About the IPEX Group of Companies

As leading suppliers of thermoplastic piping systems, the IPEX Group of Companies provides our customers with some of the world’s largest and most comprehensive product lines. All IPEX products are backed by more than 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers across North America, we have established a reputation for product innovation, quality, end-user focus and performance.

Markets served by IPEX group products are:

- Electrical systems
- Telecommunications and utility piping systems
- PVC, CPVC, PP, ABS, FR-PVDF, PEX and PE pipe and fittings (1/4" to 48")
- Industrial process piping systems
- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
- PE Electrofusion systems for gas and water
- Industrial, plumbing and electrical cements
- Irrigation systems

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To determine the type and quantity of MONOBLOC spacers required, you need to know:

- Duct size
- Minimum required spacing between the ducts in the duct bank as specified by the engineer or project manager
- Duct bank configuration
- Duct spacing configuration. IPEX recommends every five to seven feet, closer for larger duct banks and larger sizes of ducts
- Overall length of the duct bank

For example:

- 4-inch duct
- 2-inch spacing between ducts specified by engineer
- Duct bank configuration – 4 wide by 3 high
- Length of duct bank - 500 feet

Determine the type of MONOBLOC spacer required

Based on this example, the MONOBLOC spacer required is:

<table>
<thead>
<tr>
<th>4 x 2 x 2 x 2</th>
<th>4-Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Duct</td>
<td>Vertical Spacing</td>
</tr>
<tr>
<td>(inches)</td>
<td>(inches)</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

*Ground clearance is a characteristic of the specific spacer selected. Consult the MONOBLOC price list for details.

Calculating the number of MONOBLOC spacers required

1. Count the number of MONOBLOC spacer rows (Three-high in this example)
2. Multiply the number of rows by the overall length of the duct bank divided by the spacing separation distance
3. For example: 3 x (500 / 5') = 300 spacers (4x2x2x4)

- Overall length of duct bank / 5’

MONOBLOC

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A policy of ongoing product improvement is maintained. This may result in modifications of features and/or specifications without notice.

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For fast, easy, economical installation of underground duct banks

- Widest range of spacers available
- Quick, simple installations
- Lowest cost duct spacer system available

Visit us at www.ipexelectrical.com
MONOBLOC Spacers – The ideal solution for underground duct bank installation

- 29 strong, lightweight spacer configurations
- Re-bar holder slot simplifies installation of re-bar
- Concrete-saving base spacer - 4x3x3x3

The fast, easy, low-cost solution for underground electrical and telecommunications duct installations is now even better.

You can choose from 29 different configurations, so the right MONOBLOC spacer is available for virtually any duct installation job.

Unique base spacer saves concrete

You can lower both material and labour costs with the 4x3x3x3 MONOBLOC base spacer. By reducing concrete requirements one inch in duct bank encasements, this base spacer can save four cubic yards of concrete in a 500-foot long, 30-inch wide duct bank.

Re-bar innovation

Reinforcing re-bar slots have been incorporated into 12 of the 29 MONOBLOC spacers. These provide better alignment and more uniform distribution of re-bar in a duct bank, making duct bank installation even faster and easier.

### 29 Configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Ways</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot; X 1¼&quot; X 1¼&quot; X 3&quot;</td>
<td>(2 way)</td>
</tr>
<tr>
<td>3&quot; X 1¼&quot; X 1¼&quot; X 3&quot;</td>
<td>(2 way)</td>
</tr>
<tr>
<td>3½&quot; X 1&quot; X 1&quot; X 2&quot;</td>
<td>(2, 3, &amp; 4 way)</td>
</tr>
<tr>
<td>4&quot; X 1&quot; X 1&quot; X 2&quot;</td>
<td>(1, 2, 3, &amp; 4 way)</td>
</tr>
<tr>
<td>4&quot; X 1¼&quot; X 1¼&quot; X 3&quot;</td>
<td>(2, 3, &amp; 4 way)</td>
</tr>
<tr>
<td>4&quot; X 2&quot; X 2&quot; X 3&quot;</td>
<td>(1, 2, 3 &amp; 4 way)</td>
</tr>
<tr>
<td>4&quot; X 3&quot; X 3&quot; X 3&quot;</td>
<td>(2, 3 &amp; 4 way)</td>
</tr>
<tr>
<td>4&quot; X 3&quot; X 3&quot; X 4&quot;</td>
<td>(2, 3 &amp; 4 way)</td>
</tr>
<tr>
<td>4½&quot; X 2&quot; X 2&quot; X 3&quot;</td>
<td>(1, 2, &amp; 3 way)</td>
</tr>
<tr>
<td>5&quot; X 1¼&quot; X 2½&quot; X 3½&quot;</td>
<td>(1 way)</td>
</tr>
<tr>
<td>5&quot; X 1½&quot; X 1½&quot; X 3&quot;</td>
<td>(2, 3, &amp; 4 way)</td>
</tr>
</tbody>
</table>

*consult the IPEX Monobloc price list for product codes and pricing
The low-cost, high-performance answer

Developed by IPEX, a world leader in piping systems, MONOBLOC spacers are easier to handle, faster to install and cost significantly less than conventional vertical interlocking or concrete spacers. Because MONOBLOC spacers do not vertically interlock, the spacers can be offset from row to row, creating a more stable duct bank using fewer spacers.

In addition to the significant savings in material costs, labour costs are also dramatically reduced by eliminating assembly time needed for interlocking spacers. MONOBLOC spacers are supplied as one-piece units and are very simply installed.

MONOBLOC spacers are also 10 times lighter than concrete spacers which makes them easier to work with, reducing labour costs even more.

Use fewer spacers

A typical duct bank installation can be completed with two-thirds fewer spacers using MONOBLOC. For example, only 300 one-piece MONOBLOC spacers are needed for a 500-foot long bank of four-inch duct, 4 wide by 3 high. A total of 1,200 spacers (base and intermediate) would be required for the same installation if interlocking spacers were used – a 60 per cent savings in material costs alone.

Innovative design

Twenty-six of the 29 different MONOBLOC spacers can be used interchangeably as either a base or intermediate unit.

Time-consuming calculations involved in determining base and intermediate requirements for interlocking spacers are eliminated. It becomes easy to ensure that the right number of spacers are available at the job site so that work proceeds smoothly.

The ingenious design adapts to the inherent irregularities and contours of a trench with a wide support surface to ensure even load distribution.

Plus, because MONOBLOC spacers fit the duct pipe and not each other, there is no concern about possible conflicts between interlocking methods.

Tough and resilient

Made of resilient, high-density polyethylene, MONOBLOC spacers easily withstand inclement weather and severe conditions normally found on a construction site. Losses caused by breakage are virtually eliminated. MONOBLOC spacers are resilient at extremely low temperatures. Tough and flexible, MONOBLOC spacers are immune to corrosion, rust, mildew and humidity.

Specify MONOBLOC Underground Duct Spacers

Lightweight, durable and easy-to-install. Choosing MONOBLOC over conventional spacers will significantly reduce the cost of your next underground electrical and telecommunications duct installation. Specify MONOBLOC!

Maximum flexibility

Different sized MONOBLOC spacers can be easily grouped to create the required width of duct bank.

For example, two 2-way spacers can be used in combination to create one 4-way spacer. A 6-way duct bank can be created using one 2-way spacer and one 4-way spacer or two 3-way spacers.

Pouring concrete

Ensure the duct bank is stable and secure before pouring concrete. Secure by looping the entire duct bank with tie wire or by securing the ducts to the spacers and reinforcing bars, if used.

Avoid “harsh pours” of concrete directly on the duct bank assembly. Use a diverting mechanism during the pour to ensure the duct bank assembly is not disturbed.
To determine the type and quantity of MONOBLOC spacers required, you need to know:

- Duct size
- Minimum required spacing between the ducts in the duct bank as specified by the engineer or project manager
- Duct bank configuration
- Duct spacer spacing: IPEX recommends every five to seven feet, closer for larger duct banks and larger sizes of ducts
- Overall length of the duct bank

For example:

- 4-inch duct
- 2-inch spacing between ducts specified by engineer
- Duct bank configuration – 4 wide by 3 high
- Spacer Separation – 5 feet
- Length of duct bank – 500 feet

### Determine the type of MONOBLOC spacer required

Based on this example, the MONOBLOC spacer required is:

### Calculating the number of MONOBLOC spacers required

1. Count the number of MONOBLOC spacer rows (Three-high in this example)
2. Multiply the number of rows by the overall length of the duct bank divided by the spacing separation distance
3. For example: $3 \times \frac{500'}{5'} = 300$ spacers ($4 \times 2 \times 2 \times 4$)

<table>
<thead>
<tr>
<th>Size of Duct (inches)</th>
<th>Vertical Spacing (inches)</th>
<th>Horizontal Spacing (inches)</th>
<th>Ground Clearance (inches)</th>
<th>Number of Ways</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>x</td>
<td>2 x</td>
<td>2 x</td>
<td>3*</td>
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Re-analyzing re-bar spacing

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<th>Horizontal Spacing (inches)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2</td>
<td>2</td>
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