**NATIONAL LINE™ VERTICAL FILTER SYSTEMS**

**MODEL SELECTION**

The National Line™ Vertical Filter Systems are available in sixteen (16) diameters ranging from 30” to 120”. They are available in 50 or 100 psi operating pressures with filter bed depths of 17” to 27”. This provides a wide range of filter bed surface areas from .9 sq. ft. to 78.5 sq. ft. in 42 different models.

All National Line™ Vertical Filter Systems can be used with multiple types of granular media or one (1) single grade of #20 or #30 silica sand. The NFS-Vertical filtration system with a 27” usable filter media bed depth and can be used in multi-medi configurations. NSF International, for single tank flow capacities, certifies all National Line™ Vertical Filter Systems to NSF/ANSI Standard 50 for both pool and spa applications from 24.5 to 1,570 U.S.G.P.M.

### SELECTION OPTIONS

**NFS-VERTICAL SERIES**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Tank Diameter Inches</th>
<th>Filter area Ft²</th>
<th>Filter Rate 5 to 20 USGPM/Sq. Ft.</th>
<th>Backwash Rate USGPM</th>
<th>Pipe Size Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFS-30-XXX-049V-X-X</td>
<td>30</td>
<td>4.9</td>
<td>24.5 to 98</td>
<td>73.5</td>
<td>3</td>
</tr>
<tr>
<td>NFS-34-XXX-063V-X-X</td>
<td>34</td>
<td>6.3</td>
<td>31.5 to 126</td>
<td>94.5</td>
<td>3</td>
</tr>
<tr>
<td>NFS-42-XXX-069V-X-X</td>
<td>42</td>
<td>9.6</td>
<td>48 to 192</td>
<td>144</td>
<td>3</td>
</tr>
<tr>
<td>NFS-48-XXX-126V-X-X</td>
<td>48</td>
<td>12.6</td>
<td>63 to 252</td>
<td>189</td>
<td>3</td>
</tr>
<tr>
<td>NFS-54-XXX-159V-X-X</td>
<td>54</td>
<td>15.9</td>
<td>79.5 to 318</td>
<td>238.5</td>
<td>4</td>
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<tr>
<td>NFS-60-XXX-196V-X-X</td>
<td>60</td>
<td>19.6</td>
<td>98 to 392</td>
<td>394</td>
<td>4</td>
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<td>NFS-66-XXX-237V-X-X</td>
<td>66</td>
<td>23.7</td>
<td>118.5 to 474</td>
<td>555.5</td>
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<tr>
<td>NFS-72-XXX-283V-X-X</td>
<td>72</td>
<td>28.3</td>
<td>141 to 564</td>
<td>623</td>
<td>6</td>
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<tr>
<td>NFS-78-XXX-332V-X-X</td>
<td>78</td>
<td>33.2</td>
<td>166 to 664</td>
<td>498</td>
<td>6</td>
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<tr>
<td>NFS-84-XXX-385V-X-X</td>
<td>84</td>
<td>38.2</td>
<td>192.5 to 770</td>
<td>577.5</td>
<td>6</td>
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<tr>
<td>NFS-90-XXX-442V-X-X</td>
<td>90</td>
<td>44.2</td>
<td>221 to 884</td>
<td>663</td>
<td>6</td>
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<tr>
<td>NFS-96-XXX-502V-X-X</td>
<td>96</td>
<td>50.2</td>
<td>251 to 1,004</td>
<td>753</td>
<td>6</td>
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<tr>
<td>NFS-102-XXX-567V-X-X</td>
<td>102</td>
<td>56.7</td>
<td>283.5 to 1,134</td>
<td>850.5</td>
<td>8</td>
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<tr>
<td>NFS-108-XXX-635V-X-X</td>
<td>108</td>
<td>63.5</td>
<td>317.5 to 1,270</td>
<td>925.2</td>
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<td>NFS-114-XXX-708V-X-X</td>
<td>114</td>
<td>70.8</td>
<td>354 to 1,416</td>
<td>1,062</td>
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<td>NFS-120-XXX-785V-X-X</td>
<td>120</td>
<td>78.5</td>
<td>392.5 to 1,370</td>
<td>1,177.5</td>
<td>8</td>
</tr>
</tbody>
</table>

**Note:**

- **NFS-XXX-XXX-XXX-XXX Version Options:** When ordering filters, the NFS-XXX-XXX-XXX-XXX shown in the model number should be replaced with 50 or 50 psi operating pressure, 100 = 100 psi operating pressure.
- **NFS-XXX-XXX-XXX-XXX Version Options:** When ordering filters, the NFS-XXX-XXX-XXX-XXX shown in the model number should be replaced with S for 17” filter bed depth, D for 27” filter bed depth.
- **NFS-XXX-XXX-XXX-XXX Version Options:** indicates number of filters operating simultaneously in a bank of filters.
- **Filter Media and Pumping Equipment:** NOT included with the filter tank.
- **Certifications:** National Line™ NFS-Series Vertical Filters are certified by NSF International to NSF / ANSI Standard 50 for:
  - Pool and Spa applications
  - Filtration rates of 5 to 20 U.S. G.P.M. / Ft² of filter area
  - For use with #20 grade silica sand or Zeolite® media
  - Fresh water, salt water applications
- **Operating valves and connecting piping are individually listed under Valves or Materials and Components in ANSI/NSF Standard 50 and meet or exceed the testing protocol established for the filter tank.

**ENGINEERING NOTES:** All National Line™ NFS Filter Systems will have varying head loss that is dependent upon filter media and operational flow rate. Filters should be backwashed when 15 to 20% of G.P.M. is required to re-open the filter and return to filtration. When sizing the main circulation pump, calculate maximum head loss at 15 to 20% PSI through the filter and return lines.

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**March 10**

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**NATIONAL FILTERS VERTICAL SERIES**

**Features:**

- Corrosion resistant FRP construction
- NSF approved
- High gloss gel-coat finish with UV protection
- NSF Certified for use in Pool or Spa/Hot Tub
- Available in 16 diameters and 42 different models.
NATIONAL LINE™ SERIES FILTER SYSTEMS

Nemato National Line™ Vertical Filter Systems are constructed of Fiberglass Reinforced Isophthalic or Vinylster Resin (F.R.P.) and manufactured to ASTM and ASME tank standards using molded surfaces for all critical dimensions. The tanks are totally non-corrosive and have a high gloss gel-coat finish with UV protection. The filter systems are designed for working pressures of 50 PSIG or 100 PSIG with a minimum 6 to 1 safety factor.

The National Line™ Vertical Filter Systems are shipped with all internal components and media dump port in a fully assembled state. All National Line™ filter designs come with uniquely placed integrally molded flanged influent/effluent connections, 12” x 16” integrally molded manhole seat with internally mounted F.R.P. or F.R.P./Clear Acrylic cover, integrally molded F.R.P. saddle support and molded pressure gauge panel with two (2) panel mount gauges.

NATIONAL LINE™ VERTICAL FILTER SYSTEMS

Integrally molded influent/effluent Connections.

12” x 16” F.R.P. manhole cover with equal F.R.P. ring seal, integrally molded, internally mounted to effect a pressure assisted seal.

Nemato F.R.P. Filter tanks are manufactured to ASTM and ASME tank standards using molded surfaces for all critical dimensions. The tanks have a high gloss gel-coat finish and UV Protection.

Combination media dump port and drain.

NATIONAL LINE™ VERTICAL FILTER SYSTEMS

Hydraulically Engineered ABS Distribution Lenses
- Strategically Placed to Assure Flat Uniform Media Bed
- Prevents Turbulence, Media Migration and Channeling Area
- Provides Broad Range of Flow Rates (5 to 20 GPM/’’ of Filter

Proprietary ABS Laterals
- Retains Multiple Types of Granular Filter media or Single Grade of #26 or #30 Silica Sand
- Strategically Placed to Produce Minimum Head Loss
- Self-Cleaning due to Molded V Slot
- Promotes Thorough Media Cleansing
- Balanced Fluidization of Media during Backwash

NATIONAL LINE™ VERTICAL FILTER SYSTEMS

BED DEPTHS

Two Filter Bed Depth Options
- Low Profile S Model single grade media filter bed configuration
- 17” Bed Depth
- Tall Profile D Model single grade or multi filter bed configuration
- 27” Bed Depth

NATIONAL LINE™ CONNECTING PIPING KITS

Quick and easy to install for both floor mounted and stacked filtration systems.
- Modular in design eliminating dimensional stack-up
- Minimal floor space accommodates future expansion
- Available in both grooved or flanged connections

Suitable for operational flows up to 11,274 U.S.G.P.M. with flow velocities of 8 ft. per second or less.
- Influent/ Effluent headers range in size from 3” to 24”
- Waste piping sized for single filter tank backwash requirements

Ensures minimal head loss and balanced flow in single to eight tank systems

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