

SPIS

Pumpsizing For Direct Feed Irrigation Report

Related Information

Month with the highest temperature	January
Average temperature in this month	33.45 °C
Average solar irradiation	4.57 kWh/m ²
Total Water Demand	543.22 m ³ /d

Irrigation System Design

General System Information

Solar system losses	Standard (25%)
Static head	2 m

Pipelines

Irrigation head pipeline length	199.29 m
Irrigation head pipeline diameter	49.74 mm
Main feeder pipeline length (total)	298.99 m
Main feeder pipeline diameter	50.00 mm
Lateral feeder pipeline length (total)	199.73 m
Lateral feeder pipeline diameter	50.00 mm

Fittings

Number of elbows	10
Number of gate valves	150
Number of tees	150
Number of reducers	150
Number of check valves	0

Pressure Requirements

Irrigation method	Drip
Pressure requirements	5.00 m

Irrigation System Requirements

Volume flow	118.87 m ³ /h
Total dynamic head	2747.53 m
Estimated Pump size	1977.68 kW
Estimated Solar Panel surface	12360.47 m²

Remarks:

- Flowmeter and Filter are not considered.
- Especially a filter can influence the pressure loss, so please keep this in mind.
- As material for the pipeline we consider only PVC or PE.