Precast Manholes
Circular Manholes / Vertical Structures

Use
Precast circular concrete manhole structures are used in sanitary sewer and storm drain systems for access, observation and junctions, as well as for pump stations, wet wells, stormwater management structures, and impoundment overflow structures.

Sizes
Precast circular manholes are normally available in diameters of 48 inch through 144 inch.

Application
Precast circular manhole structures can be used for the following:
- access to the system for maintenance
- observation points
- changes in pipe size
- changes in pipe shape
- changes in direction of pipe
- junctions for multiple pipes
- sanitary or stormwater pump stations
- stormwater management or best-management-practice structures
- overflow structures for ponds

Precast circular manhole structures can be provided with the following features:
- protective linings
- flexible pipe-to-manhole connections
- custom openings
- custom tops

Joints
The following joints may be available for precast circular manhole structures:
- pre-formed mastic or butyl gasket
- off-set rubber gasket
- confined o-ring rubber gasket

Uses Applicable Specifications
The following specifications apply to precast circular manholes:
- ASTM C478 / AASHTO M199 - Precast Reinforced Concrete Manhole Sections
- ASTM C443 - Joints for Circular Concrete Sewer and Culvert Pipe Using Rubber Gaskets
- ASTM C990 - Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
- ASTM C923 - Resilient Connections Between Reinforced Concrete Manhole Structures and Pipes
Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

48" Diameter Manhole
**Notes**

1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

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**60" Diameter Manhole**
Isometric View

Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

72" Diameter Manhole

20170308TED03
Isometric View

Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.
Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

96" Diameter Manhole
Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

Isometric View

108" Diameter Manhole
Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

Isometric View

120" Diameter Manhole
Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

126" Diameter Manhole
Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

Isometric View

144" Diameter Manhole
Circular Manholes/Vertical Structures

Frame & Cover

Adjustment Ring

Flattop

Eccentric Cone

Flattop

Riser

Intermediate Landing

Base

Extended Base

48"Ø Components

No Base or Dog House

Base

Extended Base

 Intermediate Landing

60", 72", 84", 96", 108", 120", 126" & 144" Ø Components

Isometric View

Precast Manhole Assembly Diagram

20170308TED13
### Manhole sizes available from Ashland, VA facility

<table>
<thead>
<tr>
<th>Inside Diameter</th>
<th>Wall Thickness</th>
<th>Floor Thickness</th>
<th>Flat-Top Thickness</th>
<th>Regular Base Thickness</th>
<th>Extended Base Thickness</th>
<th>Joint Height</th>
<th>Available Joint Types</th>
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<td>6&quot; or 8&quot;</td>
<td>2 3/4&quot;</td>
<td>G, M, S/O</td>
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* Joint types: G=Grouted, M=Mastic (ASTM C990), S/O=Single Offset (ASTM C443)

### Manhole sizes available from Salem, VA facility

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<th>Floor Thickness</th>
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* Joint types: G=Grouted, M=Mastic (ASTM C990), S/O=Single Offset (ASTM C443)

### Manhole sizes available from Harisonburg, VA facility

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* Joint types: G=Grouted, M=Mastic (ASTM C990), S/O=Single Offset (ASTM C443)

### Manhole sizes available from Martinsburg, WV facility

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<th>Inside Diameter</th>
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* Joint types: G=Grouted, M=Mastic (ASTM C990), S/O=Single Offset (ASTM C443)
### Manhole sizes available from Dunn, NC facility

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<th>Inside Diameter</th>
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<th>Floor Thickness</th>
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</table>

* Joint types: G=Grouted, M=Mastic (ASTM C990)

### Manhole sizes available from Summerville, SC facility

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<th>Inside Diameter</th>
<th>Wall Thickness</th>
<th>Floor Thickness</th>
<th>Flat-Top Thickness</th>
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* Joint types: G=Grouted, M=Mastic (ASTM C990)

### Manhole sizes available from Rincon, GA facility

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<th>Inside Diameter</th>
<th>Wall Thickness</th>
<th>Floor Thickness</th>
<th>Flat-Top Thickness</th>
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<td>G, M</td>
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* Joint types: G=Grouted, M=Mastic (ASTM C990)
### (Bell Up) Manhole sizes available from Martinsburg, WV facility

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</table>
Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.

Isometric View
Notes
1) Manhole sections conform to ASTM C478.
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Notes
1) Manhole sections conform to ASTM C478.
2) See joint details for joint sealant options.
3) Steps may be provided, see step detail sheet.
4) Pipe openings provided, as required.
Notes
1) Step design, installation, and material shall meet the requirements of ASTM C478.
2) Plastic material consists of super high impact resistant copolymer polypropylene plastic and conform to specific requirements as detailed in ASTM D4101.
3) Reinforcing steel shall be 1/2" rebar, Grade 60 and meet the requirements of ASTM A615.
4) Step width and spacing are consistant with the latest requirements of OSHA.
5) Manufacturer’s literature available upon request.

Typical Manhole Step Detail
Single Offset Joint Detail
Isometric View

Manhole Inside Diameter

Joint Sealant conforming to ASTM C990 or approved equal
Manhole Inside Diameter

Rubber Gasket Meeting
ASTM C443

Isometric View
Isometric View

Notes
1) Pipe connection detail used shall be consistent with the specific job requirements as well as the pipe size, type and the structure to be used.
2) Flexible connectors shall meet the requirements of ASTM C923 specifications for Resilient Connectors Between Reinforced Concrete Manhole Structures.
3) Expansion bands, see literature.
4) Manufacturer's Literature available upon request.
Isometric View

Notes
1) Pipe connection detail used shall be consistent with the specific job requirements as well as the pipe size, type and the structure to be used.
2) Flexible connectors shall meet the requirements of ASTM C923 specifications for Resilient Connectors Between Reinforced Concrete Manhole Structures.
3) Manufacture's Literature available upon request.
Notes
1) Pipe connection detail used shall be consistent with the specific job requirements as well as the pipe size, type and the structure to be used.
2) Rigid connections shall be made on site by the contractor and meet project requirements for mortar joint connections.
We are committed to making Concrete Pipe & Precast the preferred supplier for our customers by delivering outstanding value, continuous innovation, and exceptional customer experience by consistently fulfilling our promise:

“Not Just Concrete, Concrete Solutions”