Connect with the Next Generation.
Philmac is well renowned for quality products and services. Philmac manufactures pipe fittings and valves under a Quality Assurance System assessed and approved to ISO 9001. Philmac has a NATA accredited laboratory and tests fittings and valves to international and national standards. Third party accreditation is carried out by SAI Global.
INTRODUCING THE 3G™ RANGE OF COMPRESSION FITTINGS.

HARCO Fittings is a distributor of Philmac 3G™ fittings for the United States. Philmac is a global leader in the design and manufacture of plastic compression fittings that provide the ultimate in pipe connection flexibility. Australia-based Philmac was founded in 1929 and became part of the Alaxis Group in Belgium in 2003.

3G™ is not just the new generation of PE pipe fittings – it is the next generation. The culmination of years of exhaustive research and development, utilization of cutting-edge manufacturing technology, and stringent testing, this new range of premium products represents Philmac’s most exciting generation of plastic compression fittings.

Incorporating cutting edge technology, Philmac 3G™ fittings are easy to use and provide 230psi rated performance across the range. Importantly, all Philmac 3G™ fittings have been manufactured from high performance, advanced thermoplastic materials so they are resistant to corrosion and have the strength and durability to provide a 50+ year service life.

With the 3G™ range, the Philmac fitting line serves a common platform of fittings for all PE pipe applications in the North American market.

And the entire range of 3G™ fittings is fully approved for potable water, meeting NSF and CSA standards.

HARCO Fittings was founded in 1966 and is based in Lynchburg, Virginia with company warehouses in Winter Haven, Florida; Dallas, Texas; and Phoenix, Arizona. HARCO has developed next generation fittings including first compact DI MJ fittings, and the first injection molded gasketed PVC fittings in the USA for IPS size PVC water pipe, SDR 35 PVC sewer pipe, and C900 PVC water pipe. HARCO has developed numerous pipe fitting and valve innovations for the irrigation industry including swivel connection systems, knuckle restraints, clamshell restraints, and a line of DI isolation valves.
The Philmac 3G™ range of compression fittings is CSA and NSF approved for potable water use.

**High performance**
- Made from advanced thermoplastic materials: 3G™ ID Series compression fittings are manufactured from lightweight high performance thermoplastic materials which, unlike metal fittings, resist corrosion, therefore significantly minimizing maintenance, repairs, and long-term costs. The materials are non-toxic and taint-free and also offer outstanding impact, UV, and chemical resistance.
- Rated to 230psi: 3G™ compression fittings are pressure rated to 230psi to meet the needs of high pressure systems.
- 50 year+ design life: Built to withstand the toughest conditions to ensure longevity and durability, 3G™ compression fittings have a 50 year+ design life.

**Complete coverage**
- Wide range: The new 3G™ compression fitting range is comprehensive and includes straight and reducing joiners, tees, elbows, male and female adaptors and caps ranging from ½” to 2”.

**APPROVALS**

The Philmac 3G™ range of compression fittings is CSA and NSF approved for potable water use.

**CAUTION:** Philmac does not recommend or warrant the use of 3G™ Compression Fittings “inside the building” or for “hot water” applications.

[Image of CSA and NSF approvals]

[Image of 3G™ compression fittings]

[Image of Certificate of Compliance]

[Image of Philmac website logo]

[Image of Harco fittings logo]
Philmac products are used in diverse applications, from rural well systems, cottage pumps, municipal water applications, irrigation water supply, and plumbing.
CTS & IPS OD

3G™ compression fittings are not just the new generation of pipe fittings for CTS, IPS OD PE and PEX Pipes – they are the next generation. The culmination of years of exhaustive research and development, utilisation of cutting-edge manufacturing technology and stringent testing, this new range of premium products represents Philmac’s most exciting generation of plastic compression fittings.

Featuring Philmac’s unique Slide & Tighten™ technology, 3G™ compression fittings for CTS and IPS OD PE Pipes makes installation easy – no insert is required and no force is needed to push the pipe in. And a visual stop reduces the risk of overtightening.

The 3G™ range of plastic compression fittings are the product of Philmac’s unrelenting commitment to continuous improvement and a culture based on innovation and ingenuity.

3G™ BENEFITS

Fast and easy installation
• Slide & Tighten™ technology: 3G™ compression fittings incorporate all the benefits of Philmac’s unique Slide & Tighten™ technology. No pipe preparation is needed and no force is required to push the pipe past the seal, so installation couldn’t be faster or easier. Simply insert the pipe into the fitting until the first point of resistance is felt, and then tighten the nut. Assembly is so easy you can even do it under live conditions. Also, there is no need to disassemble the fitting before use because 3G™ compression fittings are supplied pre-assembled and ready to use.

• Compact design: The size of the new Philmac 3G™ compression fitting has been kept to a minimum, making the fitting ideal to use in confined areas. In addition to making connections with minimal turns of the nut, the design and size of the fittings means that in installations taking place between two fixed points, the manipulation of the pipe into the fitting becomes easy.

• Easy disassembly: The fitting has been designed so the split collet is released as soon as the nut is backed off, making disassembly easy.

Complete security
• Visual stop: The flange on the body of the 3G™ compression fitting provides a visual stop to indicate when the nut is fully tightened. This removes any uncertainty from the installation process and eliminates the risk of over-tightening.

• No loose components: If the nut is removed there is no danger of losing components, as the collet and seal ring are retained in the body of the fitting. Losing components in the trench becomes a thing of the past.

• Dynamic sealing method: The mechanical advantage of the nut thread compresses the seal into position, eliminating resistance when inserting the pipe into the fitting so there is no risk of seal distortion or displacement.

• Designed to minimize pipe twist: The fitting has been designed to minimize pipe twist as the nut is tightened. Maximum pipe twist is approximately a quarter turn compared to one and a half turns with many other fittings. Pipe twist can impact on not only the connection you have just made but also on the connection at the other end of the line.

Complete coverage
• Wide range: The new 3G™ compression fittings range is comprehensive: straight and reducing joiners, tees, elbows, male and female adaptors and caps ranging from 3/4” to 2”.

• Copper connection kits: Philmac’s all new carborundum gripper design has been introduced into the 3G™ copper connection kit. With no steel components in the gripping mechanism, there is absolutely no risk of electrolysis.

CAUTION: Philmac does not recommend or warrant the use of 3G™ Compression Fittings “inside the building” or for “hot water” applications.
**HOW IT WORKS**

**FULLY OPEN**

- Fitting is pre-assembled ready to use in the open position with 2 threads showing.
- Clearance between the pipe and fitting allows for easy insertion of the pipe.
- Split collet, which is in relaxed position.
- Seal, which is in relaxed position.
- The pipe sits against the tapered wedges which minimizes pipe rotation.

**FULLY CLOSED**

- Split collet bites into the pipe providing end load resistance.
- Positive internal stop when nut meets flange of the body.
- Nut and then split collet has fully compressed the seal. Seal ring compression is achieved by exploiting the mechanical advantage of the nut thread.
**KITEC XPA**

3G™ Kitec XPA compression fittings are not just the new generation of PE pipe fittings for Kitec XPA pipes – they are the next generation.

Featuring Philmac’s unique Slide & Tighten™ technology, 3G™ Kitec XPA compression fittings make installation easy – no insert is required and no force is needed to push the pipe in. And with an internal seal cap, the fitting provides complete security and protection against corrosion of the Kitec XPA pipe.

The 3G™ Kitec XPA range of plastic compression fittings are the product of Philmac’s unrelenting commitment to continuous improvement and a culture based on innovation and ingenuity.

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**3G™ BENEFITS**

**Fast and easy installation**
- **Slide & Tighten™ technology**: 3G™ Kitec XPA compression fittings incorporate all the benefits of Philmac’s unique Slide & Tighten™ technology. No force is required to push the pipe into the seal, so installation couldn’t be faster or easier. Simply re-round the pipe, insert it into the fitting until the first point of resistance is felt, and then tighten the nut. Assembly is so easy you can even do it under live conditions. Also there is no need to disassemble the fitting before use because the 3G™ Kitec XPA compression fittings are supplied pre-assembled and ready to use.

- **Compact design**: The size of the new Philmac 3G™ Kitec XPA compression fitting has been kept to a minimum, making the fitting ideal to use in confined areas. In addition to making connections with minimal turns of the nut, the design and size of the fitting means that in installations taking place between two fixed points, the manipulation of the pipe into the fitting becomes easy.

- **Easy disassembly**: The fitting has been designed so the split collet is released as soon as the nut is backed off, making disassembly easy.

**Complete security**
- **Internal seal cap**: Philmac 3G™ Kitec XPA compression fittings come with a unique internal seal cap. This acts to not only provide superior sealing performance, but also to protect the cut end of the Kitec XPA pipe from exposure to water and therefore corrosion.

- **Visual stop**: The flange on the body of the 3G™ Kitec XPA compression fitting provides a visual stop to indicate when the nut is fully tightened. This removes any uncertainty from the installation process and eliminates the risk of over-tightening.

- **No loose components**: If the nut is removed there is no danger of losing components, as the collet and seal ring are retained in the body of the fitting. Losing components in the trench becomes a thing of the past.

- **Designed to minimize pipe twist**: The fitting has been designed to minimize pipe twist as the nut is tightened. Maximum pipe twist is approximately a half turn compared to one and a half turns with many other fittings. Pipe twist can impact on not only the connection you have just made but also on the connection at the other end of the line.

**Complete coverage**
- **Wide range**: The new 3G™ Kitec XPA compression fittings range is comprehensive: straight and reducing joiners, elbows and male and female adaptors ranging from ½” to 1”.

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**CAUTION**: Philmac does not recommend or warrant the use of 3G™ Compression Fittings “inside the building” or for “hot water” applications.
HOW IT WORKS

FULLY OPEN

Fitting is pre-assembled ready to use in the open position with 2 threads showing.

Clearance between the pipe and fitting allows for easy insertion of the pipe.

Split collet, which is in relaxed position.

Seal, which is in relaxed position.

The pipe sits within the internal seal.

FULLY CLOSED

Split collet bites into the pipe providing end load resistance.

Positive internal stop when nut meets flange of the body.

Nut and then split collet has fully compressed the seal.

Seal ring compression is achieved by exploiting the mechanical advantage of the nut thread.

Seal ring is compressed against pipe surface and inside of fitting to provide an effective seal and prevent corrosion.
**ID SERIES**

3G™ ID Series compression fittings represent the next generation of Philmac fittings for ID Series pipe.

Offering complete flexibility, this one fitting connects to all types of ID Series pipe, thereby eliminating the need to carry dedicated fittings.

Installation is easy with a simple to use insert assembly, and the fitting allows for straightforward disconnection and reconnection.

The 3G™ ID Series plastic compression fitting is the product of Philmac’s unrelenting commitment to continuous improvement and a culture based on innovation and ingenuity.

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**3G™ BENEFITS**

**Flexibility**
- **Universal fitting:** The 3G™ ID Series compression fitting connects to IPS, ID controlled pipe of SIDR’s 7, 9, and 11.5. There is no need for dedicated fittings for different pipe so you can be sure you will always have the right fitting for the job.

**Fast and easy installation**
- **Insert assembly:** Installation involving double-ended products is made easy with 3G™ ID Series compression fittings, as the installer can simply hammer the insert in separately to each end of the pipe. This is far easier than other fittings which involve difficult manipulation of the barb assembly at one end of the connection.

- **Easy disassembly:** The 3G™ ID Series compression fitting enables the joint to be easily disconnected and reconnected. Simply by loosening the nut and taking the insert out of the body of the fitting, the pipe can be freed. This is a real advantage when the pipe is connected to a pump or other piece of equipment which may require relocation or disconnection.

**Complete coverage**
- **Wide range:** The new 3G™ compression fitting range is comprehensive and includes straight and reducing joiners, tees, elbows, male and female adaptors and caps ranging from ½” to 2”.

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**CAUTION:** Philmac does not recommend or warrant the use of 3G™ Compression Fittings “inside the building” or for “hot water” applications.
**HOW IT WORKS**

**FULLY OPEN**

Insert fully installed into the pipe up to the shoulder of the insert.

Split collet is in the relaxed position

**FULLY CLOSED**

Insert with seal ring attached has been pushed back into the fitting body.

Split collet bites into the pipe providing end load resistance

Seal ring is compressed against the inside face of the fitting to provide a seal.
SUGGESTED SPECIFICATION

Fittings shall be Polypropylene Compression Fittings suitable for use on HDPE pipe. Fittings shall be long term rated for 230 psi complying with ISO 14236 and meet the dimensional and performance requirements of AWWA C800. Fittings shall comply with NSF 61 and shall be “listed” by NSF. Fitting “Bodies” shall be Polypropylene. Fitting “Compression Nuts” shall be Acetal. Joint seal activation shall be accomplished solely by the Compression Nut. Joint “Seals” shall not “interfere” with pipe insertion. No bevelling or lubrication of pipe shall be required. Fitting components shall not require dismantling prior to assembly on to pipe. Fittings shall be “3G” or “UTC” with “Slide & Tighten capability as manufactured by Philmac Pty Ltd. and represented by The Harrington Corporation (Harco) of Lynchburg, VA (434) 845-7094.

CAUTION: Philmac does not recommend or warrant the use of 3G™ Compression Fittings “inside the building” or for “hot water” applications.
1. Cut Pipe Square
Cut the pipe square. There is no need to prepare the pipe end. Chamfering or lubrication is not required.

2. Ready to Use Position
The fitting is pre-assembled and ready to use, however always ensure the nut is fully relaxed and 2 threads are showing before inserting the pipe.

3. Pipe Insertion
Insert the pipe until the first point of resistance is felt.

4. Nut Tightening
The nut should be tightened by hand and then firmly with a wrench. Tighten the nut all the way to the flange on the body of the fitting.

5. Fully Installed
Fitting is now fully installed.

6. Disassembly
To disassemble the fitting simply loosen the nut using a wrench until 2 threads are showing. Pipe will be released and can simply be pulled out of the fitting.

Note: Philmac recommends the use of PTFE tape on NPT threads to ensure a positive seal.
1. **Cut Pipe Square**

2. **Re-round Pipe**
   
   To ensure that the pipe sits easily in the internal seal, re-round the pipe using the tool supplied. This must be done on the inside and the outside of the pipe.

3. **Pipe Insertion**

4. **Nut Tightening**
   
   The nut should be tightened by hand and then firmly with a wrench. Tighten the nut all the way to the flange on the body of the fitting.

5. **Fully Installed**

6. **Disassembly**
   
   To dis-assemble the fitting simply loosen the nut using a wrench until 2 threads are showing. Pipe will be released and can simply be pulled out of the fitting.

**Note:** Philmac recommends the use of PTFE tape on NPT threads to ensure a positive seal.
1. Cut Pipe Square
   Cut the pipe square. There is no need
to prepare the pipe end. Chamfering or
lubrication is not required.

2. Remove Nut Components
   Take nut off body of fitting and remove
collet.

3. Place Nut Components on Pipe
   Place nut and then collet on the pipe.
Ensure the collet is placed with taper
facing towards the nut.

4. Place Insert in Pipe
   Remove the insert from the fitting and
then place in end of pipe.

5. Insert Fully Installed
   Tap insert fully (up to the shoulder of
the insert) into the pipe using a flat
object.

6. Push Insert into Body of Fitting
   Push pipe with insert and seal ring
assembly into the end of the central
fitting. Ensure the seal ring is correctly
positioned on the insert.

7. Position Collet and Nut
   Slide collet up to insert shoulder and
then engage nut on body of fitting and
tighten by hand.

8. Tighten Nut with a Wrench
   The nut must then be tightened with a
wrench.

9. Fully Installed
   The fitting is fully installed when the
nut cannot be tightened further with
reasonable force.
HARCO Fittings
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