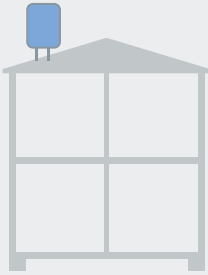


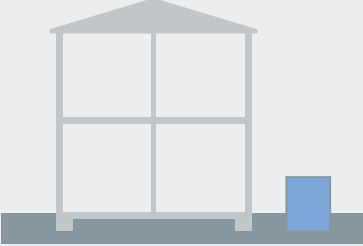



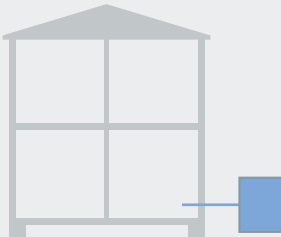





**PERFECT WATER PRESSURE
JUST WHEN YOU NEED IT**

QUICK SELECTION GUIDE

PRESSURE BOOSTING - PUMP SELECTION

Use the table below to select the best Grundfos pump for any type of water supply task.
Once you’ve settled on a pump model, use the corresponding sizing guide to get the perfect fit.

	Good	Better	Best
<div></div> <div>Boosting from roof tank</div>		<div></div> <div>SCALA1</div>	<div></div> <div>SCALA2</div>
<div></div> <div>Boosting from tank</div>	<div></div> <div>Jet pump & booster</div>	<div></div> <div>SCALA1</div>	<div></div> <div>SCALA2</div>
<div></div> <div>Boosting from mains*</div>	<div></div> <div>SCALA1</div>	<div></div> <div>SCALA2</div>	<div></div> <div>CME BOOSTER</div>
<p>*Always make sure to check the local legislation before installing a booster pump directly onto the water main.</p>			

PRESSURE BOOSTING - PUMP SELECTION

Use the table below to select the best Grundfos pump for any type of water supply task.
Once you’ve settled on a pump model, use the corresponding sizing guide to get the perfect fit.

	Good	Better	Best
<div></div> <div>Boosting from well or tank with a depth of less than 8 metres</div>	<div>DRY INSTALLED</div> <div></div> <div>Jet pump & booster</div>	<div></div> <div>SCALA1</div>	<div></div> <div>SCALA2</div>
<div></div> <div>Boosting in well, tank or borehole with a depth of more than 8 metres</div>	<div>SUBMERGED</div> <div></div> <div>SB with PM1 or PM2</div>	<div></div> <div>SBA</div>	
		<div></div> <div>SQ</div>	<div></div> <div>SQE CONSTANT PRESSURE PACKAGE</div>

PRESSURE BOOSTING - QUICK SIZING

Tapping point

Ex. sizing and selection

1. Required comfort level:

- Adjustable contant pressure

2. Find the right booster:










- How many taps: 6 taps










- How many floors: 3 floors









3. Result: **CMBE 1-44**

Taps	1-5	6-10
Floors		
4	CMBE 1-75	CMBE 1-75
3	CMBE 1-44	CMBE 1-44
2	CMBE 1-44	CMBE 1-44
1	CMBE 1-44	CMBE 1-44

ADJUSTABLE CONSTANT PRESSURE LEVEL










 CMBE	Floors\Taps	 1-5	 6-10	 11-20	 21-50
	 4	CMBE 1-75	CMBE 3-62	CMBE 5-62	—
	 3	CMBE 1-44	CMBE 3-62	CMBE 5-62	—
	 2	CMBE 1-44	CMBE 3-62	CMBE 5-62	—
	 1	CMBE 1-44	CMBE 3-30	CMBE 3-30	—










 CMBE TWIN (Duty/Assist)	Floors\Taps	 1-5	 6-10	 11-20	 21-50
	 4	—	—	—	CMBE TWIN 5-62
	 3	—	—	—	CMBE TWIN 5-62
	 2	—	—	—	CMBE TWIN 5-62
	 1	—	—	—	CMBE TWIN 5-31


 SCALA2 · All-in-one design · Dry-run protection	Floors\Taps	 1-5	 6-10	 11-20
	 4	SCALA2 3-45*	—	—
	 3	SCALA2 3-45	SCALA2 3-45	—
	 2	SCALA2 3-45	SCALA2 3-45	—
	 1	SCALA2 3-45	SCALA2 3-45	SCALA2 3-45

PRESSURE BOOSTING - QUICK SIZING

CONVENTIONAL PUMP CONTROL

 SCALA1 · All-in-one booster · Water on demand · Self-priming	Floors\Taps	 1-5	 6-10	 11-20	 21-50
	 4	SCALA1 3-45*	SCALA1 5-55	—	—
	 3	SCALA1 3-45	SCALA1 3-45	SCALA1 5-55	—
	 2	SCALA1 3-35	SCALA1 3-45	SCALA1 5-55	—
	 1	SCALA1 3-25	SCALA1 3-35	SCALA1 3-45	—


 SCALA1 TWIN (Duty/Assist) · Easy solution for twin-booster · Easy installation · Enabled for Grundfos GO Remote	Floors\Taps	 1-5	 6-10	 11-20	 21-50
	 4	—	—	SCALA1 TWIN 5-55	SCALA1 TWIN 5-55
	 3	—	—	—	SCALA1 TWIN 5-55
	 2	—	—	—	SCALA1 TWIN 5-55
	 1	—	—	—	SCALA1 TWIN 5-55


 Jet pump & booster · Easy to install · Self-priming · Robust design	Taps or m³/h			
		1-5 taps 1-2 m³/h	6-10 taps 3-4 m³/h	11-20 taps 4-5 m³/h
	Manually controlled water supply	JP 3-42	JP 4-47/54	JP 5-48
	Contant water supply with pressure-drop compensation	JP 3-42 PT-V/H	JP 4-47/54 PT-V/H	JP 5-48 PT-V/H
	Constant water supply. Dry-running protection and anti-cycling function	JP 3-42 PM	JP 4-47/54 PM	JP 5-48 PM

PRECONDITIONS
· 3 bar tap pressure is considered, to achieve 4 bar pressure add 2 more floors · Flooded Suction · 0.5 l/s per tap average, usage pattern is taken into account

PRESSURE BOOSTING - QUICK SIZING


CONVENTIONAL PUMP CONTROL

 SBA	Application	Recommended pump
	One-storey house For toilet flushing, washing machine, car washing and garden watering	SBA 3-35
	Two-storey house For toilet flushing, washing machine, car washing and garden watering	SBA 3-45

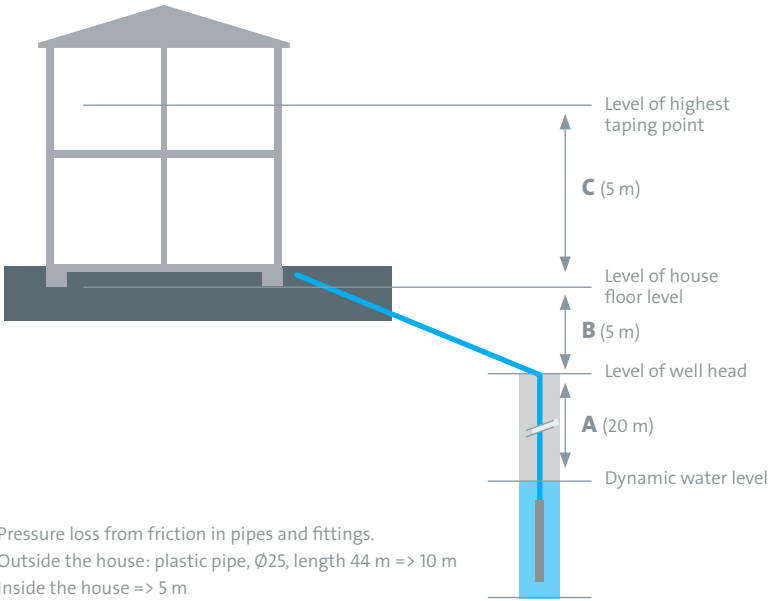
 SB	General recommendation	Application	Recommended pump
	If the distance from tank wall to the pump is above 1.5 metres (4.9 feet), the model with side inlet should be selected. If the distance from tank wall to the pump is less 1.5 metres (4.9 feet), the model with suction strainer should be selected.	One-storey house For toilet flushing, washing machine, car washing and garden watering	SB 3-35
		Two-storey house For toilet flushing, washing machine, car washing and garden watering	SB 3-45

GROUNDWATER - QUICK SIZING - PUMP

FLOW SIZING

 SQ · Compact design · Built-in motor protection · Easy installation							Nominal flow [m³/h]	Recommended pump size
	Kitchen sink	Dish washer, washing machine	Toilet w. wash basin and WC	Bathroom w. wash basin, WC and shower	Bathroom w. wash basin, WC and bathtub	Garden and lawn irrigation		
	Small house	1		1			1	SQ1
	Medium house	1	2	1	1		2	SQ2
	Large house	2	2		1	1	2	SQ3
	2 x large house						5	SQ5
	3 x large house						7	SQ7

HEAD SIZING



Calculate max. pressure required

- Pressure (H) at the tap requiring max. pressure = X
- Static head (A + B + C) = Y
- Pressure loss from friction in pipes and fittings = Z

$H_{total} = X + Y + Z$

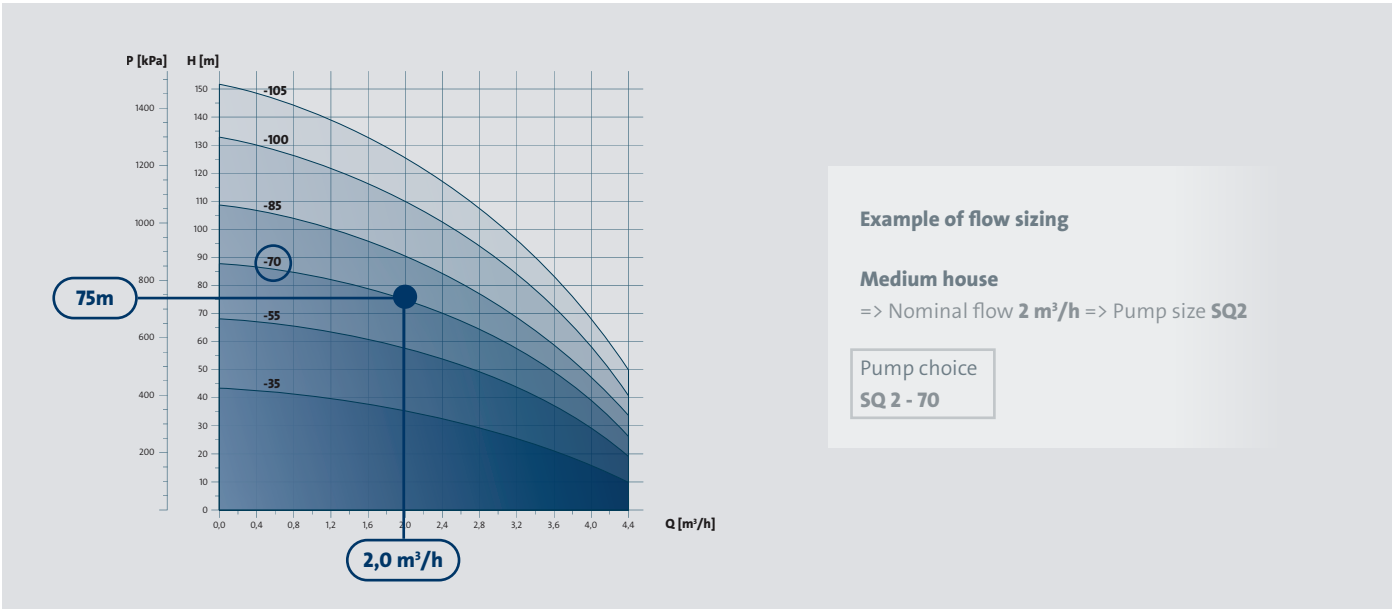
Example of calculation

- Pressure at the tap (max pressure): 3 bar = 30 m
- Static head: 20 m + 5 m + 5 m = 30 m
- Pressure loss from friction in pipes and fittings: 10 m + 5 m = 15 m

Maximum pressure required:

$H_{total} = 30 \text{ m} + 30 \text{ m} + 15 \text{ m} = 75 \text{ m}$

PUMP SELECTION

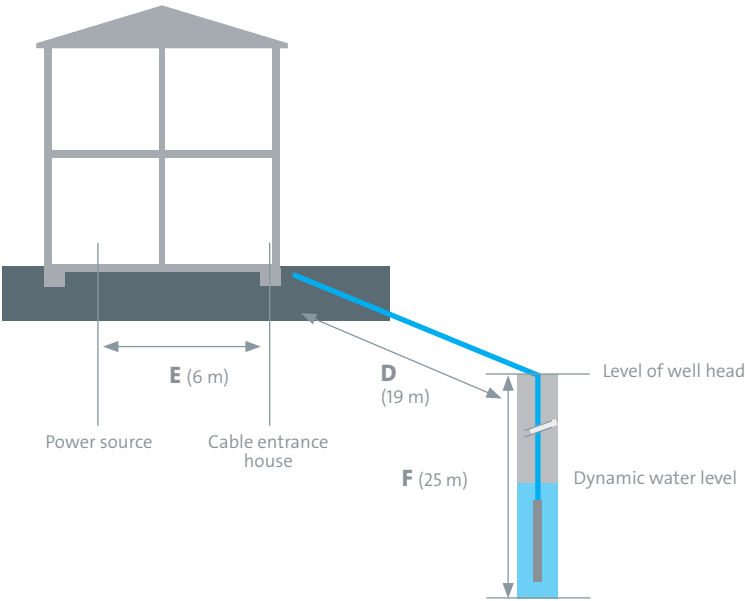


GROUNDWATER - QUICK SIZING - CABLE

MAXIMUM CABLE LENGTH

 SQ CABLE · Supply voltage 240 V · 5% voltage drop	P2 [kW]	I _{MAX} [A]	Wire cross sectional area [mm²]			
			1.5	2.5	4.0	6.0
	Maximum cable length [m]					
	0.70	5.2	86	144	230	346
	1.15	8.4	53	89	142	214
	1.68	11.2	40	66	107	160
	1.85	12.0	37	62	100	150

HOW TO SELECT THE CROSS-SECTIONAL AREA



! Supply voltage 240 V 5% voltage drop and cable supplied by Grundfos.

How to select the cross-sectional area of the individual wire of a submersible drop cable

1. Select SQ pump incl. motor size
2. Required total length of cable (D + E + F)
3. Read the cross-sectional area of individual wire of the drop cable

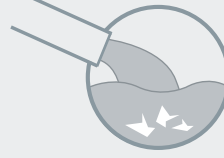
Example:

1. SQ pump incl. motor size
SQ 2-70, motor size 1,15 kW
2. Distance from pump to the power source (outside 44 m (D + F) + inside 6 m (E))
50 m
3. Selected cross-sectional area
1,5 mm²

WASTE WATER - PUMP SELECTION

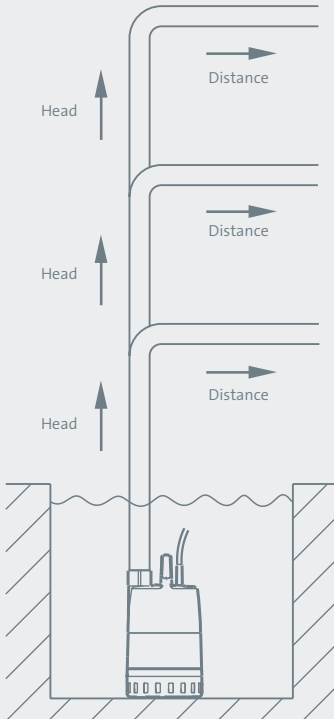
Use the tables below to select the best Grundfos pump for any type of wastewater task. Once you’ve settled on a pump model, use the corresponding sizing guide to get the perfect fit.

DRAINAGE

		Max. solid size [mm]	
 Drainage For portable use or permanent installation, clean or greywater and salt water*	Light duty	10 mm	UNILIFT CC
		10 mm	UNILIFT KP
	Heavy duty	12 mm	UNILIFT AP12
 Effluent Surface- and rainwater as well as greywater from sanitary appliances		35 mm	UNILIFT AP35
		35 mm	UNILIFT AP35B
		50 mm	UNILIFT AP50
 Sewage/Domestic wastewater Domestic wastewater with toilet discharge		50 mm	UNILIFT AP50B

* Only special version of UNILIFT CC 7 and 9

DRAINAGE - QUICK SIZING



Ex. sizing and selection

1. **Select the best Grundfos pump for the type of wastewater task you need to solve:**

- Use the table on previous page


2. **Find the right pump:**

- How head: 9 m

- How long distance: 400 m

3. **Result: AP12.50.11**

	AP12.40.08	AP12.50.11
Head\Distance		
14 m		Max. 95 m
12 m	Max. 1 m	Max. 200 m
10 m	Max. 150 m	Max. 410 m
8 m	Max. 310 m	Max. 620 m




UNILIFT CC

The selection and sizing illustration is based on an inner diameter of a DN 32 discharge pipe and secure a self cleaning velocity inside the pipe.

	CC 5	CC 7	CC 9
Head\Distance			
7 m			Max. 45 m
6 m			Max. 80 m
5 m		Max. 15 m	Max. 115 m
4,5 m		Max. 35 m	Max. 130 m
4 m		Max. 50 m	Max. 150 m
3 m		Max. 80 m	Max. 180 m
2,5 m	Max. 10 m	Max. 100 m	Max. 200 m
2 m	Max. 25 m	Max. 110 m	Max. 215 m


DRAINAGE - QUICK SIZING



UNILIFT KP

The selection and sizing illustration is based on an inner diameter of a DN 32 discharge pipe and secure a self cleaning velocity inside the pipe.

	KP 150	KP 250	KP 350
Head\Distance			
7 m			Max. 25 m
6 m		Max. 20 m	Max. 60 m
5 m		Max. 50 m	Max. 95 m
4 m		Max. 85 m	Max. 130 m
3,5 m	Max. 15 m	Max. 105 m	Max. 145 m
3 m	Max. 30 m	Max. 120 m	Max. 160 m
2 m	Max. 65 m	Max. 160 m	Max. 195 m




UNILIFT AP12

The selection and sizing illustration is based on an inner diameter of a 11/2” pipe for UNILIFT AP12.40 and 2” pipe for UNILIFT AP12.50 and secure a self cleaning velocity inside the pipe.

	AP12.40.04	AP12.40.06	AP12.40.08	AP12.50.11
Head\Distance				
14 m				Max. 8 m
12 m			Max. 40 m	Max. 115 m
10 m		Max. 60 m	Max. 130 m	Max. 250 m
8 m	Max. 45 m	Max. 150 m	Max. 220 m	Max. 370 m
6 m	Max. 135 m	Max. 240 m	Max. 310 m	Max. 490 m
4 m	Max. 225 m	Max. 330 m	Max. 400 m	Max. 610 m
2 m	Max. 320 m	Max. 420 m	Max. 495 m	Max. 735 m


DRAINAGE - QUICK SIZING

 UNILIFT AP35	The selection and sizing illustration is based on an inner diameter of a 1½" pipe and secure a self cleaning velocity inside the pipe.		
	AP35.40.06		AP35.40.08
	Head\Distance		
	9 m		Max. 30 m
	8 m		Max. 75 m
	7 m	Max. 35 m	Max. 120 m
	6 m	Max. 80 m	Max. 165 m
	5 m	Max. 130 m	Max. 215 m
	4 m	Max. 170 m	Max. 255 m
	3 m	Max. 220 m	Max. 305 m
	2 m	Max. 265 m	Max. 350 m

 UNILIFT AP35B	The selection and sizing illustration is based on an inner diameter of a 2" pipe and secure a self cleaning velocity inside the pipe.		
	AP35B.50.06		AP35B.50.08
	Head\Distance		
	9 m		Max. 15 m
	8 m		Max. 75 m
	7 m	Max. 20 m	Max. 135 m
	6 m	Max. 80 m	Max. 195 m
	5 m	Max. 140 m	Max. 260 m
	4 m	Max. 200 m	Max. 320 m
	3 m	Max. 260 m	Max. 385 m
	2 m	Max. 325 m	Max. 440 m

DRAINAGE - QUICK SIZING

 UNILIFT AP50	The selection and sizing illustration is based on an inner diameter of a 2" pipe and secure a self cleaning velocity inside the pipe.		
	AP50.50.08		AP50.50.11
	Head\Distance		
	9 m		Max. 55 m
	8 m		Max. 115 m
	7 m	Max. 45 m	Max. 175 m
	6 m	Max. 105 m	Max. 235 m
	5 m	Max. 165 m	Max. 295 m
	4 m	Max. 225 m	Max. 360 m
	3 m	Max. 285 m	Max. 405 m
	2 m	Max. 350 m	Max. 480 m



UNILIFT AP50B

The selection and sizing illustration is based on an inner diameter of a 2" pipe and secure a self cleaning velocity inside the pipe.

















	AP50B.50.08	AP50B.50.11	AP50B.50.15
Head \ Distance			
14 m			Max. 65 m
12 m			Max. 190 m
11 m		Max. 25 m	Max. 250 m
10 m		Max. 85 m	Max. 310 m
9 m		Max. 145 m	Max. 370 m
8 m	Max. 45 m	Max. 205 m	Max. 430 m
6 m	Max. 165 m	Max. 330 m	*
5 m	Max. 225 m	Max. 390 m	*
4 m	Max. 285 m	Max. 450 m	*
3 m	Max. 345 m	*	*
2 m	Max. 490 m*	Max. 740 m*	Max. 1060 m*

*The pumps shall not operate for longer time with this Head

LIFTING STATIONS

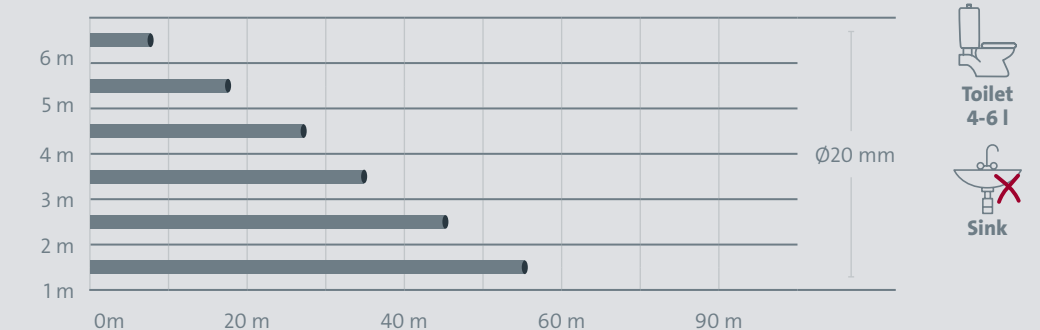
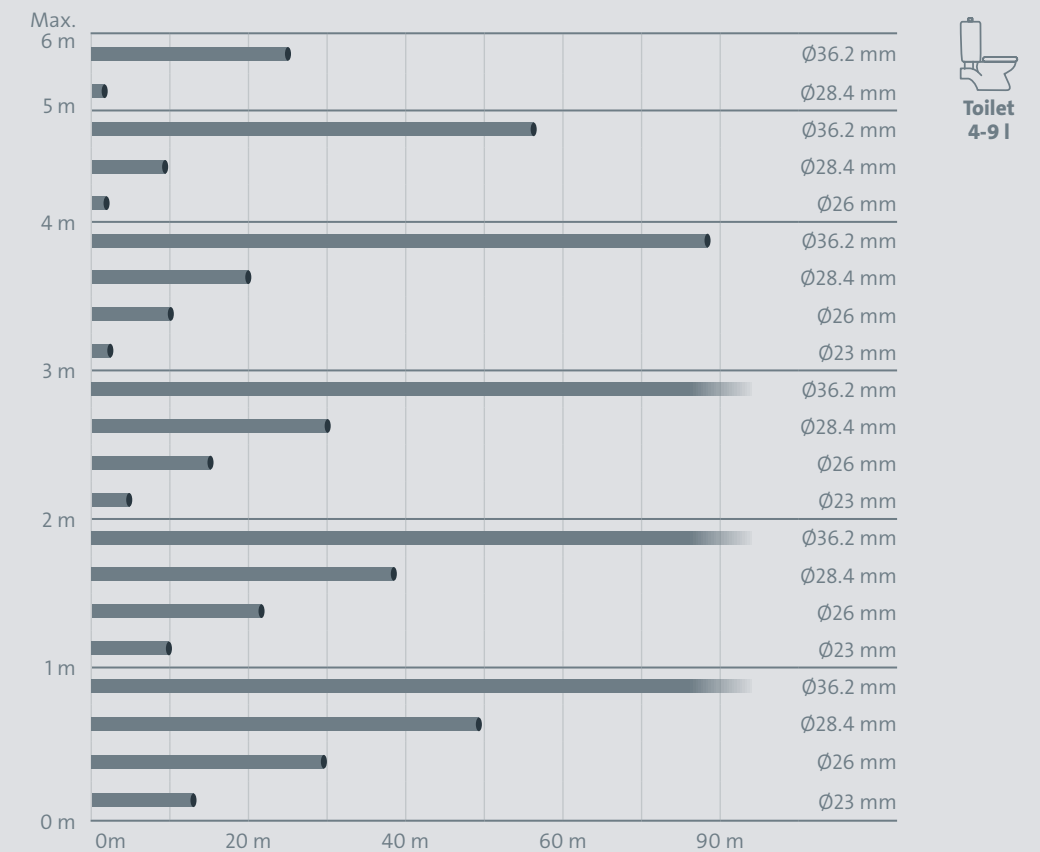
● Fixed inlet

○ Additional optional inlet

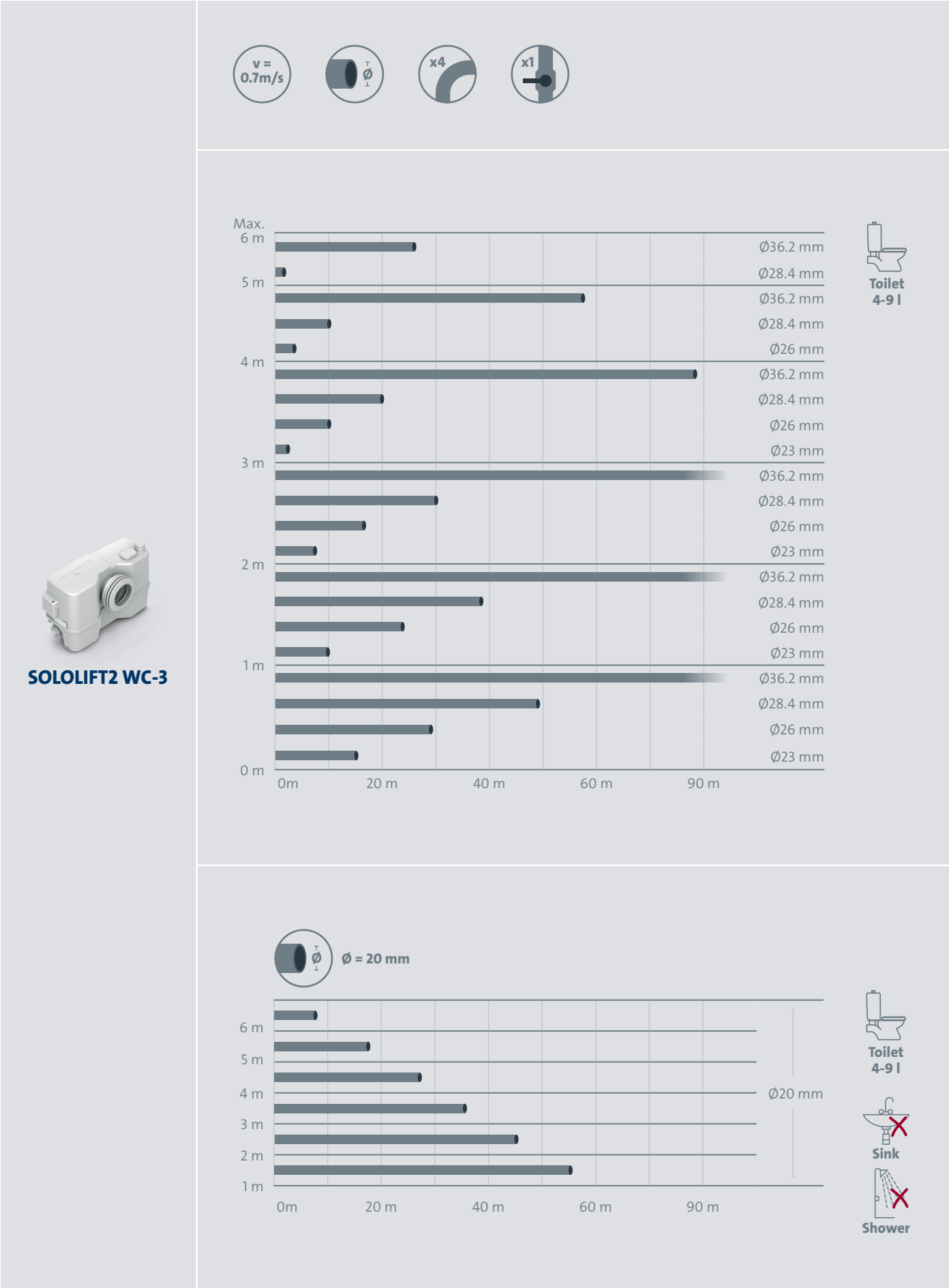
	 SOLOLIFT2 WC-1	 SOLOLIFT2 WC-3	 SOLOLIFT2 D-2	 SOLOLIFT2 C-3	 SOLOLIFT2 CWC-3
 Toilet	●	●			
 Wall-mounted toilet					●
 Urinal	○	○			○
 Sink	○	○	○	○	○
 Bidet		○	○	○	○
 Shower		○	○	○	○
 Bathtub				○	
 Washing machine				○	
 Kitchen sink				○	
 Dish-washer				○	
 Water softener				○	



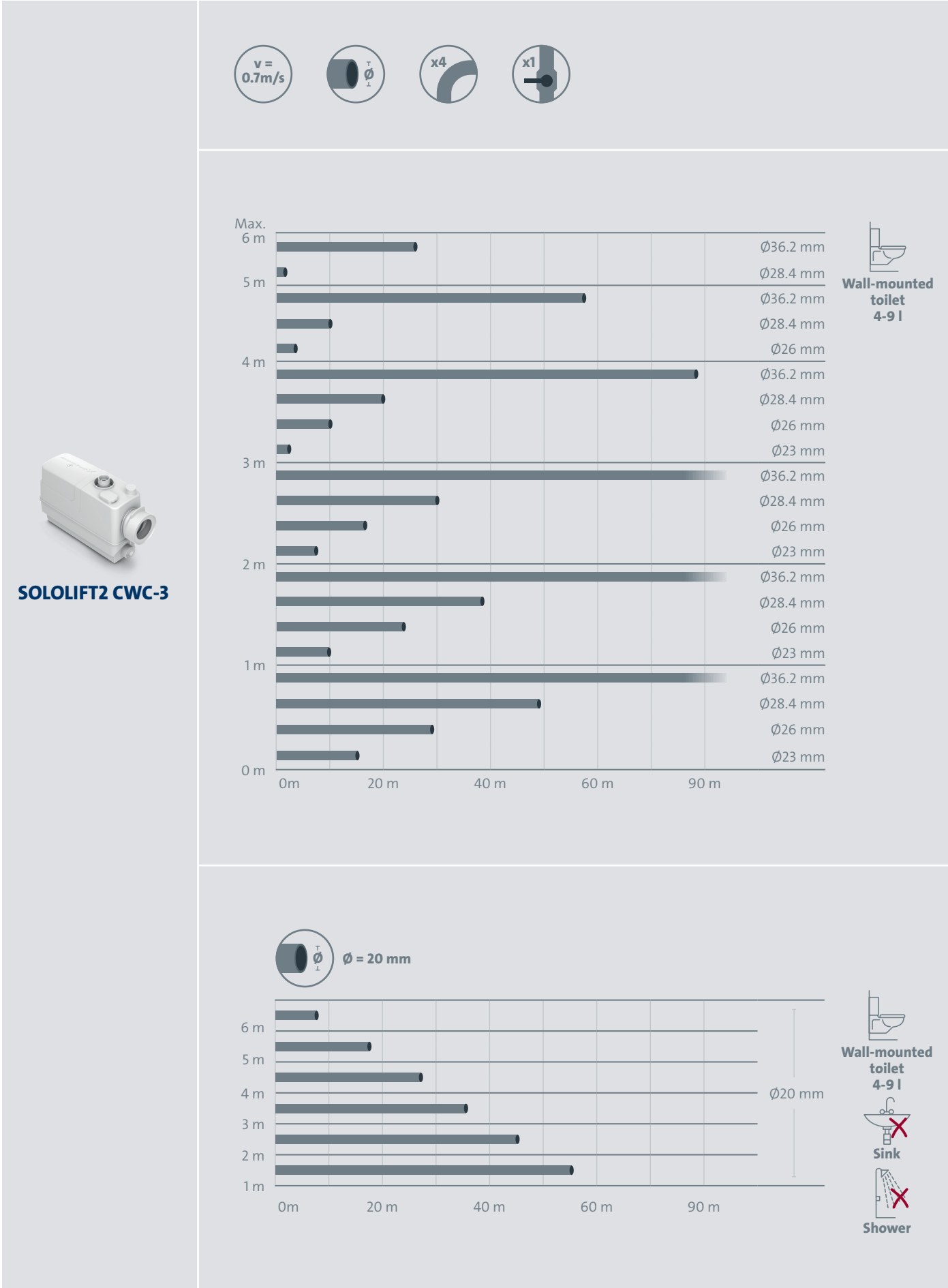
SOLOLIFT2 WC-1



LIFTING STATIONS - QUICK SIZING



LIFTING STATIONS - QUICK SIZING



LIFTING STATIONS - QUICK SIZING



SOLOLIFT2 C-3

6 m			9	13								Ø36.2 mm
	30	30										Ø28.4 mm
	14	14										Ø26 mm
	4											Ø23 mm
5 m												Ø20 mm
			31	35		3						Ø36.2 mm
	54	54	2.5	4								Ø28.4 mm
	30	30										Ø26 mm
4 m	13											Ø23 mm
	2	2.5										Ø20 mm
			53	58	8	14		0.5				Ø36.2 mm
	78	78	9	11								Ø28.4 mm
3 m	45	45	2.5	4.5								Ø26 mm
	21	21										Ø23 mm
	6.5	7										Ø20 mm
			76	80	19	24		7				Ø36.2 mm
2 m	102	102	16	18	1.5	3						Ø28.4 mm
	61	61	7	9.5								Ø26 mm
	30	30	2	2.5								Ø23 mm
	12	12										Ø20 mm
1 m			98	102	29	35		13		3		Ø36.2 mm
	126	128	23	25	5	6.5		1				Ø28.4 mm
	77	76	12	14	1	2.5						Ø26 mm
	39	39	5	5.5								Ø23 mm
0 m	16	16	0.5	0.5								Ø20 mm
			120	124	38	46		20		7	1	Ø36.2 mm
	150	150	30	32	9	10		3.5		0.5		Ø28.4 mm
	92	92	17	19	3.5	5		1.5				Ø26 mm
	47	47	8	8.5	1	1.5						Ø23 mm
	20	21	2.5	2.5								Ø20 mm
0.5 l/s			1 l/s		1.5 l/s		2 l/s		2.5 l/s		3 l/s	
<div><div></div><div>√</div><div></div><div>(√)</div><div></div></div>												

LIFTING STATIONS - QUICK SIZING



SOLOLIFT2 D-2

4 m					Ø28.4 mm
					Ø20 mm
3 m	6				Ø28.4 mm
		24			Ø20 mm
2 m	22	0,1			Ø28.4 mm
		47	3		Ø20 mm
1 m	37	4.5			Ø28.4 mm
		71	10		Ø20 mm
0 m	52	9,5			Ø20 mm
	0.25 l/s	0.5 l/s	1 l/s	1.5 l/s	

PRESSURE BOOSTING – SHOWER PUMP SELECTION



Pump Type	STR2 & SSR2						AMAZON											
Bar Pressure	1.5		2.0		2.0		1.5		2.0		3.0		4.0		2.0		3.0	
	Twin				Single		Twin								Single		Single	
Product Model	STR2-1.5 C	STR2-1.5 CN	STR2-2.0 C	STR2-2.0 CN	SSR2-2.0 C	SSR2-2.0 CN	STP-1.5 B	STN-1.5 B	STP-2.0 B	STN-2.0 B	STP-3.0 B	STN-3.0 B	STP-4.0 B	STN-4.0 B	SSP-2.0 B	SSN-2.0 B	SSP-3.0 B	SSN-3.0 B
Positive / Universal Head	Positive	Universal	Positive	Universal	Positive	Universal	Positive	Universal	Positive	Universal	Positive	Universal	Positive	Universal	Positive	Universal	Positive	Universal
Application																		
Boost hot or cold to individual taps					●	●									●	●	●	●
Bath or Basin Mixer	●	●	●	●			●	●	●	●	●	●						
Boost Hot Water (Cold Mains & Gravity Hot)					●	●									●	●	●	●
Shower Only (Hot & Cold Gravity)	●	●	●	●			●	●	●	●	●	●						
Multi Function Shower Head			●	●					●	●	●	●	●	●				
Standard Bath Mixer/Shower	●	●	●	●			●	●	●	●	●	●	●	●				
Shower Column (Gravity Hot & Cold)											●	●	●	●				
Bathroom Booster			●	●	●	●			●	●	●	●	●	●	●	●	●	●
Electric Shower (Tank Fed)					●	●									●	●	●	●
Boost to Combination Boiler (From Tank)															●		●	
Boost to Unvented Hot Water Storage (from Tank)																	●	●
House Booster (Gravity) - 2 Bathrooms											●	●	●	●				
House Booster (Gravity) - 3 Bathrooms													●	●				
Construction Material	Composite						Brass											
Pump Noise Level at 1m	55 - 65 dBA						55 - 65 dBA						< 70 dBA		55 - 65 dBA			
Min Pipe Size (Reducer may be required)	15 mm								22 mm									

* All product continuously rated / * Amazon Range WRAS Approved, all other ranges WRAS compliant.

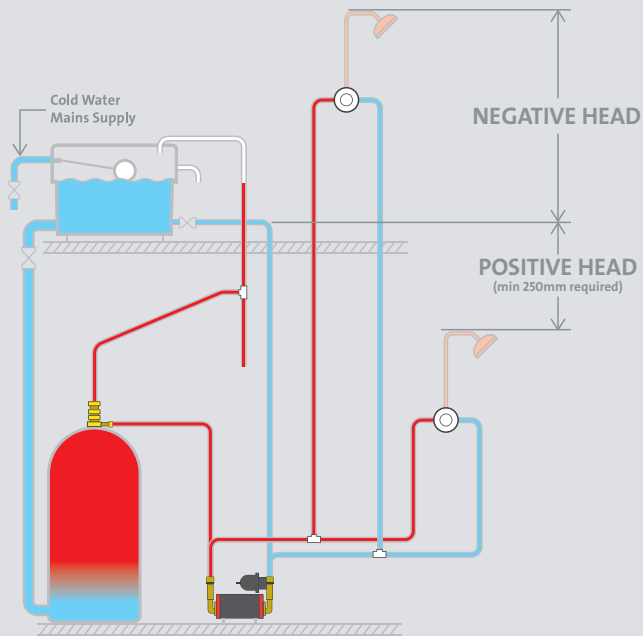
SHOWER PUMP BASICS

When selecting a shower pump, it is important to consider if the system is positive or negative head and what pressure is desired.

Negative Head System
A negative head condition exists where the flow from the outlet is less than 0.5 litre/min. This is usually when there is insufficient pressure, under gravity, to provide a flow at the outlet.

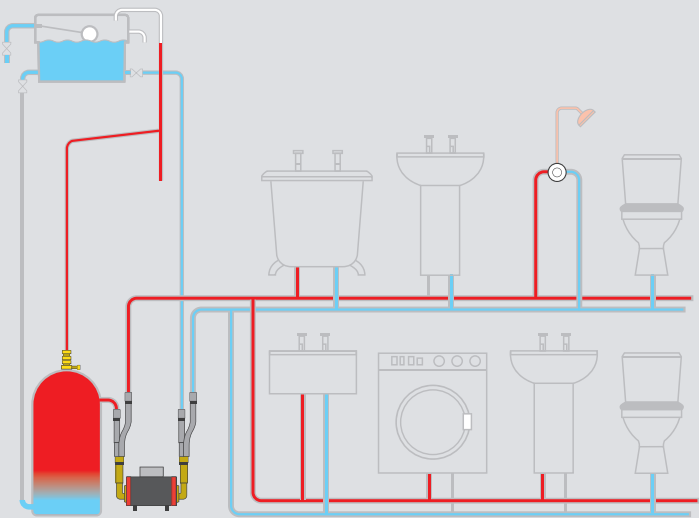
Positive Head System
A positive head condition exists where the flow from the outlet is more than 0.5 litre/min. This is usually when there is sufficient pressure, under gravity, to provide a flow at the outlet.

Pump Pressure (measured in Bar)
In pump performance, 1.0 Bar is generally considered low pressure, 1.5-2.0 Bar medium pressure and ≥3.0 Bar high pressure, eg. to run multiple showers/heads.



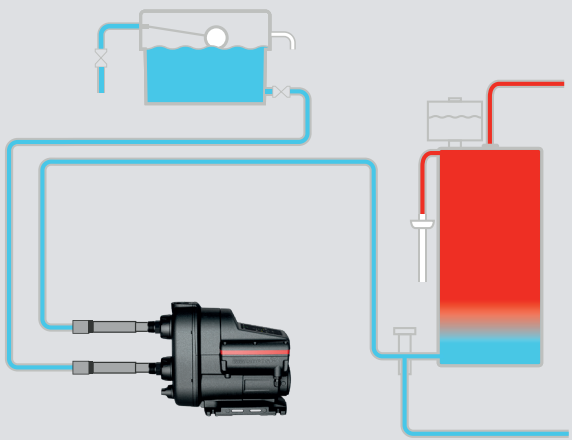
SHOWER PUMP APPLICATION GUIDE

Boost Whole House Hot and Cold - Gravity fed, Positive Head



Pump Options:
AMAZON (STP)

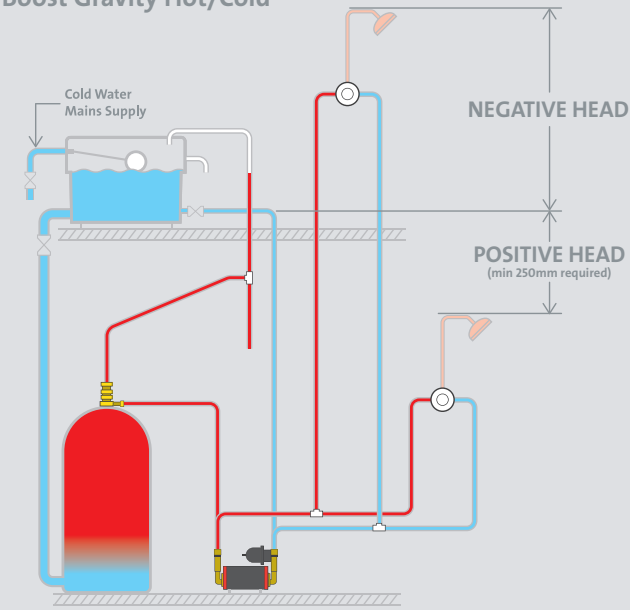
Boost Whole House – Unvented Cylinder
Cold water boost to unvented hot water cylinder



Pump Options:
MQ, CMBE, Max-e Boost, , SCALA1, SCALA2
With Integral Water Tank :
HOME BOOSTER

SHOWER PUMP APPLICATION GUIDE

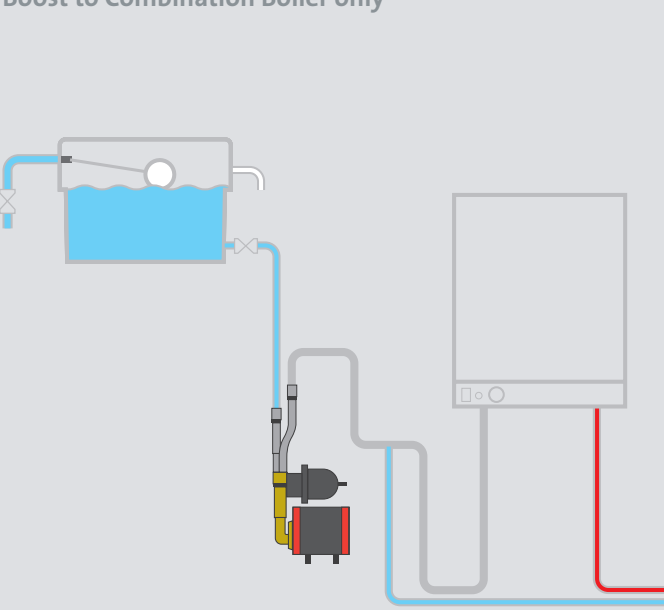
Boost Gravity Hot/Cold



Positive Head Pump Options:
SSR2, STR2 & AMAZON

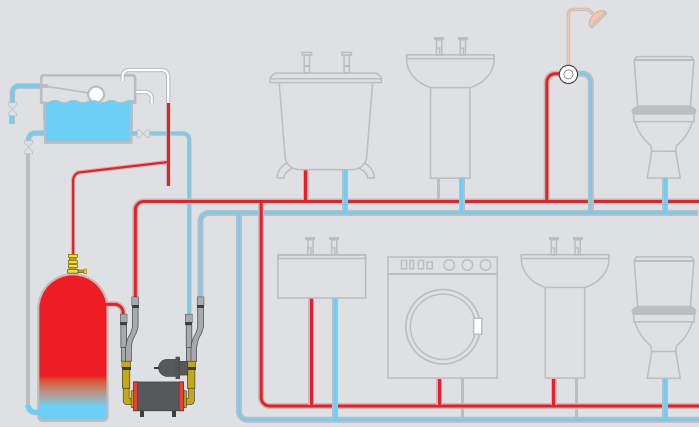
Negative Head Pump Options:
SSR2, STR2, AMAZON
Universal Pumps

Boost to Combination Boiler only



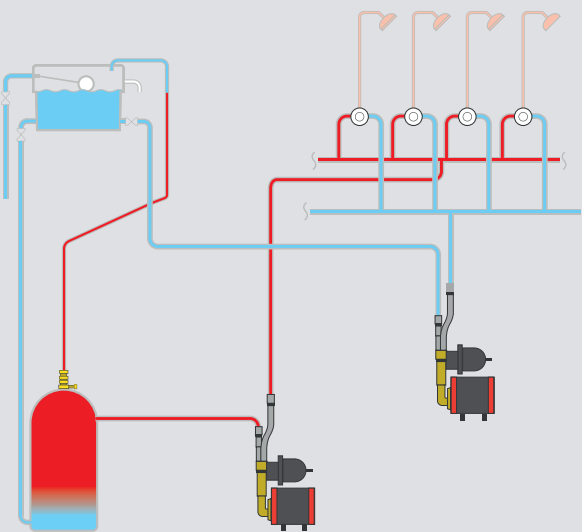
Pump Options:
AMAZON Universal Single (SSN), SCALA1,
SCALA2, CMBE

Boost Whole House Hot and Cold - Gravity fed, Negative Head



Pump Options:
AMAZON Universal Twin (STN)

Boost Hot/Cold Multi Outlet



Pump Options:
SCALA2*, AMAZON Universal Single (SSN)

TMV/Thermostatic shower valve protection required.
* Max temperature of up to 45°C

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