UNOLIFT, DUOLIFT

Lifting stations

GRUNDFOS

Table of contents

1. Product introduction 3
Product overview 3
Applications 4
Operation. 6
Operating conditions 6
Approvals and markings 6
Performance range 7

2. Installation 8
Mechanical installation. 8
Inlet height and start level 10

3. Construction. 12
Mechanical construction 12

4. Selection. 15
General operating information 15
Selecting the tank and pumps. 15
Quick selection 18

5. Product data 19
UNOLIFT 270 CC 19
UNOLIFT 270 KP 22
UNOLIFT 270 APB 25
UNOLIFT 270 APG 29
UNOLIFT 270 SEG 33
DUOLIFT 270 CC 37
DUOLIFT 270 KP 40
DUOLIFT 270 APB 43
DUOLIFT 270 APG 46
DUOLIFT 270 SEG 49
DUOLIFT 540 APB 53
DUOLIFT 540 APG 56
DUOLIFT 540 SEG 59

6. Controllers 63
Level controller 63

7. Accessories 64

8. Grundfos Product Center 67

1. Product introduction

Product overview

UNOLIFT, single-pump lifting station

UNOLIFT 270	Description	Pump options	Controller options
	Lifting station for one-family houses and light commercial applications Tank volume: 270 litres Number of inlets: 3 Inlet levels: 180, 520, 700 mm Dimensions: 700 × 700 × 600 mm	Grey wastewater: UNILIFT CC UNILIFT KP UNILIFT APB UNILIFT APG Black wastewater: UNILIFT APB [1] SEG UNILIFT APG 	 LC 231, LC 241

1) UNILIFT AP50B may be used for black wastewater, that is domestic wastewater with toilet discharge, in countries allowing outlet pipes of DN 50 for black wastewater without using a grinder pump. According to EN 12050-1, outlet pipes of DN 80 must be used when pumping black wastewater with a pump without a grinder system. UNILIFT AP50B has a 50 mm free passage and no grinder system.

DUOLIFT, two-pump lifting station

DUOLIFT 270	Description	Pump options	Controller options
	Lifting station for multifamily houses and light commercial applications Tank volume: 270 litres Number of inlets: 3 Inlet levels: 180, 520, 700 mm Dimensions: 700 × 700 × 600 mm	Grey wastewater: UNILIFT CC UNILIFT KP UNILIFT APB UNILIFT APG Black wastewater: UNILIFT APB [2] SEG UNILIFT APG 	 LC 231, LC 241

2) UNILIFT AP50B may be used for black wastewater, that is domestic wastewater with toilet discharge, in countries allowing outlet pipes of DN 50 for black wastewater without using a grinder pump. According to EN 12050-1, outlet pipes of DN 80 must be used when pumping black wastewater with a pump without a grinder system. UNILIFT AP50B has a 50 mm free passage and no grinder system.

DUOLIFT 540	Description	Pump options	Controller options
	Lifting station for commercial buildings Tank volume: 540 litres Number of inlets: 4 Inlet levels: 180, 540, 700 mm Dimensions: 700 × 700 × 1200 mm	Grey wastewater: UNILIFT APB UNILIFT APG SEG 	 LC 231, LC 241

Applications

UNOLIFT and DUOLIFT are designed for pumping grey wastewater and black wastewater, that is domestic wastewater with toilet discharge. UNOLIFT and DUOLIFT are to be installed indoor, typically in a basement, directly on the floor or in a sump. Depending on the model, UNOLIFT and DUOLIFT can be used in applications from one-family houses to large buildings.

Wastewater collection

UNOLIFT and DUOLIFT can collect wastewater from below sewer level and lift it up to sewer level. In other words, these lifting stations are very useful in applications where draining by gravity is not possible or can only be achieved at great expense.

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Transportation of wastewater across buildings

In a refurbishment project, UNOLIFT and DUOLIFT can be very practical to separate distant appliances and transport wastewater from one side of the building to the other.

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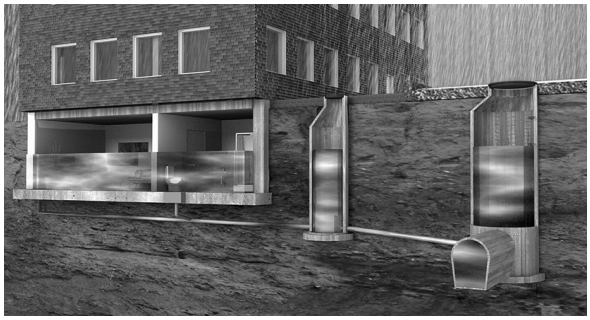
Backflow protection

The lifting stations are suitable in areas with a high risk of flooding. Together with our outlet pipes with non-return valves, UNOLIFT and DUOLIFT prevent backflow from the sewer, even in case of heavy rainfall.



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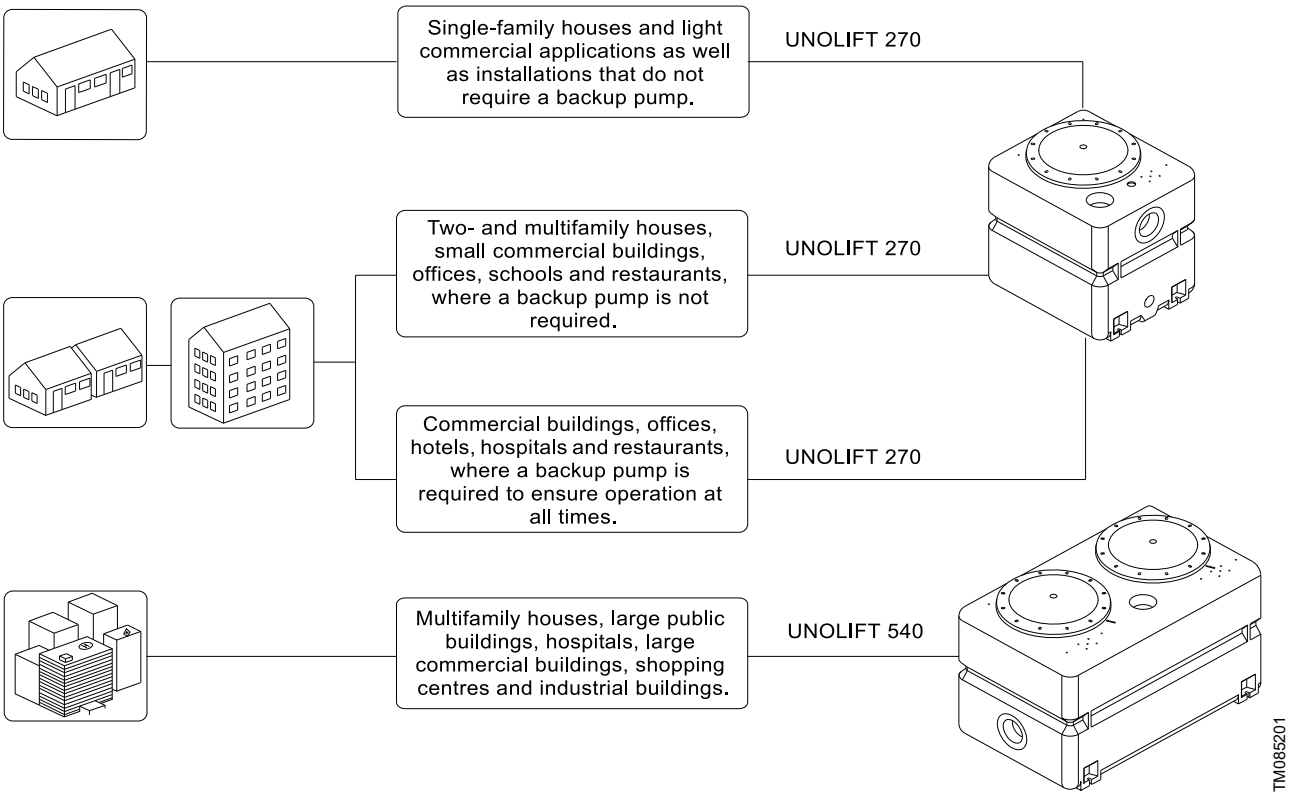
Application overview



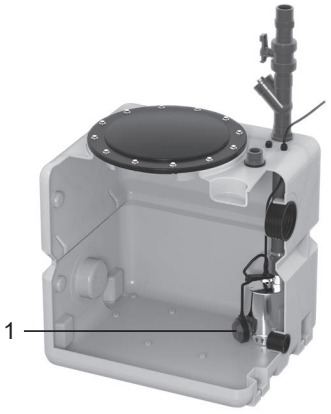
Operation

The lifting station is designed to operate automatically according to the liquid level in the tank. This can be achieved in two ways:

- with float switches
- with a controller and level sensor.

Operation with float switches

Pumps with float switches start and stop according to the start and stop levels set via the float switches.



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UNOLIFT KP operated by float switches

Pos.	Designation
1	Float switch

Operation with controller and level sensor

A pressure tube can be fitted in the tank and connected to a piezoresistive pressure sensor in an external controller. The pumps, connected to the controller, start and stop according to the start and stop levels set via the controller.

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DUOLIFT APB operated by a level controller

Pos.	Designation
1	Level sensor tube
2	Level sensor hose
3	Controller with integrated piezoresistive pressure sensor

Operating conditions

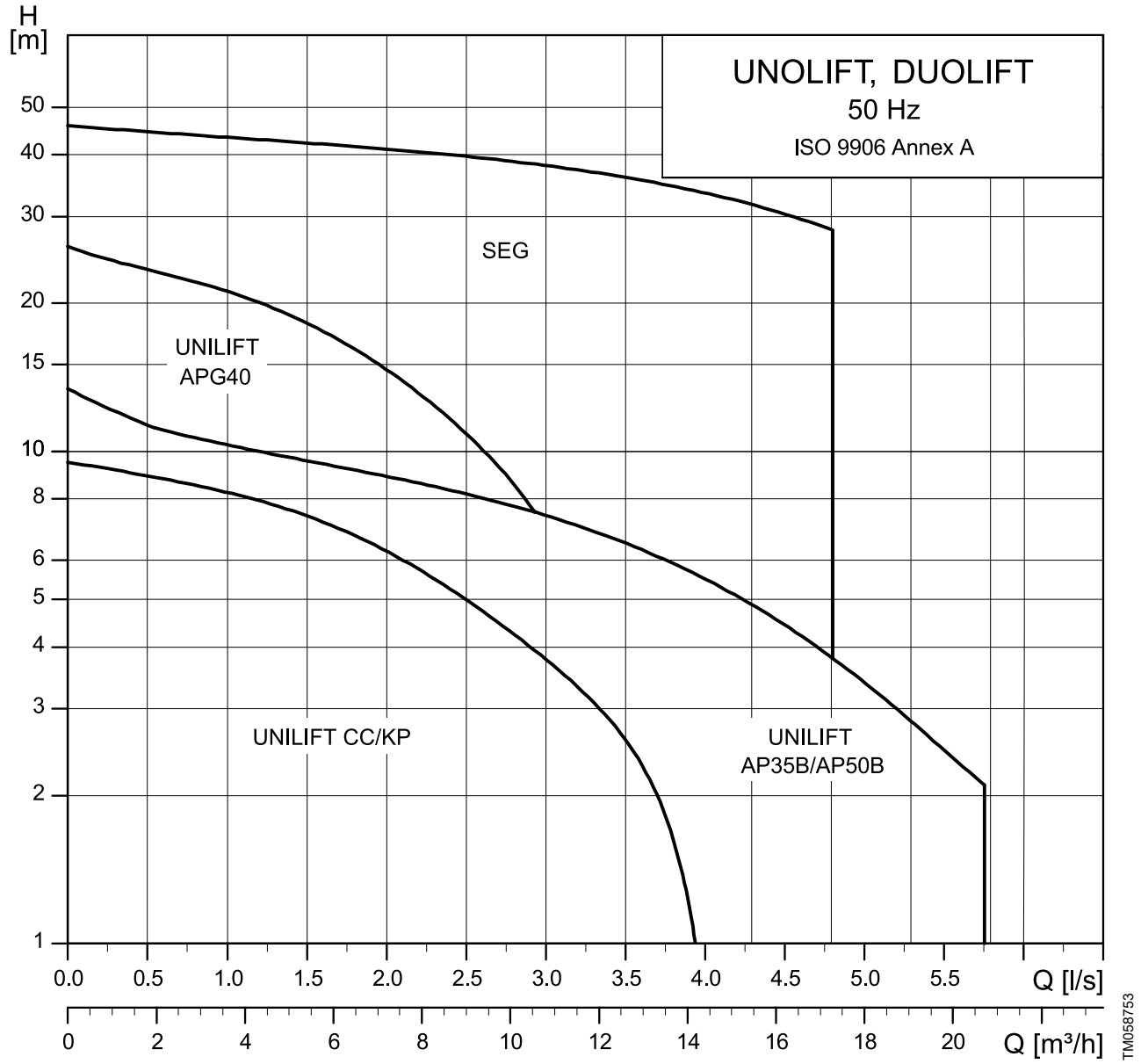
Ambient temperature	0-40 °C
Liquid temperature	0-40 °C Max. 60 °C for 5 minutes
Max. system pressure	6 bar

Approvals and markings

The 270-litre tank is approved for both grey and black wastewater. The 540-litre tank is approved for grey wastewater.

Tank volume	270 litres	540 litres
Standard	EN 12050-1	EN 12050-2

Performance range



Performance range, SEG, UNILIFT CC, KP, APB, APG

2. Installation

Mechanical installation

General guidelines

The guidelines for correct mechanical installation of lifting station are according to EN 12056-4.

- If the lifting station is installed in a basement with recurrent penetration of groundwater, we recommend that you install a drainage pump in a separate pump sump below floor level. In some countries the drainage pump is mandatory. If there is only a risk of penetrating groundwater, we recommend that you install a float switch outside the lifting station and connect it to a controller which indicates high-level alarm in case of flooding.
- Fix the tank to the floor.
- We recommend that you connect a diaphragm pump to the tank to be able to empty the tank manually, for example during a power cut or before service.
- All outlet pipes from the lifting station, diaphragm pump and drainage pump must have a backflow loop, that is a bend above the local backflow level. Commonly, the highest point of the bend must be above street level.
- Surface water must not be discharged into the lifting station inside the building. Collect and discharge surface water outside the building.
- Install a non-return valve at the outlet of the lifting station to prevent backflow.
- Fit isolating valves at the inlet and outlet of the lifting station.
- The volume of the outlet pipe above the non-return valve up to the backflow loop must be smaller than the effective tank volume.
- In general, a lifting station for black wastewater must be vented above roof level. The vent pipe of the lifting station must be led into the main building ventilation system. Place special vent valves outside the building.
- If the wastewater is discharged into a collecting line, the collecting line must have a filling ratio of at least h/d = 0.7. The collecting line must be at least one nominal diameter bigger after the outlet pipe connection.
- Use 45° bends to avoid deposits in the pipes.

UNOLIFT installed in a sump below floor level

Related information

Location

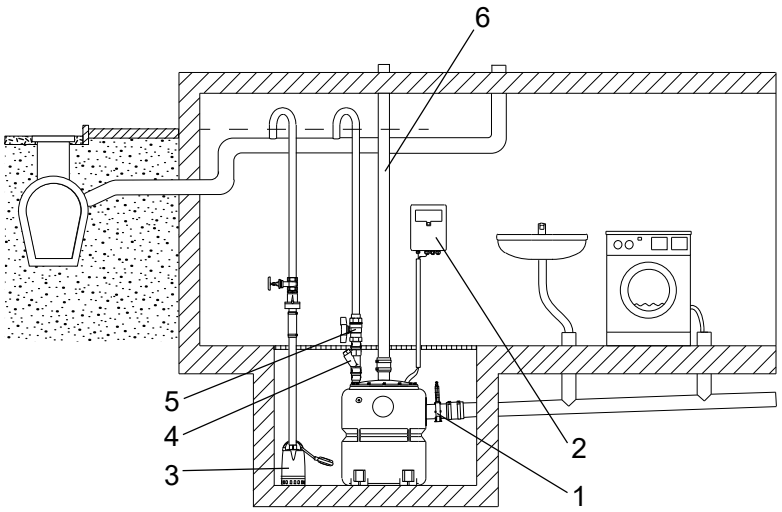
Location

The lifting station must be installed in a properly lit and vented room with 60 cm free space around all parts to be serviced and operated.

The tank must not be exposed to direct sunlight. UV light can affect the properties of its composite material, resulting in a shorter life.

The product is designed for indoor operation. If installed outside, the lifting station must be placed in a closed pit.

The tank can be flooded and may be installed in a basement with risk of penetrating groundwater.



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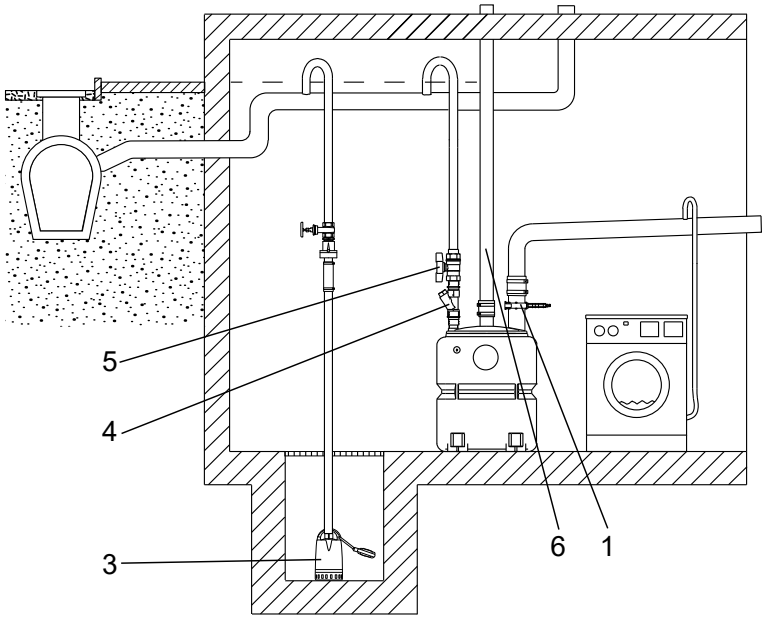
Installation example with a tank in a sump and with a controller. The diaphragm pump is not shown.



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Installation example with a tank on the basement floor. The diaphragm pump is not shown.

Pos.	Designation
1	Isolating valve
2	Controller
3	Drainage pump with float switch
4	Non-return valve
5	Isolating valve
6	Vent pipe
7	Backflow loop

Inlet height and start level

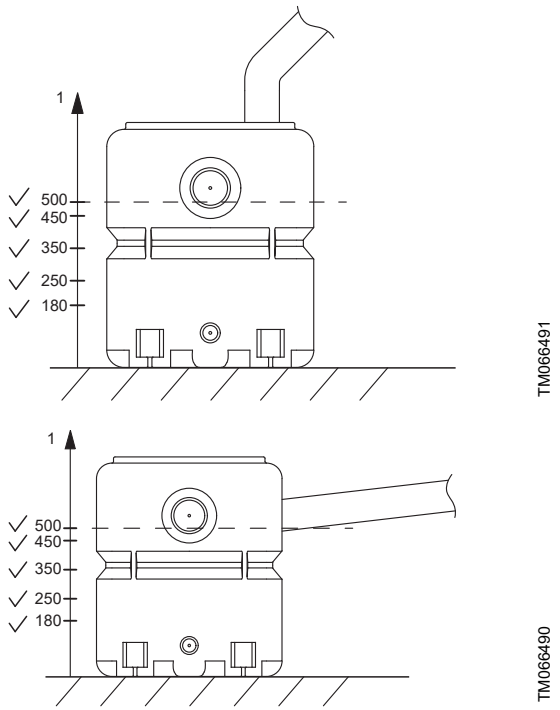
The optimum start level is closely related to the chosen inlet height and pipe configuration. The start level must be as high as possible to increase the effective tank volume and reduce the number of starts of the pumps. A too high start level, however, may increase the backflow in the inlet pipe and thus increase the risk of deposits in the inlet pipe.

With black wastewater, the start level must not be above the inlet height, in order to avoid backflow and deposits in the inlet pipe.

With grey wastewater, the start level can be set above the inlet height, if the inlet pipe has a slope of at least 45° before the tank inlet.

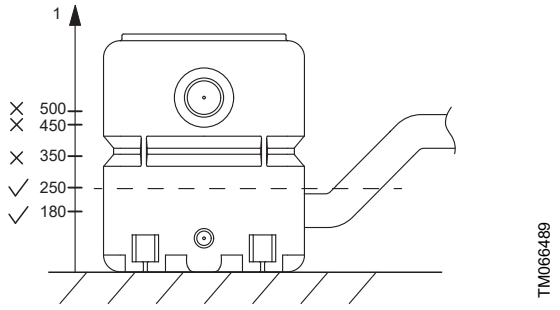
The figures below show the recommended start levels in relation to the inlet height and pipe configuration.

All the indicated values can be selected with the level controller.



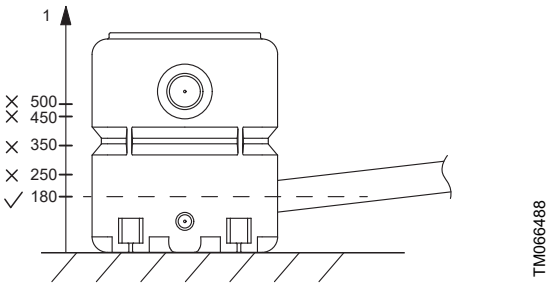
Start levels with top inlets

Pos.	Description
1	Start level



Start levels allowed with a 45° slope to the bottom inlet, grey wastewater

Pos.	Description
1	Start level



Start level with bottom inlet, black wastewater

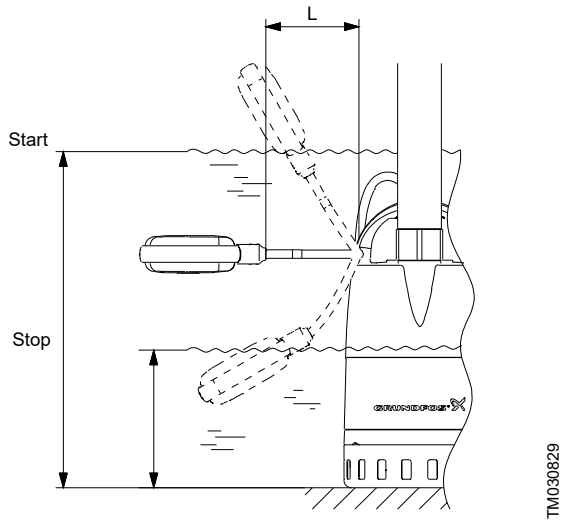
Pos.	Description
1	Start level

You can set the start levels in different ways, depending on the operating mode:

- with float switches on the pumps
- with a controller.

Start and stop levels with float switches

You can set the start and stop levels by adjusting the free cable length, L.



Example of start and stop levels for UNILIFT CC

Pump type	Cable length, L min. 100 mm		Cable length, L max. 200 mm	
	Start [mm]	Stop [mm]	Start [mm]	Stop [mm]
UNILIFT CC 5	350	115	400	55
UNILIFT CC 7	350	115	400	55
UNILIFT CC 9	385	150	435	90

Pump type	Cable length, L min. 70 mm		Cable length, L max. 150 mm	
	Start [mm]	Stop [mm]	Start [mm]	Stop [mm]
UNILIFT KP 150 UNILIFT KP 250	290	140	335	100
UNILIFT KP 350	300	150	345	110

Pump type	Cable length, L min. 100 mm		Cable length, L max. 400 mm	
	Start [mm]	Stop [mm]	Start [mm]	Stop [mm]
UNILIFT AP35B	430	320	460	140
UNILIFT AP50B	430	320	460	140

Pump type	Cable length, L min. 100 mm		Cable length, L max. 260 mm	
	Start [mm]	Stop [mm]	Start [mm]	Stop [mm]
UNILIFT APG	560	360	580	250 [3)]

3) Only intermittent operation

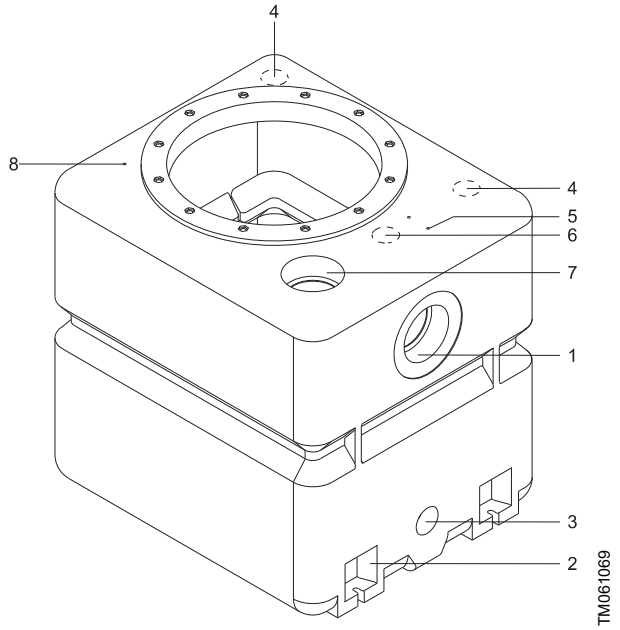
Start and stop levels with a controller

The start and stop levels can be set with the controller.

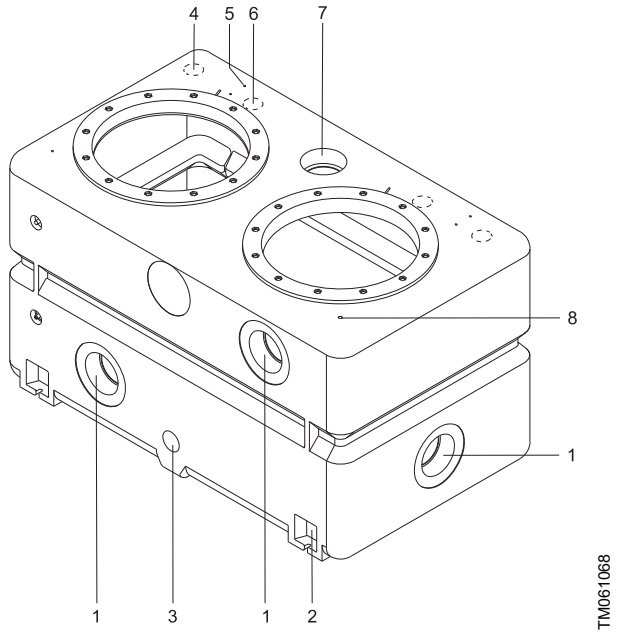
Start level pump 1	0.18 - 0.6 m
Start level pump 2 (if any)	The start level for P2 must be 0.05 m higher than the start level for P1.
Stop level	0.16 m
Stop delay time	14 seconds (at min. flow of 1 l/s)
High-level alarm	The high level must be 0.05 m higher than the start level for P1.

3. Construction

Mechanical construction



UNOLIFT 270, DUOLIFT 270



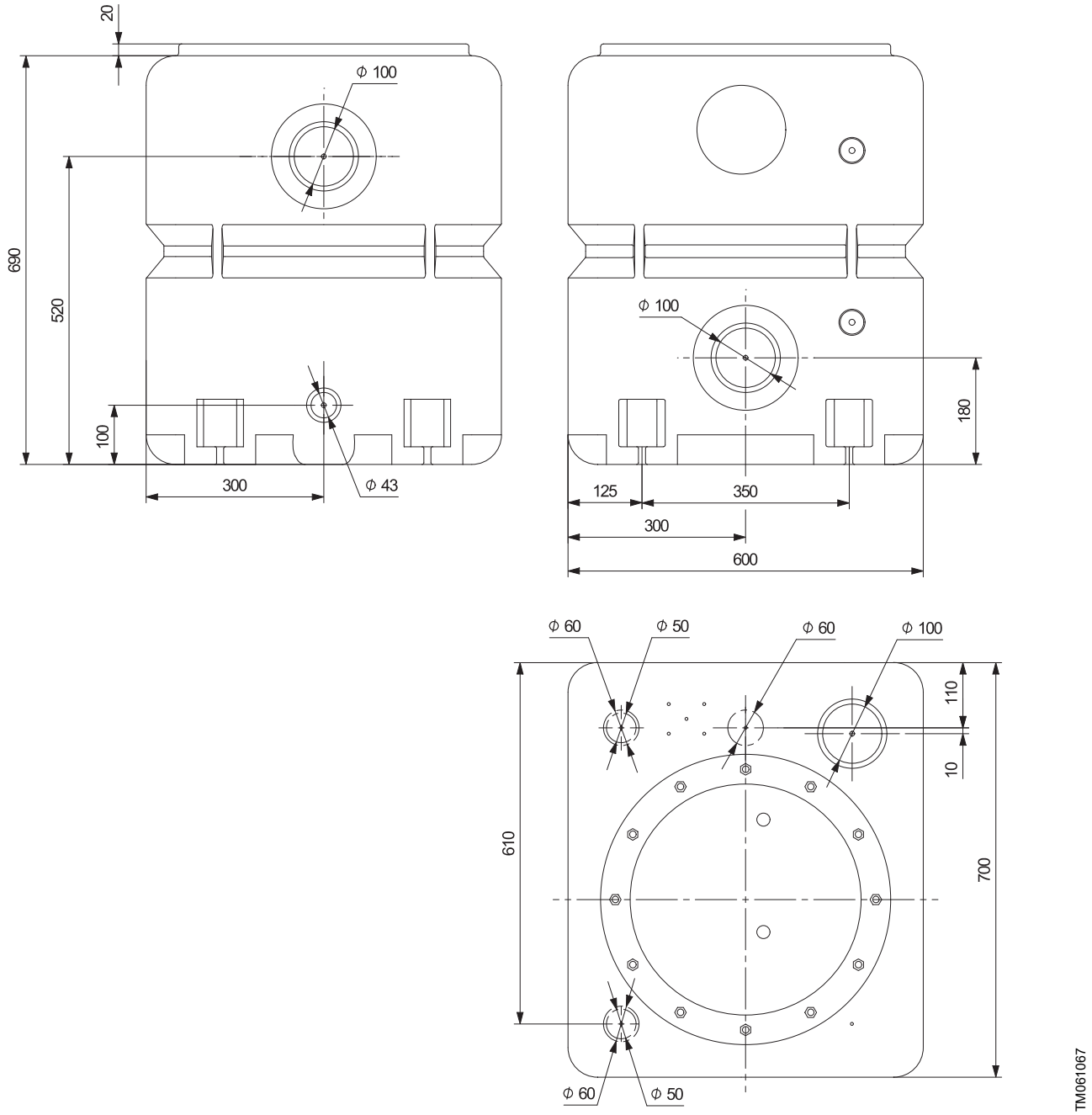
DUOLIFT 540

Pos.	Description
1	Horizontal inlets, DN 100
2	Mounting brackets
3	Connection, DN 40, for optional diaphragm pump
4	Pump outlet
5	Holes for cable glands
6	Outlet for vent pipe, ∅60
7	Vertical inlet, DN 100
8	Hole for level sensor hose

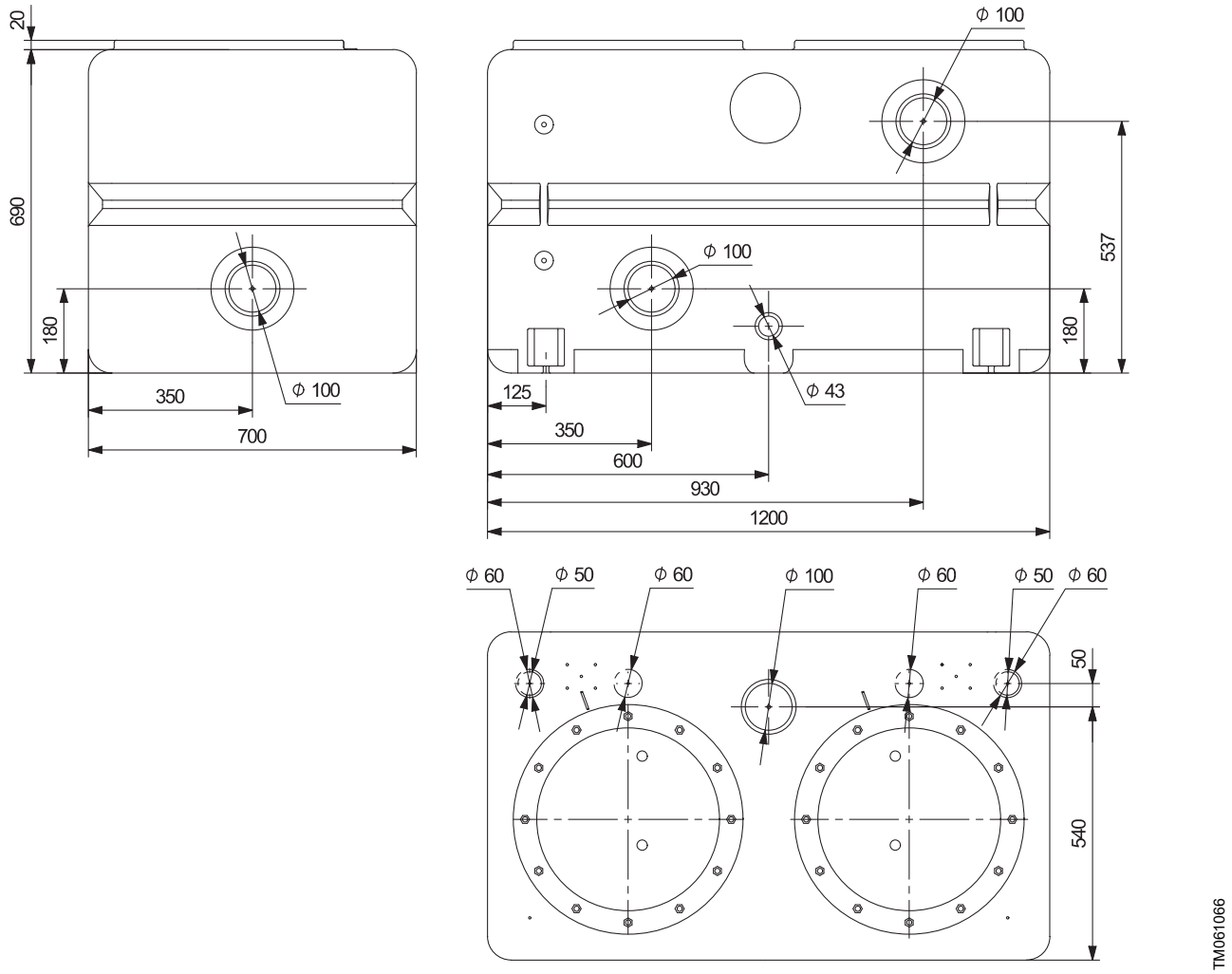
Dimensions

	Volume [l]	Weight [4] [kg]
Small tank	270	19.5
Big tank	540	29.5
Tank cover	-	2.2

[4] Weight of the tank alone, without pumps, pipes or any other accessories.



UNOLIFT 270, DUOLIFT 270


20
690
180
350
700
ϕ 100
ϕ 100
537
ϕ 100
180
125
ϕ 43
350
600
930
1200
ϕ 60
ϕ 50
ϕ 60
ϕ 100
ϕ 60
ϕ 50
ϕ 60
50
540
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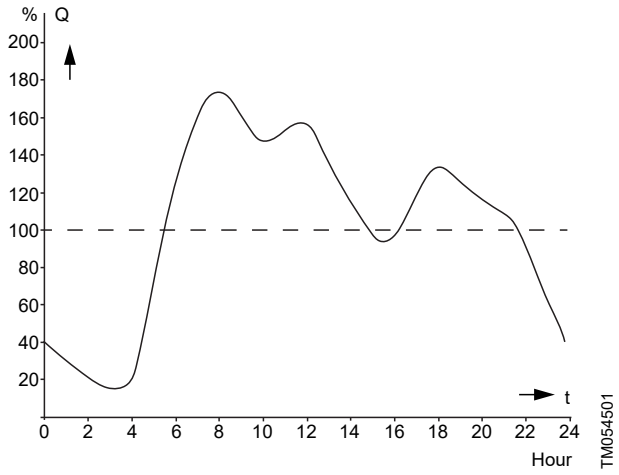
DUOLIFT 540

4. Selection

General operating information

The flow of wastewater is uneven when seen over a period of time, for instance an hour or a day.



Uneven wastewater inflow

The above diagram shows the typical wastewater flow from a building over a day.

In the morning, around lunch time and in the evening, the water consumption and accordingly the wastewater flow is higher than average.

The pump(s) must be able to handle the peak flow for a certain, rather short, period when several sanitary appliances are used at the same time.

To be able to select the right tank size, it is important to know the wastewater flow from all connected sanitary appliances over one hour [l/h].

Intermittent operation of the unit and the pump(s) caused by the uneven inflow and the motor design must be taken into consideration.

The pumps used for UNOLIFT and DUOLIFT lifting stations are designed for intermittent duty. Depending on the model, they can start 40 or 60 times per hour, meaning that one pump can empty the lifting station tank up to 40 or 60 times per hour.

This, and not the performance of the individual pump, determines the total draining capacity of a lifting station.

Selecting the tank and pumps

Sizing of a UNOLIFT or DUOLIFT is done in two steps:

1. Determine the required pump performance to make sure the pump can handle the peak flow when several appliances connected are used at the same time and drained into the lifting station.

   Knowledge of the required pump performance enables selection of the correct pump size making it possible to select a lifting station tailored to the specific need of the customer or application.

2. Determine the required tank size.

   UNOLIFT is available with a 270-litre tank, DUOLIFT with a 270- or 540-litre tank. As appears from the tables below, the tank size with related effective tank volume determines how much wastewater can be handled in one hour.

For both sizing steps it is essential to know which and how many sanitary appliances are connected to the lifting station and if perhaps further devices, as for instance a grease separator, are also connected.

The calculation of the inflow parameters must take the different regulations and standards in each country into consideration.

The maximum draining capacity over one hour depends on the effective tank volume and the selected start level.

Effective tank volume and draining capacity

UNOLIFT and DUOLIFT with controller, type LC 231, LC 241

270-litre tank, 1 pump

Pump type	Max. number of starts per hour	Peak flow performance [l/s]		Effective tank volume [l]					Max. draining capacity [l/h]				
		Outlet pipe		Start level					Start level				
		DN 40 (1 1/2")	DN 50 (2")	180 mm	250 mm	350 mm	450 mm	500 mm	180 mm	250 mm	350 mm	450 mm	500 mm
UNILIFT CC	40	0.9 - 3.7	1.4 - 3.7	31	60	98	132	152	1240	2400	3920	5280	6080
UNILIFT KP	40	0.9 - 3.7	1.4 - 3.7	31	60	98	132	152	1240	2400	3920	5280	6080
UNILIFT AP35B	40	-	1.4 - 5.8	31	60	98	132	152	1240	2400	3920	5280	6080
UNILIFT AP50B	40	-	1.4 - 8.0	31	60	98	132	152	1240	2400	3920	5280	6080
UNILIFT APG	40	0.9 - 4.5	-	31	60	98	132	152	1240	2400	3920	5280	6080
SEG	40	0.9 - 4.5	-	31	60	98	132	152	1240	2400	3920	5280	6080

270-litre tank, 2 pumps

Pump type	Max. number of starts per hour	Peak flow performance [l/s]		Effective tank volume [l]					Max. draining capacity [l/h]				
		Outlet pipe		Start level					Start level				
		DN 40 (1 1/2")	DN 50 (2")	180 mm	250 mm	350 mm	450 mm	500 mm	180 mm	250 mm	350 mm	450 mm	500 mm
UNILIFT CC	60	0.9 - 3.7	1.4 - 3.7	31	60	98	132	152	1860	3600	5880	7920	9120
UNILIFT KP	60	0.9 - 3.7	1.4 - 3.7	31	60	98	132	152	1860	3600	5880	7920	9120
UNILIFT AP35B	60	-	1.4 - 5.8	31	60	98	132	152	1860	3600	5880	7920	9120
UNILIFT AP50B	60	-	1.4 - 8.0	31	60	98	132	152	1860	3600	5880	7920	9120
UNILIFT APG	60	0.9 - 4.5	-	31	60	98	132	152	1860	3600	5880	7920	9120
SEG	60	0.9 - 4.5	-	31	60	98	132	152	1860	3600	5880	7920	9120

540-litre tank, 2 pumps

Pump type	Max. number of starts per hour	Peak flow performance [l/s]		Effective tank volume [l]					Max. draining capacity [l/h]				
		Outlet pipe		Start level					Start level				
		DN 40 (1 1/2")	DN 50 (2")	180 mm	250 mm	350 mm	450 mm	500 mm	180 mm	250 mm	350 mm	450 mm	500 mm
UNILIFT AP35B	60	-	1.4 - 5.8	64	120	200	274	314	3840	7200	12000	16440	18840
UNILIFT AP50B	60	-	1.4 - 8.0	64	120	200	274	314	3840	7200	12000	16440	18840
UNILIFT APG	60	0.9 - 4.5	-	64	120	200	274	314	3840	7200	12000	16440	18840
SEG	60	0.9 - 4.5	-	64	120	200	274	314	3840	7200	12000	16440	18840

UNOLIFT with float switches

270-litre tank, 1 pump

Pump type	Max. number of starts per hour	Peak flow performance [l/s]		Effective tank volume [l]			Max. draining capacity [l/h]		
		Outlet pipe		Start level			Start level		
		DN 40 (1 1/2")	DN 50 (2")	100 mm	200 mm	400 mm	100 mm	200 mm	400 mm
UNILIFT CC	40	0.9 - 3.7	1.4 - 3.7	59	98	-	2360	3920	-
UNILIFT KP	40	0.9 - 3.7	1.4 - 3.7	51	90	-	3060	5400	-
UNILIFT AP35B	40	-	1.4 - 5.8	43	83	126	1720	3320	5040
UNILIFT AP50B	40	-	1.4 - 8.0	43	83	126	1720	3320	5040

UNOLIFT with lever arms

270-litre tank, 1 pump

Pump type	Max. number of starts per hour	Peak flow performance [l/s]		Effective tank volume [l]	Max. draining capacity [l/h]
		Outlet pipe		The effective tank volume and draining capacity do not depend on the start levels selected with the lever arm.	
		DN 40 (1 1/2")	DN 50 (2")		
UNILIFT CC	40	0.9 - 3.7	1.4 - 3.7	51	2040
UNILIFT KP	40	0.9 - 3.7	1.4 - 3.7	79	4740
UNILIFT AP35B	40	-	1.4 - 5.8	47	1880
UNILIFT AP50B	40	-	1.4 - 8.0	47	1880

Quick selection

You can use the table below for a quick selection. However, we recommend that you verify that the inflow of your application corresponds to the selection.

Use the tables in the following pages to select the specific type of pump you need and find the product numbers.

When selecting the pump, you have to choose whether you need a float switch or not. If you order a controller, choose a pump without a float switch.

Applications	Pumped liquids	Max. head [m]	Free passage [mm]	Pump material	Your product selection
Family houses	Grey wastewater	9	∅10	Stainless steel	UNOLIFT 270 KP
				Composite	UNOLIFT 270 CC
		13	∅35	Stainless steel	UNOLIFT 270 AP35B
		17	∅50	Stainless steel	UNOLIFT 270 AP50B
		26	Grinder pump	Cast iron	UNOLIFT 270 APG
	Black wastewater	17	∅50	Stainless steel	UNOLIFT 270 AP50B [5)]
		26	Grinder pump	Cast iron	UNOLIFT 270 APG
		45	Grinder pump	Cast iron	UNOLIFT 270 SEG
Multifamily houses and small commercial buildings	Grey wastewater	9	∅10	Stainless steel	DUOLIFT 270 KP
				Composite	DUOLIFT 270 CC
		13	∅35	Stainless steel	DUOLIFT 270 AP35B
		17	∅50	Stainless steel	DUOLIFT 270 AP50B
		26	Grinder pump	Cast iron	DUOLIFT 270 APG
	Black wastewater	17	∅50	Stainless steel	DUOLIFT 270 AP50B [5)]
		26	Grinder pump	Cast iron	DUOLIFT 270 APG
		45	Grinder pump	Cast iron	DUOLIFT 270 SEG
Commercial buildings	Grey wastewater	13	∅35	Stainless steel	DUOLIFT 540 AP35B
		17	∅50	Stainless steel	DUOLIFT 540 AP50B
		26	Grinder pump	Cast iron	DUOLIFT 540 APG
		17	∅50	Stainless steel	DUOLIFT 540 AP50B [5)]
		26	Grinder pump	Cast iron	DUOLIFT 540 APG
		45	Grinder pump	Cast iron	DUOLIFT 540 SEG

5) UNILIFT AP50B may be used for black wastewater, that is domestic wastewater with toilet discharge, in countries allowing outlet pipes of DN 50 for black wastewater without using a grinder pump. According to EN 12050-1, outlet pipes of DN 80 must be used when pumping black wastewater with a pump without grinder. UNILIFT AP50B has a 50 mm free passage and no grinder system.

5. Product data

UNOLIFT 270 CC

Introduction

UNOLIFT 270 CC is a 270-litre collecting tank for one Grundfos UNILIFT CC pump. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2.

TM066418

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- long pump life thanks to the stainless-steel motor with three shaft seals
- non-return valve at the pump outlet
- reliable start even after air intake in the pump thanks to the self-venting pump.

Applications

UNOLIFT 270 CC is designed for pumping grey wastewater from the following:

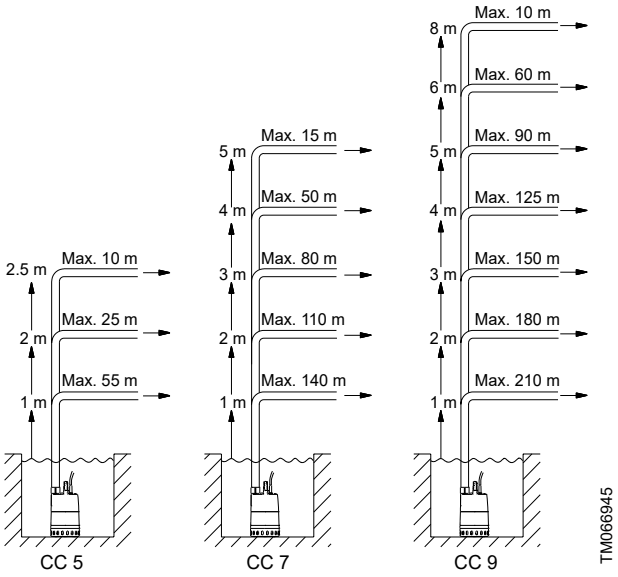
- domestic appliances, such as washing machines, showers, bath tubs and drain gullies
- commercial or industrial appliances where it is not critical to have a backup pump.

Technical data

Free passage	∅10
Pump housing material	Composite
Max. number of starts per hour	40
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C Max. 70 °C for 2 minutes every 30 minutes

Performance

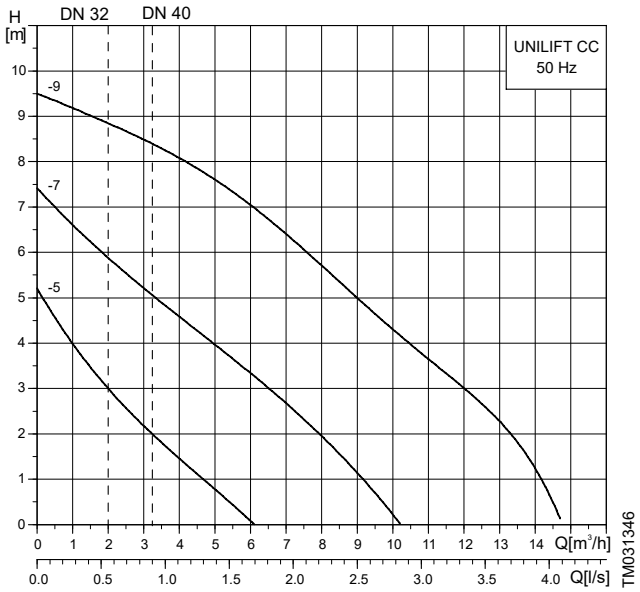
The overview below shows the maximum lengths of combined vertical and horizontal DN 32 and DN 40 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.

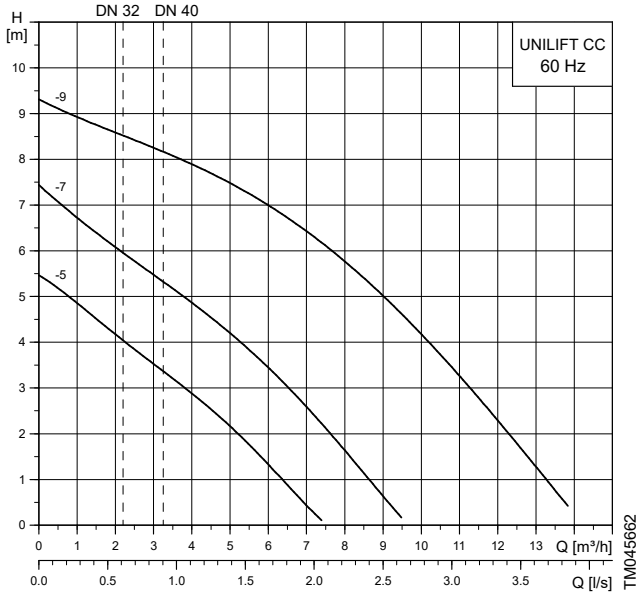


TM066945

Maximum pipe lengths DN 32 or DN 40 x: The self-cleaning velocity of 0.7 m/s cannot be reached.

Performance curves





The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank. Outlet pipes and valves are available as accessory.

Related information

7. Accessories

UNOLIFT 270 CC with pump operated by float switch

50 Hz

Voltage [V]	UNILIFT CC pump		270-litre tank	MS 2 high-level switch
1 × 230	CC 5	96280978		
1 × 230	CC 7	96280980	97642385	91427146
1 × 230	CC 9	96280982		

60 Hz

Voltage [V]	UNILIFT CC pump		270-litre tank	MS 2 high-level switch
1 × 230	CC 5	97530824		
1 × 230	CC 7	97530826	97642385	91427146
1 × 230	CC 9	97530828		

UNOLIFT 270 CC with pump operated by controller

50 Hz

Voltage [V]	UNILIFT CC pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	CC 5	96280977			
1 × 230	CC 7	96280979	98996775	92725400	99369644
1 × 230	CC 9	96280981			

60 Hz

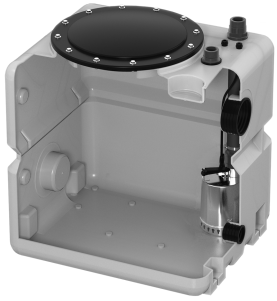
Voltage [V]	UNILIFT CC pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	CC 5	97530823			
1 × 230	CC 7	97530825	97642385	92725400	99369644
1 × 230	CC 9	97530827			

UNOLIFT 270 KP

Introduction

UNOLIFT 270 KP is a 270-litre collecting tank for one Grundfos UNILIFT KP pump. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2.



TM066352

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank.
- Quick and easy installation thanks to the connecting pipes.
- Thermal protection.
- Low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet.
- Long pump life thanks to its stainless-steel motor with three shaft seals.
- Wet-runner pump for high reliability. The pump continues to operate even if a shaft seal is leaking.
- Non-return valve at the pump outlet.

Applications

UNOLIFT 270 KP is designed for pumping grey wastewater from the following:

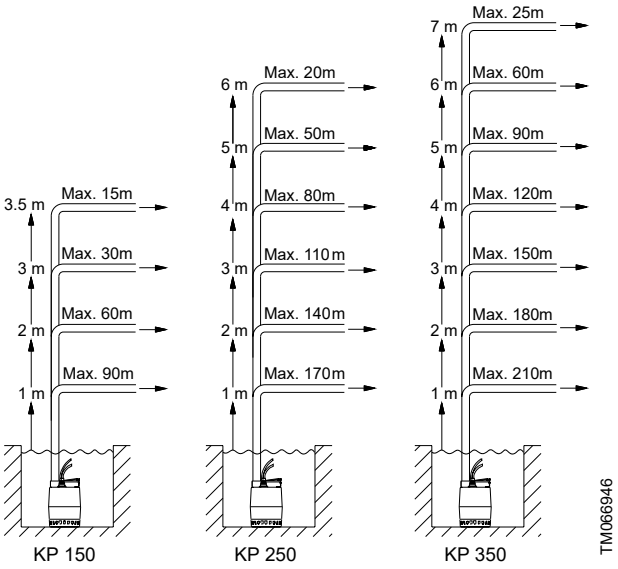
- domestic appliances, such as washing machines, showers, bath tubs and drain gullies
- commercial or industrial appliances where it is not critical to have a backup pump.

Technical data

Free passage	∅10
Pump housing material	Stainless steel
Max. number of starts per hour	60
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-50 °C Max. 70 °C for 2 minutes every 30 minutes

Performance

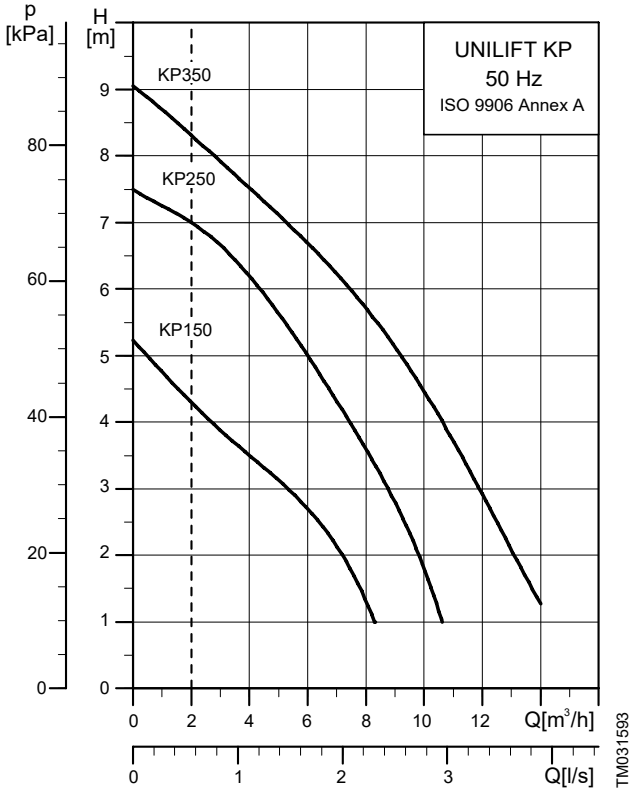
The overview below shows the maximum lengths of combined vertical and horizontal DN 32 and DN 40 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.

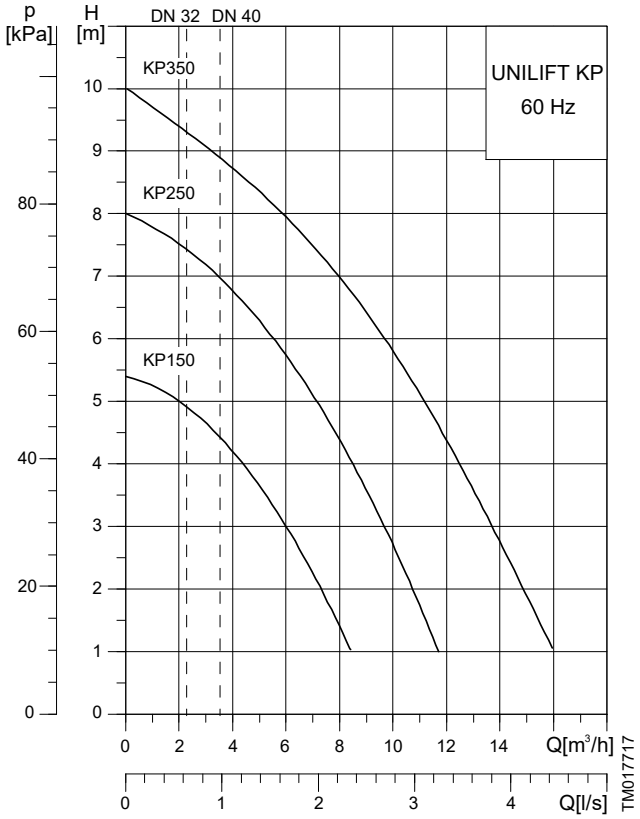


TM066946

Maximum pipe lengths DN 32 or DN 40 x: The self-cleaning velocity of 0.7 m/s cannot be reached

Performance curves





The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

UNOLIFT 270 KP with pump operated by float switch

50 Hz

Voltage [V]	UNILIFT KP pump		270-litre tank	MS 2 high-level switch
1 × 230	KP 150	011H6800	97642385	91427146
	KP 250	012H6800		
	KP 350	013N6800		

60 Hz

Voltage [V]	UNILIFT KP pump		270-litre tank	MS 2 high-level switch
1 × 230	KP 250	012G6800	97642385	91427146
	KP 350	013G6800		

UNOLIFT 270 KP with pump operated by controller

50 Hz

Voltage [V]	UNILIFT KP pump		270-litre tank	Level sensor	LC 231 controller
1 × 220-240	KP 150	011H6300	97642385	92725400	99369644
	KP 250	012H6300			
	KP 350	011N6300			
3 × 380-415	KP 250	012M6300			
	KP 350	013M6300			

60 Hz

Voltage [V]	UNILIFT KP pump		270-litre tank	Level sensor	LC 231 controller
1 × 220-230	KP 250	012G6300	97642385	92725400	99369644
	KP 350	96Z01143			

UNOLIFT 270 APB

Introduction

UNOLIFT 270 APB is a 270-litre collecting tank for one Grundfos UNILIFT APB pump. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2 with UNILIFT AP35B or EN 12050-1 with UNILIFT AP50B.

TM066345

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- reduced service time thanks to a pump design enabling easy access to hydraulic parts
- stainless-steel design for high resistance
- mechanical shaft seal for long life
- cable connection with plug for easy maintenance and replacement.

Applications

UNOLIFT 270 APB is designed for pumping grey wastewater. With a UNILIFT AB50B pump, it can also be used for pumping black wastewater in countries allowing outlet pipes of DN 50 without a grinder pump.

UNOLIFT 270 APB is typically used for pumping greater discharge volumes from the following:

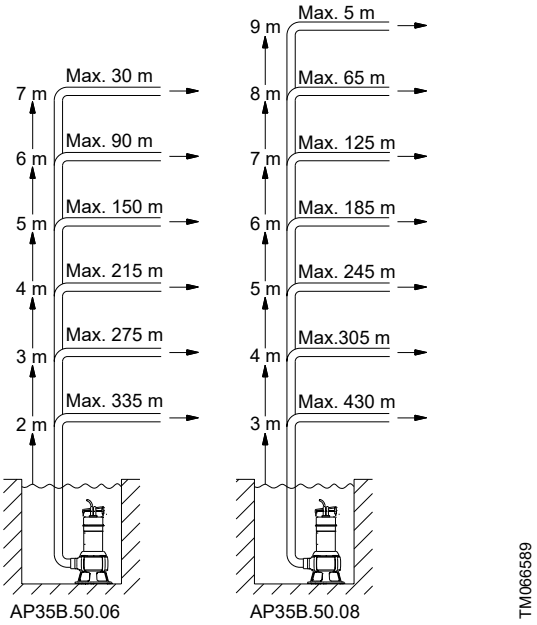
- washing machines from one-family houses
- backwash of swimming pool filters from family houses
- commercial or industrial appliances where it is not critical to have a backup pump
- office buildings, hotels or restaurants, including toilets, in countries where legislation allows it, and only with UNILIFT AP50B.

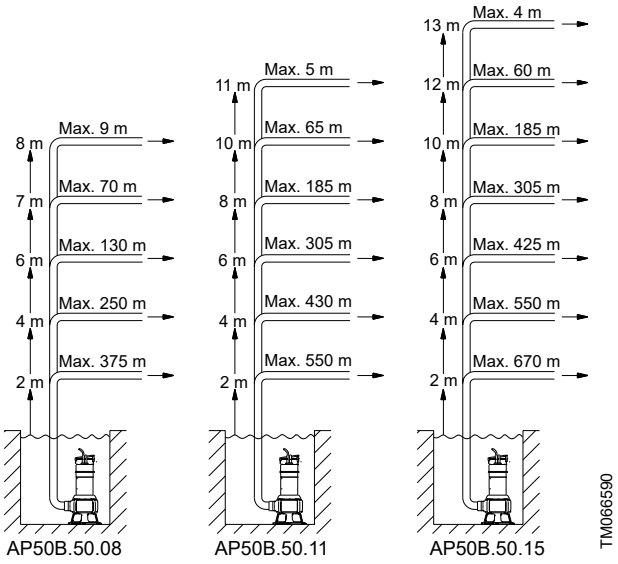
Technical data

Free passage	AP35B: ∅35 AP50B: ∅50
Pump housing material	Stainless steel
Max. number of starts per hour	40
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C

Performance

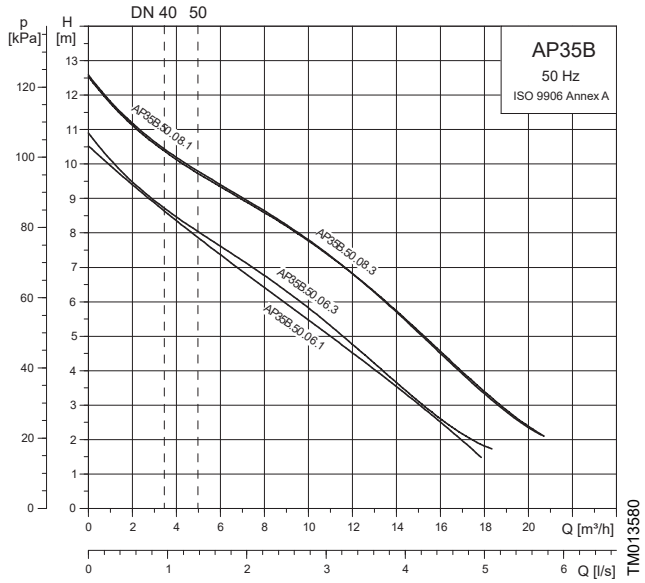
The overview below shows the maximum lengths of combined vertical and horizontal DN 50 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.

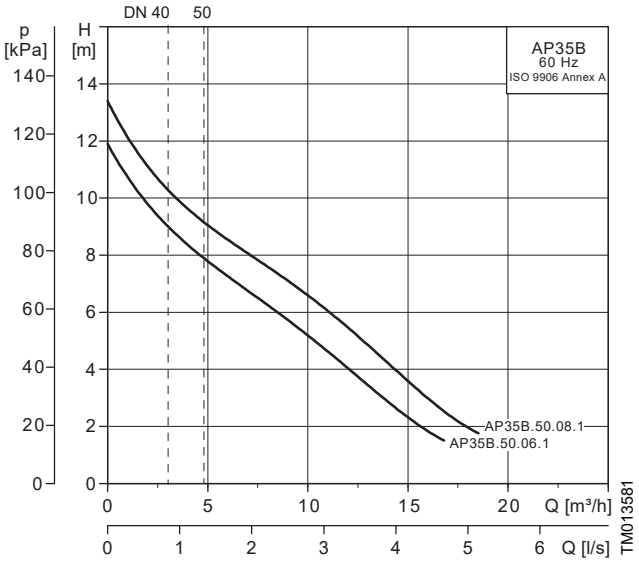




Maximum pipe lengths

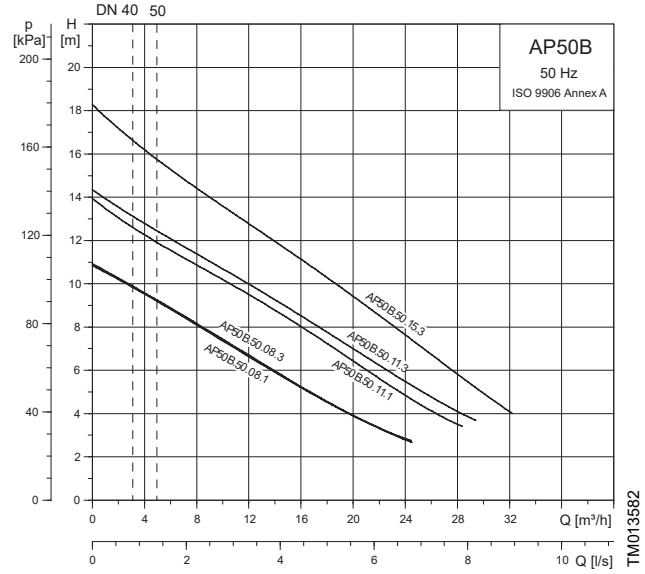
Performance curves, AP35B

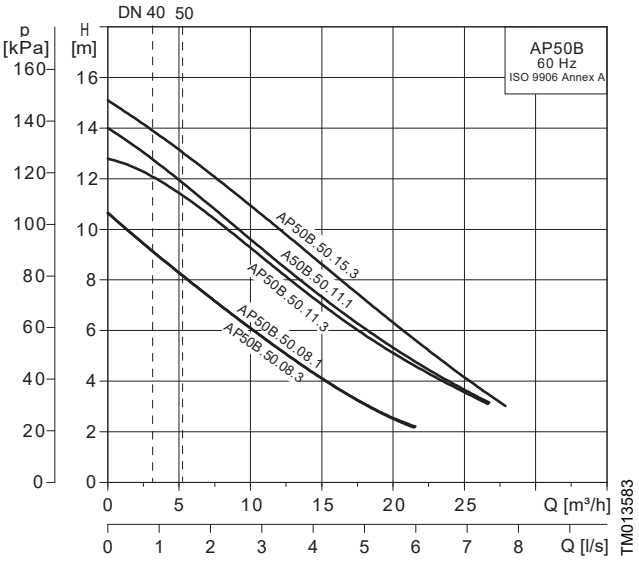




The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 40 and DN 50.

Performance curves, AP50B





The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 40 and DN 50.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

UNOLIFT 270 APB with pump operated by float switch

50 Hz

Voltage [V]	UNILIFT APB pump		270-litre tank	MS 2 high-level switch
1 × 230	AP**35**B.50.06	96468356	97642387	91427146
	AP**35**B.50.08	96468355		
	AP**50**B.50.08	96468354		
	AP**50**B.5011	96468352		

60 Hz

Voltage [V]	UNILIFT APB pump		270-litre tank	MS 2 high-level switch
1 × 230	AP**35**B.50.06 [6)]	96004568	97642387	91427146
	AP**35**B.50.08 [6)]	96004583		
	AP**50**B.50.08 [6)]	96004592		
	AP**50**B.50.11 [6)]	96004604		

6) The power supply cable of the pump is 5 m long.

UNOLIFT 270 APB with pump operated by controller

Select the pump, the tank and one of the controllers.

50 Hz

Voltage [V]	UNILIFT APB pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	AP**35**B.50.06	96004563			
	AP**35**B.50.08	96004575			
	AP**50**B.50.08	96004587			
	AP**50**B.50.11	96004599			
3 × 400	AP**35**B.50.06	96468190	97642387	92725400	99369644
	AP**35**B.50.08	96468193			
	AP**50**B.50.08	96468194			
	AP**50**B.50.11	96468195			
	AP**50**B.50.15	96468196			

60 Hz

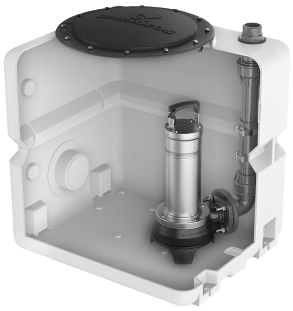
Voltage [V]	UNILIFT APB pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	AP**35**B.50.06	96004569			
	AP**35**B.50.08	96004581			
	AP**50**B.50.08	96004593			
	AP**50**B.50.11	96004605			
3 × 200-220	AP**35**B.50.06	96004571	97642387	92725400	99369644
	AP**35**B.50.08	96004583			
	AP**50**B.50.08	96004595			
	AP**50**B.50.11	96004607			
	AP**50**B.50.15	96004611			

UNOLIFT 270 APG

Introduction

UNOLIFT 270 APG is a 270-litre collecting tank for one Grundfos UNILIFT APG pump. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-1.



TM085173

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- reduced service time thanks to a pump design enabling easy access to hydraulic parts
- stainless-steel motor parts and cast-iron pump housing for high resistance
- mechanical shaft seal for long life
- cable connection with plug for easy maintenance and replacement.

Applications

UNOLIFT 270 APG is designed for pumping grey and black wastewater from the following:

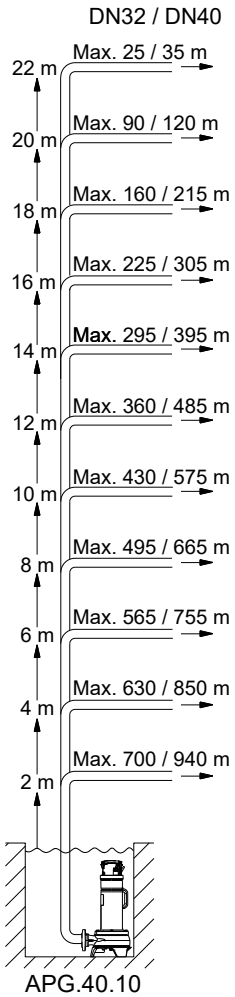
- washing machines from one-family houses
- backwash of swimming pool filters from family houses
- commercial or industrial appliances where it is not critical to have a backup pump
- office buildings, hotels or restaurants, including toilets.

Technical data

Pump housing material	Cast iron
Max. number of starts per hour	40
Pumped liquids	Grey and black wastewater
Operating conditions	Normal: 0-40 °C Max. 70 °C for 5 minutes

Performance

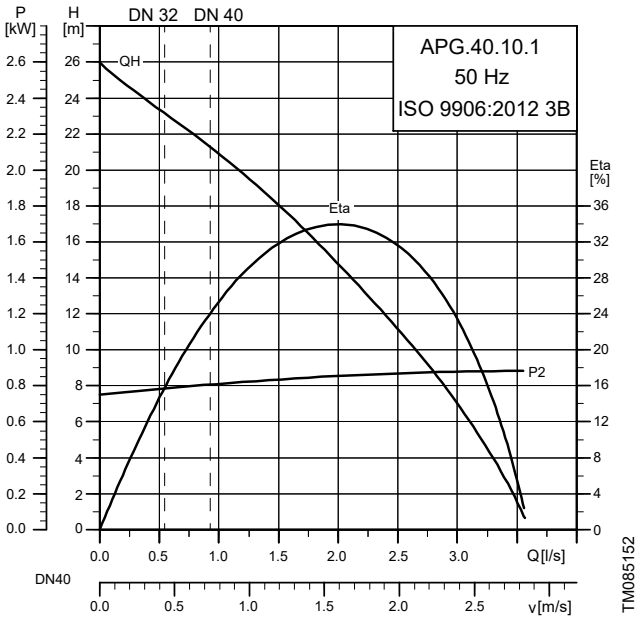
The quick sizing chart below gives an approximate overview of heights and outlet pipe lengths with an inner pipe diameter of DN 32, G 1 1/2" / DN 40, and a flow, so that a self-cleaning velocity of minimum 0.7 m/s is covered. The overview is only intended as a guide. Pressure loss of a non-return valve and an isolating valve is calculated. The vertical height of the outlet pipe must be measured from the pump stop level. For more flow requirements a calculation is needed.

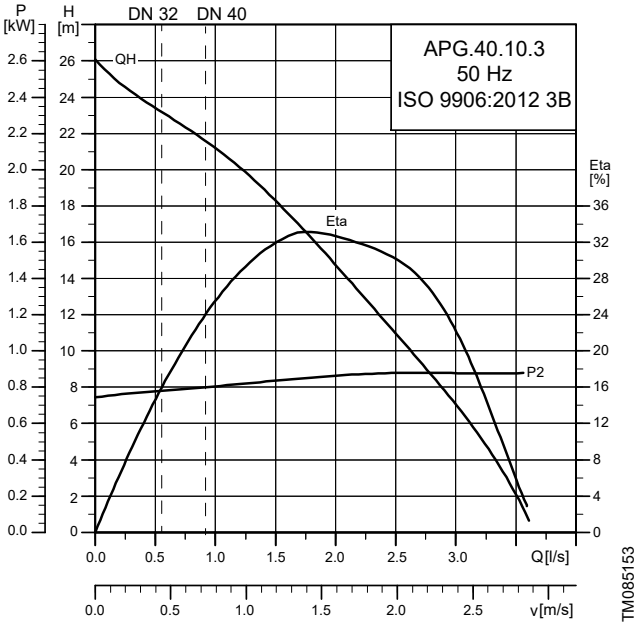


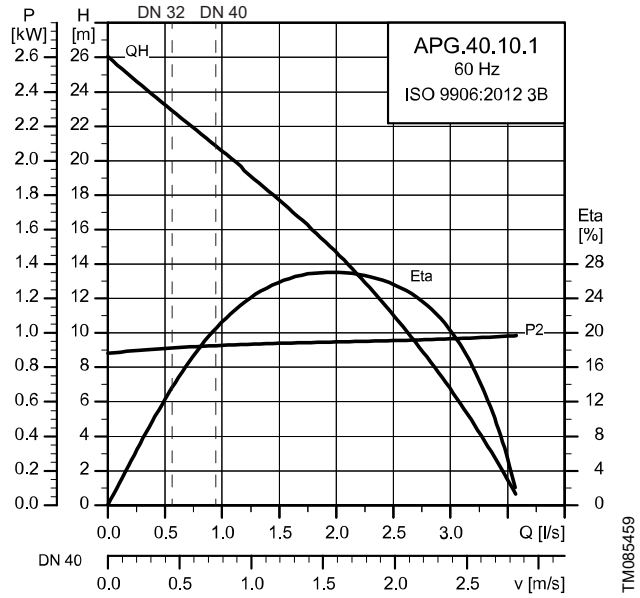
TM081851

Maximum pump lengths --- APG.40.10, flow of 0.7 m/s , Q = 2.1 - 3.2 m³/h

Performance curves







The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

UNOLIFT 270 APG with pumps operated by float switch

50 Hz

Voltage [V]	UNILIFT APG pump		270-litre tank	MS 2 high-level switch
1 × 220-24	APG.40.10.A1	92616914	97642371	91427146
1 × 230		92611467		
		92616874		
		92616898		
		92700280		
3 × 220	APG.40.10.A3	92616895		
3 × 380		92616912		
3 × 400		92616892		
		92700284		

60 Hz

Voltage [V]	UNILIFT APG pump		270-litre tank	MS 2 high-level switch
1 × 230	APG.40.10.A1	92910104	97642371	91427146

UNOLIFT 270 APG with pumps operated by controller

50 Hz

Voltage [V]	UNILIFT APG pump		270-litre tank	Level sensor	LC 231 controller
1 × 220-240	APG.40.10.1	92616916	97642371	92725400	99369644
		92822732			
		92823906			
		92823907			
		92823908			
		92861781			
		92861782			
		92861783			
		92861784			
1 × 230		92616890			
		92616891			
		92616910			
		92700282			
3 × 220	APG.40.10.3	92616897			
3 × 380		92616913			
3 × 400		92616893			
		92700286			
		92861785			
		92861786			
		92861787			
		92861788			
		92861789			
		92861800			
		92861801			
		92861802			

60 Hz

Voltage [V]	UNILIFT APG pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	APG.40.10	92910103	97642371	92725400	99369644

UNOLIFT 270 SEG

Introduction

UNOLIFT 270 SEG is a 270-litre collecting tank for one Grundfos SEG pump. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-1.

TM066351

Technical data

Pump housing material	Stainless steel
Max. number of starts per hour	40
Pumped liquids	Grey and black wastewater
Operating conditions	Normal: 0-40 °C Max. 60 °C for 3 minutes every 30 minutes

Features and benefits

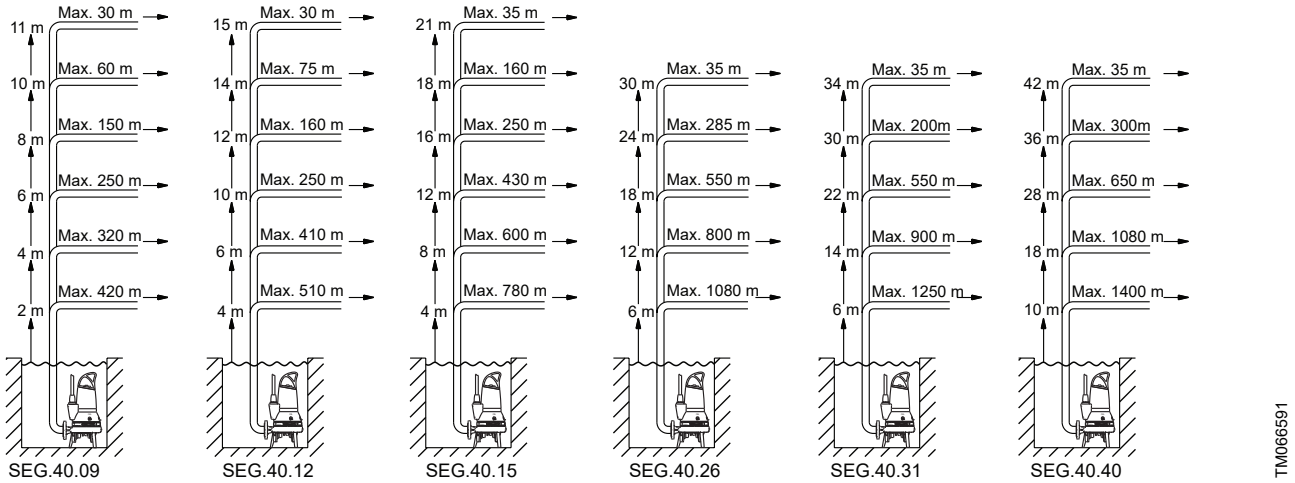
- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- SmartTrim system enabling quick and easy impeller clearance adjustment in order to maintain peak performance
- patented grinder system ensuring extremely high efficiency and reliable operation
- heavy-duty bearings greased for life
- clamps connection between motor and pump for quick check and service
- cartridge mechanical shaft seal for long life and safe service
- cable connection with plug for easy maintenance and replacement.

Applications

UNOLIFT 270 SEG is typically used for pumping black wastewater from one-family houses or small commercial buildings.

Performance

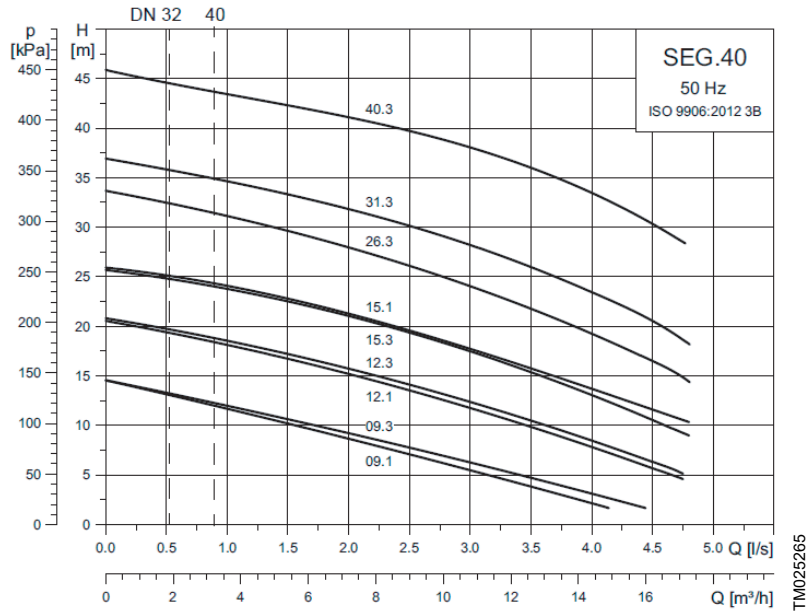
The overview below shows the maximum lengths of combined vertical and horizontal DN 40 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.



TM066591

Maximum pipe lengths

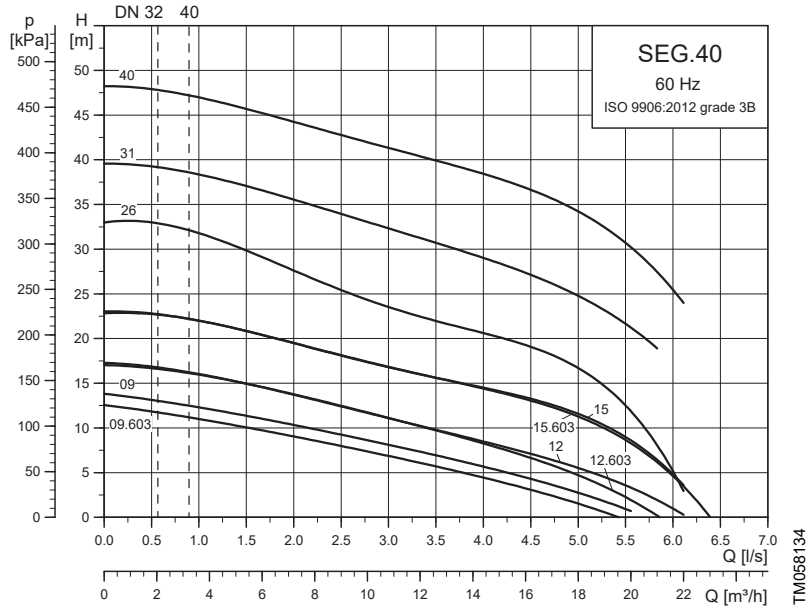
Performance curves, 50 Hz



Designation	Curve number
SEG.40.09.2.1.502	09.1
SEG.40.09.2.50B/C	09.3
SEG.40.12.2.1.502	12.1
SEG.40.12.2.50B/C	12.3
SEG.40.15.2.1.502	15.1
SEG.40.15.2.50B/C	15.3
SEG.40.26.2.50B/C	26.3
SEG.40.31.2.50B/C	31.3
SEG.40.40.2.50B/C	40.3

The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Performance curves, 60 Hz



Designation	Curve number
SEG.40.09.(EX).2.1.603	09.603
SEG.40.09.(EX).2.60G/H/M	09
SEG.40.12.(EX).2.1.603	12.603
SEG.40.12.(EX).2.60G/H/M	12
SEG.40.15.(EX).2.1.603	15.603
SEG.40.15.(EX).2.60G/H/M	15
SEG.40.26.(EX).2.60G/H/M	26
SEG.40.31.(EX).2.60G/H/M	31
SEG.40.40.(EX).2.60G/H/M	40

The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

UNOLIFT 270 SEG with pump operated by controller

50 Hz, 1-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 241 controller
1 × 230	SEG.40.09.2.1.502	96075893	97642371	92725400	99301399
	SEG.40.12.2.1.502	96075901			

50 Hz, 3-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 231 controller
3 × 230-240	SEG.40.09.2.50C	96075919	97642371	92725400	99369644
	SEG.40.12.2.50C	96075920			
	SEG.40.15.2.50C	96075921			
	SEG.40.26.2.50C	96075922			
	SEG.40.31.2.50C	96075923			
	SEG.40.40.2.50C	96075924			
3 × 400-415	SEG.40.09.2.50B	96075897			
	SEG.40.12.2.50B	96075905			
	SEG.40.15.2.50B	96075909			
	SEG.40.26.2.50B	96075913			
	SEG.40.31.2.50B	96075915			
	SEG.40.40.2.50B	96075917			

60 Hz, 1-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 241 controller
1 × 230	SEG.40.09.2.1.603	98280831	97642371	92725400	99301399
	SEG.40.12.2.1.603	98280833			
	SEG.40.15.2.1.603	98280835			

60 Hz, 3-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 231 controller
3 × 200-230	SEG.40.09.2.60M	98280729	97642371	92725400	99369644 99369650
	SEG.40.12.2.60M	98280748			
	SEG.40.15.2.60M	98280750			
	SEG.40.26.2.60M	98280803			
	SEG.40.31.2.60M	98280805			
	SEG.40.40.2.60M	98280808			
3 × 380	SEG.40.09.2.60G	98280814			
	SEG.40.12.2.60G	98280816			
	SEG.40.15.2.60G	98280819			
	SEG.40.26.2.60G	98280821			
	SEG.40.31.2.60G	98280823			
	SEG.40.40.2.60G	98280825			

DUOLIFT 270 CC

Introduction

DUOLIFT 270 CC is a 270-litre collecting tank for two Grundfos UNILIFT CC pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2.

TM066346

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- long pump life thanks to the stainless-steel motor with three shaft seals
- non-return valve at the pump outlet
- reliable start even after air intake in the pump thanks to the self-venting pump.

Applications

DUOLIFT 270 CC is designed for pumping grey wastewater from the following:

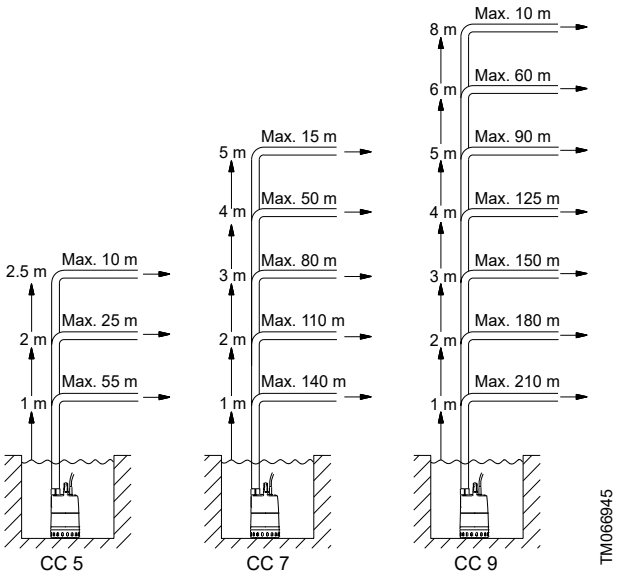
- multifamily houses with several washing machines
- backwash of swimming pool filters from family houses
- commercial or industrial appliances where it is not critical to have a backup pump.

Technical data

Free passage	∅10
Pump housing material	Composite
Max. number of starts per hour	60
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C Max. 70 °C for 2 minutes every 30 minutes

Performance

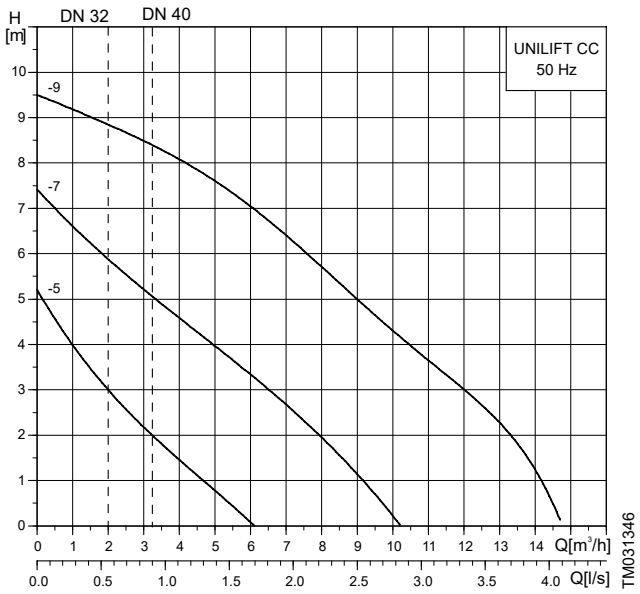
The overview below shows the maximum lengths of combined vertical and horizontal DN 32 and DN 40 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.

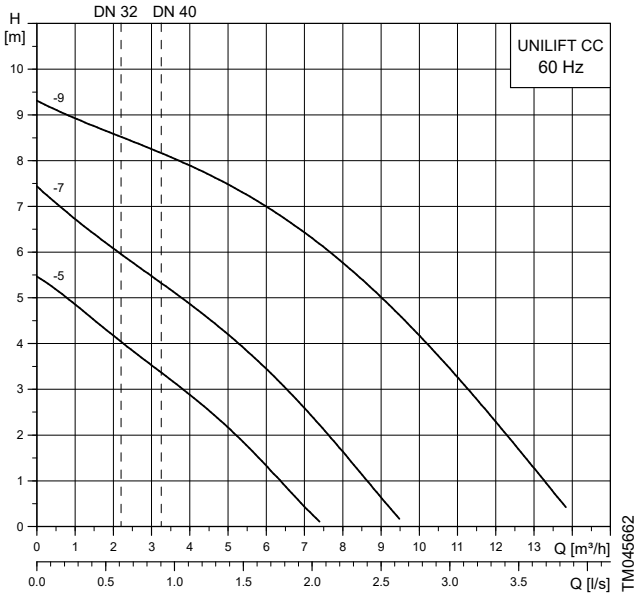


TM066945

Maximum pipe lengths DN 32 or DN 40 x: The self-cleaning velocity of 0.7 m/s cannot be reached.

Performance curves





The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 270 CC with pump operated by controller

50 Hz

Voltage [V]	UNILIFT CC pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	CC 5	96280977	97642386	92725400	99369644 99369650
	CC 7	96280979			
	CC 9	96280981			

60 Hz

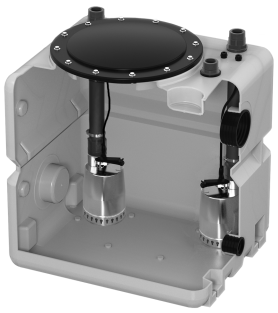
Voltage [V]	UNILIFT CC pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	CC 5	97530823	97642386	92725400	99369644 99369650
	CC 7	97530825			
	CC 9	97530827			

DUOLIFT 270 KP

Introduction

DUOLIFT 270 KP is a 270-litre collecting tank for two Grundfos UNILIFT KP pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2.



TM066419

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank.
- Quick and easy installation thanks to the connecting pipes.
- Thermal protection.
- Low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet.
- Long pump life thanks to its stainless-steel motor with three shaft seals.
- Wet-runner pump for high reliability. The pump continues to operate even if a shaft seal is leaking.
- Non-return valve at the pump outlet.

Applications

UNOLIFT 270 KP is designed for pumping grey wastewater from the following:

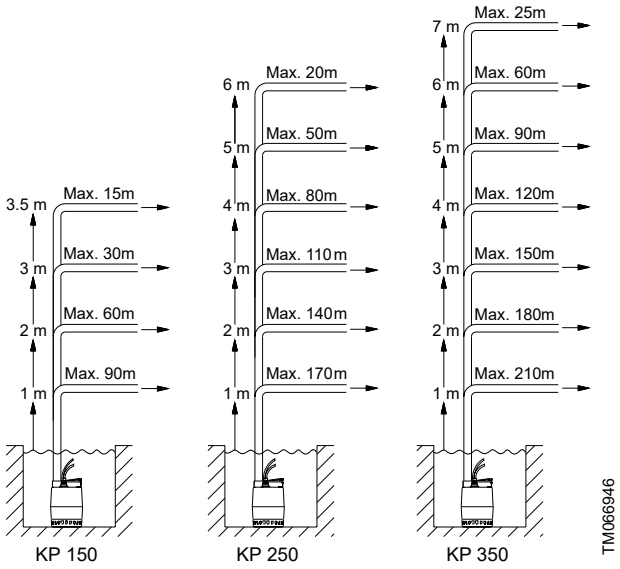
- multifamily houses with several washing machines
- backwash of swimming pool filters from family houses
- commercial or industrial appliances where it is not critical to have a backup pump.

Technical data

Free passage	∅10
Pump housing material	Stainless steel
Max. number of starts per hour	60
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-50 °C Max. 70 °C for 2 minutes every 30 minutes

Performance

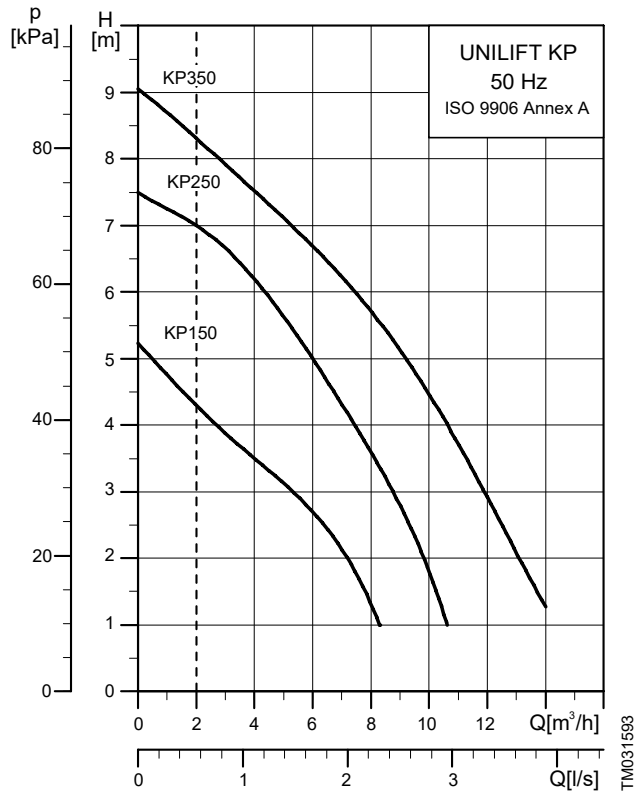
The overview below shows the maximum lengths of combined vertical and horizontal outlet pipes of DN 32 and DN 40. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.

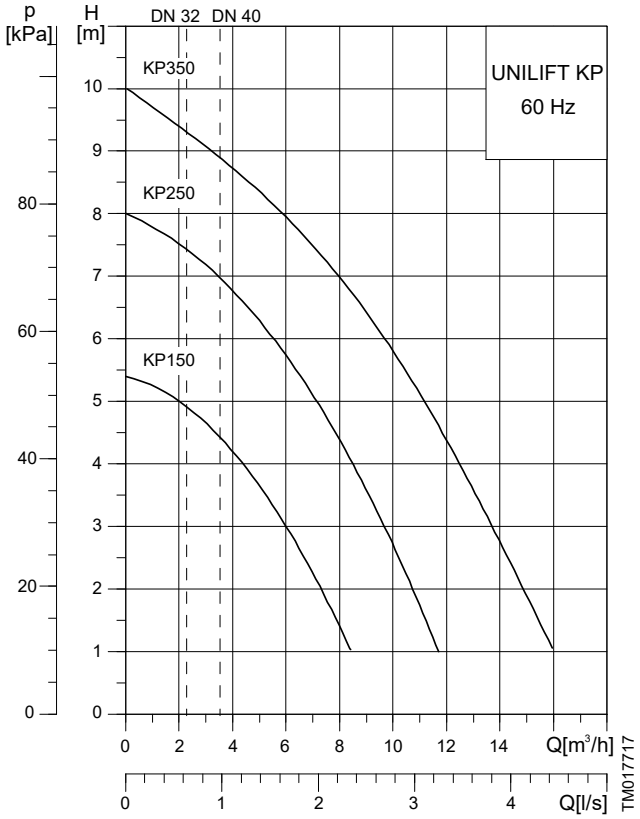


TM066946

Maximum pipe lengths DN 32 or DN 40 x: The self-cleaning velocity of 0.7 m/s cannot be reached

Performance curves





The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 270 KP with pumps operated by controller

50 Hz

Voltage [V]	UNILIFT KP pump		270-litre tank	Level sensor	LC 231 controller
1 × 220-240	KP 150	011H6300	97642386	92725400	99369644 99369650
	KP 250	012H6300			
	KP 350	011N6300			
3 × 380-415	KP 250	012M6300			
	KP 350	013M6300			

60 Hz

Voltage [V]	UNILIFT KP pump		270-litre tank	Level sensor	LC 231 controller
1 × 220-230	KP 250	012G6300	97642386	92725400	99369644 99369650
	KP 350	96Z01143			

DUOLIFT 270 APB

Introduction

DUOLIFT 270 APB is a 270-litre collecting tank for two Grundfos UNILIFT APB pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2 with UNILIFT AP35B or EN 12050-1 with UNILIFT AP50B.

TM066347

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- reduced service time thanks to a pump design enabling easy access to hydraulic parts
- stainless-steel design for high resistance
- mechanical shaft seal for long life
- cable connection with plug for easy maintenance and replacement.

Applications

DUOLIFT 270 APB is designed for pumping grey wastewater. With a UNILIFT AB50B pump, it can also be used for pumping black wastewater in countries allowing outlet pipes of DN 50 without a grinder pump.

DUOLIFT 270 APB is typically used for pumping greater discharge volumes from the following:

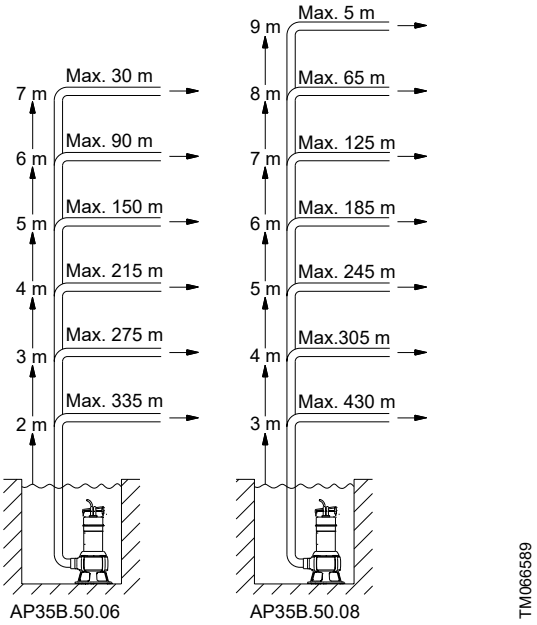
- hotels or hospitals with commercial washing machines
- canteens and commercial kitchens, if the lifting station is placed behind a grease separator
- commercial or industrial appliances
- office buildings, hotels or restaurants, including toilets, in countries where legislation allows it, and only with UNILIFT AP50B.

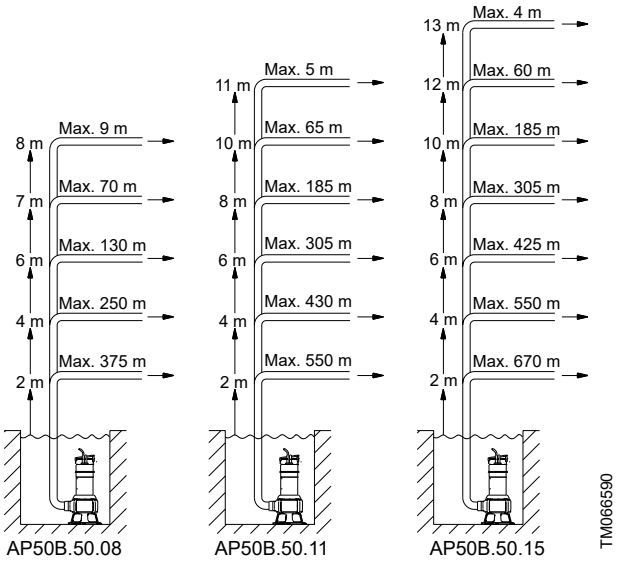
Technical data

Free passage	AP35B: ∅35 AP50B: ∅50
Pump housing material	Stainless steel
Max. number of starts per hour	40
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C

Performance

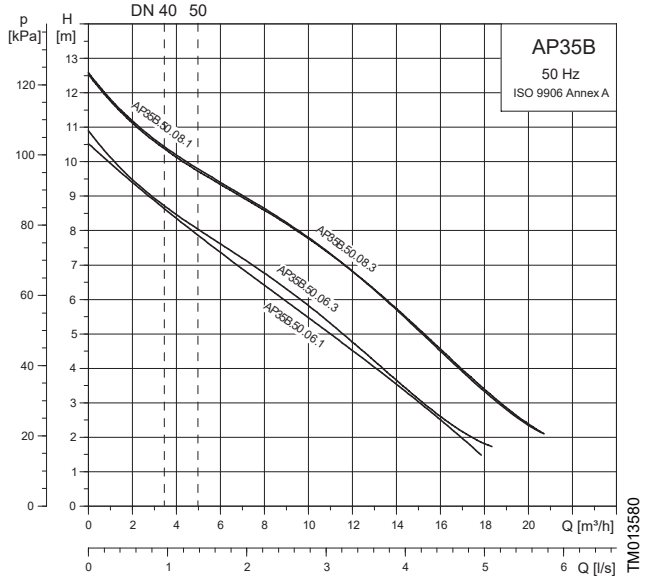
The overview below shows the maximum lengths of combined vertical and horizontal DN 50 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.

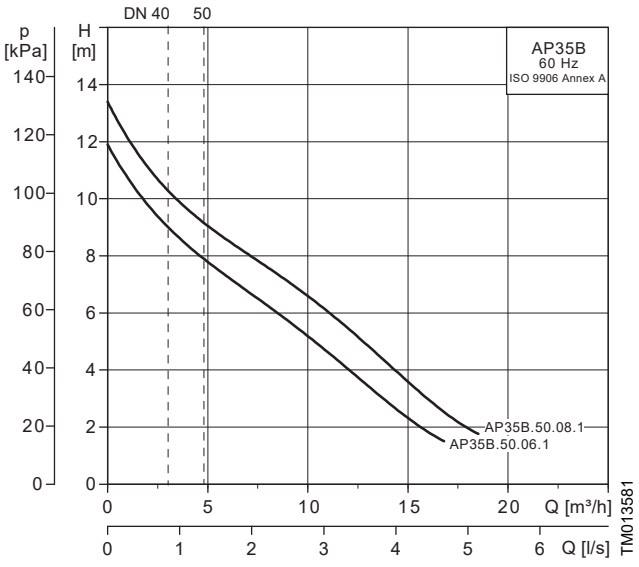




Maximum pipe lengths

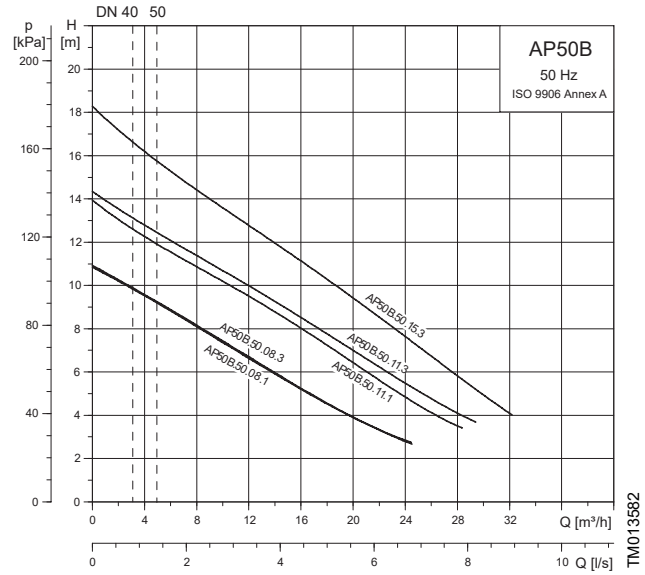
Performance curves, AP35B

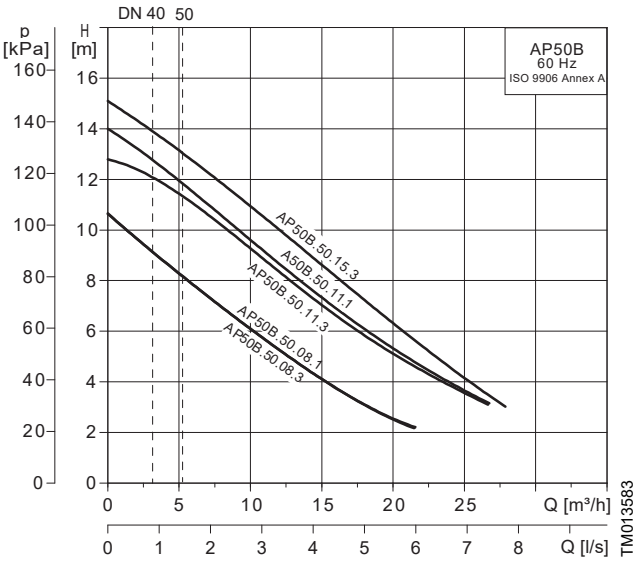




The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 40 and DN 50.

Performance curves, AP50B





The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 40 and DN 50.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 270 APB with pumps operated by controller

50 Hz

Voltage [V]	UNILIFT APB pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	AP**35**B.50.06	96004563	97642388	92725400	99369644 99369650
	AP**35**B.50.08	96004575			
	AP**50**B.50.08	96004587			
	AP**50**B.50.11	96004599			
3 × 400	AP**35**B.50.06	96468190			
	AP**35**B.50.08	96468193			
	AP**50**B.50.08	96468194			
	AP**50**B.50.11	96468195			
	AP**50**B.50.15	96004609			

60 Hz

Voltage [V]	UNILIFT APB pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	AP**35**B.50.06	96004569	97642388	92725400	99369644 99369650
	AP**35**B.50.08	96004581			
	AP**50**B.50.08	96004593			
	AP**50**B.50.11	96004605			
3 × 200-220	AP**35**B.50.06	96004571			
	AP**35**B.50.08	96004583			
	AP**50**B.50.08	96004595			
	AP**50**B.50.11	96004607			
	AP**50**B.50.15	96468196			

DUOLIFT 270 APG

Introduction

DUOLIFT 270 APG is a 270-litre collecting tank for two Grundfos UNILIFT APG pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-1.

TM085174

Features and benefits

- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- reduced service time thanks to a pump design enabling easy access to hydraulic parts
- stainless-steel motor parts and cast-iron pump housing for high resistance
- mechanical shaft seal for long life
- cable connection with plug for easy maintenance and replacement.

Applications

DUOLIFT 270 APG is designed for pumping grey and black wastewater with a UNILIFT APG pump.

DUOLIFT 270 APG is typically used for pumping greater discharge volumes from the following:

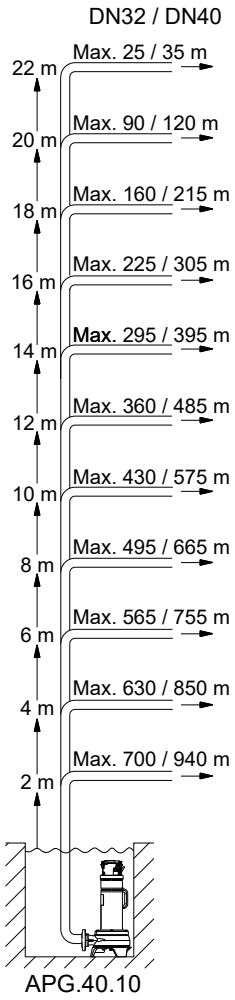
- hotels or hospitals with commercial washing machines
- canteens and commercial kitchens, if the lifting station is placed behind a grease separator
- commercial or industrial appliances
- office buildings, hotels or restaurants.

Technical data

Pump housing material	Cast iron
Max. number of starts per hour	60
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C Max. 70 °C for 5 minutes

Performance

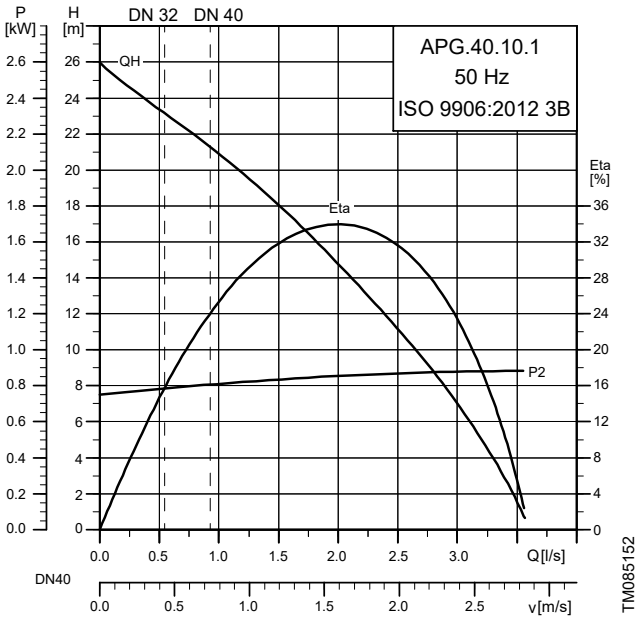
The quick sizing chart below gives an approximate overview of heights and outlet pipe lengths with an inner pipe diameter of DN 32, G 1 1/2" / DN 40, and a flow, so that a self-cleaning velocity of minimum 0.7 m/s is covered. The overview is only intended as a guide. Pressure loss of a non-return valve and an isolating valve is calculated. The vertical height of the outlet pipe must be measured from the pump stop level. For more flow requirements a calculation is needed.

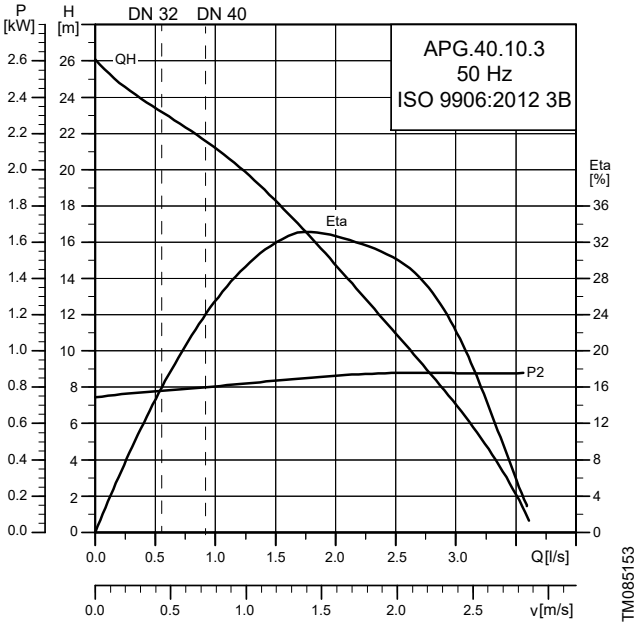


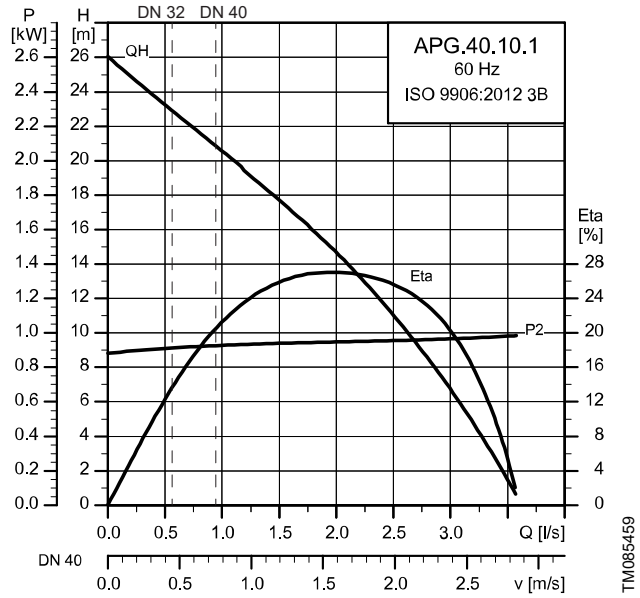
TM081851

Maximum pump lengths --- APG.40.10, flow of 0.7 m/s , Q = 2.1 - 3.2 m³/h

Performance curves







The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 270 APG with pumps operated by controller

50 Hz

Voltage [V]	UNILIFT APG pump		270-litre tank	Level sensor	LC 231 controller
1 × 220-240	APG.40.10.1	92616916	97642372	92725400	99369644 99369650
		92822732			
		92823906			
		92823907			
		92823908			
		92861781			
		92861782			
		92861783			
		92861784			
1 × 230		92616890			
		92616891			
		92616910			
		92700282			
3 × 220	APG.40.10.3	92616897			
3 × 380		92616913			
3 × 400		92616893			
		92700286			
		92861785			
		92861786			
		92861787			
		92861788			
		92861789			
		92861800			
		92861801			
		92861802			

60 Hz

Voltage [V]	UNILIFT APG pump		270-litre tank	Level sensor	LC 231 controller
1 × 230	APG.40.10	92910103	97642372	92725400	99369644 99369650

DUOLIFT 270 SEG

Introduction

DUOLIFT 270 SEG is a 270-litre collecting tank for two Grundfos SEG pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-1.

TM066348

Technical data

Pump housing material	Stainless steel
Max. number of starts per hour	60
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C Max. 60 °C for 3 minutes every 30 minutes

Features and benefits

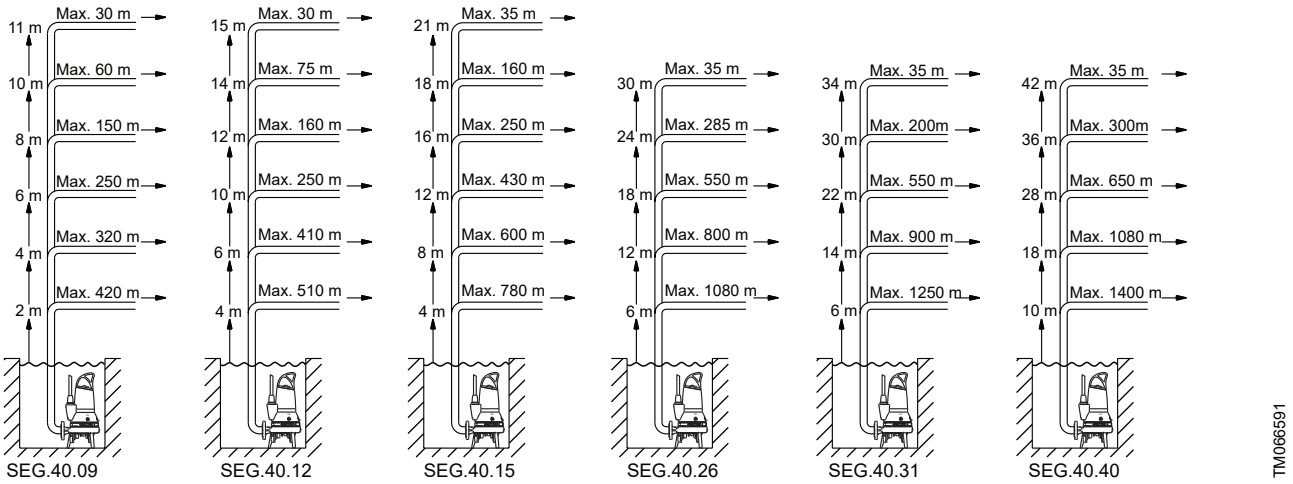
- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- SmartTrim system enabling quick and easy impeller clearance adjustment in order to maintain peak performance
- patented grinder system ensuring extremely high efficiency and reliable operation
- heavy-duty bearings greased for life
- clamps connection between motor and pump for quick check and service
- thermal protection
- cartridge mechanical shaft seal for long life and safe service
- cable connection with plug for easy maintenance and replacement

Applications

DUOLIFT 270 SEG is typically used for pumping black wastewater from commercial buildings, such as restaurants, schools and office buildings with toilets including urinals.

Performance

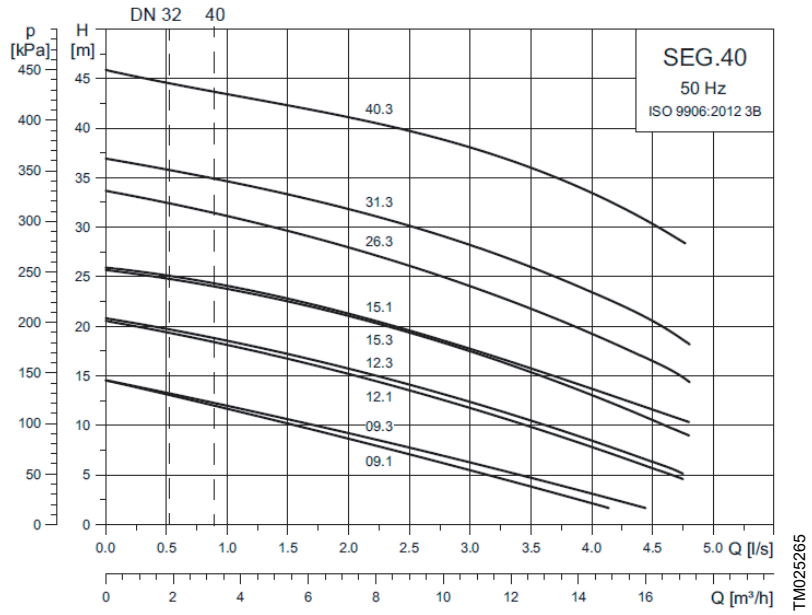
The overview below shows the maximum lengths of combined vertical and horizontal DN 40 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.



TM066591

Maximum pipe lengths

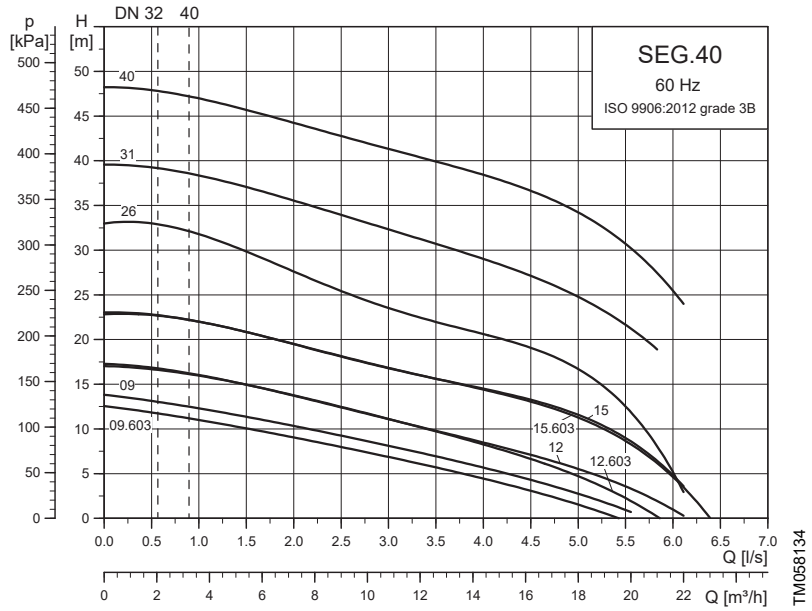
Performance curves, 50 Hz



Designation	Curve number
SEG.40.09.2.1.502	09.1
SEG.40.09.2.50B/C	09.3
SEG.40.12.2.1.502	12.1
SEG.40.12.2.50B/C	12.3
SEG.40.15.2.1.502	15.1
SEG.40.15.2.50B/C	15.3
SEG.40.26.2.50B/C	26.3
SEG.40.31.2.50B/C	31.3
SEG.40.40.2.50B/C	40.3

The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Performance curves, 60 Hz



Designation	Curve number
SEG.40.09.(EX).2.1.603	09.603
SEG.40.09.(EX).2.60G/H/M	09
SEG.40.12.(EX).2.1.603	12.603
SEG.40.12.(EX).2.60G/H/M	12
SEG.40.15.(EX).2.1.603	15.603
SEG.40.15.(EX).2.60G/H/M	15
SEG.40.26.(EX).2.60G/H/M	26
SEG.40.31.(EX).2.60G/H/M	31
SEG.40.40.(EX).2.60G/H/M	40

The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 270 SEG with pumps operated by controller

50 Hz, 1-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 241 controller
1 × 230	SEG.40.09.2.1.502	96075893	97642372	92725400	99301399
	SEG.40.12.2.1.502	96075901			

50 Hz, 3-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 231 controller
3 × 230-240	SEG.40.09.2.50C	96075919	97642372	92725400	99369644
	SEG.40.12.2.50C	96075920			
	SEG.40.15.2.50C	96075921			
	SEG.40.26.2.50C	96075922			
	SEG.40.31.2.50C	96075923			
	SEG.40.40.2.50C	96075924			
3 × 400-415	SEG.40.09.2.50B	96075897			
	SEG.40.12.2.50B	96075905			
	SEG.40.15.2.50B	96075909			
	SEG.40.26.2.50B	96075913			
	SEG.40.31.2.50B	96075915			
	SEG.40.40.2.50B	96075917			

60 Hz, 1-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 241 controller
1 × 230	SEG.40.09.2.1.603	98280831	97642372	92725400	99301399
	SEG.40.12.2.1.603	98280833			
	SEG.40.15.2.1.603	98280835			

60 Hz, 3-phase

Voltage [V]	SEG pump		270-litre tank	Level sensor	LC 231 controller
3 × 200-230	SEG.40.09.2.60M	98280729	97642372	92725400	99369644 99369650
	SEG.40.12.2.60M	98280748			
	SEG.40.15.2.60M	98280750			
	SEG.40.26.2.60M	98280803			
	SEG.40.31.2.60M	98280805			
	SEG.40.40.2.60M	98280808			
3 × 380	SEG.40.09.2.60G	98280814			
	SEG.40.12.2.60G	98280816			
	SEG.40.15.2.60G	98280819			
	SEG.40.26.2.60G	98280821			
	SEG.40.31.2.60G	98280823			
	SEG.40.40.2.60G	98280825			

DUOLIFT 540 APB

Introduction

DUOLIFT 540 APB is a 540-litre collecting tank for two Grundfos UNILIFT APB pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2 with UNILIFT AP35B and UNILIFT AP50B.

TM066420

Features and benefits

- Large tank volume, ensuring reliable operation, for example in case of power cut off
- four inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- reduced service time thanks to a pump design enabling easy access to hydraulic parts
- stainless-steel design for high resistance
- mechanical shaft seal for long life
- cable connection with plug for easy maintenance and replacement.

Applications

DUOLIFT 540 APB is designed for pumping grey wastewater. It is typically used for pumping greater discharge volumes from the following:

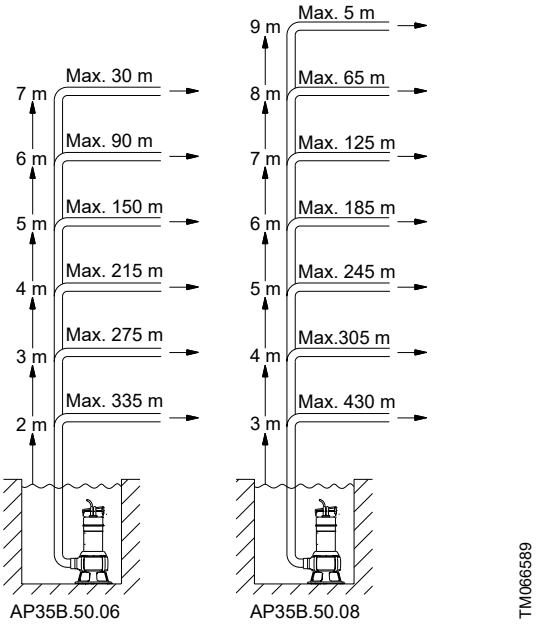
- hotels or hospitals with commercial washing machines
- canteens and commercial kitchens, if the lifting station is placed behind a grease separator
- commercial or industrial appliances where it is not critical to have a backup pump.

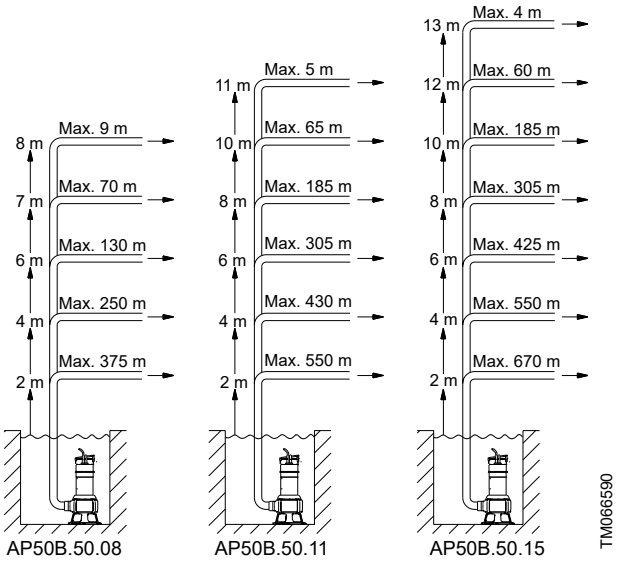
Technical data

Free passage	AP35B: ∅35 AP50B: ∅50
Pump housing material	Stainless steel
Max. number of starts per hour	40
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C

Performance

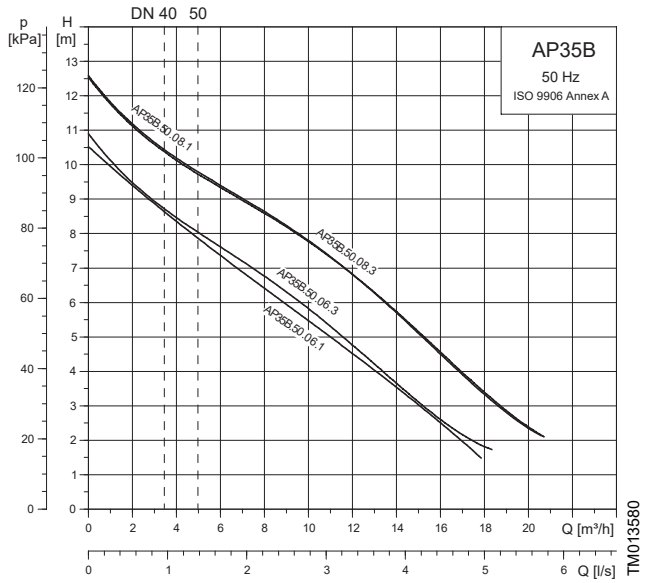
The overview below shows the maximum lengths of combined vertical and horizontal DN 50 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.

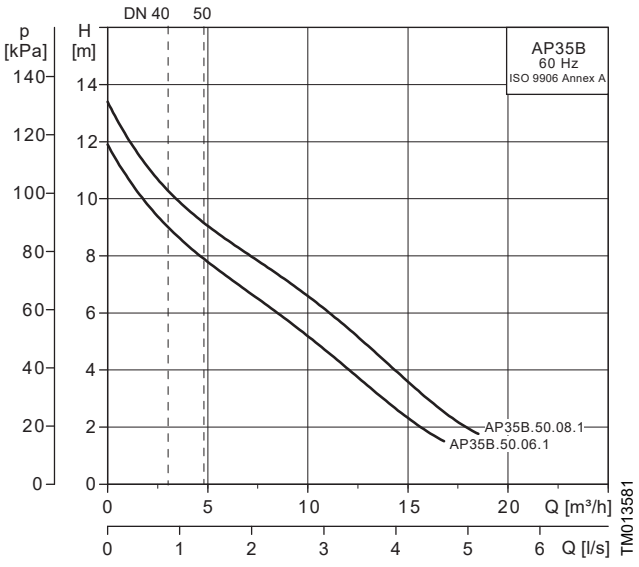




Maximum pipe lengths

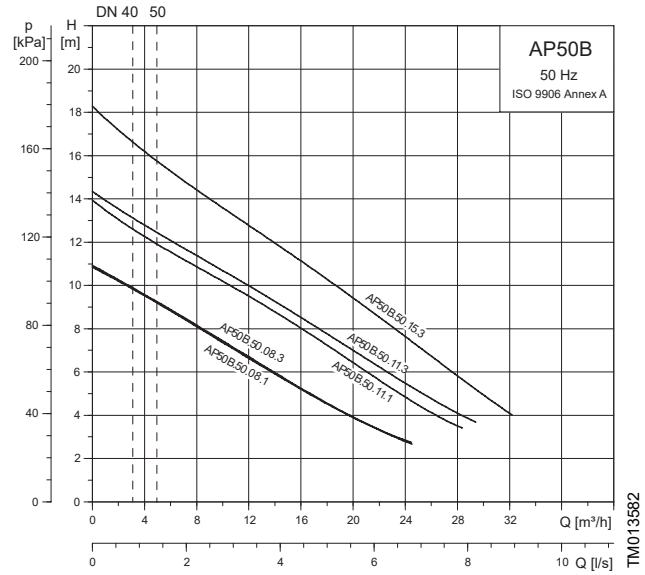
Performance curves, AP35B

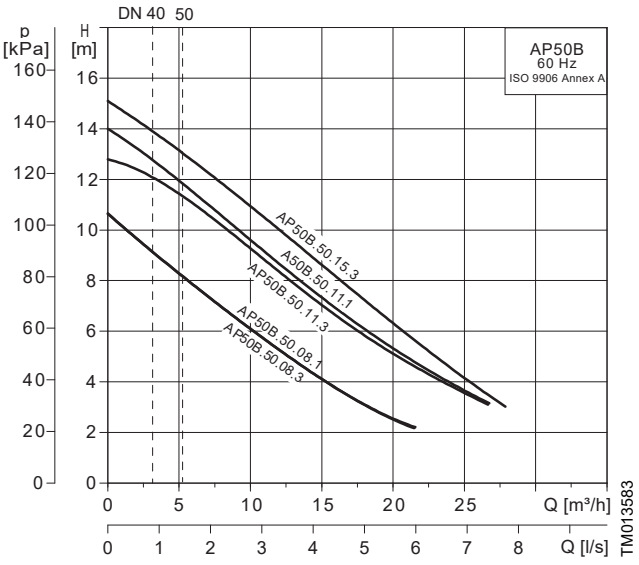




The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 40 and DN 50.

Performance curves, AP50B





The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 40 and DN 50.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 540 APB with pumps operated by controller

50 Hz

Voltage [V]	UNILIFT APB pump		540-litre tank	Level sensor	LC 231 controller
1 × 230	AP**35**B.50.06	96004563	99017735	92725400	99369644 99369650
	AP**35**B.50.08	96004575			
	AP**50**B.50.08	96004587			
	AP**50**B.50.11	96004599			
3 × 400	AP**35**B.50.06	96468190			
	AP**35**B.50.08	96468193			
	AP**50**B.50.08	96468194			
	AP**50**B.50.11	96468195			
	AP**50**B.50.15	96004609			

60 Hz

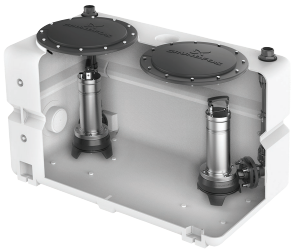
Voltage [V]	UNILIFT APB pump		540-litre tank	Level sensor	LC 231 controller
1 × 230	AP**35**B.50.06	96004569	99017735	92725400	99369644 99369650
	AP**35**B.50.08	96004581			
	AP**50**B.50.08	96004593			
	AP**50**B.50.11	96004605			
3 × 200-220	AP**35**B.50.06	96004571			
	AP**35**B.50.08	96004583			
	AP**50**B.50.08	96004595			
	AP**50**B.50.11	96004607			
	AP**50**B.50.15	96468196			

DUOLIFT 540 APG

Introduction

DUOLIFT 540 APG is a 540-litre collecting tank for two Grundfos UNILIFT APG pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2.



TM085177

Features and benefits

- Large tank volume, ensuring reliable operation, for example in case of power cut off
- four inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- reduced service time thanks to a pump design enabling easy access to hydraulic parts
- stainless-steel motor parts and cast-iron pump housing for high resistance
- mechanical shaft seal for long life
- cable connection with plug for easy maintenance and replacement.

Applications

DUOLIFT 540 APG is designed for pumping grey wastewater with a UNILIFT APG pump.

DUOLIFT 540 APG is typically used for pumping greater discharge volumes from the following:

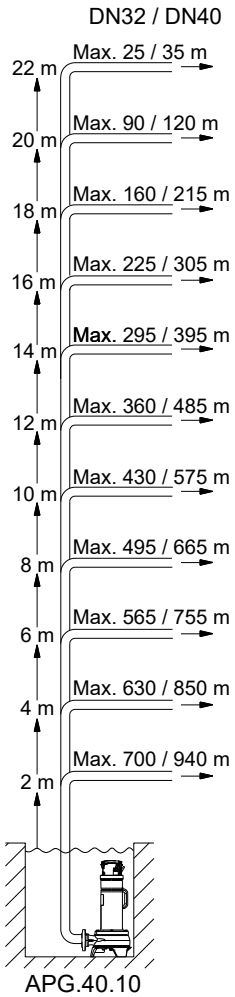
- hotels or hospitals with commercial washing machines
- canteens and commercial kitchens, if the lifting station is placed behind a grease separator
- commercial or industrial appliances where it is not critical to have a backup pump
- basements of office buildings, hotels or restaurant.

Technical data

Pump housing material	Cast iron
Max. number of starts per hour	60
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C Max. 70 °C for 5 minutes

Performance

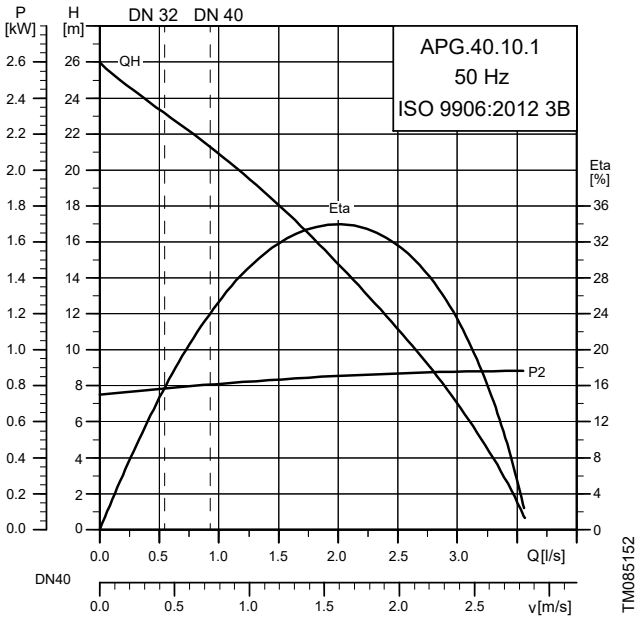
The quick sizing chart below gives an approximate overview of heights and outlet pipe lengths with an inner pipe diameter of DN 32, G 1 1/2" / DN 40, and a flow, so that a self-cleaning velocity of minimum 0.7 m/s is covered. The overview is only intended as a guide. Pressure loss of a non-return valve and an isolating valve is calculated. The vertical height of the outlet pipe must be measured from the pump stop level. For more flow requirements a calculation is needed.

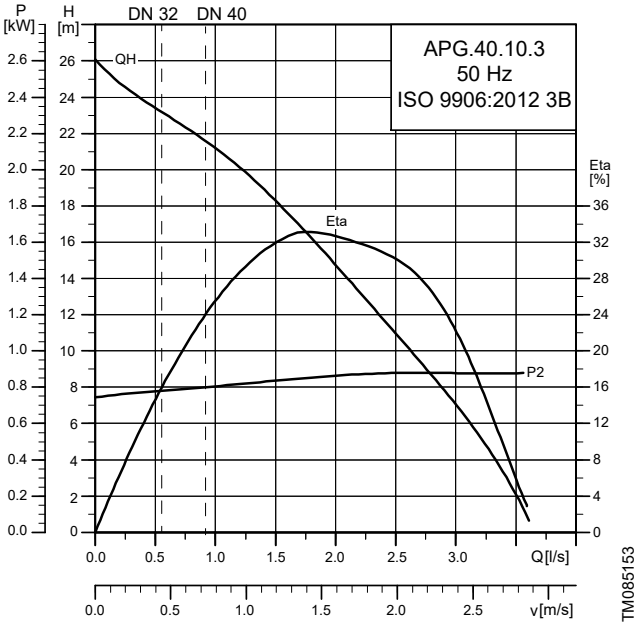


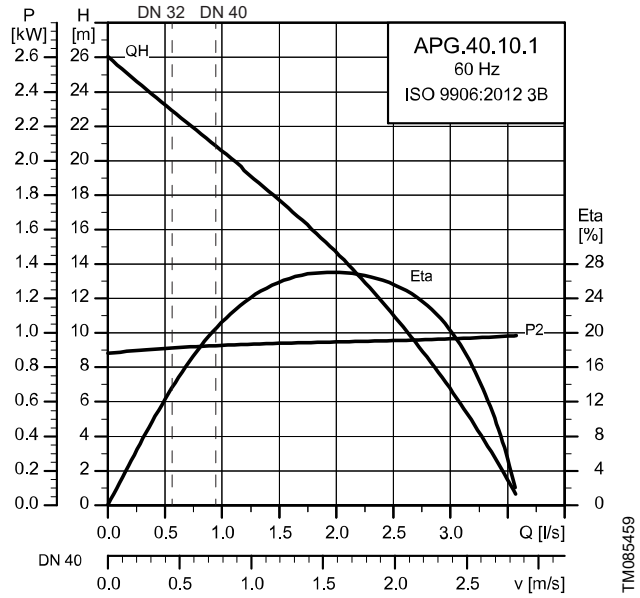
TM081851

Maximum pump lengths --- APG.40.10, flow of 0.7 m/s , Q = 2.1 - 3.2 m³/h

Performance curves







The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 540 APG with pumps operated by controller

50 Hz

Voltage [V]	UNILIFT APG pump		540-litre tank	Level sensor	LC 231 controller
1 × 220-240	APG.40.10.1	92616916	99017729	92725400	99369644 99369650
		92822732			
		92823906			
		92823907			
		92823908			
		92861781			
		92861782			
		92861783			
		92861784			
1 × 230		92616890			
		92616891			
		92616910			
		92700282			
3 × 220	APG.40.10.3	92616897			
3 × 380		92616913			
3 × 400		92616893			
		92700286			
		92861785			
		92861786			
		92861787			
		92861788			
		92861789			
		92861800			
		92861801			
		92861802			

60 Hz

Voltage [V]	UNILIFT APG pump		540-litre tank	Level sensor	LC 231 controller
1 × 230	APG.40.10	92910103	99017729	92725400	99369644 99369650

DUOLIFT 540 SEG

Introduction

DUOLIFT 540 SEG is a 540-litre collecting tank for two Grundfos SEG pumps. It is delivered with all the necessary inner pipe connections.

Together with our controller, which includes a piezoresistive pressure sensor, and our outlet pipes available as accessory, the complete installation is according to EN 12050-2.

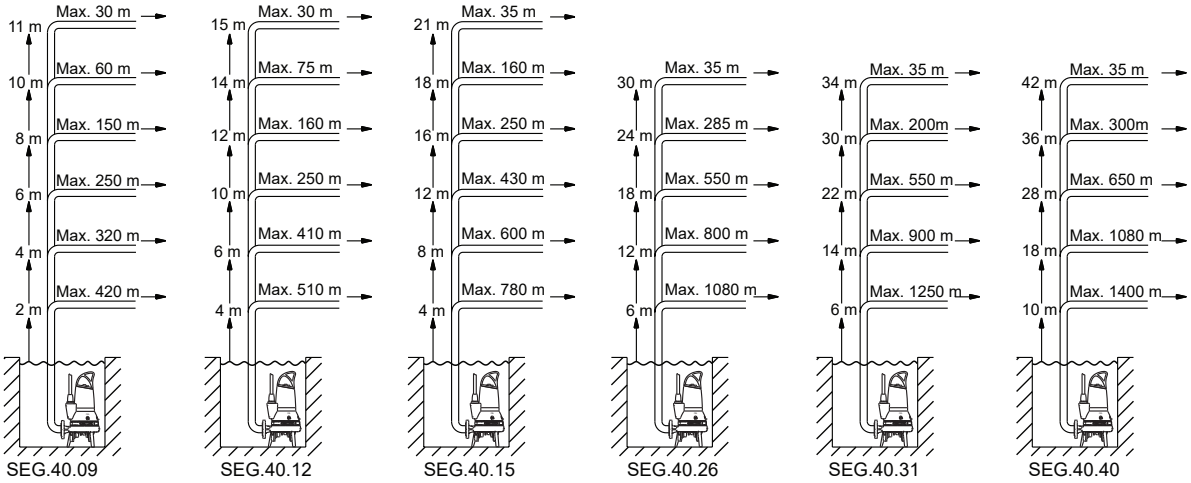
TM066350

Technical data

Pump housing material	Stainless steel
Max. number of starts per hour	60
Pumped liquids	Grey wastewater
Operating conditions	Normal: 0-40 °C Max. 60 °C for 3 minutes every 30 minutes

Performance

The overview below shows the maximum lengths of combined vertical and horizontal DN 40 outlet pipes. The overview is only intended as a guide. Measure the vertical height of the outlet pipe from the pump stop level.



TM066591

Maximum pipe lengths

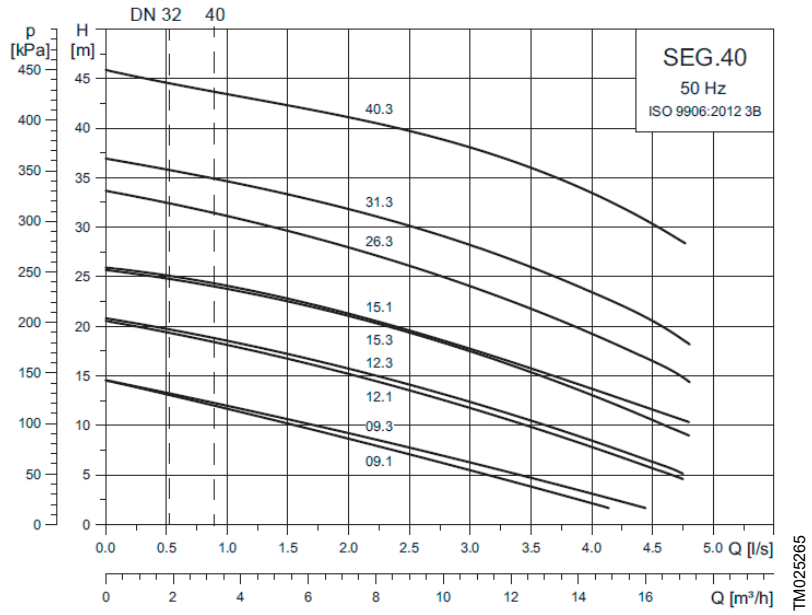
Features and benefits

- Three inlets ∅100 at different heights and sides of the tank
- quick and easy installation thanks to the connecting pipes
- thermal protection
- low vibration and sound levels thanks to the inlet seals and the flexible connection between the pump and tank outlet
- SmartTrim system enabling quick and easy impeller clearance adjustment in order to maintain peak performance
- patented grinder system ensuring extremely high efficiency and reliable operation
- heavy-duty bearings greased for life
- clamps connection between motor and pump for quick check and service
- cartridge mechanical shaft seal for long life and safe service
- cable connection with plug for easy maintenance and replacement

Applications

DUOLIFT 540 SEG is typically used for pumping grey wastewater from commercial buildings, such as restaurants, schools and shopping centres.

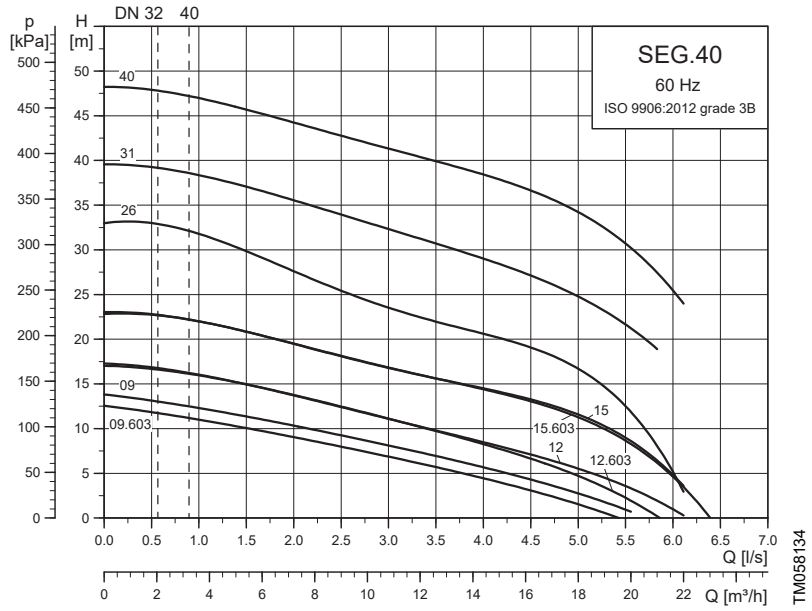
Performance curves, 50 Hz



Designation	Curve number
SEG.40.09.2.1.502	09.1
SEG.40.09.2.50B/C	09.3
SEG.40.12.2.1.502	12.1
SEG.40.12.2.50B/C	12.3
SEG.40.15.2.1.502	15.1
SEG.40.15.2.50B/C	15.3
SEG.40.26.2.50B/C	26.3
SEG.40.31.2.50B/C	31.3
SEG.40.40.2.50B/C	40.3

The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Performance curves, 60 Hz



Designation	Curve number
SEG.40.09.(EX).2.1.603	09.603
SEG.40.09.(EX).2.60G/H/M	09
SEG.40.12.(EX).2.1.603	12.603
SEG.40.12.(EX).2.60G/H/M	12
SEG.40.15.(EX).2.1.603	15.603
SEG.40.15.(EX).2.60G/H/M	15
SEG.40.26.(EX).2.60G/H/M	26
SEG.40.31.(EX).2.60G/H/M	31
SEG.40.40.(EX).2.60G/H/M	40

The broken lines represent the minimum self-cleaning velocity of 0.7 m/s with outlet pipes of DN 32 and DN 40.

Product numbers

Use the product numbers below to order your product. The tank package contains all the necessary inner pipe connections. The controller package contains the pressure tube to be fitted in the tank.

DUOLIFT 540 SEG with pumps operated by controller

50 Hz, 1-phase

Voltage [V]	SEG pump		540-litre tank	Level sensor	LC 241 controller
1 × 230	SEG.40.09.2.1.502	96075893	99017729	92725400	99301399
	SEG.40.12.2.1.502	96075901			

50 Hz, 3-phase

Voltage [V]	SEG pump		540-litre tank	Level sensor	LC 231 controller
3 × 230-240	SEG.40.09.2.50C	96075919	99017729	92725400	99369644 99369650
	SEG.40.12.2.50C	96075920			
	SEG.40.15.2.50C	96075921			
	SEG.40.26.2.50C	96075922			
	SEG.40.31.2.50C	96075923			
	SEG.40.40.2.50C	96075924			
3 × 400-415	SEG.40.09.2.50B	96075897			
	SEG.40.12.2.50B	96075905			
	SEG.40.15.2.50B	96075909			
	SEG.40.26.2.50B	96075913			
	SEG.40.31.2.50B	96075915			
	SEG.40.40.2.50B	96075917			

60 Hz, 1-phase

Voltage [V]	SEG pump		540-litre tank	Level sensor	LC 241 controller
1 × 230	SEG.40.09.2.1.603	98280831	99017729	92725400	99301399
	SEG.40.12.2.1.603	98280833			
	SEG.40.15.2.1.603	98280835			

60 Hz, 3-phase

Voltage [V]	SEG pump		540-litre tank	Level sensor	LC 231 controller
3 × 200-230	SEG.40.09.2.60M	98280729	99017729	92725400	99369644 99369650
	SEG.40.12.2.60M	98280748			
	SEG.40.15.2.60M	98280750			
	SEG.40.26.2.60M	98280803			
	SEG.40.31.2.60M	98280805			
	SEG.40.40.2.60M	98280808			
3 × 380	SEG.40.09.2.60G	98280814			
	SEG.40.12.2.60G	98280816			
	SEG.40.15.2.60G	98280819			
	SEG.40.26.2.60G	98280821			
	SEG.40.31.2.60G	98280823			
	SEG.40.40.2.60G	98280825			

6. Controllers

Level controller

The level controller supplied with the lifting stations is either LC 231 or LC 241.

See the documentation for the level controller for further details.

Data booklet:

QR92584339

http://net.grundfos.com/qr/i/92584339

LC 231 installation and operating instructions

Single pump unit:

QR99381576

http://net.grundfos.com/qr/i/99381576

Dual pump unit:

QR99480674

http://net.grundfos.com/qr/i/99480674

LC 241 installation and operating instructions

Single pump unit:

QR99381670

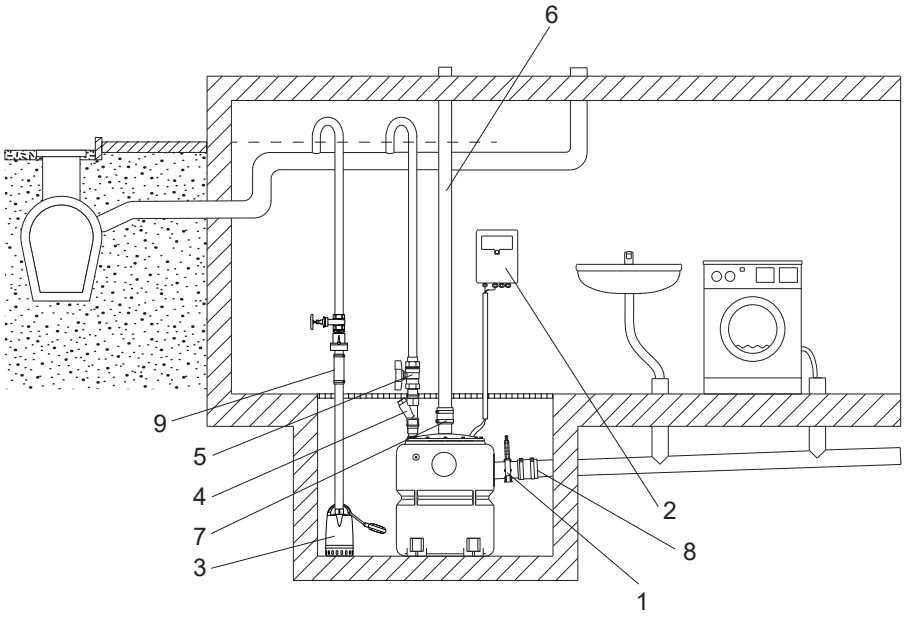
http://net.grundfos.com/qr/i/99381670

Dual pump unit:

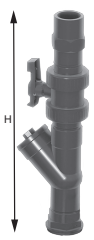
QR99480978

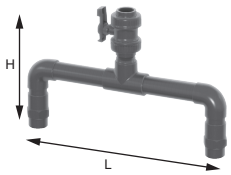
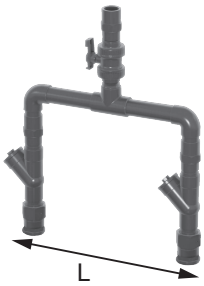
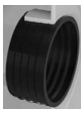
http://net.grundfos.com/qr/i/99480978

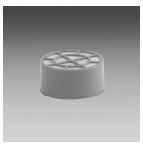
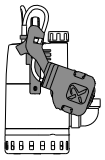
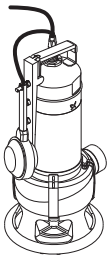
7. Accessories



TM066455

Pos.	Illustration	Description	Technical data	Product number
1		Isolating valve with connection pieces	DN 100 Installation length: 130 mm Height: 375 mm Material: PVC Connection pieces: ∅110	96615831
Not shown	N/A	Isolating valve	DN 32 Rp 1 1/4 Length: 76 mm Material: brass	00ID0918
5		Isolating valve for UNOLIFT and DUOLIFT CC, KP and SEG outlet	Rp 1 1/2 Height: 156 mm Material: PVC	96023846
		Isolating valve for UNOLIFT and DUOLIFT APB	Rp 2 Height: 186 mm Material: PVC	96023847
4		Non-return ball valve EN 12050-4	Rp 1 1/2 Height: 154 mm Material: PVC	96023843
			Rp 2 Height: 179 mm Material: PVC	96023844
Not shown	N/A	Non-return flap valve	Rp 1 1/4 Height: 90 mm Length: 90 mm Material: composite	96005308
4, 5		Outlet pipe for UNOLIFT 270 SEG. Includes an isolating valve and a non-return valve. Delivered dismantled.	Connection: Rp 1 1/2 Height: 350 mm Material: PVC	98997216
		Outlet pipe for UNOLIFT 270 APB. Includes an isolating valve and a non-return valve. Delivered dismantled.	Connection: Rp 2 Height: 400 mm Material: PVC	98997239

Pos.	Illustration	Description	Technical data	Product number
Not shown		Breeches pipe for DUOLIFT 270 CC/KP. Includes an isolating valve. Delivered dismantled.	Connection: Rp 1 1/2 Height: 400 mm Length: 500 mm Material: PVC	99045618
Not shown		Breeches pipe for DUOLIFT 270 APB. Includes an isolating valve and two non-return valves. Delivered dismantled.	Connection: Rp 2 Height: 650 mm Length: 500 mm Material: PVC	98997262
		Breeches pipe for DUOLIFT 270 SEG. Includes an isolating valve and two non-return valves. Delivered dismantled.	Connection: Rp 1 1/2 Height: 550 mm Length: 500 mm Material: PVC	98997240
		Breeches pipe for DUOLIFT 540 APB. Includes an isolating valve and two non-return valves. Delivered dismantled.	Connection: Rp 2 Height: 650 mm Length: 680 mm Material: PVC	99178717
		Breeches pipe for DUOLIFT 540 SEG. Includes an isolating valve and two non-return valves. Delivered dismantled.	Connection: Rp 1 1/2 Height: 550 mm Length: 680 mm Material: PVC	99178714
9		Flexible connection for drainage pump	DN 32 Length: 150 mm Internal diameter: 42 mm	91071645
Not shown		Flexible connection for diaphragm pump	DN 40 Length: 150 mm Internal diameter: 48 mm	91071646
7		Flexible connection for vent pipe	DN 75 Length: 150 mm Internal diameter: 75 mm	96075423
8		Flexible connection for isolating valve	DN100 Length: 150 mm Internal diameter: 110 mm	96075422
Not shown		Socket seals for inlets	DN 100 Internal diameter: 110 mm	97726942
Not shown		Hole saw	Internal diameter: 43 mm Length: 38 mm	99865001
Not shown			Internal diameter: 102 mm Length: 38 mm	96571536
Not shown		Manually operated diaphragm pump	Installation length: 423 mm Width: 215 mm Connection: Rp 1 1/2"	96003721
3		Drainage pump	Download Grundfos drainage pump data booklet http://net.grundfos.com/qr/i/96604141	QR96604141
Not shown		Signal lamp for wall mounting	1 × 230 V, 50 Hz	91077209
Not shown		Signal horn	Indoors, 1 × 230 V, 50 Hz	62500021
			Outdoors, 1 × 230 V, 50 Hz	62500022

Pos.	Illustration	Description	Technical data	Product number
Not shown		External main switch for supply cable	Up to 25 A	96002511
Not shown	N/A	Vent valve with filter for applications where venting over the rooftop is not possible.	DN 70, 80, 100	98059596
Not shown		Filter kit for vent valve	DN 70, 80, 100	98059594
Not shown		Wall installation box for vent valve	204 × 204 × 130 mm	98059598
Not shown		Guide arm for float switch on a UNILIFT CC		98709179
Not shown		Lever arm for float switch on a UNILIFT KP		96007161
Not shown		Lever arm for float switch on a UNILIFT APB		96003993

8. Grundfos Product Center

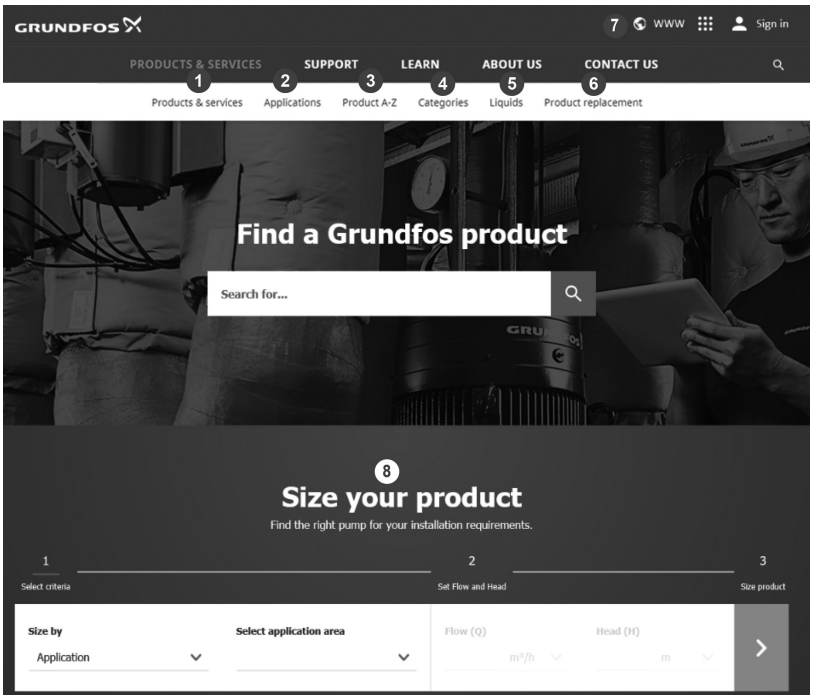
Online search and sizing tool to help you make the right choice.
From the international view, you can select your specific country to view the product range available to you.
International view: *https://product-selection.grundfos.com*

All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

Downloads

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc., in PDF format.



When you select your country, you will see the menus below. Note that some menus may not be available depending on the country.
Example: *https://product-selection.grundfos.com/uk*

Pos.	Description
1	**Products & services** enables you to find products and documents by typing a product number or name into the search field.
2	**Applications** enables you to choose an application to see how Grundfos can help you design and optimise your system.
3	**Products A-Z** enables you to look through a list of all the Grundfos products.
4	**Categories** enables you to look for a product category.
5	**Liquids** enables you to find pumps designed for aggressive, flammable or other special liquids.
6	**Product replacement** enables you to find a suitable replacement.
7	**WWW** enables you to select the country, which changes the language, the available product range and the structure of the website.
8	**Sizing** enables you to size a product based on your application and operating conditions.

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