

Standard Install Pump Selection Chart

Step 1, **Is the Tank above ground or buried?** (Circle)

Above ground water tank

Buried water tank

Long suction

Step 2, **Calculate an estimate of the peak flowrate required**

(a) Number of bathrooms _____ x 12 litres/minute = _____ litres per minute

(b) Number of bedrooms _____ x 5 litres/minute = _____ litres per minute

Add (a) + (b) to give an estimate of the peak demand = _____ litres per minute

Step 3, **Is the home single or two stories?** (Circle)

Single Level home

Two Level home

We work on a minimum pump delivery pressure of 250kPa (37psi) for single level homes and on 300kPa (45psi) for two level homes

Step 4, **Select pump model,** (from chart on next page)

First Choice: _____

Second Choice: _____

Third Choice: _____

Note: the pumps are ranked to best suit the job, if in doubt on the flow rate increase flowrate by 10 lpm and you will be well covered.

Step 5, **Control system for switching the pump on and off**

Control System _____

Code "PC" - this is the most common household pump control and is suitable for pumps flow rates upto 70 lpm after that the friction loss through the controller is excessive. It is recommended that you install with 2 or 8 litre pressure tank to prevent unnecessary starts

Code "X-A" - this pump has built in control that acts very similar to a PC unit. Should also be installed with a small pressure tank of 2 - 8 litres in size suitable for pump flow rates upto 80 lpm

Code "MP" - this is a mechanical switch and is ideal on small to large systems, needs to be combined with a pressure tank PT. Suitable for all pump flow rates.

Code "PE" - this is an electronic form of the mechanical pressure switch and has additional features such as run dry, short cycling, and thermal protection. Suitable for all pump flow rates.

Step 6, **Select pressure tank**

PT _____ litres (from chart back page)

Tank sizes available 2, 8, 18, 20, 60, 80, 100, 127, 170, 240, 300 and 450 litre

Code "PT" - this is for the pressure tank that is to be added to the system if on a PC or X-A system the tank size need only be a PT2 or PT8, however on a MP or PE system the total tank volume should ideally be 2-3 x the peak flow rate.

Step 7, **Write out the code for ordering**

_____ \$ _____
 Pump Model Control System Pressure Tank Price

Step 8, **Discharge and Suction Pipe** guidelines refer to table on back page.

	Pump Selection	Estimated Peak Flowrate demand (Litres per Minute)								
		20 L/min	30 L/min	40 L/min	50 L/min	60 L/min	70 L/min	80 L/min	90 L/min	100 L/min
Single Level Home 250kPa	First Choice	INOX 60PC	INOX 80PC	INOX 100PC	INOX 100PC	INOX 40/50PC	MXAM 405MP	MXAM 405MP	MXAM405MP	MXAM405MP
	Second Choice						INOX 40/50MP	INOX 40/50MP	RSM 50MP	RSM 50MP
Two Level Home 300Kpa	First Choice	INOX 80PC	INOX 100PC	INOX 100PC	INOX 40/50PC	INOX 40/50MP	MXAM 405MP	MXAM 405MP	MXAM 405MP	MXAM 405MP
	Second Choice							NGXM 6/18MP	RSM 50MP	RSM 50MP

Buried Water Storage Tank or Pump above tank or long suction line

	Pump Selection	Estimated Peak Flowrate demand (Litres per Minute)								
		20 L/min	30 L/min	40 L/min	50 L/min	60 L/min	70 L/min	80 L/min	90 L/min	100 L/min
Single Level Home 250kPa	First Choice	X-AJE 80	X-AJE 80	X-AJE 120	X-AJE 120	X-AMO 120	X-AMO 120	X-AMV 150	NGXM 6/22MP	NGXM 6/22MP
	Second Choice	INOX 100MP	INOX 100MP	INOX 100MP	150MP	150MP	NGXM 5/16MP	NGXM 6/18MP		
Two Level Home 300Kpa	First Choice	X-AJE 80	X-AJE 120	X-AMO 120	X-AMO 120	X-AMO 120	X-AMV 150	NGXM 6/18MP	NGXM 6/22MP	NGXM 6/22MP
	Second Choice	INOX 100MP	INOX 100MP	INOX 100MP	150MP	NGXM 5/16MP	NGXM 5/16MP			

NGM = Cast iron jet pump 5 year warranty

NGXM = Stainless steel jet pump 5 year warranty

INOX = Stainless steel jet pump 2 year warranty

MXAM = Self priming multistage 5 year warranty

MXHM = Multistage 5 year warranty

RSM = Multistage 2 year warranty

SM = Multistage 2 year warranty

X-AMO = Submersible multistage horizontal 2 year warranty

X-AJE = Submersible jet pump 2 year warranty

X-AMV = Submersible multistage vertical 2 year warranty

Note:

The above table contains codes for base model pumps from which they can be accessorised.

The above tables are a guide and do not cover all eventualities if in doubt please contact Orion Distributors.

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Control system selection

Control System	Elevation to highest outlet from water level	Estimate of the peak flowrate demand								
		20 lpm	30 lpm	40 lpm	50 lpm	60 lpm	70 lpm	80 lpm	90 lpm	100 lpm
PC System	Under 15m							X	X	X
	Over 15m	X	X	X	X	X	X	X	X	X
X-A System	Under 15m								X	X
	Over 15m	X	X	X	X	X	X	X	X	X
MP System	All									
PE System	All									

Pipe sizing selection

Pipe Length Tank to House	Pipe Internal Diameter for Estimated Peak Flowrate demand (Litres per Minute)								
	20 lpm	30 lpm	40 lpm	50lpm	60 lpm	70 lpm	80 lpm	90 lpm	100 lpm
upto 10 metres	Pipe ID 20mm	Pipe ID 20mm	Pipe ID 20mm	Pipe ID 25mm	Pipe ID 25mm	Pipe ID 25mm	Pipe ID 32mm	Pipe ID 32mm	Pipe ID 32mm
upto 20 metres	Pipe ID 20mm	Pipe ID 20mm	Pipe ID 25mm	Pipe ID 25mm	Pipe ID 25mm	Pipe ID 32mm	Pipe ID 32mm	Pipe ID 32mm	Pipe ID 40mm
upto 30 metres	Pipe ID 20mm	Pipe ID 25mm	Pipe ID 25mm	Pipe ID 25mm	Pipe ID 32mm	Pipe ID 32mm	Pipe ID 32mm	Pipe ID 40mm	Pipe ID 40mm
upto 40 metres	Pipe ID 20mm	Pipe ID 25mm	Pipe ID 25mm	Pipe ID 32mm	Pipe ID 32mm	Pipe ID 32mm	Pipe ID 40mm	Pipe ID 40mm	Pipe ID 40mm

Important: The suction lines length, joints and bends are to be minimized as they reduce pump performance

Note: Above table allows a maximum of 30kPa frictional loss at peak flow rate

Pressure tank selection

Control System	Tank Size guide-lines	Estimated Peak Flowrate demand (Litres per Minute)								
		20 lpm	30 lpm	40 lpm	50lpm	60 lpm	70 lpm	80 lpm	90 lpm	100 lpm
PC Elec-tronic pres-sure control	Minimum Tank Volume	2 litre*	2 litre*	2 litre*	2 litre	2 litre	8 litre			
	Ideal Tank Volume	8 litre	8 litre	8 litre	8 litre	18 litre	18 litre			
X-A Elec-tronic pres-sure control	Minimum Tank Volume	2 litre*	2 litre*	2 litre	2 litre	2 litres	8 litre	8 litre		
	Ideal Tank Volume	8 litre	8 litre	8 litre	8 litre	18 litre	18 litre	18 litre		
MP Me-chemical pressure switch	Minimum Tank Volume	8 litre	8 litre	18 litre	18 litre	60 litre	80 litre	80 litre	80 litre	100 litre
	Ideal Tank Volume	60 litre	80 litre	100 litre	127 litre	170 litre	240 litre	240 litre	240 litre	300 litre
PE Elec-tronic pres-sure switch	Minimum Tank Volume	8 litre	8 litre	18 litre	18 litre	60litre	80 litre	80 litre	80 litre	100 litre
	Ideal Tank Volume	60 litre	80 litre	100 litre	127 litre	170 litre	240 litre	240 litre	240 litre	300 litre