

HOLMAN

➤➤ **PLUMBING**

TECHNICAL MANUAL COMPRESSION FITTINGS

www.holmanindustries.com.au

For the #SMARTPLUMBER





THE COMPANY

Holman Industries was founded on January 4, 1966. It is still a family business and proudly Australian owned. The company is a leading supplier of plumbing fittings and watering products to the Australian market.

Holman employs over 200 staff in Australia and its Head Office is in Perth, Western Australia. Large distribution warehouses are located in Melbourne and Brisbane and a plumbing only warehouse is situated in Sydney. The company currently exports watering products to many countries including the USA & Europe.

Holman is dedicated to continually investing in new tooling and more product development and innovation. Holman believes in putting its customers first and offering superior service with a high level of stock support. The aim is to be your best supplier.

CERTIFICATE OF CONFORMITY

SAI Global hereby grants:

Elysee Irrigation Ltd
5 Pentadakyliou Street, Ergates, Nicosia, Cyprus

Watermark Certificate of Conformity

Evaluated to:
AS/NZS 4129:2020 - Fittings for polyethylene (PE) pipes for pressure applications

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Certificate No: WMK26038

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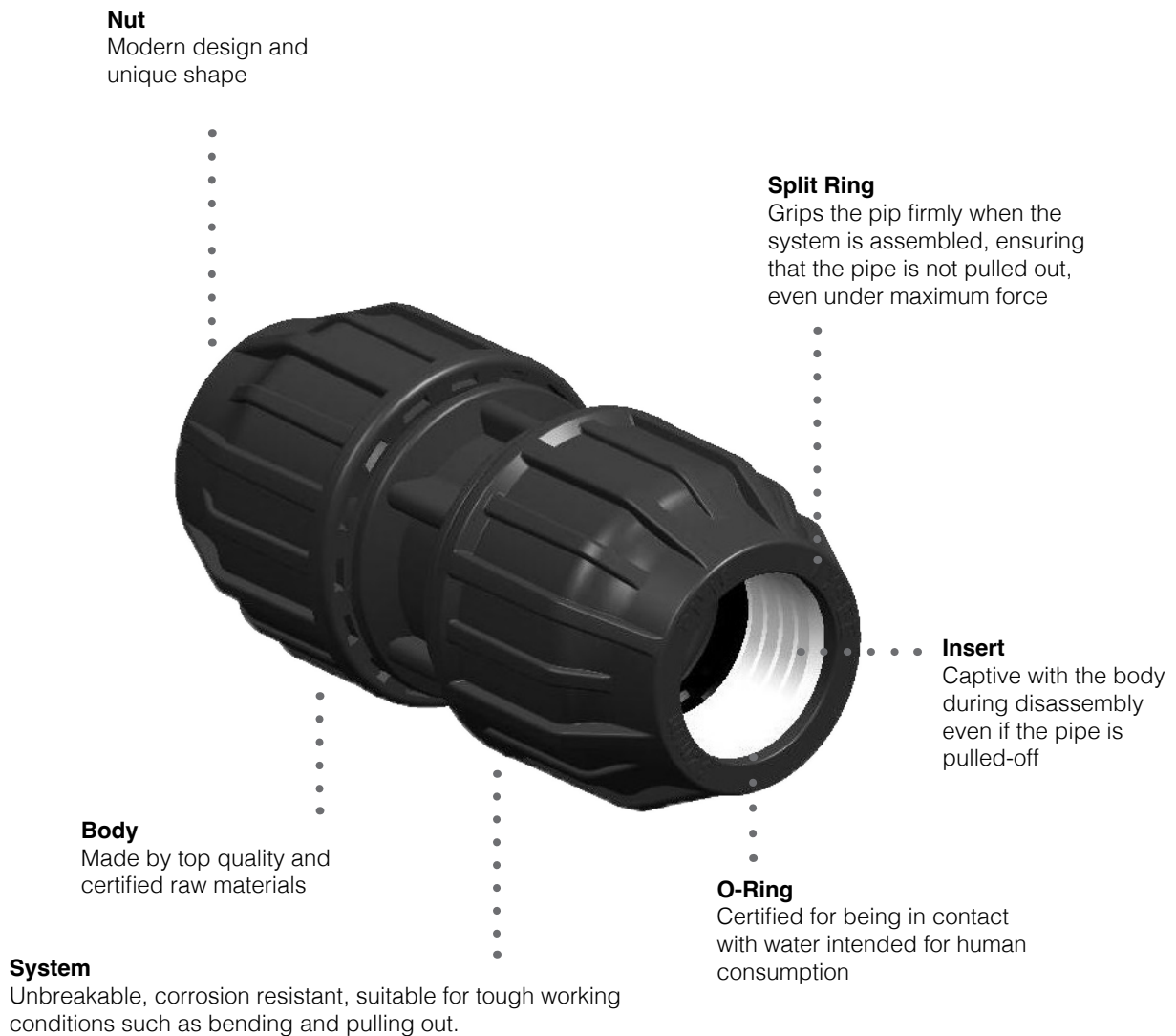
INTRODUCTION

Holman offers a complete range of mechanical compression fittings designed for conveyance of fluids, gaseous fuels, compressed air, chemical solutions and slurries under high pressure.

Our mechanical compression fittings comply with all relevant international standards in terms of dimensions and mechanical properties.

They are also ideal for the conveyance of portable water and fluids for human consumption, since they are produced in accordance with national and international standards for health and safety.

To ensure that all requirements of standards and regulations are fulfilled, our fittings are tested regularly and approved worldwide by the main testing institute and certification bodies.



TECHNICAL DATA

Our Quality management system ensures top-class products in terms of performance, reliability and durability. This is a crucial parameter to ensure customer satisfaction and loyalty. Holman Industries quality system, ISO 9001:2008, is approved by CCC and IQNet.

Since Quality is subjective and it is a matter of personal opinion and what constitutes an acceptable level of quality will vary from one individual to another, a process was adopted to classify the quality levels. This process called "product certification", which verifies that products conform to applicable standard, results in the issuing of a statement or certificate of conformity and approval to apply the relevant standard to the product.

Our production facilities are inspected regularly, where random products are tested to ensure their continued compliance with the relevant standards. Once the products are determined to meet such standards, the certification body reissues the product certification documents. The complete range of mechanical compression fittings of Holman Irrigation have been tested and approved by all leading certification bodies, including DVGW (D), KIWA (NL), WRAS (GB), BV (AUS) and many others worldwide. Furthermore, Holman fittings are honored with product certifications on all related standards such as ISO 14236, EN 12201, DIN 8076 and AS/ NZS 4129.

Dimensions and Characteristics

Our fittings comply with the dimensional requirements and characteristics of the following relevant standards:

- EN 712 / 713 / 715 / 911
- ISO 3458 / 3459 / 3501 / 3503 ISO 14236
- D9N 8076 (Performance Series)

Application Fields

Our fittings are suitable for joining high and low density polyethylene pipes (PE-HD, PE-LD, PE40, PE63, PE80, PE100X conforming to:

- EN 12201
- ISO 3607 / 14236
- DIN 8072 / 8074

Fluids Other Than Water

The fitting may convey a wide variety of fluids.

Note: Refer to chemical resistance section for additional information. Contact us for advice on specific applications.

Operating Pressure

For fittings from Ø16mm up to Ø63mm - 1600kpa. For fittings Ø75mm up to Ø110mm - 1250kpa.

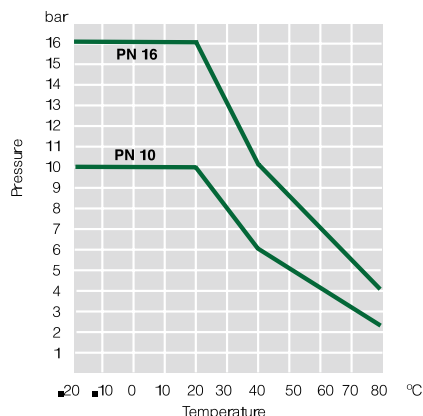
Note: System temperature should not exceed 20°C. Refer to operating temperature section for more details.

Effects on Water

Water is essential to health and to the preservation of the environment. Water quality is commonly defined by its physical, chemical, biological and aesthetic (appearance and smell). A healthy environment is one in which the water quality supports a rich and varied community of organisms and protects public health. Unsuitable non-metallic materials can cause changes in the quality of the water that they are in contact with. These changes can affect the favor and appearance of the water, as well as introducing toxic substances and promoting microbial growth. Over thirty years ago some specific methods were developed to study how materials could affect water quality. The methods developed then were used to develop the current Standards for testing non-metallic materials in contact with drinking water. All fittings intended to be used for potable water supply systems or agricultural practices should be manufactured according the requirements of the relevant standards. Holman fittings fully conform to international hygiene and sanitary requirements specified by standards such as BS6920 (UK), KTW (DE) and AUS/NZ 4020 (AUS).

Operating Temperature

The fittings are not to be used in hot water although they withstand the same temperature as the polyethylene pipe itself. The fittings withstand sub-zero temperatures. The pressure rating has to be adjusted as shown in the figure below, if the fittings are to be used at higher temperatures.



Resistance to Impact

The thermoplastic materials used for manufacturing the fittings have excellent impact properties.

Abrasion Resistance

The fittings are suitable for the transportation of abrasive slurries and will withstand normal conditions found in urban, mining, industrial, rural water and waste water systems.

Electronic Corrosion

Plastic fittings are non-magnetizing and do not cause electrolytic deterioration

Weathering

Holman fittings offer excellent weathering properties which protects against degradation due to ultra-violet radiation. Therefore, their use is permissible on exposed systems without additional protection.

Projected Life Expectancy

Based on the information available and the successful performance under the nominated test regime, the life expectancy is rated at 50 years before replacement or major repair. This rating is only a general guide to life expectancy and may increase or decrease depending on the quality of the installation, system operation and environment conditions as well as other geographical and site specific factors.

Threading

Threads (BSP) are manufactured according to: ISO 7, DIN 2999 and BS 21.

Threads (NPT) are manufactured according to: ANSI/ASME B1.20.1. All internal (female) threads smaller than 3" are parallel. All other threads (male and female) are tapered.

It is recommended that PTFE tape is used when making threaded joints/connections. Any other sealing compound must be confirmed as suitable. Assembly should be carried out by hand and final tightening by a strap wrench, if necessary.

Extra care must be taken not to over tighten and otherwise damage the thread

Effects of Chemical on Fittings

Chemicals can affect the strength, flexibility, surface appearance, colour, dimensions or weight of polypropylene. The basic modes of interaction causing these changes are:

1. Chemical Attack on the polymer chain, which results in the reduction of physical properties, including oxidation, reaction of functional groups in or on the chain.
2. Depolymerisation.
3. Physical Change, including absorption of solvents resulting in softening and swelling of the plastic, permeation of solvent through the plastic and dissolution in a solvent.
4. Stress Cracking from the interaction of a "stress cracking agent" with internal or external stresses.
5. The Chemical Resistance Chart that follows is a general guide only. Since several factors can affect the chemical resistance of a given product, they should be tested specifically under the required conditions. If the inquired chemical is not included in the following table, a more detailed chart will be made upon request.

Thermal Insulation

Polypropylene has a natural thermal insulation of 2000 times over copper and 200 times over steel.

Light Transmission

The all black fitting do not transmit light, thus protecting the water quality in potable water pipelines against growth of micro organisms.

Pressure Drop (Head Losses)

To determine the total pressure drop in the system, the total straight pipe length calculated for the fittings is added to the total straight pipe length to obtain the total drop. The pressure drop in fittings can be calculated with the following formula:

L = ID x K

L = Head loss based on equivalent pipe length (m)

ID = Pipe inner diameter (m)

K = Fitting constant as shown on table

Fitting Type	K
Elbow 90° 30	30
Tee 90° (straight through)	12
Tee 90° (side branch)	60
Bends 90°	12
Reducing Bush (per size reduction)	15

Polypropylene PP - Chemical Resistance

Chemical	Concentration	PP-B	NBR	Chemical	Concentration	PP-B	NBR
Acetic acid	10%	A	A	Lubricating oils		B	A
Acetic acid	50%	A	C	Methane (natural gas)	tg-G	A	A
Acetone	tg-L	A	C	Methanol (methyl alcohol)	tg-L	A	A
Benzene	tg-L	B	B	Methyl acetate	tg-L	A	C
Benzine	Work-S	B	A	Methyl chloride	tg-G	C	C
Benzoic acid	Saturated	A	A	Methylene acetate	tg-L	B	C
Boric acid	Saturated	A	A	Methyl ethyl ketone	tg-L	A	C
Butyl acetate	tg-L	B	C	Nitric acid	6.30%	A	C
Calcium hydroxide	Saturated	A	A	Oleic acid	tg-L	A	B
Carbon dioxide, gas	tg-G	A	A	Oxalic acid	Saturated	A	B
Carbon disulphide	tg-L	A	C	Oxigen	tg-G	A	C
Carbon monoxide, gas	tg-G	A		Ozone	tg-G		C
Carbon tetrachloride	tg-L	C	C	Petroleum	Work-S	A	A
Caustic soda solution	50%	A	B	Petroleum ether	Work-S	B	B
Chlorine, gas	tg-L	C	C	Phenol	10%	A	C
Chlorine, water	Saturated	A	C	Phenylhydrazine	tg-L	B	C
Chloroacetic acid, mono	Solution	A	C	Phosphoric acid	50%	A	B
Chloroform	tg-L	B	C	Phosphorus chlorides	tg-L	A	C
Chlorosulphonic acid	tg-S	C	C	Phosphorus pentoxide	tg-L	A	B
Citric acid	10%	A	A	Phtalic acid	Saturated	A	C
Compressed air with oil		B	A	Potassium carbonate	Saturated	A	A
Cyclohexane	tg-L	A	A	Potassium nitrate	50%	A	A
Cyclohexanol	Saturated	A	B	Potassium sulphate	Saturated	A	A
Cyclohexanone	tg-L	B	C	Propane	tg-L ; tg-G	A	A
Diesel oil		B	A	Propionic acid	50%	A	C
Ethyl alcohol	tg-L	A	A	Sodium acetate	Saturated	A	A
Ethyl alcohol + acetic acid	Work-S	A	B	Potassium permanganate	Saturated	A	B
Ethyl benzene	tg-L	B	C	Potassium persulphate	Saturated	A	C
Ethyl chloride	tg-G	B	C	Sodium acetate	Saturated	A	A
Ethyl eter	tg-L	A	C	Sodium chlorate	Saturated	A	A
Ethylene chloride	tg-L	B	B	Sodium hydroxide	40%	A	A
Fluorine	tg-G	C	C	Sodium Hypochlorite	12.50%	B	C
Formic acid	50%	A	C	Sodium sulphate	Saturated	A	A
Frigen 12 (Freon 12)	Work-S	C	B	Sulphur dioxide	tg-G	A	C
Fuel oil (Gasoline)	Work-S	B	A	Sulphur trioxide	tg-G	C	C
Gelatine	Solution	A	A	Sulphuric acid	40%	A	B
Glucose	Solution	A	A	Sulphurous acid	Saturated	A	C
Glycerine	tg-L	A	A	Sulphuryl chloride	tg-L	C	C
Glycolic acid	37%	A	A	Tartaric acid	Saturated	A	A
Heptane	tg-L	A	A	Tetrachloroethane	tg-L	B	C
Hexane	tg-L	A	A	Toluene	tg-L	B	C
Hydrobromic acid	50%	A	B	Trichloroethane	tg-L	B	C
Hydrochloric acid	10%	A	B	Trichloromethane	tg-L	B	C
Hydrocyanic acid	tg-L	A	B	Triethanolamine	Solution	A	B
Hydrofluoric acid	40%	A	C	Trioctyl phosphate		A	B
Hydrogen	tg-G	A	A	Turpentine oil		C	A
Hydrogen chloride	tg-G	A	B	Vegetable oils and fats		A	A
Hydrogen peroxide	10%	A	B	Vinegar	Work-S	A	C
Hydrogen sulphide	Saturated	A	B	Vinyl acetate	tg-L	A	A
Lactic acid	10%	A	C	Xylene	tg-L	C	C

Notes of Table:

- A -** Resistant no indication that serviceability would be impaired
- B -** Variable resistance, depending on conditions of use
- C -** Not resistant, not recommended for service applications under any conditions

- Diluted = Diluted solution in concentrations up to 10%
- Solution = Solution in concentrations up to 10% but not saturated
- Saturated = Saturated solution
- tg-L = Pure substance in liquid state
- tg-G = Pure substance in gaseous state
- tg-S = Pure substance in solid state
- Work-S = Solution in the concentration usually used in the industry

WARRANTY

All our products are warranted for a period of 2 years from the delivery date. Our warranty includes the repair or replacement of defective parts in our production plant or in the after-sale service location. Replacement or repair of parts under this warranty will not extend the warranty period of the original product. Such parts carry their own warranty.

For this warranty to be effective, the buyer must certify the date of acquisition and reception of the product and follow the manufacturer's indications.

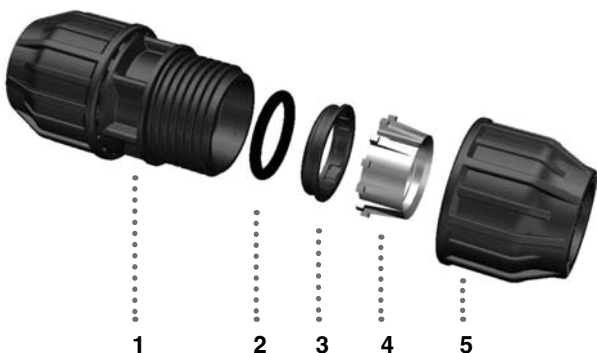
No warranties are given in regard to normal wear and tear due to use of the products. Regarding consumable components and/or materials, the provision contained in the accompanying documentation shall apply.

This warranty does not cover those cases in which the product:

- Has been incorrectly handled.
- Has been repaired, maintained, or modified by an unauthorized person.
- Has been repaired or maintained with other than original pieces.
- Has been installed or placed in operation incorrectly.

Except from mandatory regulations to the contrary, the expenses for return and shipment of defective materials shall be paid by the buyer. The present warranty does not limit or prejudice the rights of consumers under national mandatory standards.

MATERIAL & COMPONENTS



1. BODY - Polypropylene PP-B **2. O-RING** - Nitrile Rubber NBR 70 **3. INSERT** - Polypropylene PP-B **4. SPLIT RING** - Polyacetal **5. NUT** - Polypropylene PP-B

BODY - It is the main and most important component of the fitting system. It can be shaped in several dimensions and configurations to satisfy the requirements and arrangements of fluids direction. It has a snagging arrangement internally to position the O-ring and insert, ensuring leak tightness when assembled with a pipe. A male trapezoidal thread is used externally to join the body with the nut. The body is made with black high performance polypropylene copolymer PP-B. It offers an excellent long-term pressure resistance and also high impact resistance compared to other plastic materials.

NUT - The main purpose of this component is the tightening of pipe with the fitting system. Internally, a female trapezoidal thread is applied to enable the connection with the fitting body. Externally, it has an ergonomic designed surface for easy handling during assembly with a pipe. Made by black high performance polypropylene copolymer PP-B.

INSERT - Main purpose of this component is to secure the o-ring and keep it in position during handling and operation. Made by black high performance polypropylene copolymer PP-B.

O-RING - Main purpose of this component is to ensure leak-tightness between the fitting system and the inserted pipe. Made by Nitrile rubber (NBR 70) with the ability to withstand high service temperature, excellent compression set, tear, and abrasion resistance.

SPLIT RING - Main purpose of this component is to ensure optimum grip between the fitting system and pipe. Internally, several sharp triangular teeth are applied and are in contact with pipe when inserted to the fitting system. Externally, conical ribs are applied to fit and tight progressively on cap&s cone and pipe while pressure is applied in the system or pulling force is increased. Made by high performance polyacetal material with sufficient stiffness and hardness to provide high-end load resistance. Can be used to join all types of polyethylene pipes.

TESTING OF FITTINGS



Several tests are carried out to verify the compliance of compression fittings with the relevant standards through in-house testing as well as tests in external accredited laboratories. Furthermore, all quality procedures and practices are checked from reception of raw material at the stores until delivery of the fittings to customers.

Testing of Raw Material (MRS Value):

The selected raw materials of the fitting body (PP-B) is tested for long-term physical behavior with successful MRS values in the range of 10 MPa, being the highest in the market.

Internal Pressure Test Of Fitting Body:

- All fitting bodies are tested under hydrostatic pressure at 20°C, 2.5 times the indicated pressure rating of the fitting (E.g. Coupling 32mm is tested for one hour at 40 bar without any failure).
- All fitting bodies are also tested under long-term hydrostatic pressure at 95°C, 0.4 times the indicated pressure rating of the fitting (E.g. 90° Tee 50mm is tested for 1000 hours at 6.4 bar without any failure).

Pull-Out Test Of The Compression Fittings Connected With PE-Pipes:

The entire assembly, body with pipe is tested for pull-out force in relation to the pressure rating of the connected pipe (For ex. Coupling 63mm is tested with a pull-out force of 11,256 N when connected with PN16 pipe, without any failure).

Internal Pressure Test Of Compression Fitting Fixed With PE-Pipes:

The entire assembly, body with pipe, is tested in long-term under hydrostatic pressure at 40°C, 0.8 times the indicated pressure rating (E.g. 90° Elbow 40mm is tested for 1000 hours at 12.8 bar without any failure).

Leak Tightness Against Low Pressure:

The entire assembly, body with pipe, is tested at negative pressure or vacuum at 20°C (E.g. End Plug 25mm is tested for 1 hour at -0.8 bar followed by -0.2 bar without any failure).

Leak Tightness Under Bending:

The entire assembly, body with pipe, is tested by bending the pipe on the prescribed radius under hydrostatic pressure at 20°C, 1.8 times the indicated pressure rating (For ex. Male Adaptor 20mm is tested for 1 hour at 28.8 bar without any failure).

Melt Mass-Flow Rate (MFR):

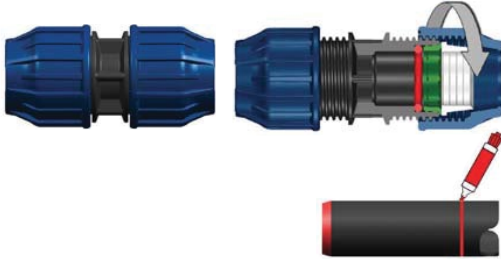
The Mass Flow Rate of the fitting body is measured and then compared in opposition to the measured mass flow rate of the raw material. The difference between the two values should not exceed the 10%.

Hygienic Testing of the Fittings Body and the Sealing Ring:

These tests are carried out through external laboratories and their certificates are supplied by the manufacturer, respectively.

ASSEMBLY INSTRUCTIONS

Sizes 16mm up to 63mm



- Undo the nut up to the last thread. Do not remove the nut from the body.
- Cut the pipe straight, remove burrs & chamfer the end of the pipe with a chamfering tool.
- Mark the length on the PE pipe, to which the pipe must be pushed in the fitting.
*Lubricate the end pipes.

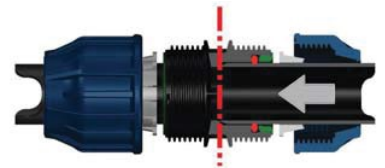
Sizes 75mm up to 110mm



- Cut the pipe straight, remove burrs & chamfer the end of the pipe with a chamfering tool.
- Apply the nut & split ring onto the end of the pipe to a distance of about twice the pipe diameter.
- Keep the 1-ring and insert fixed on the body.
- Assembly is made easier by lubricating pipe, O-ring & inside of fitting with silicone lubricant.



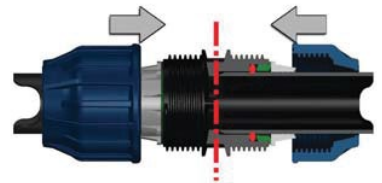
- Push the PE pipe into the fitting, through the nut, split the ring and O-ring, as far as it will go until it meets the 1st resistance. (The mark on the pipe is now just in front of the nut).



- Insert pipe into the fitting until it stops at the step.



- Firmly hand tighten the nut. For sizes 40mm and above, use a wrench for a further half turn for final tightening.



- Push nut & split ring forward until they reach the fitting.

Notes:

- Lubrication of the pipe end is optional and will ease insertion of the pipe (use silicone lubricant).
- The fitting can safely be used again after disassembling.
- The full hydraulic seal is achieved when the pipe passes through the O-ring.



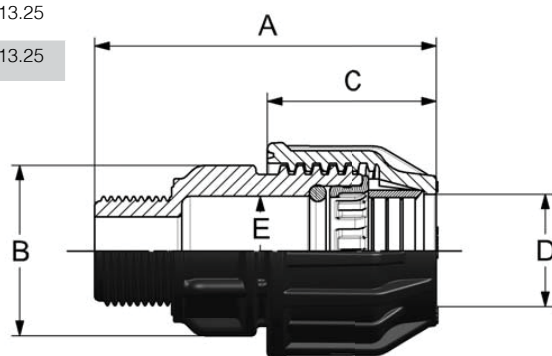
- Tighten the nut by means of two special Holman wrenches.
- Nut should be closed firmly but does not need to actually meet the body.

NOMINAL DIMENSIONS

Male Adaptor

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)				
		A	B	C	D	E
PMMA1615	16 X ½	70.13	34.00	35.00	17.50	17.50
PMMA1620	16 X ¾	71.88	34.00	35.00	17.50	17.50
PMMA2015	20 X ½	88.35	41.50	39.50	22.20	21.50
PMMA2020	20 X ¾	88.35	41.00	39.50	22.20	21.50
PMMA2025	20 X 1	91.85	42.50	39.50	22.20	21.50
PMMA2515	25 X ½	92.38	46.00	41.25	26.75	26.50
PMMA2520	25 X ¾	82.63	46.00	41.25	26.75	26.50
PMMA2525	25 X 1	84.13	46.00	41.25	26.75	26.50
PMMA3215	32 X ½	100.25	56.25	51.75	34.00	33.50
PMMA3220	32 X ¾	95.25	55.50	51.75	34.00	33.50
PMMA3225	32 X 1	96.25	55.50	51.75	34.00	33.50
PMMA3232	32 X 1¼	98.75	55.50	51.75	34.00	33.50
PMMA3240	32 X 1½	99.25	55.50	51.75	34.00	33.50
PMMA4025	40 X 1	110.13	69.50	60.75	41.50	42.00
PMMA4032	40 X 1¼	108.88	68.50	60.75	41.50	42.00
PMMA4040	40 X 1½	109.38	69.75	60.75	41.50	42.00
PMMA4050	40 X 2	112.63	69.00	60.75	41.50	42.00
PMMA5025	50 X 1	129.58	81.25	60.75	41.50	53.00
PMMA5032	50 X 1¼	132.33	80.50	60.75	41.50	53.00
PMMA5040	50 X 1½	124.08	79.50	60.75	41.50	53.00
PMMA5050	50 X 2	127.08	79.50	60.75	41.50	53.00
PMMA6340	63 X 1½	166.00	98.50	82.75	64.50	65.00
PMMA6350	63 X 2	164.75	97.50	82.75	64.50	65.00
PMMA6365	63 X 2½	164.25	99.00	82.75	64.50	65.00
PMMA7550	75 X 2	171.95	117.50	107.50	76.00	77.50
PMMA9050	90 X 2	199.83	136.50	131.25	94.00	92.75
PMMA9080	90 X 3	207.33	138.00	131.25	94.00	92.75
PMMA11080	110 X 3	250.55	164.25	166.50	112.50	113.25
PMMA110100	110 X 4	257.05	164.25	166.50	112.50	113.25

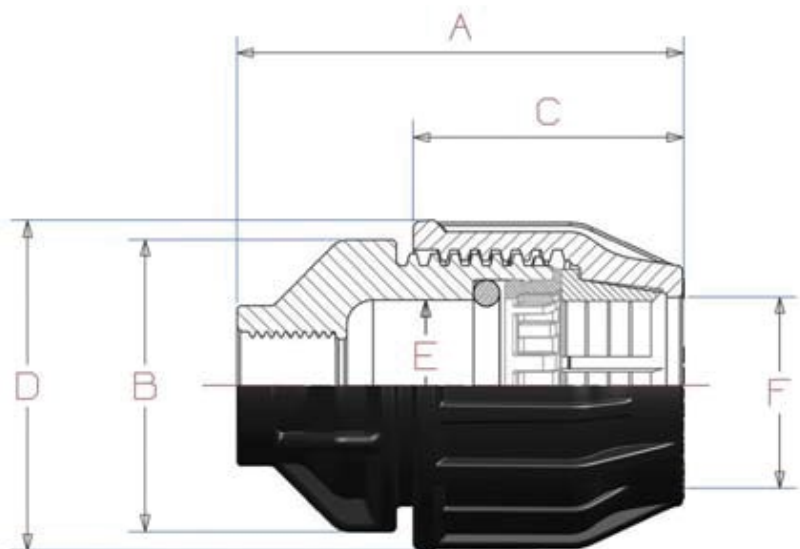


NOMINAL DIMENSIONS

Female Adaptor

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)					
		A	B	C	D	E	F
PMFA1615	16 x ½	58.5	-	41	39	17.50	17.50
PMFA1620	16 X ¾	72.88	34.25	35.00	39.25	17.50	17.50
PMFA2015	20 X ½	70.10	40.50	39.50	46.00	22.00	22.20
PMFA2020	20 X ¾	70.35	41.00	39.50	46.00	22.00	22.20
PMFA2015	25 X ½	73.13	46.50	41.25	52.50	26.50	26.75
PMFA2520	25 X ¾	73.13	46.50	41.25	52.50	26.50	26.75
PMFA2525	25 X 1	77.88	54.00	41.25	52.50	26.50	26.75
PMFA3220	32 X ¾	86.25	56.00	51.75	63.75	33.50	34.00
PMFA3225	32 X 1	87.75	56.00	51.75	63.75	33.50	34.00
PMFA3232	32 X 1¼	101.75	68.75	51.75	63.75	33.50	34.00
PMFA4025	40 X 1	115.13	70.00	60.75	78.25	41.50	41.50
PMFA4032	40 X 1¼	106.38	68.25	60.75	78.25	41.50	41.50
PMFA4040	40 X 1½	106.63	69.00	60.75	78.25	41.50	41.50
PMFA5032	50 X 1¼	120.58	82.50	68.50	92.50	51.50	51.50
PMFA5040	50 X 1½	122.33	82.75	68.50	92.50	51.50	51.50
PMFA5050	50 X 2	132.58	74.25	68.50	92.50	51.50	51.50
PMFA6340	63 X 1½	141.75	99.00	82.75	109.00	64.50	64.50
PMFA6350	63 X 2	151.50	99.00	82.75	109.00	64.50	64.50
PMFA7550	63 X 2½	153.00	99.00	82.75	109.00	64.50	64.50
PMFA9080	90 X 3	221.08	137.50	131.25	151.50	91.50	94.00
PMFA110100	110 X 4	292.55	157.00	166.50	175.50	112.50	112.50

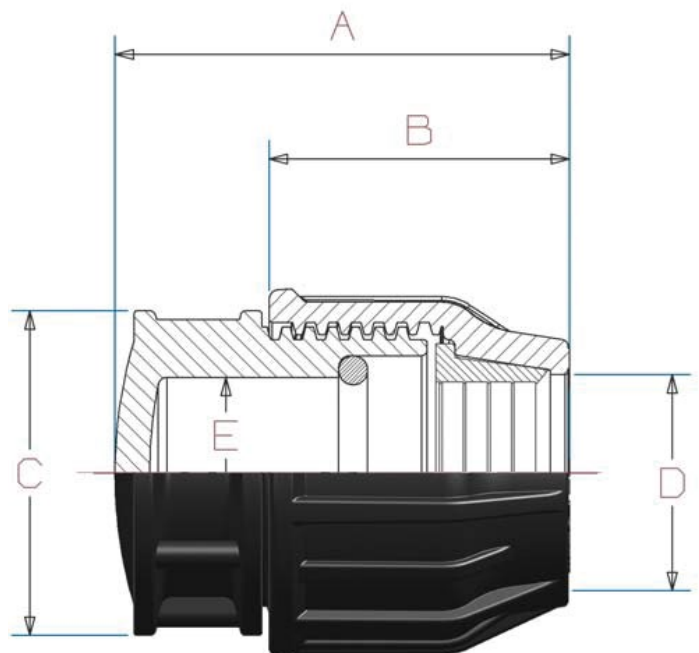


NOMINAL DIMENSIONS

End Plug

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)				
		A	B	C	D	E
PMEP16	16	54.88	35.00	34.50	17.50	17.50
PMEP20	20	63.85	39.50	41.25	22.20	22.00
PMEP25	25	66.63	41.25	46.25	26.75	26.50
PMEP32	32	78.00	51.75	55.75	34.00	33.50
PMEP40	40	89.63	60.75	69.00	41.50	41.50
PMEP50	50	104.58	68.50	80.00	51.50	51.50
PMEP63	63	125.75	82.75	98.00	64.50	64.50
PMEP90	90	175.33	131.25	137.00	94.00	92.00
PMEP110	110	224.80	166.50	164.00	112.50	113.25

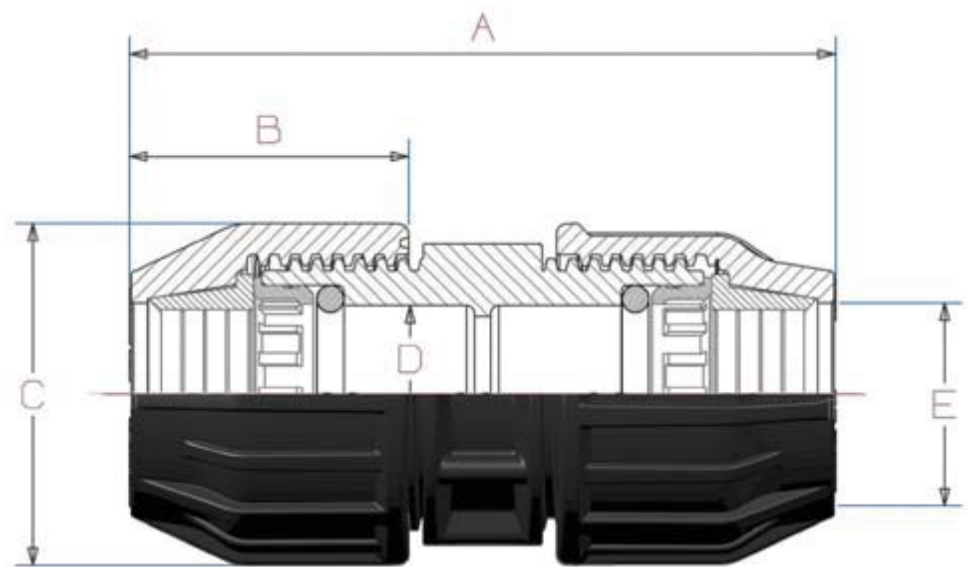


NOMINAL DIMENSIONS

Coupling

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)				
		A	B	C	D	E
PMCO1616	16 x 16	89.00	35.00	39.25	17.50	17.50
PMCO2020	20 x 20	104.00	39.50	46.00	22.00	22.20
PMCO2525	25 x 25	109.00	41.25	52.50	26.50	26.75
PMCO3232	32 x 32	132.00	51.75	63.75	33.50	34.00
PMCO4040	40 x 40	146.00	60.75	78.25	41.50	41.50
PMCO5050	50 x 50	174.40	68.50	92.50	51.50	51.50
PMCO6363	63 x 63	208.00	82.75	109.00	64.50	64.50
PMCO9090	90 x 90	293.40	131.25	151.50	91.50	94.00
PMCO110110	110 x 110	382.60	166.50	175.50	112.50	112.50

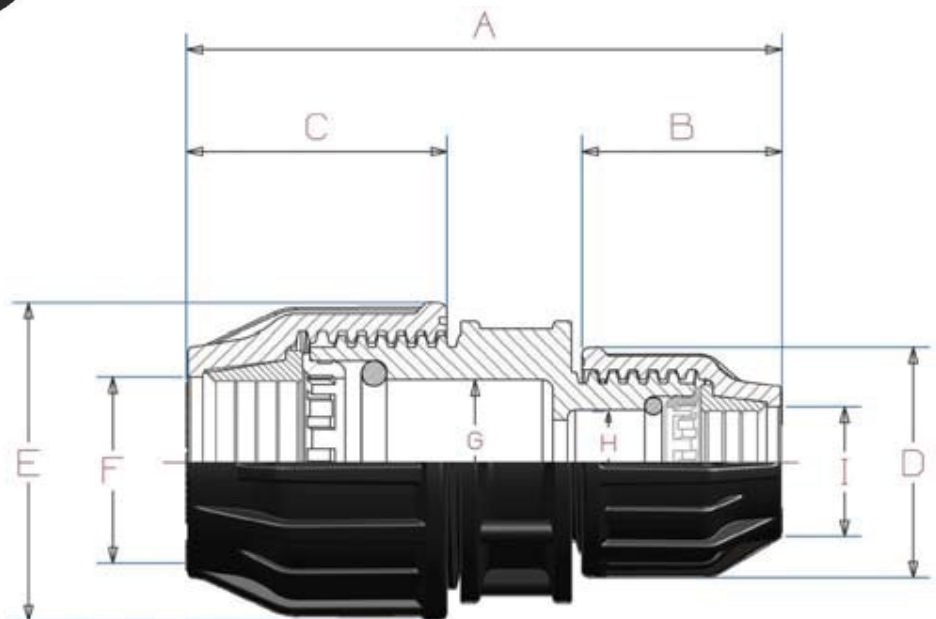


NOMINAL DIMENSIONS

Reducing Coupling

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)								
		A	B	C	D	E	F	G	H	I
PMCO2016	20 X 16	99.98	35.00	39.25	39.50	46.00	22.20	22.00	17.50	17.00
PMCO2516	25 X 16	101.50	35.00	39.25	41.25	52.50	26.75	26.50	17.50	17.00
PMCO2520	25 X 20	106.48	39.50	46.00	41.25	52.50	26.75	26.50	22.20	21.50
PMCO3220	32 X 20	120.10	39.50	46.00	51.75	63.75	34.00	33.50	22.20	21.50
PMCO3225	32 X 25	125.38	41.25	52.50	51.75	63.75	34.00	33.50	26.75	26.50
PMCO4025	40 X 25	129.75	41.25	52.50	60.75	78.25	41.50	41.50	26.75	26.50
PMCO4032	40 X 32	140.38	51.75	63.75	60.75	78.25	41.50	41.50	34.00	33.50
PMCO5032	50 X 32	162.08	51.75	63.75	60.75	78.25	41.50	53.00	34.00	33.50
PMCO5040	50 X 40	162.70	60.75	78.25	60.75	78.25	41.50	53.00	41.50	42.00
PMCO6332	63 X 32	169.00	51.75	63.75	82.75	109.00	64.50	64.50	34.00	33.00
PMCO6350	63 X 50	193.33	60.75	78.25	82.75	109.00	64.50	64.50	41.50	52.00
PMCO7563	75 X 63	231.95	82.75	109.00	107.50	132.50	76.00	77.25	64.50	65.50
PMCO9063	90 X 63	253.08	82.75	109.00	131.25	151.50	94.00	93.25	64.50	65.25
PMCO11090	110 X 90	352.88	131.25	151.50	166.50	175.50	112.50	113.50	94.00	92.50

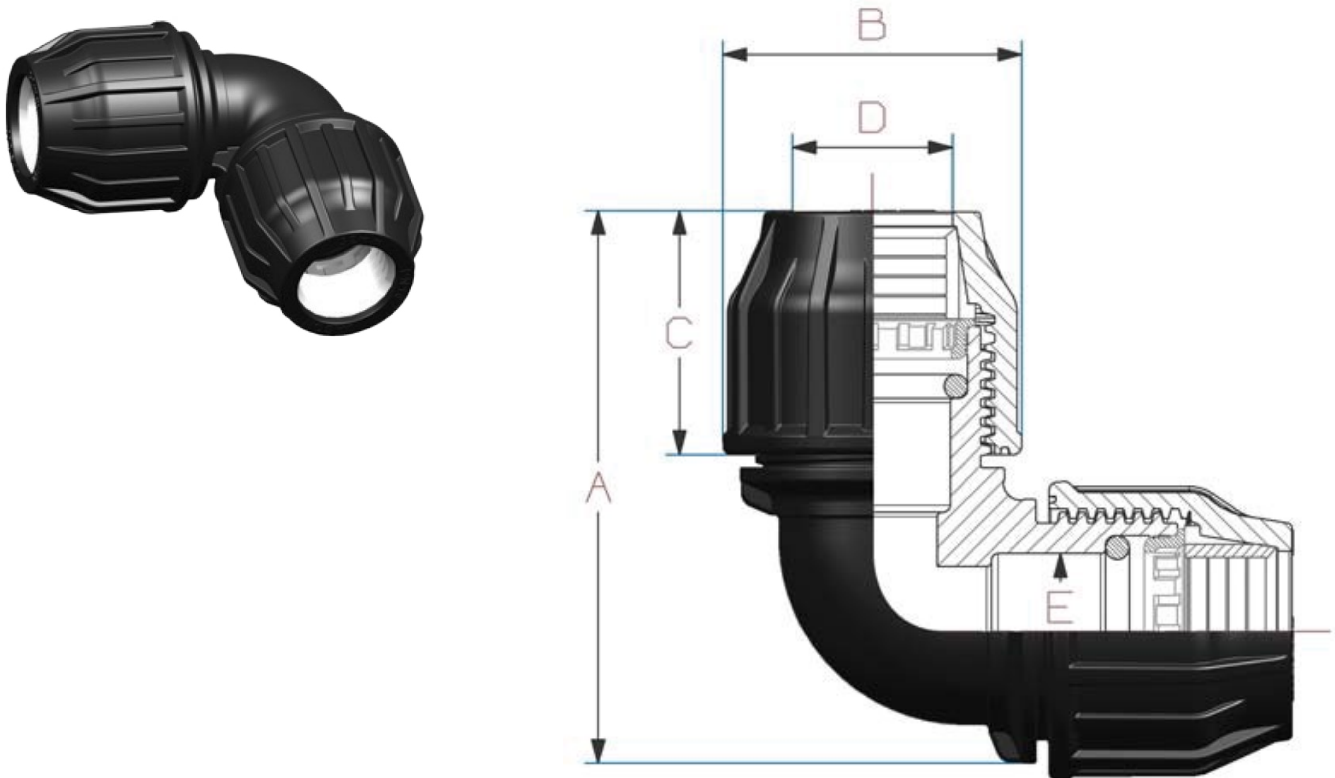


NOMINAL DIMENSIONS

90° Elbow

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)				
		A	B	C	D	E
PME16	16 x 16	75.13	39.25	35.00	17.50	17.50
PME20	20 x 20	87.85	46.00	39.50	22.20	22.00
PME25	25 x 25	97.88	52.50	41.25	26.75	26.50
PME32	32 x 32	118.25	63.75	51.75	34.00	33.50
PME40	40 x 40	140.43	78.25	60.75	41.50	41.50
PME50	50 x 50	158.18	92.50	68.50	51.50	51.50
PME63	63 x 63	197.00	109.00	82.75	64.50	64.50
PME90	90 x 90	267.83	151.50	131.25	94.00	91.50
PME110	110 x 110	369.05	175.50	166.50	112.50	112.50

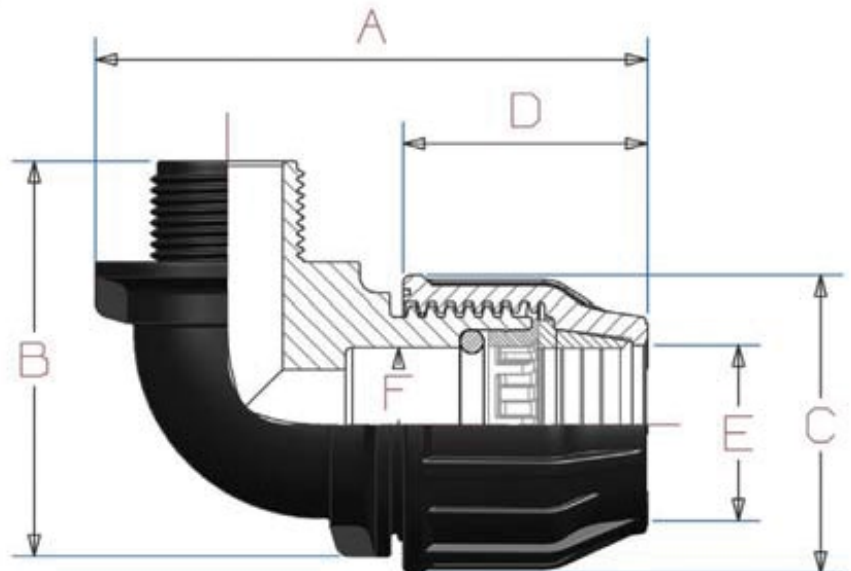


NOMINAL DIMENSIONS

Male Elbow

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)					
		A	B	C	D	E	F
PMME2015	20 x ½	85.10	61.25	46.00	39.50	22.20	22.00
PMME2020	20 x ¾	88.60	32.75	46.00	39.50	22.20	22.00
PMME2515	25 x ½	89.63	68.75	52.50	41.25	26.75	26.50
PMME2520	25 x ¾	90.88	69.25	52.50	41.25	26.75	26.50
PMME2525	25 x 1	92.93	78.25	52.50	41.25	26.75	26.50
PMME3220	32 x ¾	120.75	84.50	63.75	51.75	34.00	13.50
PMME3225	32 x 1	112.25	83.75	63.75	51.75	34.00	33.50
PMME4032	40 x 1¼	136.38	92.00	78.25	60.75	41.50	41.50
PMME4040	40 x 1½	137.13	92.25	78.25	60.75	41.50	41.50
PMME5040	50 x 1½	152.83	110.75	78.25	60.75	41.50	52.50
PMME5050	50 x 2	153.33	115.00	78.25	60.75	41.50	52.50
PMME6350	63 x 2	191.25	133.00	109.00	82.75	64.50	65.00
PMME9080	90 x 3	265.08	171.50	151.50	131.25	94.00	92.25
PMME110100	110 x 4	335.80	221.00	175.50	166.50	112.50	113.50

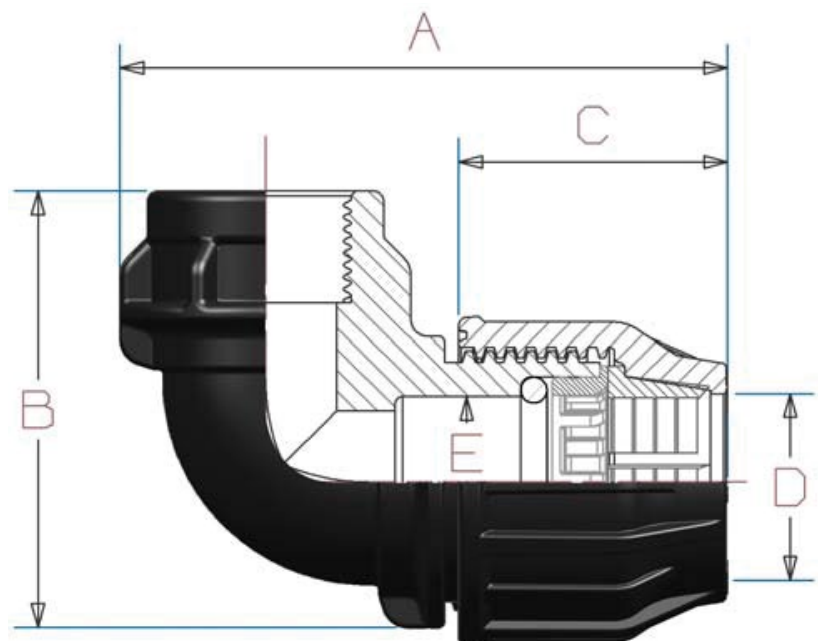


NOMINAL DIMENSIONS

Female Elbow

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)				
		A	B	C	D	E
PMFE2015	20 X ½	91.35	68.25	39.50	22.20	22.00
PMFE2020	20 X ¾	91.35	67.50	39.50	22.20	22.00
PMFE2515	25 X ½	104.13	73.75	41.25	26.75	26.50
PMFE2520	25 X ¾	103.88	74.25	41.25	26.75	26.50
PMFE2525	25 X 1	92.38	74.75	41.25	26.75	26.50
PMFE3220	32 X ¾	121.25	80.00	51.75	34.00	33.50
PMFE3225	32 X 1	121.00	74.50	51.75	34.00	33.50
PMFE4032	40 X 1¼	136.63	97.70	60.75	41.50	41.50
PMFE4040	40 X 1½	137.28	96.95	60.75	41.50	41.50
PMFE5040	50 X 1½	153.98	111.50	68.50	51.50	51.50
PMFE5050	50 X 2	156.38	112.60	68.50	51.50	51.50
PMFE6350	63 X 2	190.65	134.25	82.75	64.50	64.50
PMFE7565	75 x 2½	212	164.5	119.5	77	77
PMFE9080	90 X 3	264.83	170.50	131.25	94.00	91.50
PMFE110100	110 X 4	326.5	222	178.5	111.5	111.5

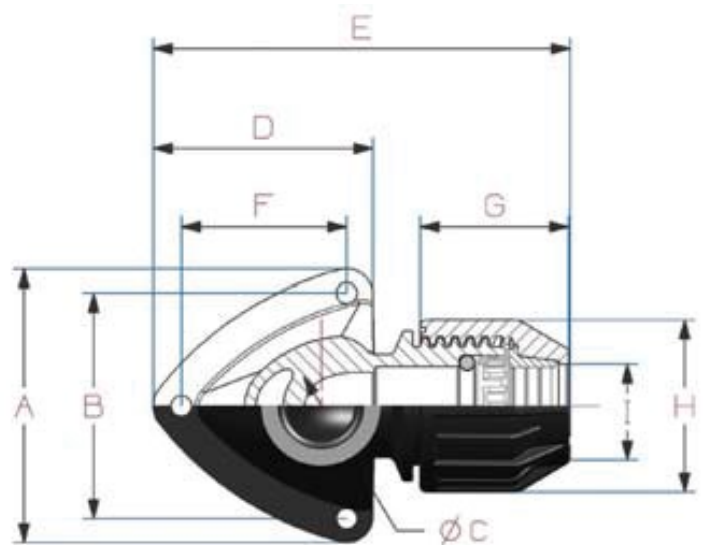


NOMINAL DIMENSIONS

Wall Female Elbow

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)								
		A	B	C	D	E	F	G	H	I
PMWE2015	20 x ½	72.75	60.00	18.00	58.47	110.52	34.97	39.50	45.97	22.25
PMWE2520	25 x ¾	85.70	73.45	24.00	69.15	126.70	54.40	41.15	52.42	27.00

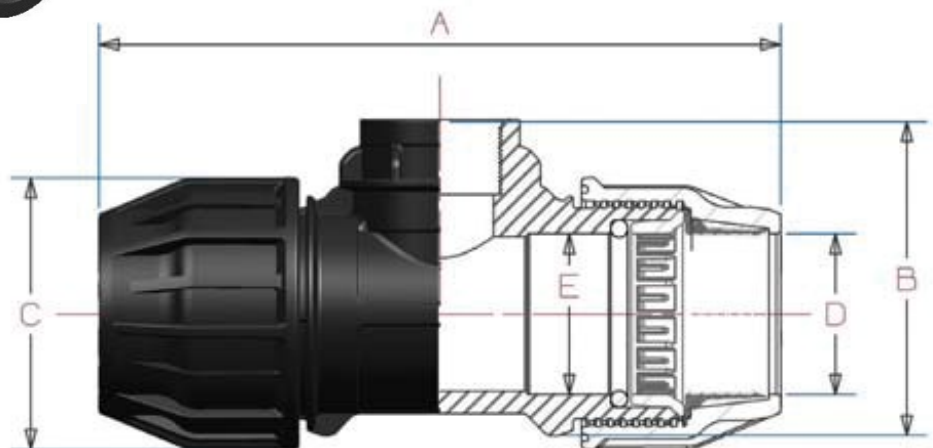


NOMINAL DIMENSIONS

Female Tee

Fittings between \varnothing 16 up to \varnothing 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)				
		A	B	C	D	E
PMFT1615	16 x ½ x 16	110.25	47.00	39.25	17.50	17.00
PMFT1620	16 x ¾ x 16	112.00	47.00	39.25	17.50	17.00
PMFT2015	20 x ½ x 20	132.20	54.50	46.00	22.20	21.50
PMFT2020	20 x ¾ x 20	132.20	54.25	46.00	22.20	21.50
PMFT2515	25 x ½ x 25	139.25	57.75	52.50	26.75	25.75
PMFT2520	25 x ¾ x 25	139.25	57.75	52.50	26.75	25.75
PMFT2525	25 x 1 x 25	141.75	60.75	52.50	26.75	26.25
PMFT3220	32 x ¾ x 32	169.50	66.75	63.75	34.00	33.50
PMFT3225	32 x 1 x 32	169.50	66.75	63.75	34.00	33.50
PMFT4032	40 x 1¼ x 40	209.25	98.50	78.25	41.50	42.25
PMFT4040	40 x 1½ x 40	209.25	100.25	78.25	41.50	42.75
PMFT5040	50 x 1½ x 50	234.65	113.25	92.50	51.50	52.50
PMFT5050	50 x 2 x 50	234.65	113.25	92.50	51.50	52.75
PMFT6350	63 x 2 x 63	281.50	122.00	109.00	64.50	66.50
PMFT9080	90 x 3 x 90	402.15	200.50	151.50	94.00	92.50
PMFT110100	110 x 4	540.50	221	176	111.5	111.5

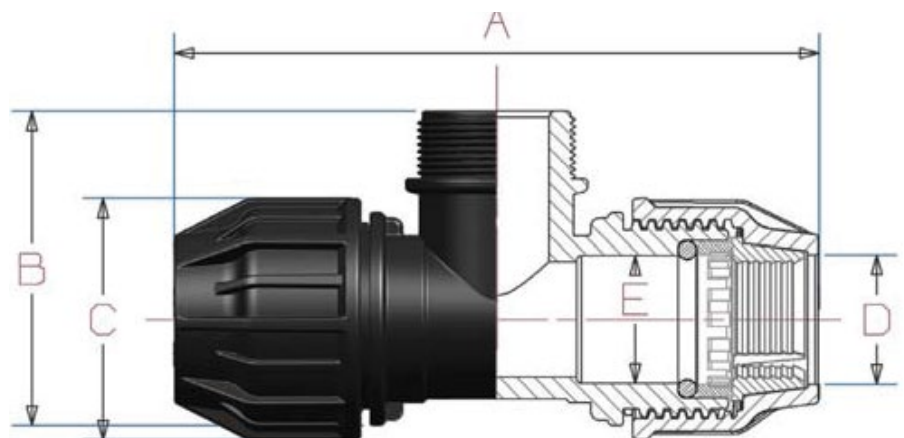


NOMINAL DIMENSIONS

Male Tee

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)				
		A	B	C	D	E
PMMT2015	20 x ½ x 20	117.10	63.75	46.00	22.20	22.00
PMMT2020	20 x ¾ x 20	117.10	65.75	46.00	22.20	22.00
PMMT2515	25 x ½ x 25	130.38	72.25	52.50	26.75	26.50
PMMT2520	25 x ¾ x 25	130.38	72.50	52.50	26.75	26.50
PMMT2525	25 x 1 x 25	130.38	74.00	52.50	26.75	26.50
PMMT3220	32 x ¾ x 32	152.50	79.00	63.75	34.00	33.50
PMMT3225	32 x 1 x 32	152.50	83.00	63.75	34.00	33.50
PMMT4025	40 x 1 x 40	178.13	96.00	78.25	41.50	42.00
PMMT4032	40 x 1¼ x 40	178.13	101.00	78.25	41.50	42.00
PMMT4040	40 x 1½ x 40	179.13	110.75	78.25	41.50	42.00
PMMT5040	50 x 1½ x 50	198.58	110.75	78.25	41.50	52.75
PMMT5050	50 x 2 x 50	198.58	115.00	78.25	41.50	52.75
PMMT6350	63 x 2 x 63	248.50	138.25	109.00	64.50	65.00

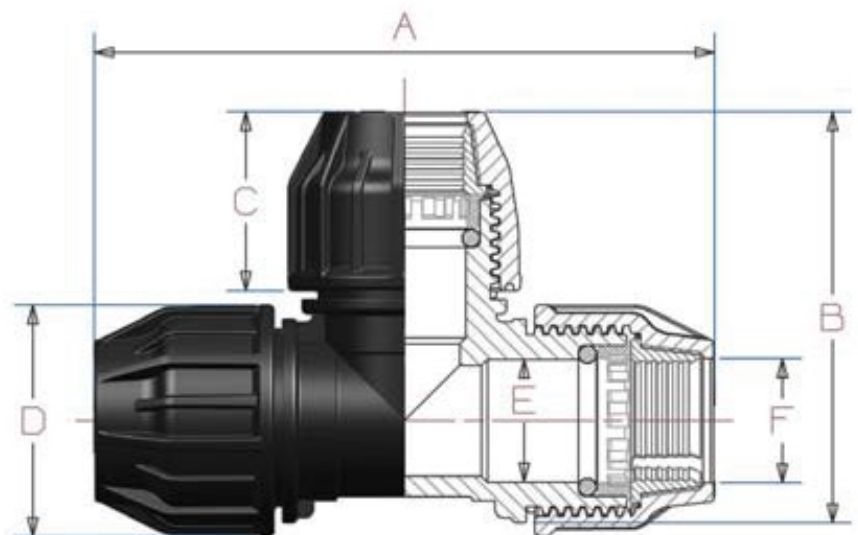


NOMINAL DIMENSIONS

90° Tee

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)					
		A	B	C	D	E	F
PMT16	16 x 16 x 16	115.25	74.63	35.00	39.25	17.50	17.50
PMT20	20 x 20 x 20	135.20	87.85	39.50	46.00	22.00	22.20
PMT25	25 x 25 x 25	148.25	97.38	41.25	52.50	26.50	26.75
PMT32	32 x 32 x 32	178.75	118.00	51.75	63.75	33.50	34.00
PMT40	40 x 40 x 40	209.25	203.13	60.75	78.25	41.50	41.50
PMT50	50 x 50 x 50	239.40	160.33	68.50	92.50	51.50	51.50
PMT63	63 x 63 x 63	296.00	197.25	82.75	109.00	64.50	64.50
PMT75	75 x 75 x 75	319.90	216.70	107.50	132.50	77.25	76.00
PMT90	90 x 90 x 90	401.65	265.83	131.25	151.50	91.50	94.00
PMT110	110 x 110 x 110	564.60	364.55	166.50	175.50	112.50	112.50

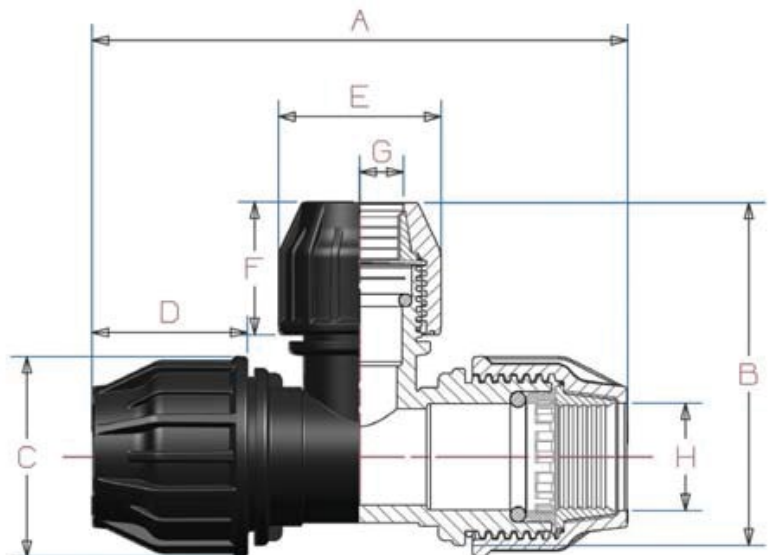


NOMINAL DIMENSIONS

Reducing Tee

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)	Nominal Dimensions (mm)							
		A	B	C	D	E	F	G	H
PMRT2016	20 x 16 x 20	135.20	81.88	46.00	39.50	39.25	35.00	17.50	22.20
PMRT2520	25 x 20 x 25	148.75	98.10	52.50	41.25	46.00	39.50	22.20	26.75
PMRT3225	32 x 25 x 32	178.00	104.38	63.75	51.75	52.50	41.25	26.75	34.00
PMRT4032	40 x 32 x 40	208.25	135.75	78.25	60.75	63.75	51.75	34.00	41.50
PMRT5040	50 x 40 x 50	238.65	150.13	78.25	60.75	78.25	60.75	41.50	41.50
PMRT6332	63 x 32 x 63	287	174	108.5	100.5	62.5	65.5	32.5	65
PMRT6350	63 x 50 x 63	295.50	182.08	109.00	82.75	78.25	60.75	41.50	64.50
PMRT7563	75 x 63 x 75	318.40	207.55	132.50	107.50	109.00	82.75	64.50	76.00
PMRT11090	110 x 90 x 110	561.85	301.83	175.50	166.50	151.50	131.25	94.00	112.50



DIMENSIONS

Poly Repair Coupling

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMRC25	25mm
PMRC32	32mm
PMRC40	40mm
PMRC50	50mm
PMRC63	63mm



Poly Tapping Saddle 2 Bolt

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMS2B3215	32 x 1/2
PMS2B3220	32 x 3/4
PMS2B4020	40 x 3/4
PMS2B4025	40 x 1
PMS2B5015	50 x 1/2
PMS2B5025	50 x 1
PMS2B6315	63 X 1/2
PMS2B6320	63 X 3/4
PMS2B6325	63 X 1



DIMENSIONS

Poly Tapping Saddle 4 Bolt

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMS4B5025	50 x 1
PMS4B6315	63 x 1/2
PMS4B9015	90 x 1/2
PMS4B9020	90 x 3/4
PMS4B9025	90 x 1
PMS4B9050	90 x 2
PMS4B11015	110 x 1/2
PMS4B11050	110 x 1
PMS4B11025	110 x 2
PMS4B11020	110 x 3/4
PMS4B11032	110 x 1 1/4
PMS4B11040	110 x 1 1/2
PMS4B11080	110 x 3



Poly Tapping Saddle - Flat Seal Stainless Steel Bolts

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMS2BSSFS5025	50 x 1
PMS2BSSFS6325	63 x 1



DIMENSIONS

Poly Tapping Saddle Bolt O-Ring Stainless Steel Bolts

Fittings between Ø 20 up to Ø 110mm (Exceptions: 12.5 bar for threads 1 ¼" and above). Operating Pressure = PN16 (16 bar at 20° C). Fittings between Ø 125 up to Ø 315mm Operating Pressure = PN6 (6 bar at 20° C).

Codes	Sizes (mm x in)
PMS2BSSOR3215	32 x ½
PMS2BSSOR3220	32 x ¼
PMS2BSSOR4015	40 x ½
PMS2BSSOR4020	40 x ¾
PMS2BSSOR4025	40 x 1
PMS2BSSOR5025	50 x 1
PMS4BSSOR6325	63 x 1
PMS4BSSOR6340	63 x 1½
PMS4BSSOR7525	75 x 1
PMS4BSSOR7540	75 x 1½
PMS4BSSOR7550	75 x 2
PMS4BSSOR9025	90 x 1



Poly Pipe Clip

Codes	Sizes (mm x in)
PMPC16	16
PMPC20	20
PMPC25	25
PMPC32	32
PMPC40	40
PMPC50	50
PMPC63	63
PMPC75	75
PMPC90	90
PMPC110	110



Cap Wrench

Codes	Sizes (mm x in)
PMWRENCH	16 X 110



DIMENSIONS

Single Union

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PVSUF2520	25 x ¾
PVSUF3225	32 x 1



Double Union Valve

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PVDU20	20
PVDU25	25
PVDU32	32
PVDU40	40
PVDU50	50
PVDU63	63
PVDU75	75
PVDU90	90



Poly Metric to Rural Kit Range

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMRK20	20 x ¾
PMRK25	25 x 1
PMRK32	32 x 1-1¼
PMRK40	50 x 2
PMRK50	50 x ½



PMRK20

Poly Compression To Copper Kit

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMCK2520	25 x ¾



PMCK2520

Poly Compression To Copper Coupling

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMCO2015C	20 x ½
PMCO2020C	20 x ¾
PMCO2515C	25 x ½
PMCO2520C	25 X ¾
PMCO3220C	32 x ¾



PMCO2520C

Poly Compression To Copper Tee

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PMRT2520C	25 x ½



PMRT2520C

Poly Compression To Copper Elbow

Fittings between Ø 16 up to Ø 110mm - Operating Pressure = PN16 (16 bar at 20° C) applications.

Codes	Sizes (mm x in)
PME2520C	25 X ¾



PMW2520C

HOLMAN

 ***PLUMBING***

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