Drainage: Which pump for which application?

	Clear water								Dirty water						
	Clear water submersible pumps								Combi pumps		Construction and dirty water pumps		Dirty water submersible pumps		
	TPF 18 LTX 2200	TP 6600	TPF 6600 SN	TPF 7000 S	TP 7500 SI	TP 8000 S	TP 12000 SI	TP 13000 S	TPS 14000 S Combi	TPS 16000 S Combi	DP 28-10 S Inox	SP 28-50 S Inox	PS 7500 S	PS 15000 S	PS 18000 SN
Pumping out, circulating of clear water from containers, pools, ponds etc.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Pumping out, circulating of dirty water									■	■	■	■	■	■	■
Low-intake suction	■		■	■	■		■		■	■					
Minimal residual water level after pumping out (mm)	2	7	2	2	2	7	2	4	3	3	28	48	34	39	48
Shaft drainage (depending on the size of the shaft)									■	■	■	■	■	■	■
Drainage of clear water from cellars/ ponds	■	■	■	■	■	■	■	■	■	■					
Drainage of very dirty water from cellars/ ponds											■				
Pumping-dry construction pits and flooded areas											■	■			
High water protection									■	■	■	■			
Fire and water restoration									■	■	■	■			
Agricultural use											■	■			
Industrial use												■			

Irrigation: Which pump for which application?

	Irrigation									Domestic water supply													
	Garden pumps						Submersible pressure pump	Rain barrel pump	Deep well pump	Domestic waterworks											Domestic waterwork		
	P 2000 G	P 3300 G	P 4000 G	P 4500 Inox	P 6000 Inox	P 9000G	TDP 7501 S	TPF 18 LTX 2200	TBP 6200/8 Inox	HWW 3300/25 G	HWW 3500/25 Inox	HWWI 3500/25 Inox	HWW 4000/25 G	HWW 4500/25 Inox	HWW 4500/25 Inox Plus	HWWI 4500/25 Inox	HWW 6000/25 Inox	HWW 6000/50 Inox	HWW 9000/100 G	HWA 3500 Inox	HWAI 4500 Inox	HWA 6000 Inox
Groundwater pumping	■	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■	■	■	■
Garden irrigation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Garden irrigation: Number of possible attachments (e.g. sprinkler, showers)	2	2	2	3	4	6	3	1	4	2	2	2	3	3	3	3	4	4	6	2	3	4
Pumping, pumping out, circulating of clear water	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Automatic domestic water supply										■	■	■	■	■	■	■	■	■	■	■	■	■
Pumping of water from wells, deeper springs							■		■													
Pumping of water from greater depths e.g. bore holes / shafts min. Ø 100 mm									■													
Pressure increase										■	■	■	■	■	■	■	■	■	■	■	■	■
Automatic water supply in the agricultural area																			■			

Delivery height

Maximum height to which the water is pumped upwards vertically in a hose (10 m corresponds to 1 bar pressure)

Delivery output / delivery rate

Maximum water quantity that can be pumped. (l/h or l/min)

Suction height

Difference in height between water level and pump

Free passage

Max. grain / particle size that can be processed by the pump

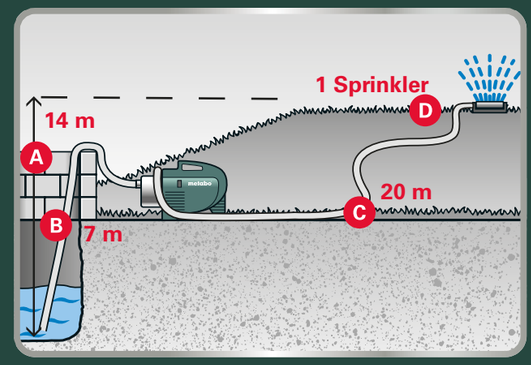
metabo

Calculation of the required delivery rate and the required pressure.

Calculation example for required pressure			Calculation
A	Delivery height Suction height + pressure head (10 m = 1 bar)	14 m : 10 =	1.4 +
B	Length suction hose (Calculation friction loss with a hose Ø 1"= 0.005)	7 m x 0.005 =	0.035 +
C	Length pressure hose (Calculation friction loss with a hose Ø 3/4"= 0.015)	20 m x 0.015 =	0.3 +
1	Required minimum pressure in general Required minimum pressure in total:		2 bar = 3.7 bar

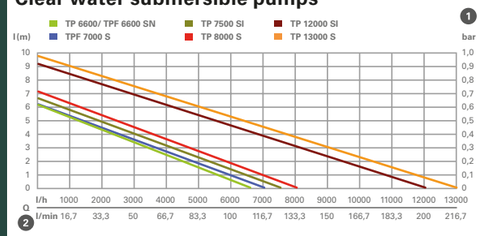
Calculation example required amount of water		Calculation
D	Delivery rate (Water requirements of all connected consumers, e.g. sprinkler, toilet)	700 l/h +
2	Water requirements house (Estimate 1 house with 5 persons) Required amount of water in total:	2,000 l/h = 2,700 l/h

Selecting the right pump with 1 + 2

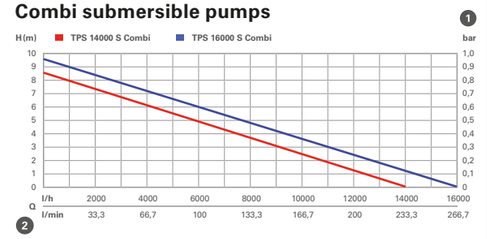


Pump characteristics

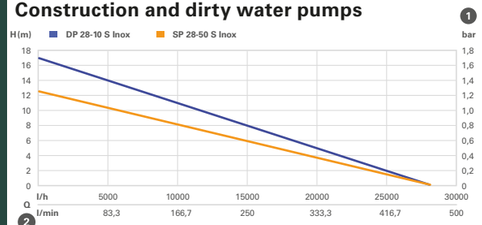
Clear water submersible pumps



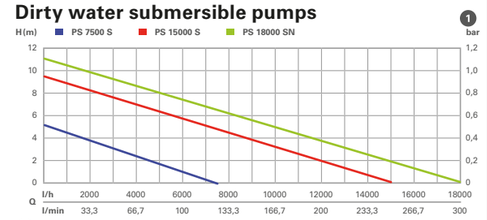
Combi submersible pumps



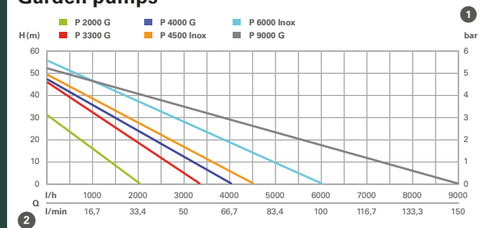
Construction and dirty water pumps



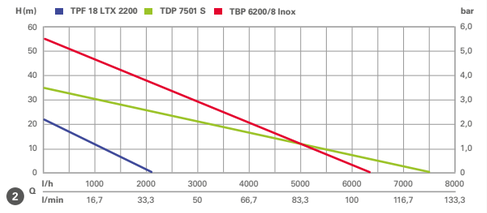
Dirty water submersible pumps



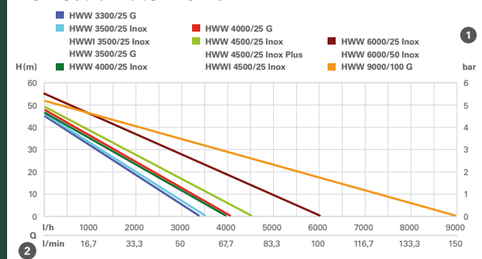
Garden pumps



Rain barrel pump / submersible pressure pump / deep well pumps



Domestic waterworks



Automatic domestic water systems