

SEG.40.09.E.Ex.2.1.502

Grundfos pump 96878507



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<https://www.lenntech.com/grundfos/SEGFAM/96878507/SEG-40-09-E-EX-2-1-502.html>

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Position	Qty.	Description
	1	SEG.40.09.E.EX.2.1.502  Product No.: On request Non-self-priming, single-stage, centrifugal pump with horizontal discharge port, specifically designed for lift and pumping of wastewater containing discharge from toilets. The pump is equipped with a grinder system that grinds destructible solids into small pieces so that they can be led away through pipes of a relatively small diameter. The surface of the pump is smooth to prevent dirt and impurities from sticking to the pump. A corrosion resistant stainless steel clamp is securing the motor to the pump housing and allow for ease of service of the pump. For maintaining maximum pump efficiency during the pump life, a SmartTrim system allows easy adjustment of impeller clearance. This AUTOADAPT version incorporates a controller, sensors and motor-protection, it only needs to be connected to the mains supply. The pump adapts automatically to the conditions in the pit. Features of the AUTOADAPT function: - pump alternation - alarm relay output - random start delay in case of general power shutdown - self-calibration after each pump cycle - anti-seizing system - after-run function. The pump is explosion-proof. Further product details This grinder pump is specially designed for pumping effluent and untreated domestic sewage in areas with no sewer system or where gravitation systems are unsuitable. The pump is designed for transfer of domestic and municipal wastewater: - in sparsely populated areas - in small villages and farms - in areas of difficult topography - in areas with high groundwater The pump can also remove industrial wastewater containing fibres in industrial applications, such as washing plants. Pump The pump is primarily made of cast iron with surface treatment of powder coating: black NCS9000N/RAL 9005, gloss 30, thickness 100 µ. The pump features a patented grinder system, ensuring extremely high efficiency and reliable operation. Quick and easy dismantling for replacement of wear parts. No special tools are required.  A stainless-steel clamp connection between motor and pump housing ensures easy inspection and service of the impeller and shaft seal. The shaft seal consists of a cartridge seal that ensures a reliable sealing between pumped liquid and motor. - Primary seal: silicon carbide/silicon carbide (SiC/SiC) mechanical shaft seal - Secondary seal: lip seal In connection with service, the mechanical shaft seal and the lip seal are supplied as one unit ready for fitting.



This pump is equipped with the unique SmartTrim system that enables you to easily restore the factory-set impeller clearance and maintain peak pumping efficiency. To do this, remove the cutter head and adjust the SmartTrim nut on the impeller. This can be done on site without dismantling the pump and without using special tools.

The pump has been tested and approved by VDE. Furthermore, the pump is approved for installation in explosive atmospheres and holds the following examination certificate:

- KEMA 06ATEX0127X
- IECEx KEM 06 0028X

Both certificates have been issued by KEMA according to the ATEX directive (94/9/EC).

Note: Explosion-proof pumps must always be fully submerged.

Motor

The motor is a watertight, totally encapsulated motor, supplied with a 10 m power cable. The stainless-steel plug is fastened with a union nut. This nut and O-rings provide sealing against ingress of the liquid. The plug is polyurethane-embedded, ensuring a watertight and durable seal around the leads of the cable. This prevents the ingress of water into the motor through the cable in case of cable breakage or adverse handling in connection with installation or service.

The motor construction is compact with a short shaft. This reduces vibrations, resulting in an increased efficiency and life of the shaft seal and ball bearings. The motor has two thermal switches in the motor windings to protect the motor against overheating.

AUTOADAPT

This AUTOADAPT pump will adapt when it is placed in the pit and can detect the presence of other pumps. Up to four pumps will automatically calibrate their start/stop levels and fall into a pump alternation routine, ensuring optimum performance at all times. No need for communication between the pumps.

The AUTOADAPT pump includes the following:

- Built-in level and dry-running sensors
- Built-in motor protection
- Alarm relay output. NC and NO are available and can be used as required, for example for acoustic or visual alarms.
- Random start delay in case of general power shutdown
- Self-calibration after each pump cycle
- Anti-seizing function. The pump starts at programmed intervals to prevent the impeller from seizing up.
- After-run function. At programmed intervals, the pump sets start/stop level below the pump housing to drain foam in the pit.
- Phase sequence detection. The pump does not start unless the phase sequence is correct.

The AUTOADAPT pumps are intelligent, standalone solutions that can be easily integrated into SCADA systems or remote monitoring systems for pumping stations. Using power line communication (mains-borne signaling), you can add a Grundfos communication interface box for complete information or simply use the built-in alarm relay.

Another innovative patent of AUTOADAPT is a new way of controlling the motor current during startup. This results in a much higher starting torque for single-phase motors than with a conventional motor starter using starting capacitor.

Controls:

Moisture sensor:	without moisture sensors
AUTOADAPT:	YES

Liquid:

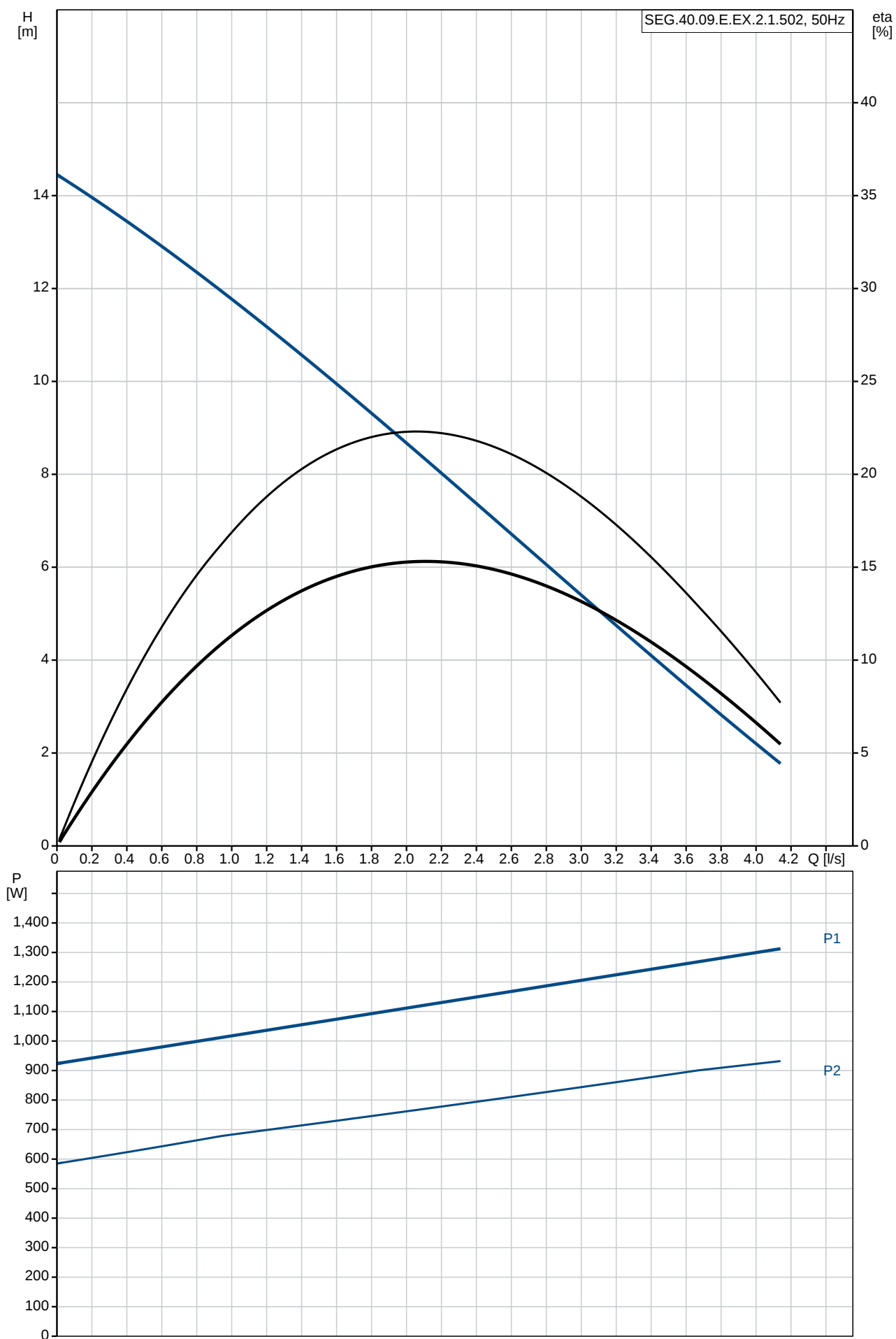
Liquid temperature range:	0 .. 40 °C
Density:	998.2 kg/m ³

Technical:

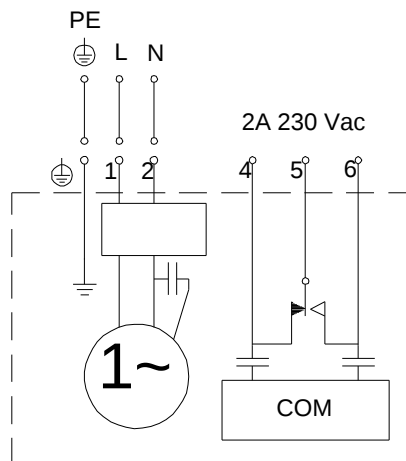
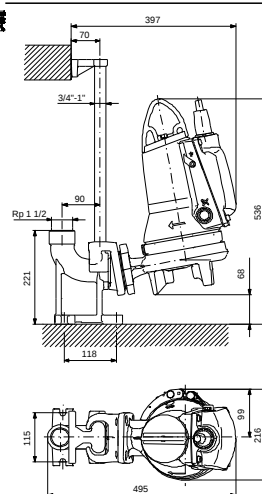
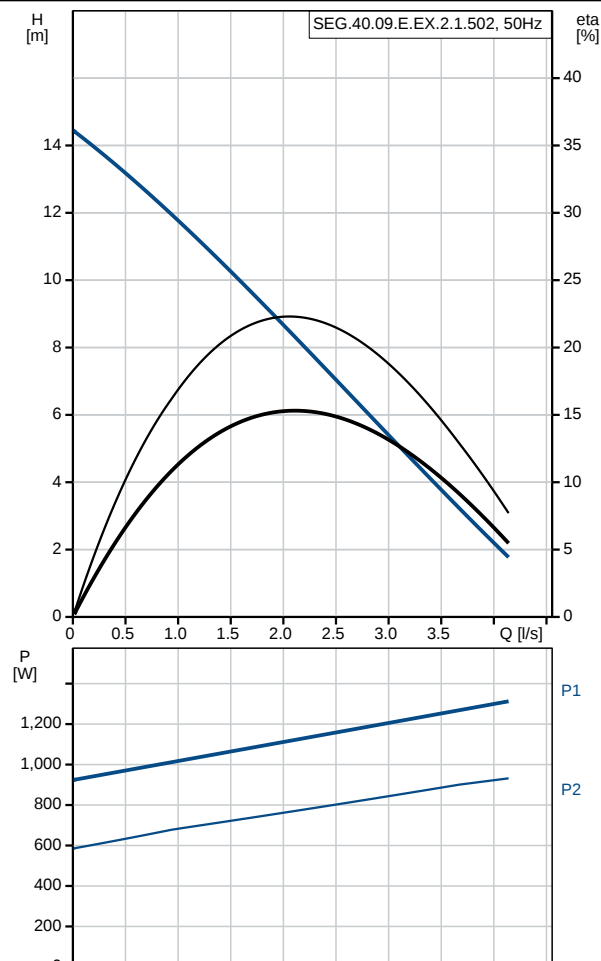
Type of impeller:	GRINDER SYSTEM
Primary shaft seal:	SIC/SIC

Position	Qty.	Description
		Secondary shaft seal: LIPSEAL Curve tolerance: ISO9906:2012 3B2 Materials: Pump housing: Cast iron EN-GJL-200 Impeller: Cast iron EN-GJL-200 Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 6 bar Flange standard: DIN Pipework connection: DN40/50 Pump outlet: DN 40 Pressure rating: PN10 Maximum installation depth: 10 m Auto-coupling: 96076063 Electrical data: Power input - P1: 1.4 kW Rated power - P2: 0.9 kW Mains frequency: 50 Hz Rated voltage: 1 x 230 V Voltage tolerance: +6/-10 % Max starts per. hour: 30 Rated current: 8.1 A Starting current: 54.4 A Rated current at no load: 5.6 A Cos phi - power factor: 0.96 Cos phi - p.f. at 3/4 load: 0.92 Cos phi - p.f. at 1/2 load: 0.86 Rated speed: 2890 rpm Moment of inertia: 0.0036 kg m² Motor efficiency at full load: 71 % Motor efficiency at 3/4 load: 67 % Motor efficiency at 1/2 load: 58 % Number of poles: 2 Start. method: direct-on-line Enclosure class (IEC 34-5): IP68 Insulation class (IEC 85): F Explosion proof: yes Explosion protection standard: EN60079 Length of cable: 10 m Cable type: LYNIFLEX Type of cable plug: NO PLUG Others: Net weight: 46.7 kg

On request SEG.40.09.E.EX.2.1.502 50 Hz



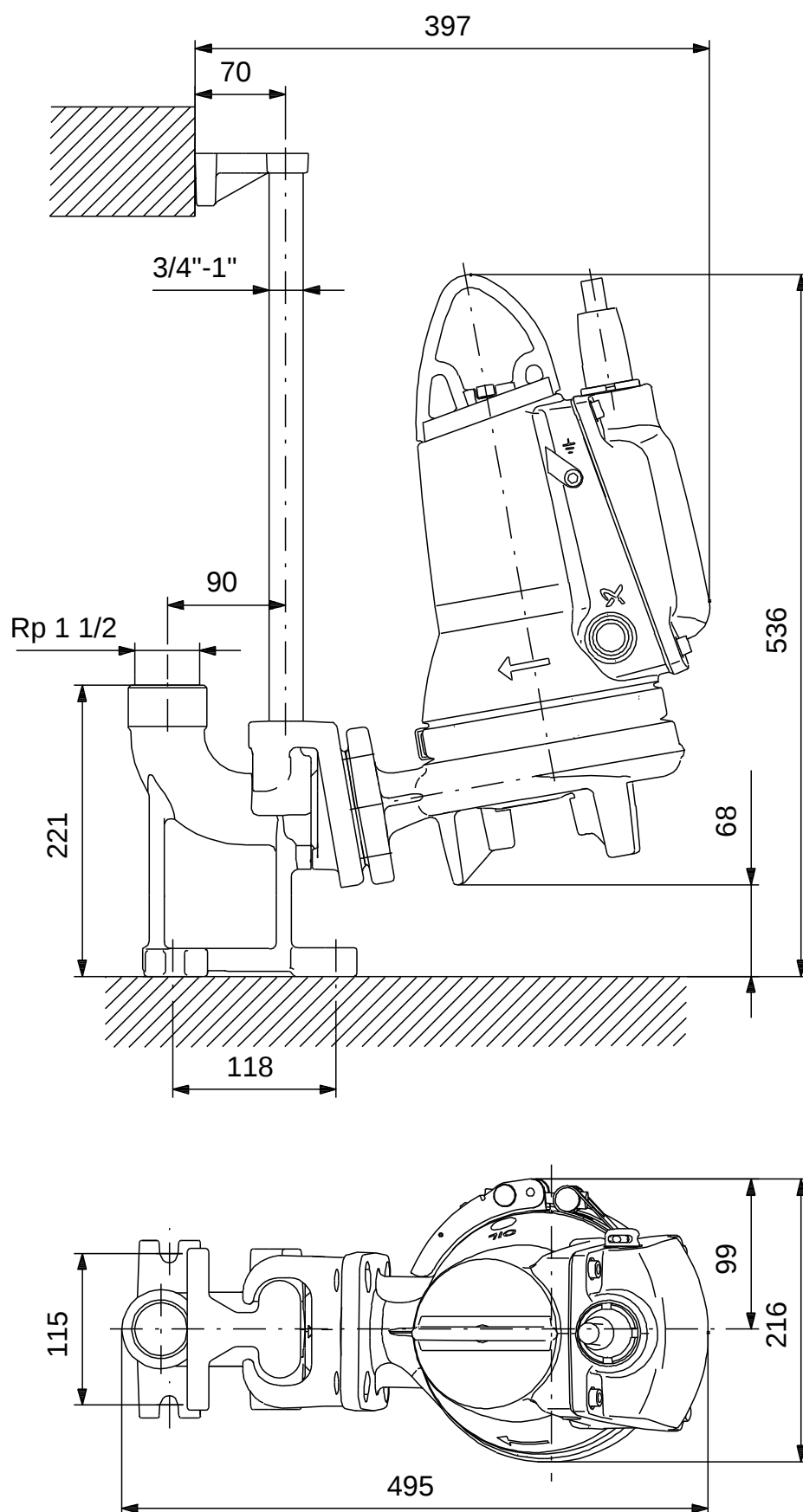
Description	Value
General information:	
Product name:	SEG.40.09.E.EX.2.1.502
Product No:	On request
EAN number:	On request
Technical:	
Max flow:	4.11 l/s
Head max:	14.4 m
Type of impeller:	GRINDER SYSTEM
Primary shaft seal:	SIC/SIC
Secondary shaft seal:	LIPSEAL
Curve tolerance:	ISO9906:2012 3B2
Materials:	
Pump housing:	Cast iron
	EN-GJL-200
Impeller:	Cast iron
	EN-GJL-200
Installation:	
Maximum ambient temperature:	40 °C
Maximum operating pressure:	6 bar
Flange standard:	DIN
Pipework connection:	DN40/50
Pump outlet:	DN 40
Pressure rating:	PN10
Maximum installation depth:	10 m
Inst dry/wet:	SUBMERGED
Auto-coupling:	96076063
Liquid:	
Liquid temperature range:	0 .. 40 °C
Density:	998.2 kg/m ³
Electrical data:	
Power input - P1:	1.4 kW
Rated power - P2:	0.9 kW
Mains frequency:	50 Hz
Rated voltage:	1 x 230 V
Voltage tolerance:	+6/-10 %
Max starts per. hour:	30
Rated current:	8.1 A
Starting current:	54.4 A
Rated current at no load:	5.6 A
Cos phi - power factor:	0.96
Cos phi - p.f. at 3/4 load:	0.92
Cos phi - p.f. at 1/2 load:	0.86
Rated speed:	2890 rpm
Moment of inertia:	0.0036 kg m ²
Motor efficiency at full load:	71 %
Motor efficiency at 3/4 load:	67 %
Motor efficiency at 1/2 load:	58 %
Number of poles:	2
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Explosion proof:	yes
Explosion protection standard:	EN60079
Motor protec:	THERMAL SWITCH
Thermal protec:	internal
Length of cable:	10 m
Cable type:	LYNIFLEX
Type of cable plug:	NO PLUG
Controls:	
Control box:	not included
Additional I/O:	Build in
Moisture sensor:	without moisture sensors
AUTOADAPT:	YES
Others:	



Description	Value
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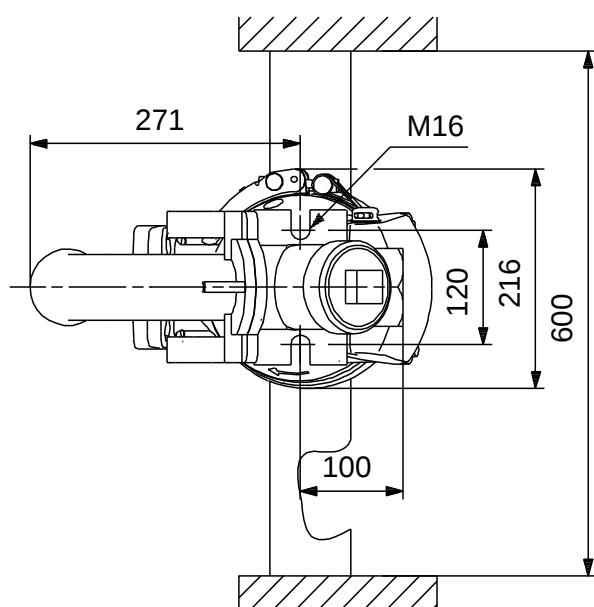
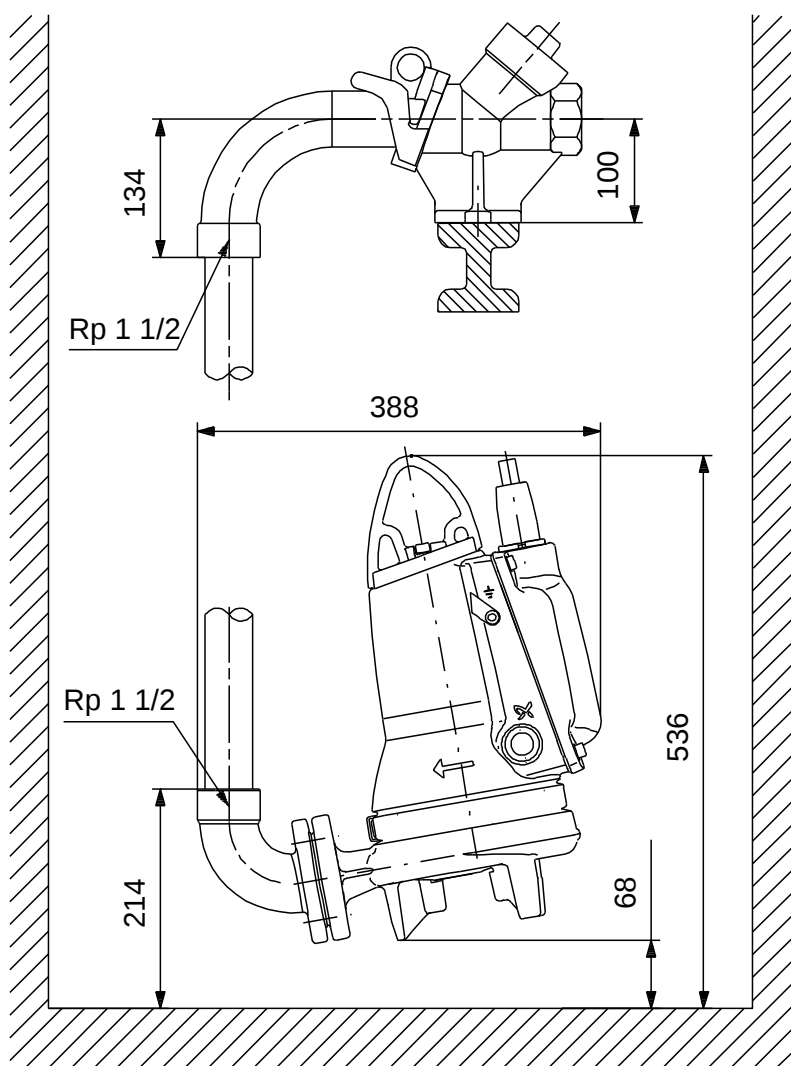
Net weight:	46.7 kg
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On request SEG.40.09.E.EX.2.1.502 50 Hz



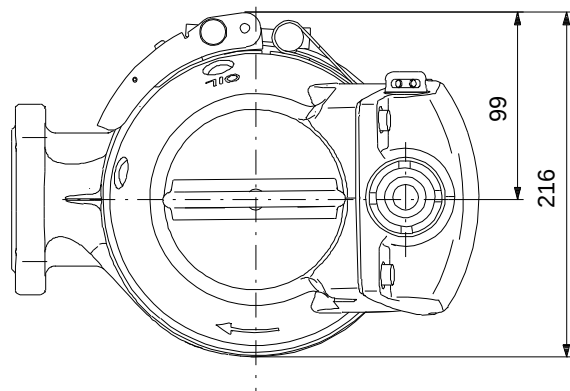
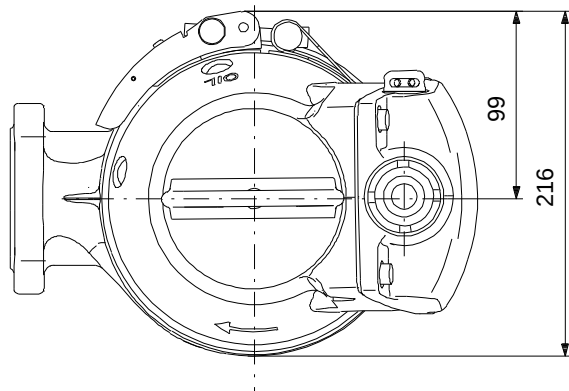
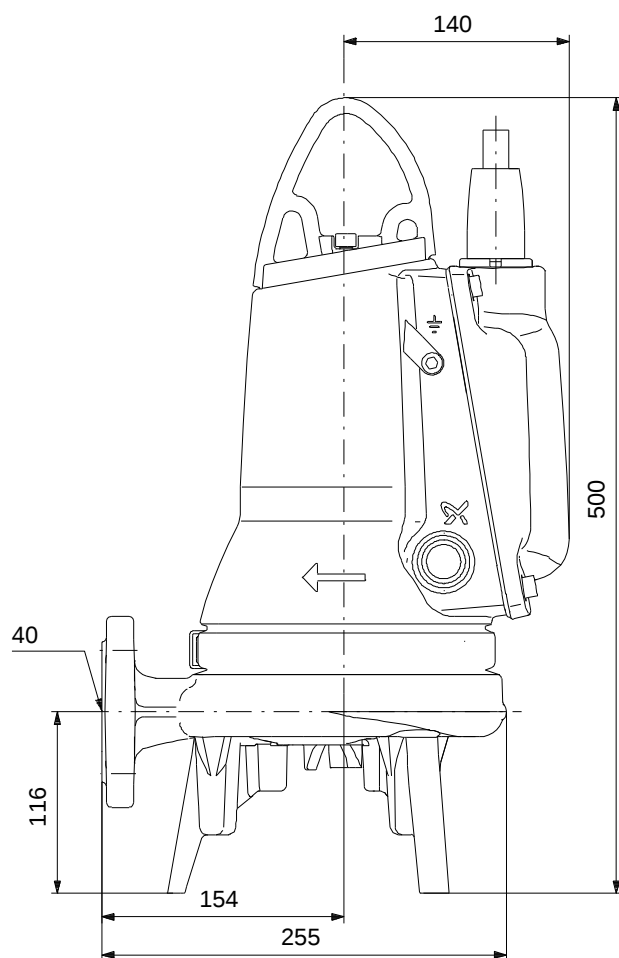
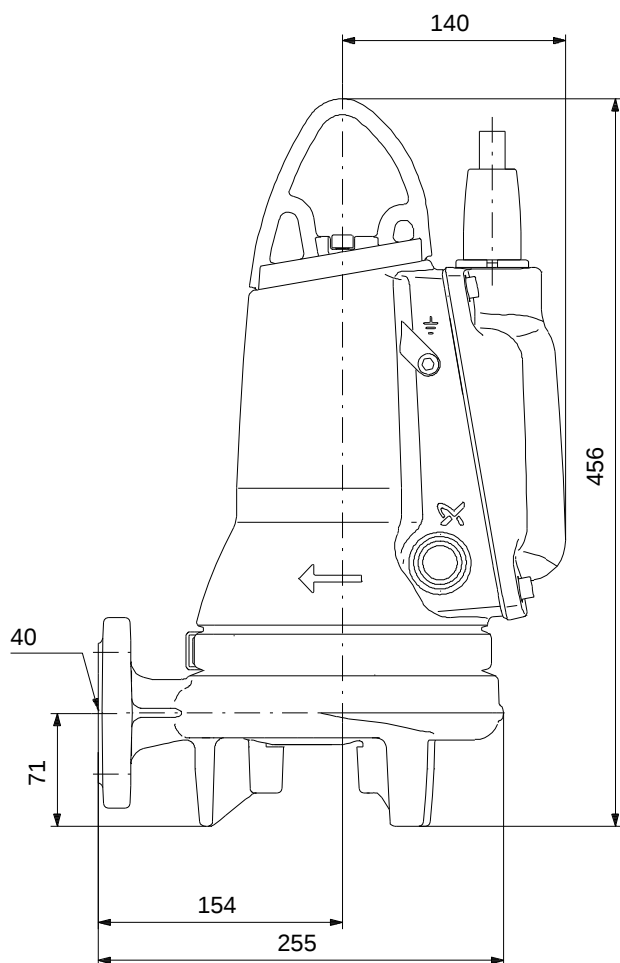
Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

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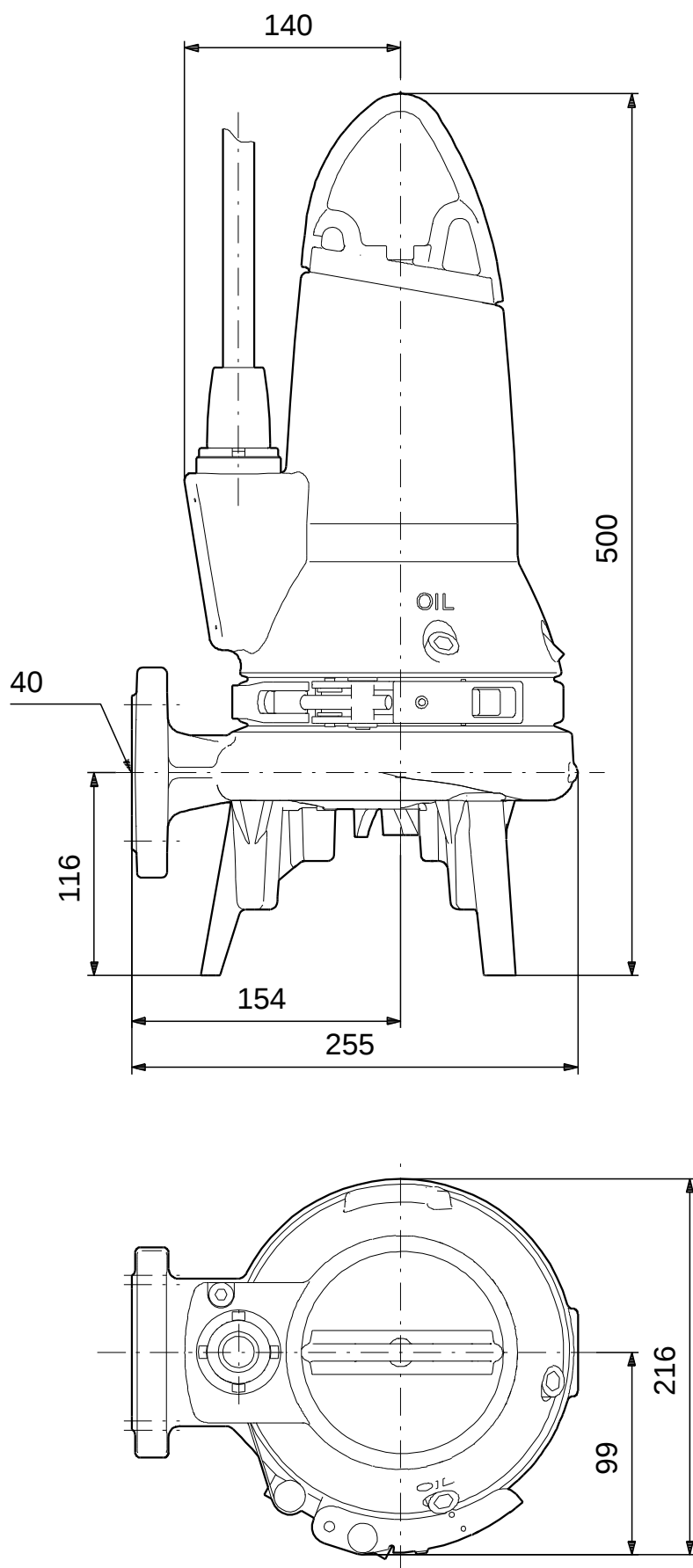
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Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Exploded view



Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Disclaimer: The information about the Grundfos pump in this document may be outdated.

Data may be subject to alterations without further notice.

Please contact us to verify the data above is still accurate/up-to-date.

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