

## Operating pressure

The required pressure for the normal operation of the system is (Tables 14.2 and 14.3):

**TABLE 14.2 - System's operating pressure**

	bars
Pressure for the drippers	1.00
Friction losses in the dripper lateral	0.10
Friction losses in the main line	0.43
Friction losses in the head control	0.90
Minor local losses	0.22
Total dynamic head	2.65

**TABLE 14.3 - Equipment for system installation**

Item	Description	Quantity	Unit price US\$	Total price US\$
	<b>System distribution network</b>			
1.	63 mm HDPE pipe, 6.0 bars	180 m	1.80	324.00
2.	16 mm LDPE pipe, 4.0 bars	4430 m	0.32	2302.60
3.	Drippers, 4 litres/h, 1 bar	8750 pcs	0.06	525.00
4.	63 mm x 2 in PP adaptor	1 pc	6.00	6.00
5.	16 mm x 3/4 in PP adaptor	108 pcs	0.80	86.40
6.	63 mm PP elbow	1 pc	8.00	8.00
7.	63 mm PP end plug	1 pc	6.00	6.00
8.	63 mm x 3/4 in PP clamp saddle	54 pcs	1.30	70.20
9.	3/4 in nipple (galvanized iron or PVC )	54 pcs	0.25	13.50
10.	3/4 in tee (galvanized iron or PVC )	54 pcs	0.40	21.60
11.	3/4 in brass shut-off valves	108 pcs	2.30	248.60
	<b>Sub-total</b>			<b>3609.70</b>
	<b>Head control</b>			
12.	2 in brass check valve	1 pc	13.00	13.00
13.	2 in brass shut-off valve	2 pcs	12.00	24.00
14.	3/4 in brass shut-off valve	2 pcs	2.30	4.60
15.	2 in tee (galvanized iron or PVC)	3 pcs	2.00	6.00
16.	2 in nipple	4 pcs	1.00	4.00
17.	3/4 in nipple	4 pcs	0.25	1.00
18.	1 in air valve	1 pc	12.00	12.00
19.	2 in gravel filter complete	1 pc	600.00	600.00
20.	2 in disk filter, c/with gauges, etc.	1 pc	180.00	180.00
21.	Fertilizer injector complete, up to 150 litres/h	1 pc	500.00	500.00
	<b>Sub-total</b>			<b>1344.00</b>
	<b>TOTAL COST</b>			<b>4953.70</b>

FIGURE 14.3 - Drip irrigation in watermelons. (Sample design)

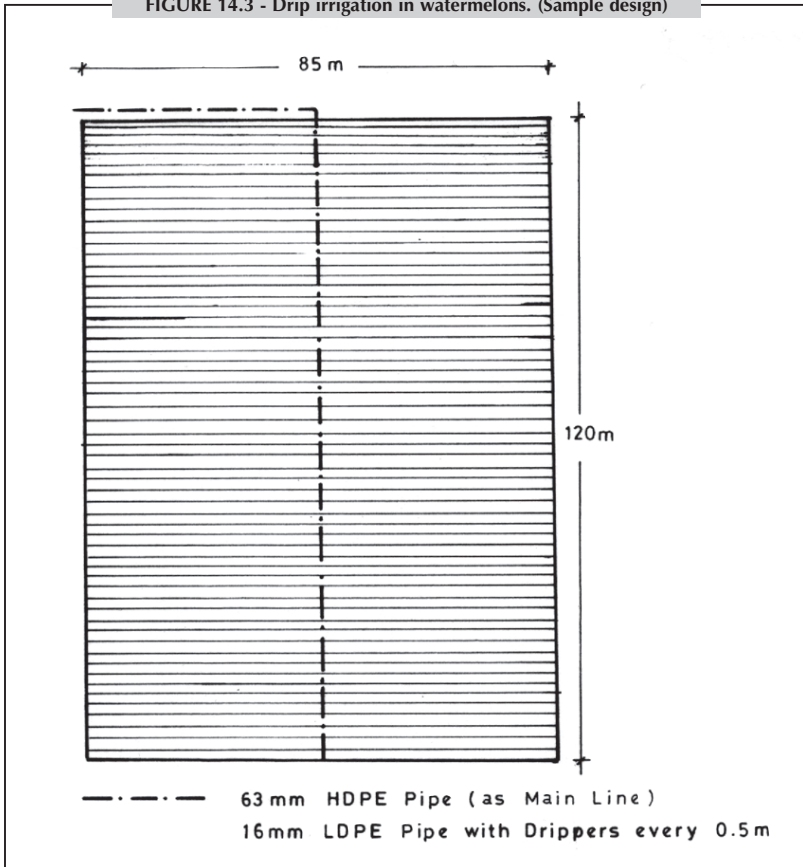
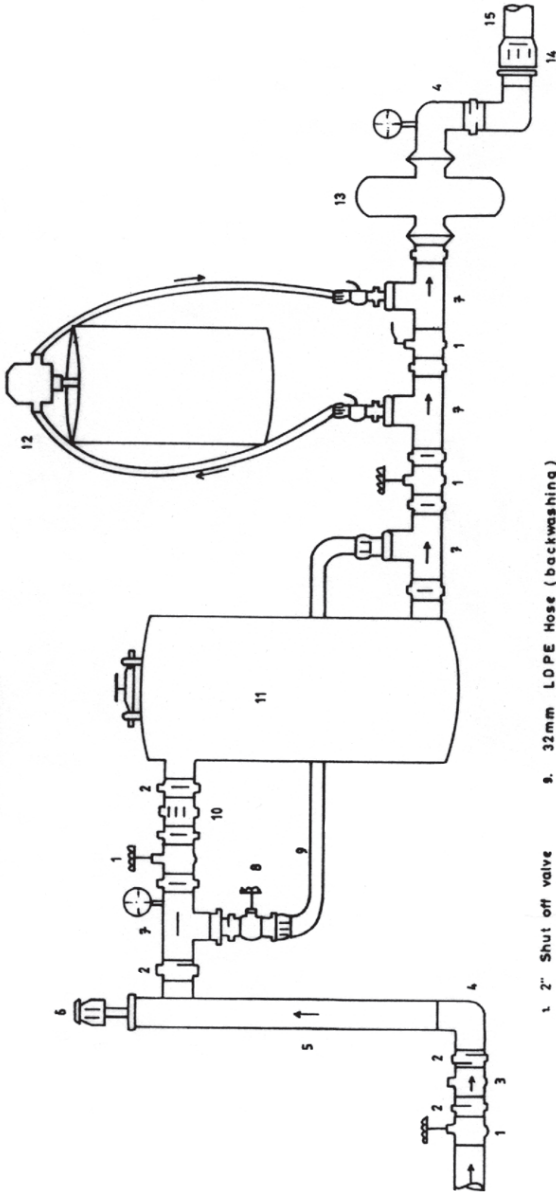


FIGURE 14.4 - Drip irrigation jointing techniques.

The Head Control



- |                      |                                 |
|----------------------|---------------------------------|
| 1. 2" Shut off valve | 9. 32mm LDPE Hose (backwashing) |
| 2. 2" Nipple         | 10. 2" Union threaded           |
| 3. 2" Check valve    | 11. 2" Filter Gravel media      |
| 4. 2" Bend threaded  | 12. Fertilizer injector         |
| 5. 2" Threaded pipe  | 13. 2" Disk Filter              |
| 6. 1" Air valve      | 14. 2"x63mm PP compr. Adaptor   |
| 7. 2" Tee threaded   | 15. 63mm HDPE Pipe Mainline     |
| 8. 1" Shut off valve |                                 |