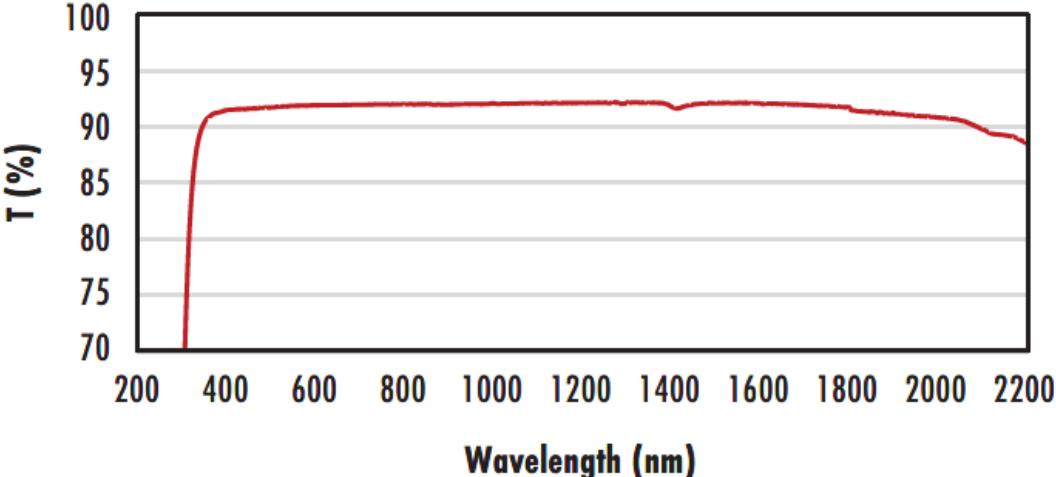
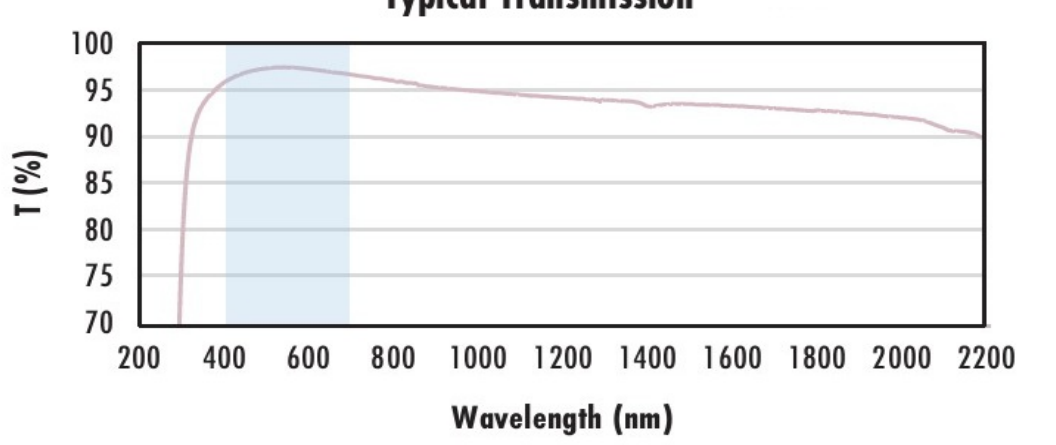
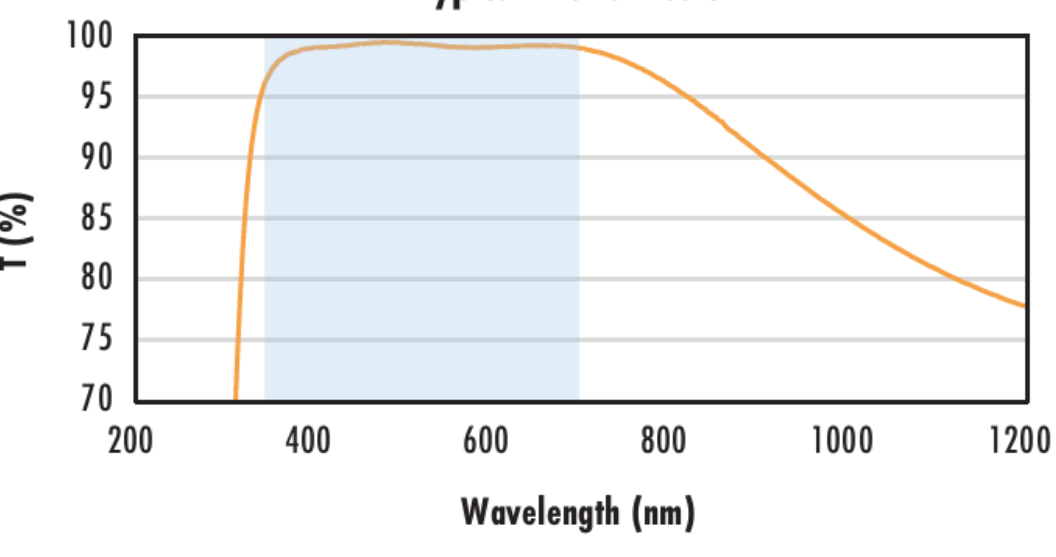
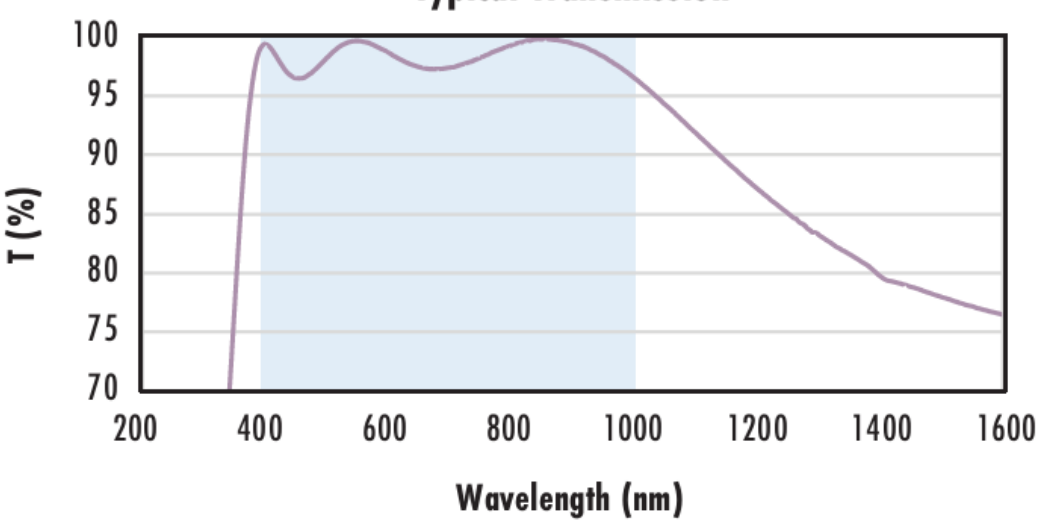
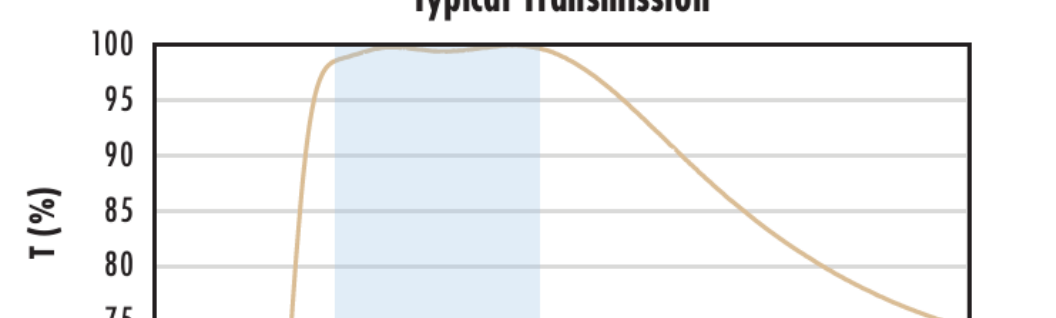
|                             |                                     |
|-----------------------------|-------------------------------------|
| Regulatory Compliance       |                                     |
| RoHS 2015:                  | Compliant                           |
| Certificate of Conformance: | View                                |
| Reach 235:                  | Compliant                           |
| Country of Origin:          | Japan                               |
| Imported By:                | Edmund Optics India Private Limited |

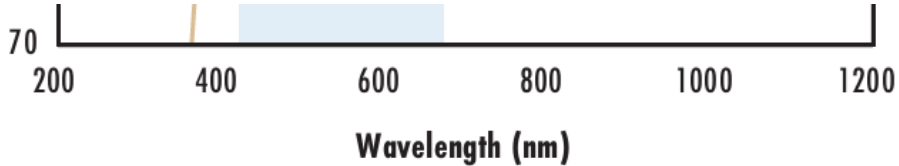
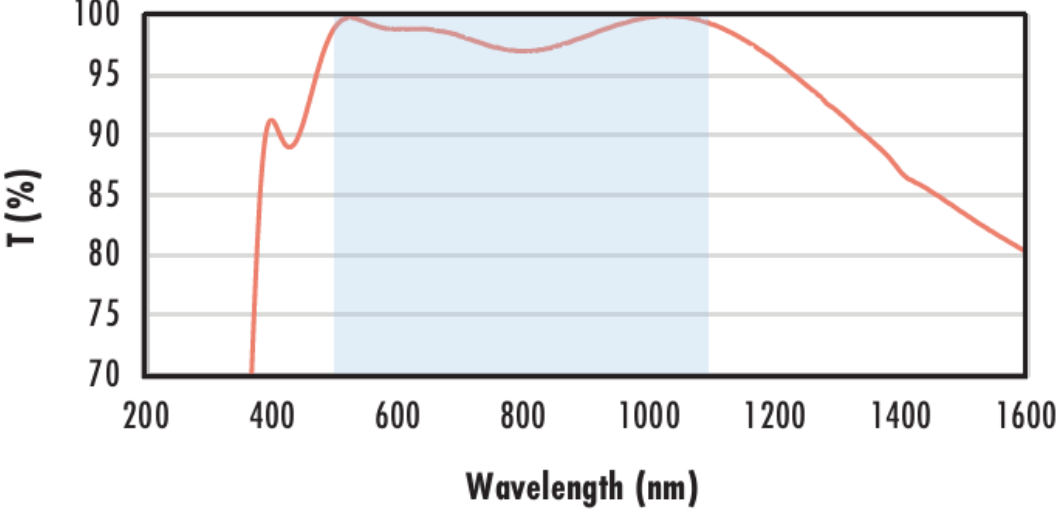
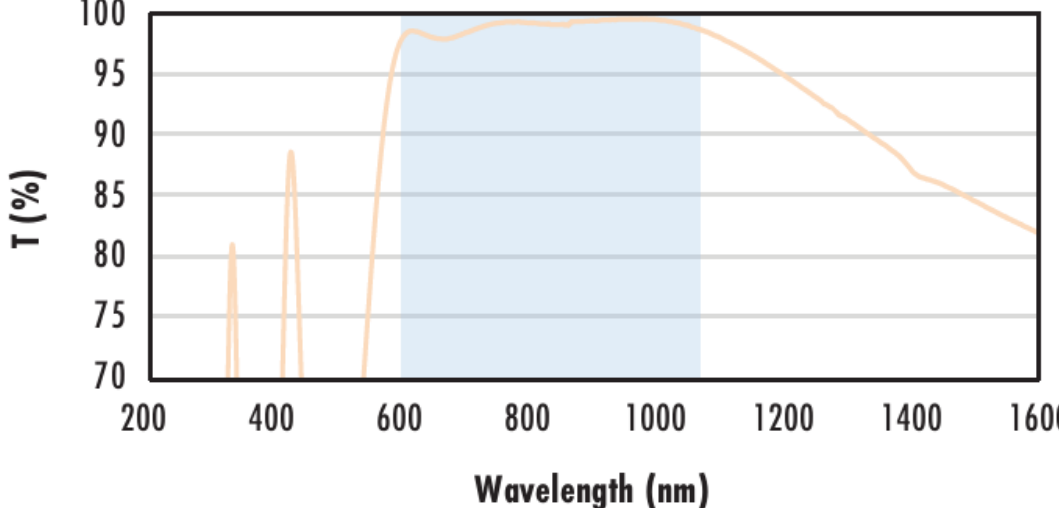
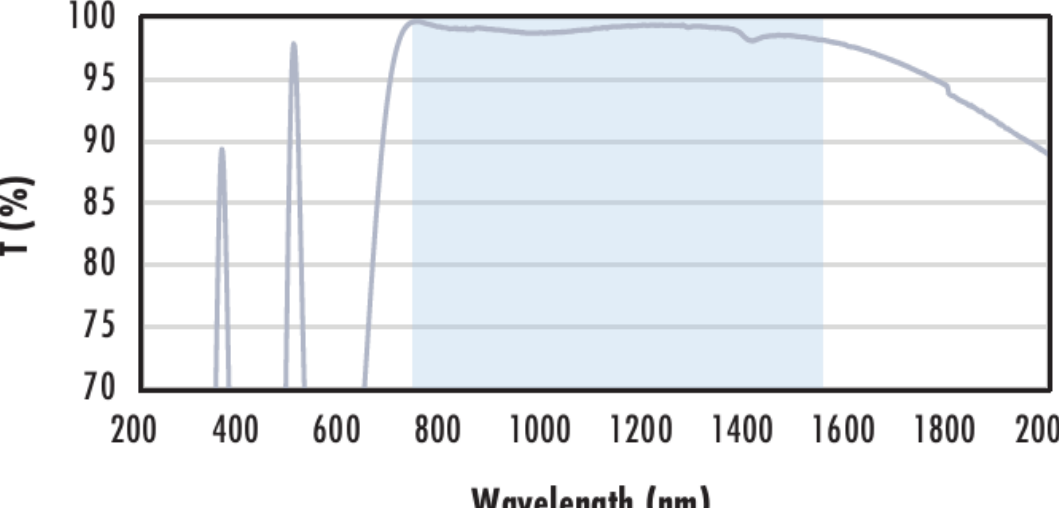
## Product Details

- Negative Focal Lengths for Beam Expansion or Light Projection Applications
- Optimized for R<0.25% at both 532nm and 1064nm
- AR Coated to Provide <1.0% Reflectance per Surface for 500 - 1100nm
- Various Coating Options: [Uncoated](#), [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [VIS-NIR](#), [NIR I](#), [NIR II](#), and [1064nm V-Coat](#)

TECHSPEC® YAG-BBAR Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC® YAG-BBAR Coated Plano-Concave (PCV) Lenses feature less than 0.25% reflection at common Nd:YAG laser wavelengths of 532nm and 1064nm. These lenses are also available [Uncoated](#), [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [VIS-NIR](#), [NIR I](#), or with [NIR II](#) AR coating options.

## Technical Information

|                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div data-bbox="262 133 1249 652"><h3>Uncoated N-BK7 Typical Transmission</h3></div>                       | <p>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV- NIR spectra.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                                                                                                                                                                                                                                                                               |
| <div data-bbox="262 727 1249 1216"><h3>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</h3></div> | <p>Typical transmission of a 3mm thick N-BK7 window with MgF2 (400-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 1.75\% @ 400 - 700\text{nm}</math> (N-BK7)</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                            |
| <div data-bbox="262 1246 1249 1855"><h3>N-BK7 with VIS-EXT Coating Typical Transmission</h3></div>       | <p>Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.5\% @ 350 - 700\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                  |
| <div data-bbox="262 1884 1249 2463"><h3>N-BK7 with VIS-NIR Coating Typical Transmission</h3></div>       | <p>Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 0.25\% @ 880\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 400 - 870\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p> |
| <div data-bbox="262 2493 1249 2878"><h3>N-BK7 with VIS 0° Coating Typical Transmission</h3></div>        | <p>Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.4\% @ 425 - 675\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                   |

|                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p data-bbox="569 278 1037 373"><b>N-BK7 with YAG-BBAR Coating</b><br/><b>Typical Transmission</b></p>    | <p data-bbox="1341 409 1839 457">Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p data-bbox="1331 471 1850 519">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1470 534 1711 608"><p><math>R_{abs} \leq 0.25\% @ 532\text{nm}</math></p><p><math>R_{abs} \leq 0.25\% @ 1064\text{nm}</math></p><p><math>R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}</math></p></div> <p data-bbox="1341 620 1839 667">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 682 1709 703"><a href="#">Click Here to Download Data</a></p>                     |
| <p data-bbox="617 905 1005 1000"><b>N-BK7 with NIR I Coating</b><br/><b>Typical Transmission</b></p>    | <p data-bbox="1341 1071 1839 1118">Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p data-bbox="1331 1133 1850 1181">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1470 1196 1711 1219"><p><math>R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}</math></p></div> <p data-bbox="1341 1234 1839 1282">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 1297 1709 1317"><a href="#">Click Here to Download Data</a></p>                                                                                                                         |
| <p data-bbox="606 1552 1016 1647"><b>N-BK7 with NIR II Coating</b><br/><b>Typical Transmission</b></p>  | <p data-bbox="1341 1676 1839 1724">Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.</p> <p data-bbox="1331 1739 1850 1786">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1470 1801 1711 1875"><p><math>R_{abs} \leq 1.5\% @ 750 - 800\text{nm}</math></p><p><math>R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}</math></p><p><math>R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}</math></p></div> <p data-bbox="1341 1911 1839 1958">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 1973 1709 1994"><a href="#">Click Here to Download Data</a></p> |

## Custom

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

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