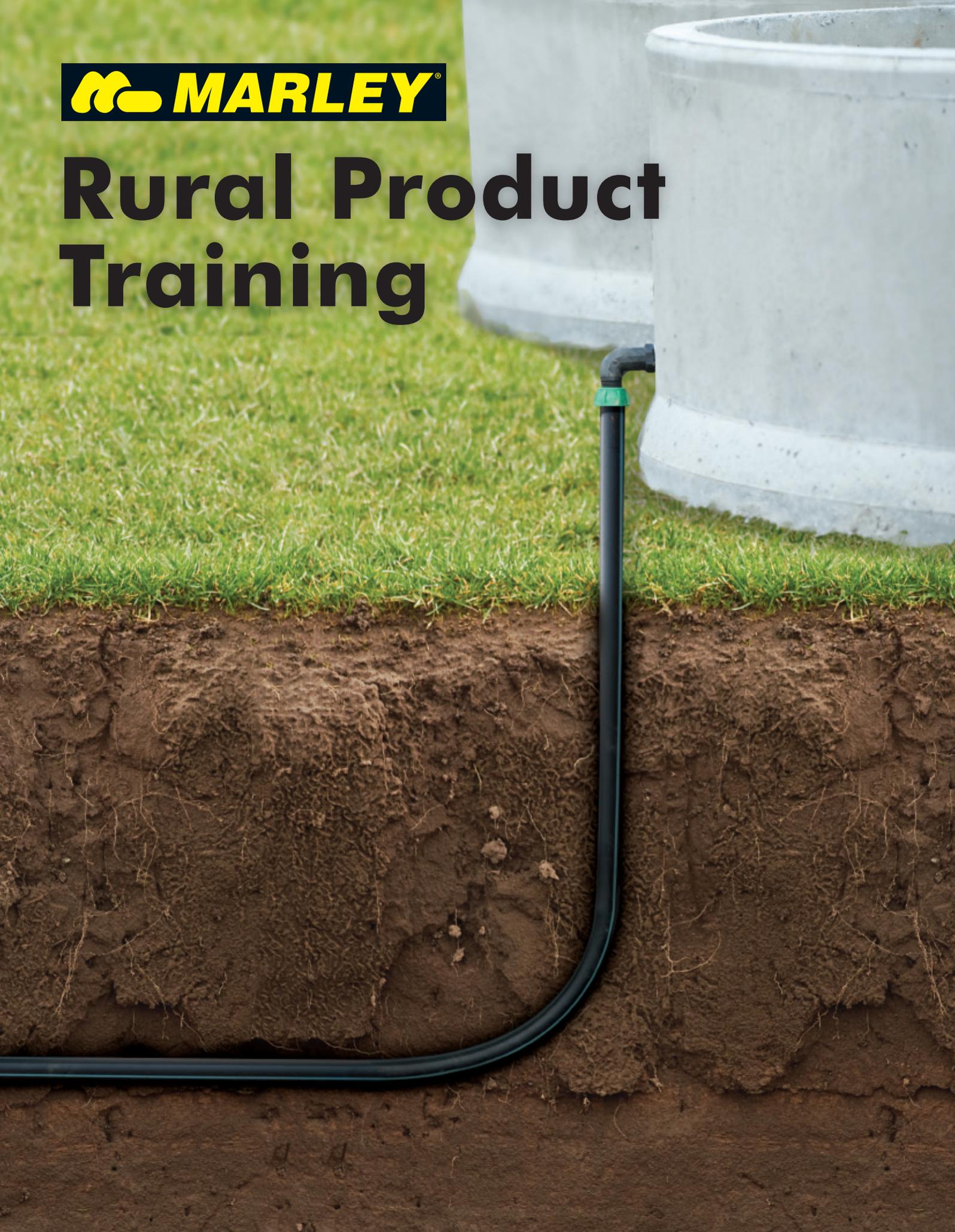




# Rural Product Training



# COURSE CONTENT

| SECTIONS   | PAGE |
|--|------|
| Pipe History   | 01   |
| Frequently asked questions on ID and OD Pipe               | 02   |
| Marley Pipes for water supply                              |      |
| Marley® 950 Series™ alkathene pipe                         | 03   |
| Oasis  | 04   |
| Farm Water Design  |      |
| Case Study   | 05   |
| Marley Pipes for Drainage                                  |      |
| Agriduct   | 09   |
| Drainflo   | 09   |
| Effluent pipe  | 10   |
| Connection diagrams  |      |
| Marley® 950 Series™ alkathene pipe                         | 11   |
| Oasis  | 12   |
| Effluent Pipe  | 13   |
| Assembly procedure   |      |
| Marley® 950 Series™ alkathene pipe to ID fittings          | 16   |
| Oasis O <sup>6</sup> and O <sup>9</sup> to Philmac fitting | 17   |

# PIPE HISTORY

In the days before LDPE (Alkathene) piping, galvanised pipe was used for water supply. This was expensive, prone to corrosion and took some time to assemble.

LDPE (Alkathene) was introduced to provide a more cost effective solution.

LDPE (low density Polyethylene) was sized on the internal diameter to match up with the galvanised pipe. This is why we refer to LDPE pipes as ID Sized pipes as the sizing is based on the “hole down the middle”. This is where we get ID sized pipe from.

The other common pipe is OD sized Polyethylene pipe. Whilst this may be confusing to start with OD sizing is driven by the fittings system which fits on the outside of the pipe. Using the OD of the pipe as a fixed size then allows manufacturers to make a large range of different pressure rating pipes which all take the same fitting.

In summary Marley® 950 Series™ alkathene pipe is an ID sized pipe and takes ID fittings like RXP and Anka.

Oasis is an OD sized pipe and takes Philmac fittings.



# FREQUENTLY ASKED QUESTIONS ON ID AND OD PIPE

**Q** What is MDID?

**A** This refers to medium density ID sized pipe. Medium density is the material the pipe is made from and ID refers to the sizing. If you are looking for a product to supply for this use Marley® 950 Series™ alkathene pipe. Marley® 950 Series™ alkathene pipe will be more flexible and is the same size. Use ID fittings like RXP and Anka with this pipe.

**Q** What is MDOD?

**A** This refers to medium density OD sized pipe. Medium density is the material the pipe is made from and OD refers to the sizing. The product to supply is Marley Oasis. Use Philmac fittings with this pipe.

**Q** Can is use ID fittings on OD sized pipe?

**A** No they will not fit.

**Q** Is 32mm Marley® 950 Series™ alkathene pipe (ID Size) the same sizing as 32mm Oasis (OD Size)?

**A** No 32mm Oasis has a smaller bore than 32mm Marley® 950 Series™ alkathene pipe.

**Q** How do I work out what type of pipe I have when the writing is worn off?

**A** There are several ways you can do this. You can measure the OD and see if it matches to 20, 25,32,40,50 or 63mm. Or you can try either an OD or ID fitting to see what matches up. Marley has pipe boards in many branches.

**Q** How do I connect Marley® 950 Series™ alkathene pipe to Oasis (ID to OD Pipe)?

**A** To connect the pipes you must use a threaded fitting on both pipes. One side needs to be a male thread and one side needs to be a female thread. Remember use the OD (Philmac) fitting on the OD (Oasis pipe) and an ID fitting (RXP or Anka) on the ID (Marley® 950 Series™ alkathene pipe).

# MARLEY PIPES FOR WATER SUPPLY

## MARLEY® 950 SERIES™ ALKATHENE

The main selling features are as follows:

1. Higher pressure rating than LDPE in the sizes 25mm and above. This allows Marley® 950 Series™ alkathene pipe to be used in applications where higher pressures are required without having to change to OD pipes such as Oasis.  
A typical application would be for an extension of an existing ID piped system.
2. Marley® 950 Series™ alkathene pipe can be used with all trace elements and bloat remedies. This allows the use of in line dispensers without having to worry about pipe damage.  
**Note:** Some LDPE and cheaper ID pipe are not compatible with bloat remedies.
3. Fully UV resistant. This means that Marley® 950 Series™ alkathene pipe can be used above ground without it being damaged by sunlight. Please be aware that if the pipe gets hot in summer with no water flow and high pressures it may burst. This is because heat reduces the pressure rating. This applies to all non metal pipes.
4. Compatible with ID fittings. Marley® 950 Series™ alkathene pipe has been developed to ensure the pipe is compatible with the ID fittings.
5. Marley® 950 Series™ alkathene pipe is more flexible than some LDPE. This means that installation can be simpler as there is less chance of kinking the pipe especially in the sizes 32mm and above.

# MARLEY PIPES FOR WATER SUPPLY cont.

## OASIS

The main selling features are as follows:

1. Two pressure ratings. Oasis is available in two pressure ratings, 6 bar (87PSI) and 9 bar (130PSI). This allows it to be used in applications where Marley® 950 Series™ alkathene pipe cannot be used.
2. Both the 6 and 9 bar have the same flow ratings. (All other OD sized pipes have a lower flow rating than Oasis in the 9 bar rating.)
3. Oasis can be used with all trace elements and bloat remedies. This allows the use of in line dispensers without having to worry about pipe damage.  
**Note:** True LDPE is not compatible with bloat remedies.
4. Fully UV resistant. This means that Oasis can be used above ground without it being damaged by sunlight. Please be aware that if the pipe gets hot in summer with no water flow and high pressures it may burst. This is because heat reduces the pressure rating. This applies to all non metal pipes.
5. Oasis has better flow rates than Marley® 950 Series™ alkathene pipe and can be better suited to large herds or longer pipe lengths.
6. For a full system, Marley recommend Oasis with Philmac compression fittings.



# FARM DESIGN



Proposed new tank to supply water back to this side.



Water supply on one side of farm, it runs out in summer time and requires water from the lake on the other side of farm. This tank is 328m above sea level.

## FARM DESIGN cont.



Lake at 210m above sea level to supply new tank to gravity feed existing tank on other side.



Outlet(agriduct) of lake to supply pump to fill new tank.



Another gravity system from a pond using 6bar Oasis.

## FARM DESIGN cont.



Discussing height of new tank site 335m above sea level.



Existing water supply that dries up in summer, and why the farmer is requiring new design.

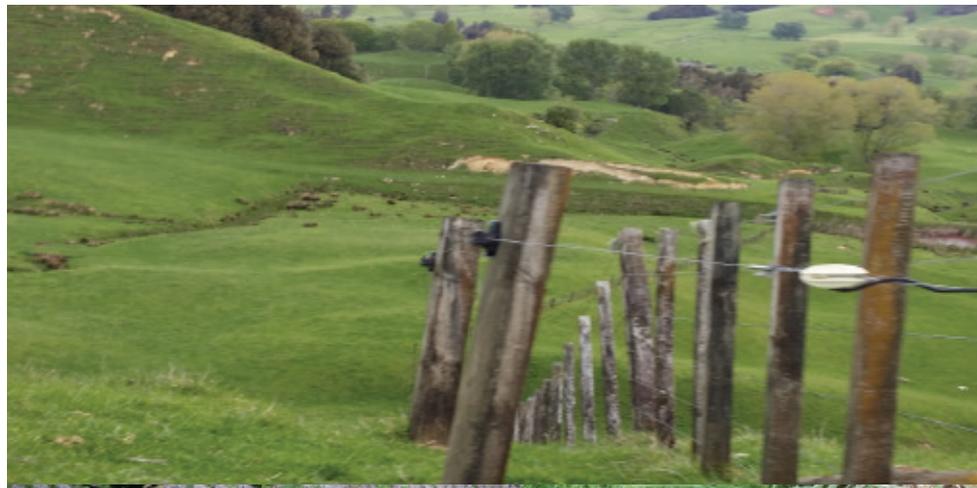


A = Tank from 3rd photo to supply farm and to join up where this photo was taken.  
B = Additional tank to connect in line also.

## FARM DESIGN cont.



Possible tank site.



Pretty much straight down.

Water will get pumped from lake to Tank B then gravity to Tank A, with a height difference of 146 metres there will be a combination of 16,12,9 and 6 bar pipe.  
Every 10 metres of height = 1bar of pressure 146m=14.6 bar, the higher up, less pressure required.

# MARLEY PIPES FOR DRAINAGE

## AGRIDUCT

The main selling features are as follows:

1. All sizes are 6 metres long.  
**Note:** Some culverts only have 5 metre lengths in sizes above 150mm. This means that for most crossings only 1 length is required.
2. Lighter than concrete and easier to handle. Whilst concrete can be cheaper “ex-yard”, costs of transport to farm and installation often exceed the total cost of the equivalent in Agriduct.
3. Agriduct sizing is “hole down the middle”. Competitors use the OD sizing to try and confuse the client.
4. A full range of fittings is available. We have most fittings off the shelf for Agriduct at competitive prices. These are called ‘Big Bore’ large diameter fittings.
5. Agriduct PVC culverts have been around in the NZ market for many years and are well proven.

## DRAINFLO / DRAINCOIL

The main selling features are as follows:

1. Made from long lasting high strength HDPE. Drainflo is light, strong and easy to install.
2. UV resistant. Means that Drainflo stored outside or exposed to the sun will not be damaged.
3. Full range of fittings. Drainflo can be easily installed and connected with readily available cost effective fittings.
4. Available in Punched Drainflo (Holes) or Unpunched Draincoil (no Holes). Unpunched Draincoil can be used around trees or as a cost effective drainage pipe.
5. Draincoil comes with a filtersock that prevents excess fine particles clogginh the drain.
6. Punched Drainflo has the correct number of slots to work in a large range of soil types. This means that Drainflo can be installed in many different ground conditions and work well. Drainflo has a large number of smaller slots as opposed to large holes. This helps prevent the pipe blocking over time by preventing dirt and silt from getting in.

# MARLEY PIPES FOR DRAINAGE cont.

## EFFLUENT PIPE

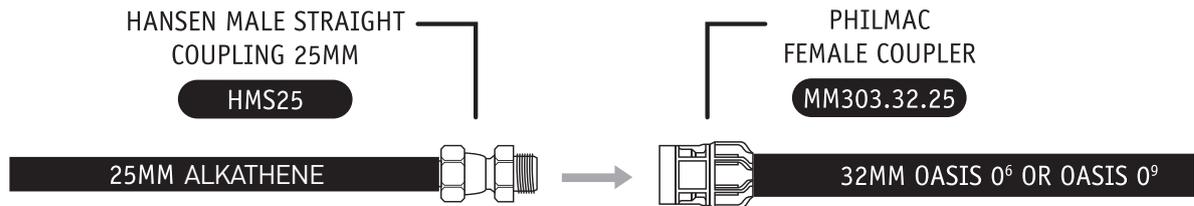
The main selling features are as follows:

1. Available in 90mm and 75mm sizing. These sizes cover almost all applications. It should be noted that the 90mm is by far the biggest seller.
2. Can be used above or below ground. Marley effluent pipe is tough and fully UV resistant and can be used above ground with no problems. Please note that machinery or cows should not be crossing the pipe.
3. PVC has a join every 6 metres whereas Marley Effluent pipe comes in 100m coils. Joints can leak and Effluent leaks can cause environmental problems.
4. Full range of fittings. A full range of Camlock and Marley Philmac 3G metric fittings are available to cover most applications.
5. Easy to install. Simply roll the pipe out and either bury it or lay it on the ground. Please be aware of expansion and contraction if the pipe is used above ground.
6. Pressure rated at a maximum operating pressure of 8 Bar.
7. PVC options are available.

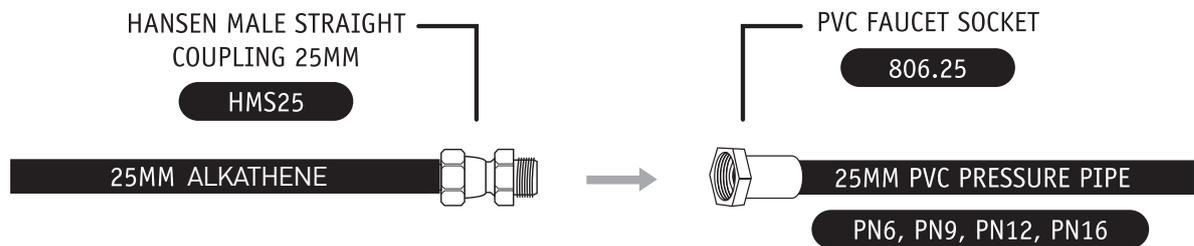


# CONNECTION DIAGRAMS

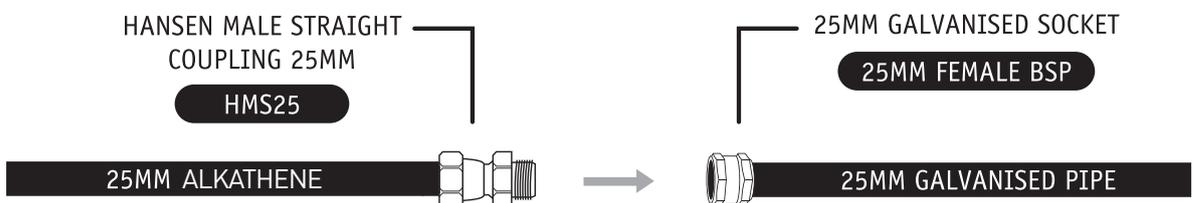
## MARLEY® 950 SERIES™ ALKATHENE PIPE TO OASIS



## MARLEY® 950 SERIES™ ALKATHENE PIPE TO PVC

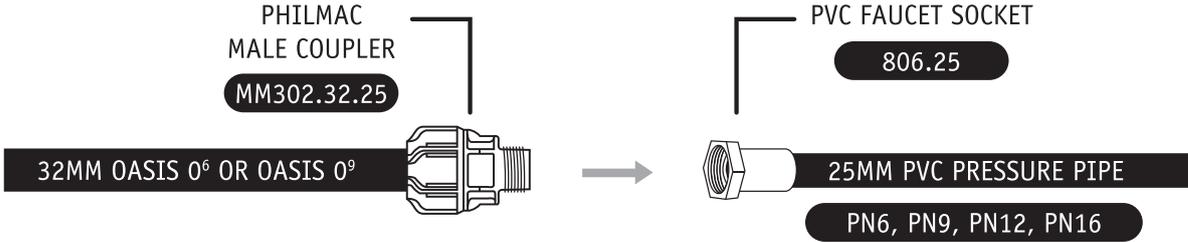


## MARLEY® 950 SERIES™ ALKATHENE PIPE TO GALVANISED PIPE

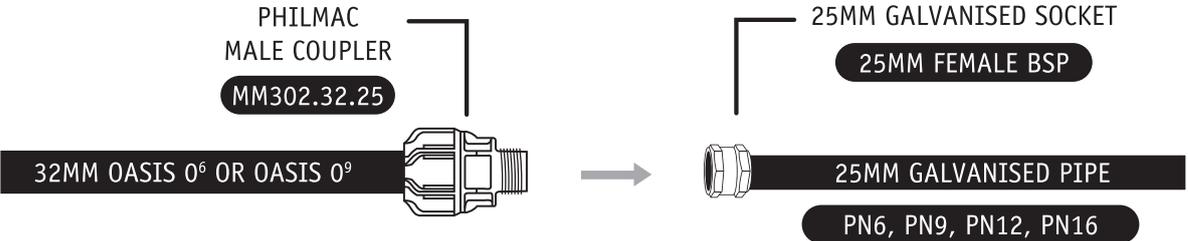


# CONNECTION DIAGRAMS cont.

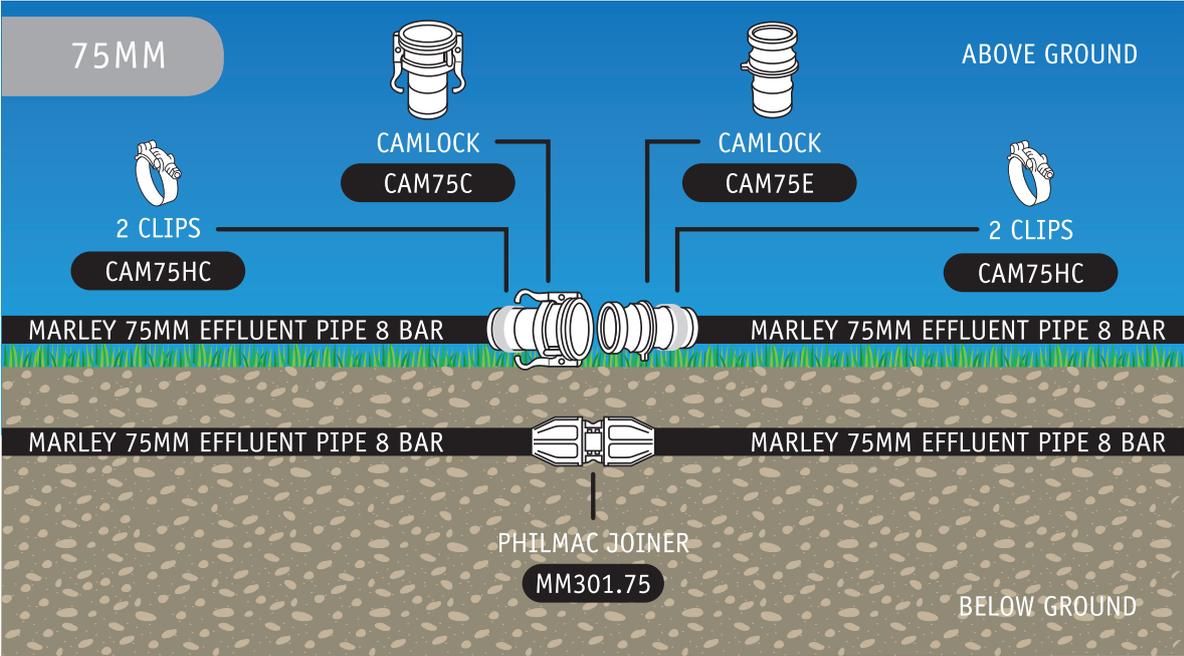
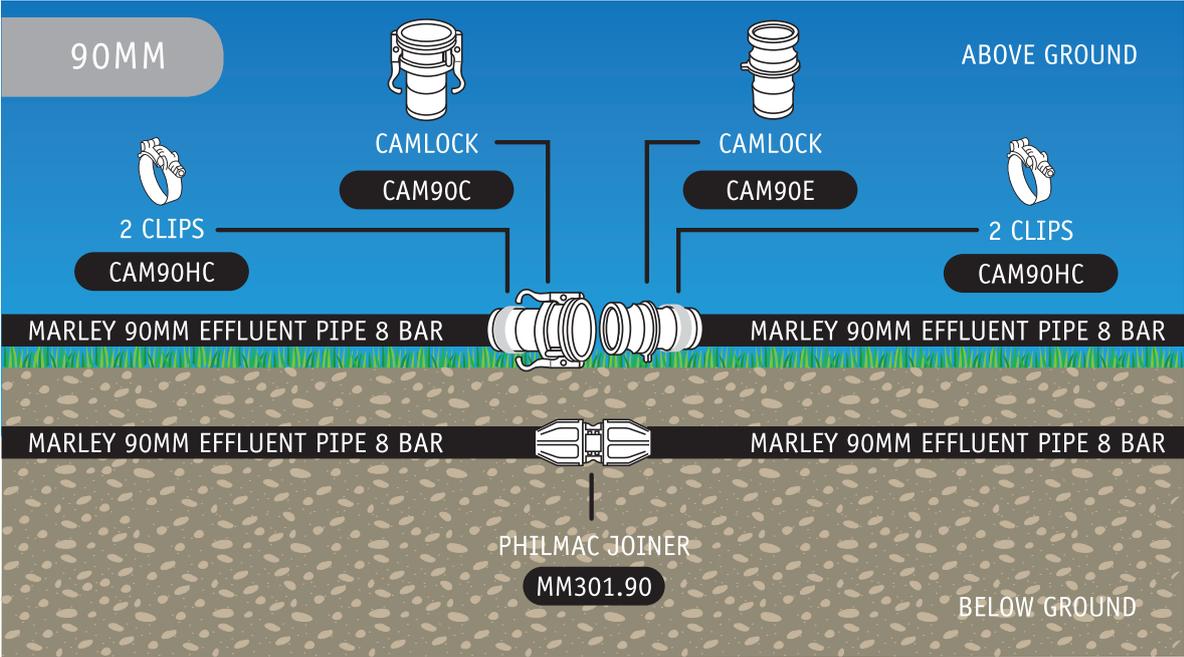
## OASIS TO PVC



## OASIS TO GALVANISED PIPE

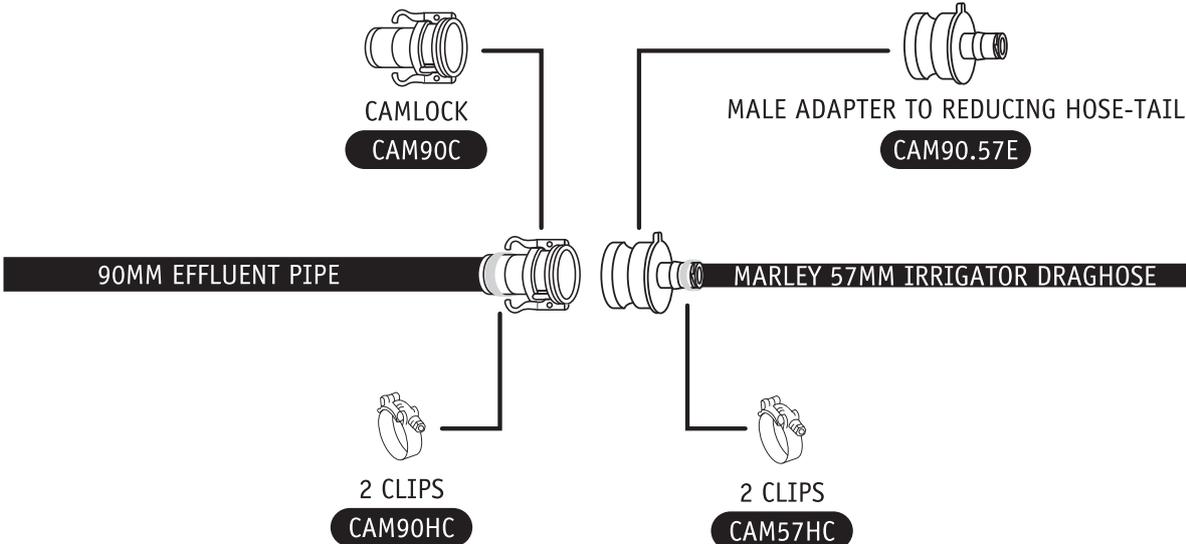
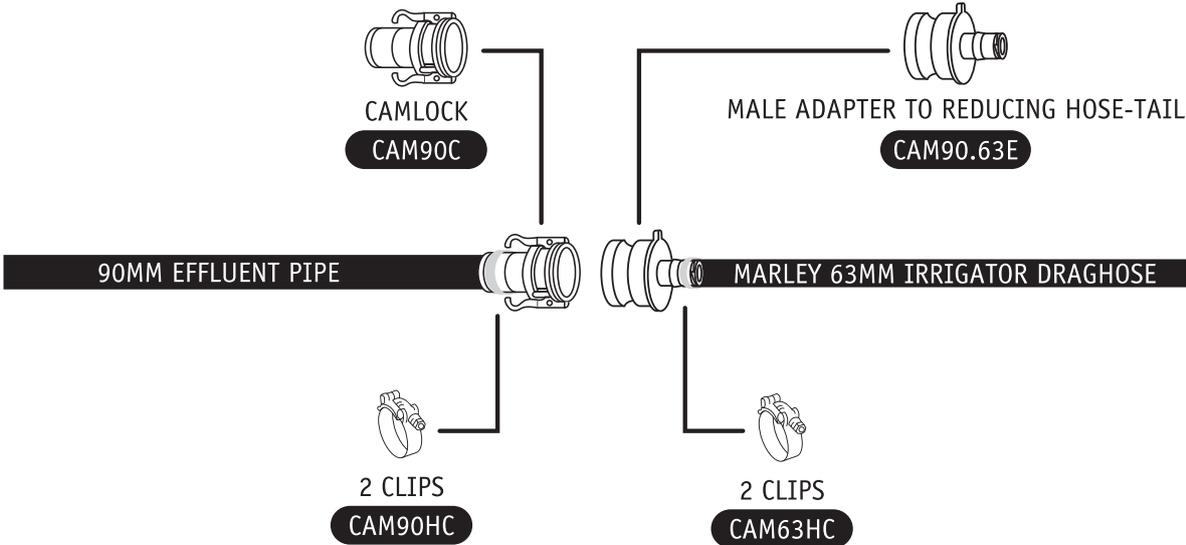


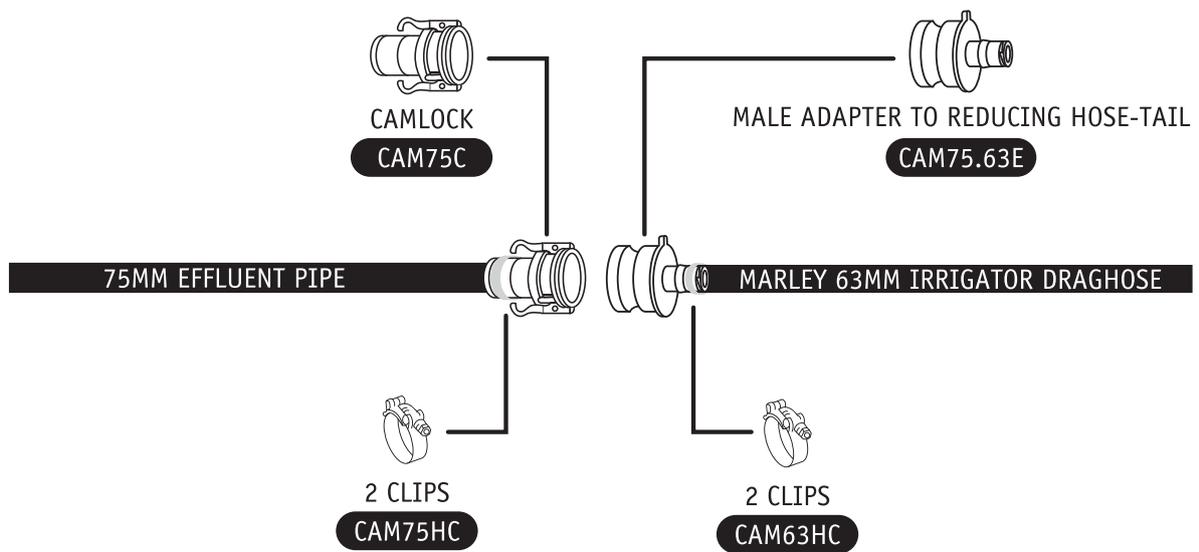
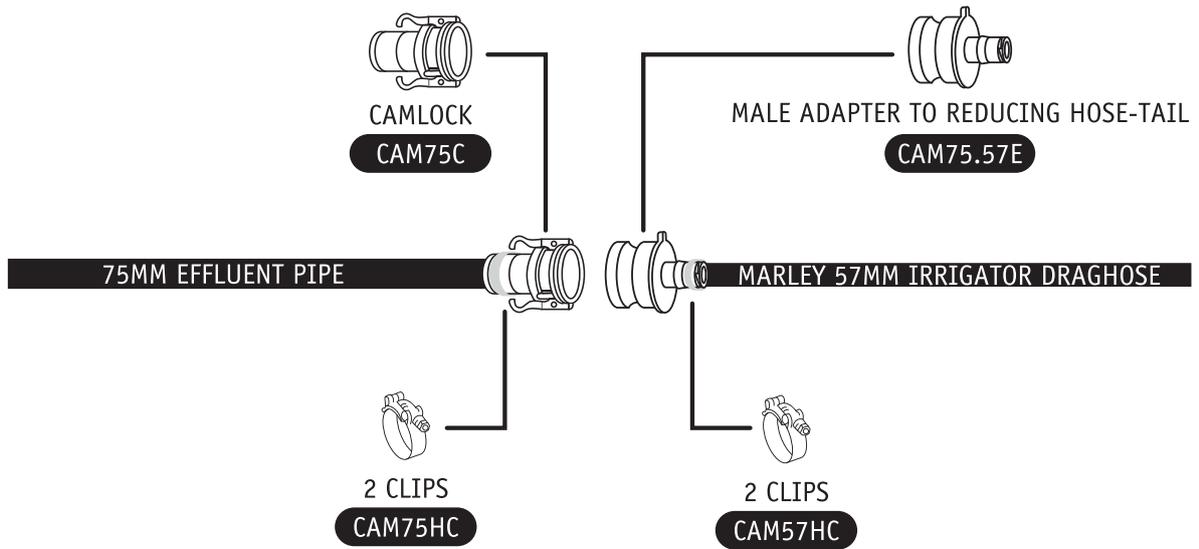
# EFFLUENT PIPE JOINTING



# CONNECTION DIAGRAMS cont.

## EFFLUENT PIPE TO IRRIGATOR DRAGHOSE





# ASSEMBLY PROCEDURE

## MARLEY® 950 SERIES™ ALKATHENE PIPE TO ID FITTINGS

### STEP 1

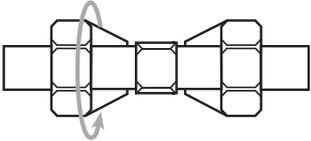
CUT END OF PIPE SQUARE



NOTE: DO NOT CHAMFER OR BEVEL THE PIPE

### STEP 2

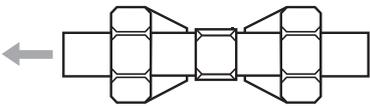
BACK NUT OF FULLY



ID  
STRAIGHT COUPLING

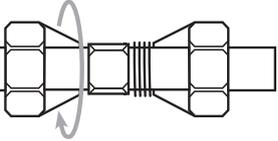
### STEP 3

INSERT FITTING FULLY INTO PIPE



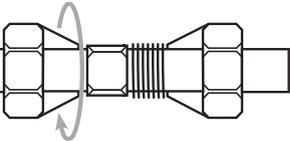
ID  
STRAIGHT COUPLING

TIGHTEN NUT BY HAND



ID  
STRAIGHT COUPLING

TIGHTEN NUT FULLY WITH SPANNER OR PIPE GRIPS



ID  
STRAIGHT COUPLING

## OASIS 0<sup>6</sup> AND 0<sup>9</sup> TO PHILMAC FITTINGS

### STEP 1

CUT END OF PIPE SQUARE



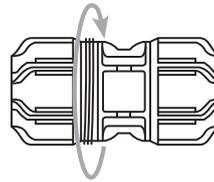
MARLEY OASIS 0<sup>6</sup> OR 0<sup>9</sup> 50MM MDPE

NOTE: DO NOT CHANFER OR BEVEL THE PIPE END AS THIS WILL CAUSE PROBLEMS WITH TIGHTENING THE NUT IN STEP 4.

### STEP 2

LOOSEN JOINER FITTING UNTIL 2-3 THREADS ARE SHOWING

MARLEY OASIS 0<sup>6</sup> OR 0<sup>9</sup> 50MM MDPE

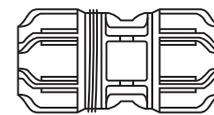


JOINER  
MM301.50

### STEP 3

INSERT PIPE INTO FITTING TO FIRST POINT OF RESISTANCE ONLY

MARLEY OASIS 0<sup>6</sup> OR 0<sup>9</sup> 50MM MDPE

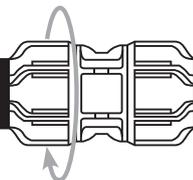


JOINER  
MM301.50

### STEP 4

TIGHTEN NUT FULLY (SPANNER WILL BE REQUIRED TO DO THIS)

MARLEY OASIS 0<sup>6</sup> OR 0<sup>9</sup> 50MM MDPE



JOINER  
MM301.50

**DISCLAIMER**

This technical catalogue has been compiled by Marley New Zealand Limited ("The Company") to promote better understanding of the technical aspects of the Company's products to assist users in obtaining from them the best possible performance. The technical catalogue is supplied subject to acknowledgment of the following conditions:

The technical catalogue is protected by Copyright and may not be copied or reproduced in any form or by any means in whole or in part without prior consent in writing by the Company. Product specifications, usage data and advisory information may change from time to time with advances in research and field experience. The Company reserves the right to make such changes at any time without notice. Correct usage of the Company's products involve engineering judgements which cannot be properly made without full knowledge of all the conditions pertaining to each specific installation. The Company expressly disclaims all and any liability to any person whether supplied with this publication or not in respect of anything and of the consequences of anything done or omitted to be done by any such person in reliance whether whole or partial upon the whole or any part of the contents of this publication. No offer to trade, nor any conditions of trading, are expressed or implied by the issue or content of this manual. Nothing herein shall override the Company's Conditions of Sale, which may be obtained from the Registered Office or any Sales Office of the Company. This technical catalogue is and shall remain the property of the Company, and shall be surrendered on demand to the Company.



For more information: 0800 MARLEY (0800 627539)

[www.marley.co.nz](http://www.marley.co.nz)

an *OAliaxis* company

Rainwater Solutions

