

Self-priming multistage pumps 50 Hz



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Applications

The MQ pump is designed for water supply and pressure boosting

- in private homes
- in summer houses and weekend cottages
- on farms
- in market gardens and other large gardens.

The pump is suitable for pumping of potable water and rainwater.

Type key

Example	MQ	3	-35	A	-O	-A	- BVBP
Pump range							
Rated flow [m ³ /h]							
Maximum head [m]							
Code for pump version A: Standard							
Code for pipework connection O: External thread							
Code for materials A: Standard							
Code for shaft seal							

Pumped liquids

Potable water, rainwater or other clean, thin, non-aggressive liquids, not containing solid particles or fibres.

Operating conditions

System pressure:	Max. 7.5 bar
Inlet pressure:	Max. 3 bar
Suction lift:	Max. 8 m
Liquid temperature:	0 °C to +35 °C
Ambient temperature:	0 °C to +45 °C.

Technical data

Mains voltage:	1 x 220-240 V, 50 Hz
Voltage tolerances:	– 10 % / + 6 %
Enclosure class:	IP 54
Insulation class:	B
Sound pressure level:	≤55 dB(A)
Marking:	CE.

Features and benefits

- **Complete system**
The MQ is a complete, all-in-one unit, incorporating pump, motor, diaphragm tank, pressure and flow sensor, controller and non-return valve. The controller ensures that the pump starts automatically when water is consumed and stops automatically when the consumption ceases. In addition, the controller protects the pump in case of faults.
- **Installation**
Due to its compact design, the pump does not take up much space and is easy to install. No space around the pump is required.
- **Simple operation**
The pump features a user-friendly control panel with On/Off button and indicator lights for indication of the operational state of the pump.
- **Self-priming pump**
As it is self-priming, the MQ is able to pump water from a level below the pump. Provided it is filled with water, the pump is able to lift water from a depth of 8 m in less than 5 minutes. This facilitates installation and start-up of the pump and provides more reliable water supply in installations where there is a risk of dry running and leakages in suction hose or pipes.
- **Built-in protective functions**
If exposed to dry running or excessive temperature, for example in case of seizure or overload, the pump will stop automatically, thus preventing a motor burnout.
- **Automatic reset**
The pump features an automatic reset function. In case of dry running or similar alarm, the pump will stop. Restarting will be attempted every 30 minutes for a period of 24 hours. The reset function can be deactivated.
- **Low noise level**
Thanks to its hydraulic design and internal cooling, the pump is extremely low-noise, which makes it suitable for both indoor and outdoor use.
- **Pressure tank**
The built-in pressure tank reduces the number of starts and stops in case of leakages in the pipe system, causing less wear on the pump.
- **Maintenance**
No maintenance of the pump is required.

Control panel

Operation of the MQ pump is effected entirely via the control panel.

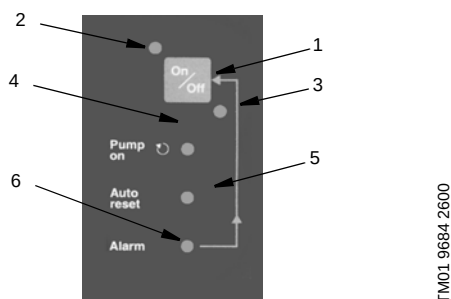


Fig. 1 MQ control panel

Pos.	Function	Description
1	On/Off button	The pump is started and stopped with the On/Off button.
2	Indicator light for mains connection (green)	Indicates that the pump is ready for operation.
3	Indicator light for mains connection (red)	Indicates that the pump is on standby.
4	Pump on (green)	Indicates that the pump is running.
5	Auto reset (green)	Indicates that the auto reset function is active. After an alarm, restarting will be attempted every 30 minutes for a period of 24 hours.
6	Alarm (red)	Indicates that the pump is in alarm state. Manual resetting is possible by pressing the On/Off button.

Product range, 1 x 220-240 V

Region	Pump type	Plug type					Product number
		Schuko	Swiss	Danish	Australian	Without plug	
All 50 Hz markets, except for UK, Ireland, Australia	MQ 3-25	●					96515520
	MQ 3-35	●					96515412
	MQ 3-35		●				96515413
	MQ 3-35			●			96515414
	MQ 3-45	●					96515415
	MQ 3-45		●				96515416
	MQ 3-45			●			96515417
UK, Ireland	MQ 3-35					●	96515418
	MQ 3-45					●	96515419
Australia	MQ 3-35				●		96515510
	MQ 3-45				●		96515511

All pumps are supplied with a 2 m cable.

Installation

Self-cooling, compact and horizontal, the pump is well suited for installations where space is limited.

In addition, the pump discharge is flexible, $\pm 5^\circ$, to facilitate connection to existing pipework.

The pump is supplied complete with a 2 m cable.

Material specification

Pos.	Component	Material
2	Motor stool with base plate	POM + 25 % glass fibre
4	Chamber	PPO + 20 % glass fibre
7	Drain and priming plug	POM + 25 % glass fibre
10	Self-priming valve	PP + 30 % glass fibre
14	Self-priming part	PPE/PS + 20 % glass fibre
16	Pump sleeve	Stainless steel, DIN W.-Nr. 1.4301, AISI 304
42	Pressure tank	Butyl (diaphragm)
49	Impeller	PPO + 20 % glass fibre and PTFE
65	Non-return valve	POM + 25 % glass fibre
92	Clamp	Stainless steel, DIN W.-Nr. 1.4301, AISI 304
100a	Discharge port	POM + 25 % glass fibre
101	Suction port	POM + 25 % glass fibre
103	Shaft seal:	Carbon/ceramics/NBR rubber
104	Stationary and rotating parts	
150	Shaft	Stainless steel, DIN W.-Nr. 1.4005, AISI 416
	Motor sleeve	Stainless steel, DIN W.-Nr. 1.4301, AISI 304
174a	Pressure switch	
184	Flow sensor	
	O-rings	NBR rubber

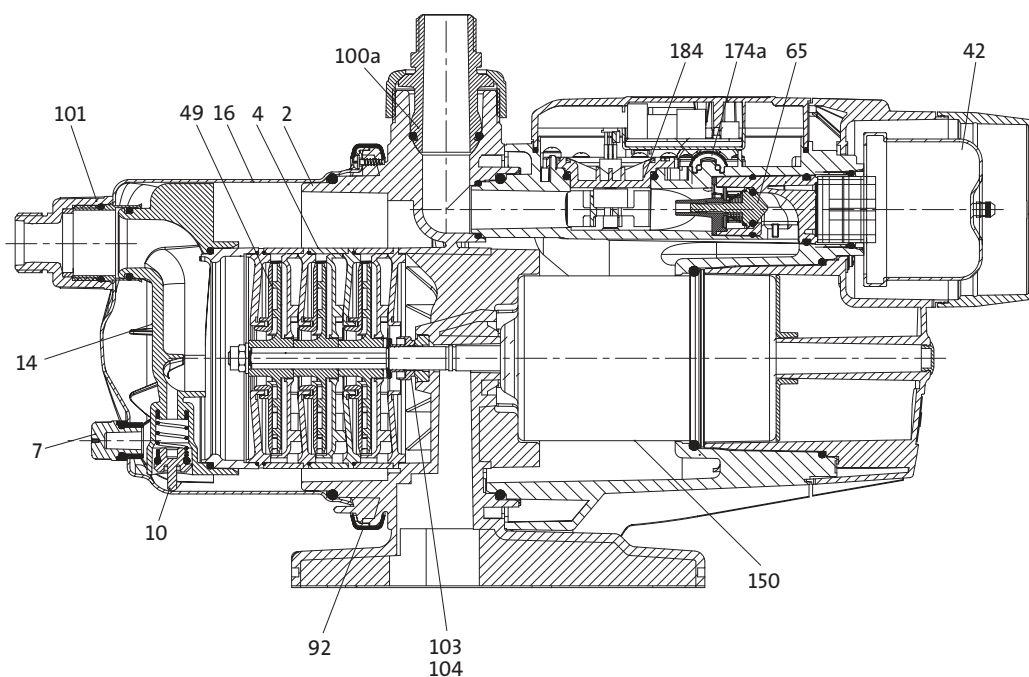
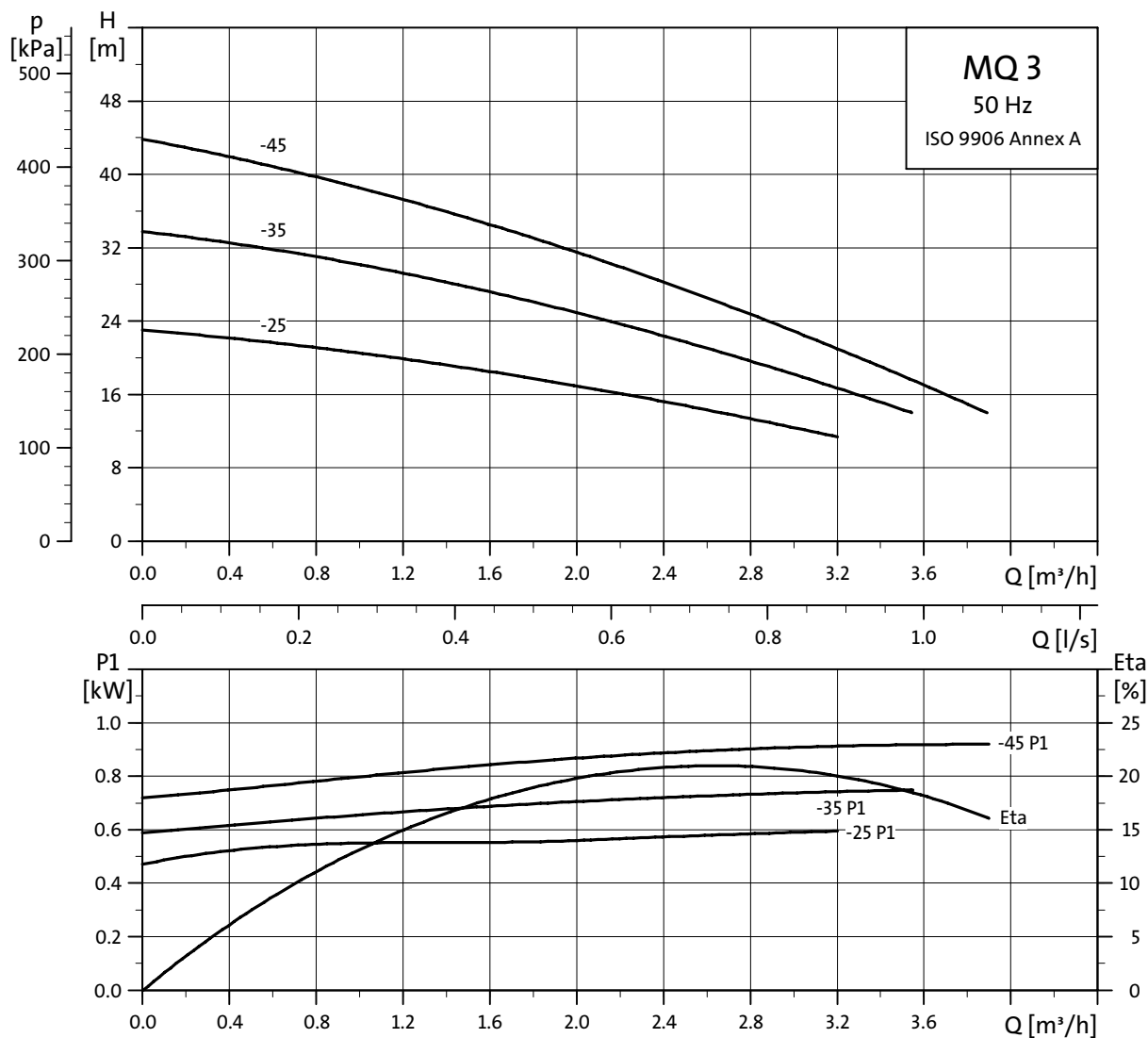


Fig. 2 Sectional drawing of MQ

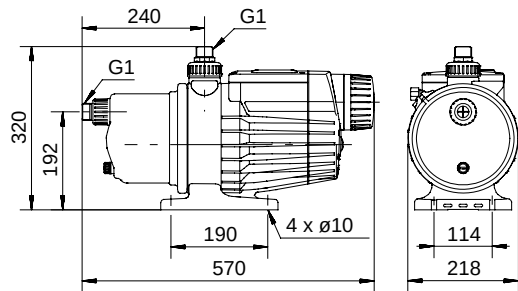
TM01 9733 5006

Performance curves



TM01 9678 4103

Dimensions



TM01 9734 2800

Technical data

Pump type	Voltage	$I_{1/1}$ [A]	I_{start} [A]	P_2 [W]	Net weight [kg]
MQ 3-25	1 x 220-240 V	3.3	11.7	450	13.0
MQ 3-35	1 x 220-240 V	4.0	11.7	550	13.0
MQ 3-45	1 x 220-240 V	4.5	11.7	670	13.0

V7164094 0607	GB
Repl. V7164094 1106	

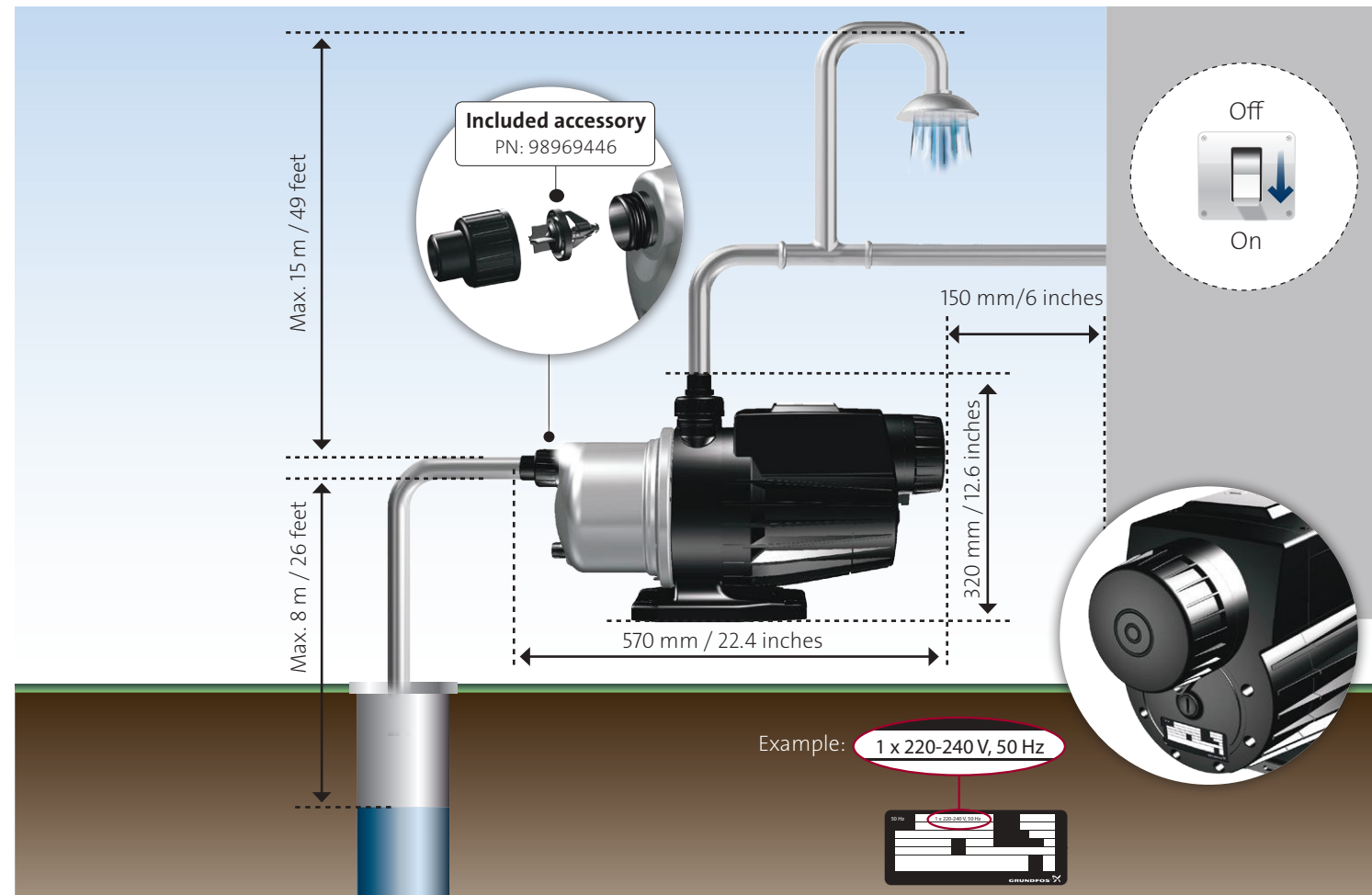
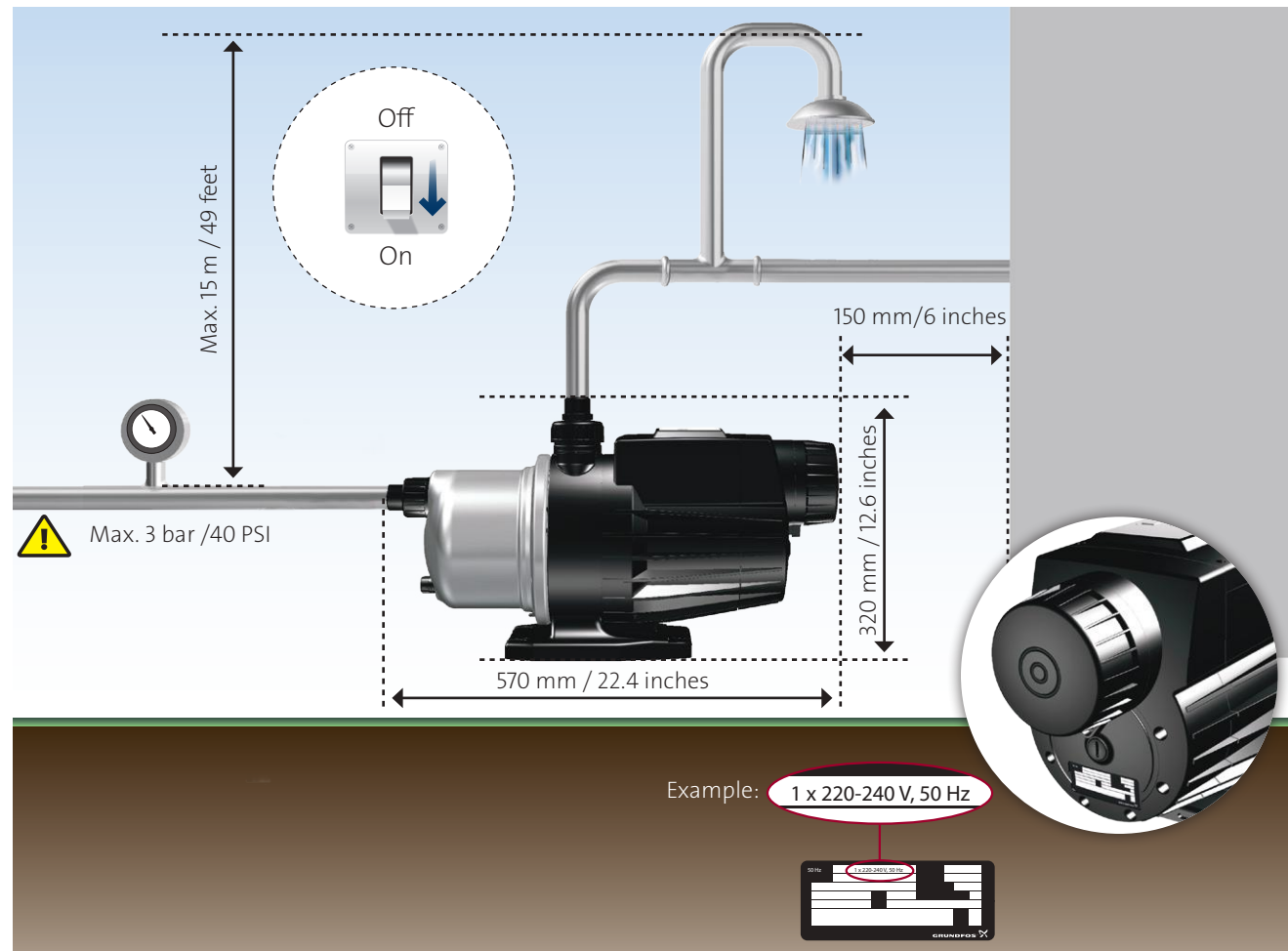
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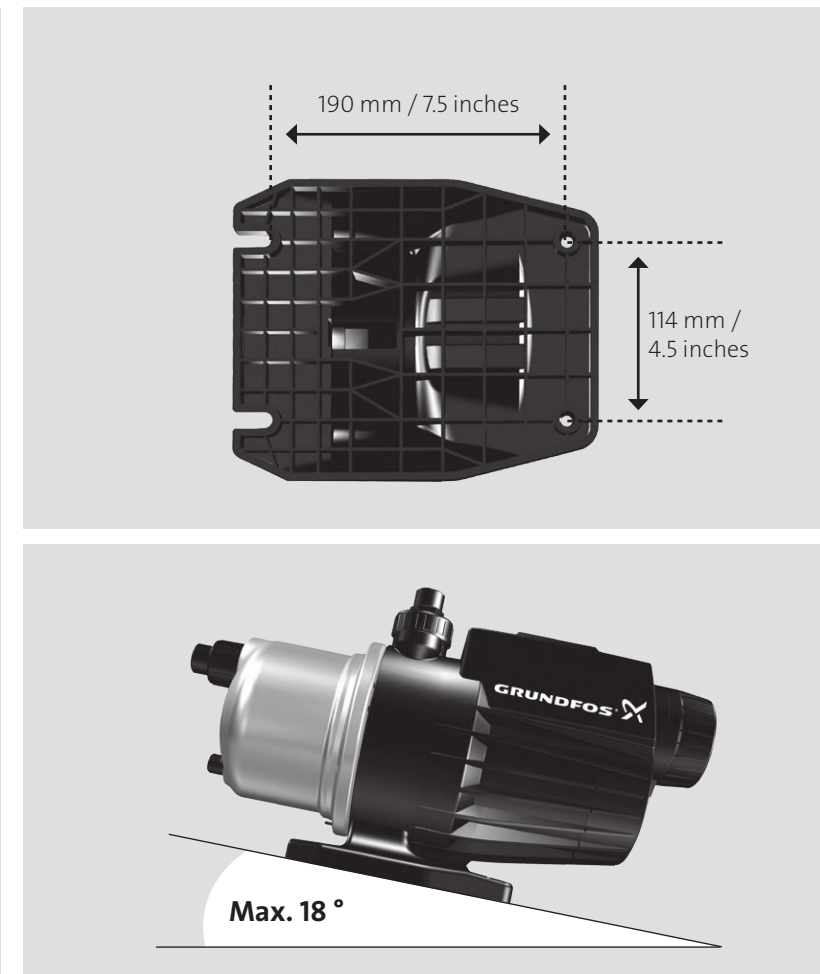
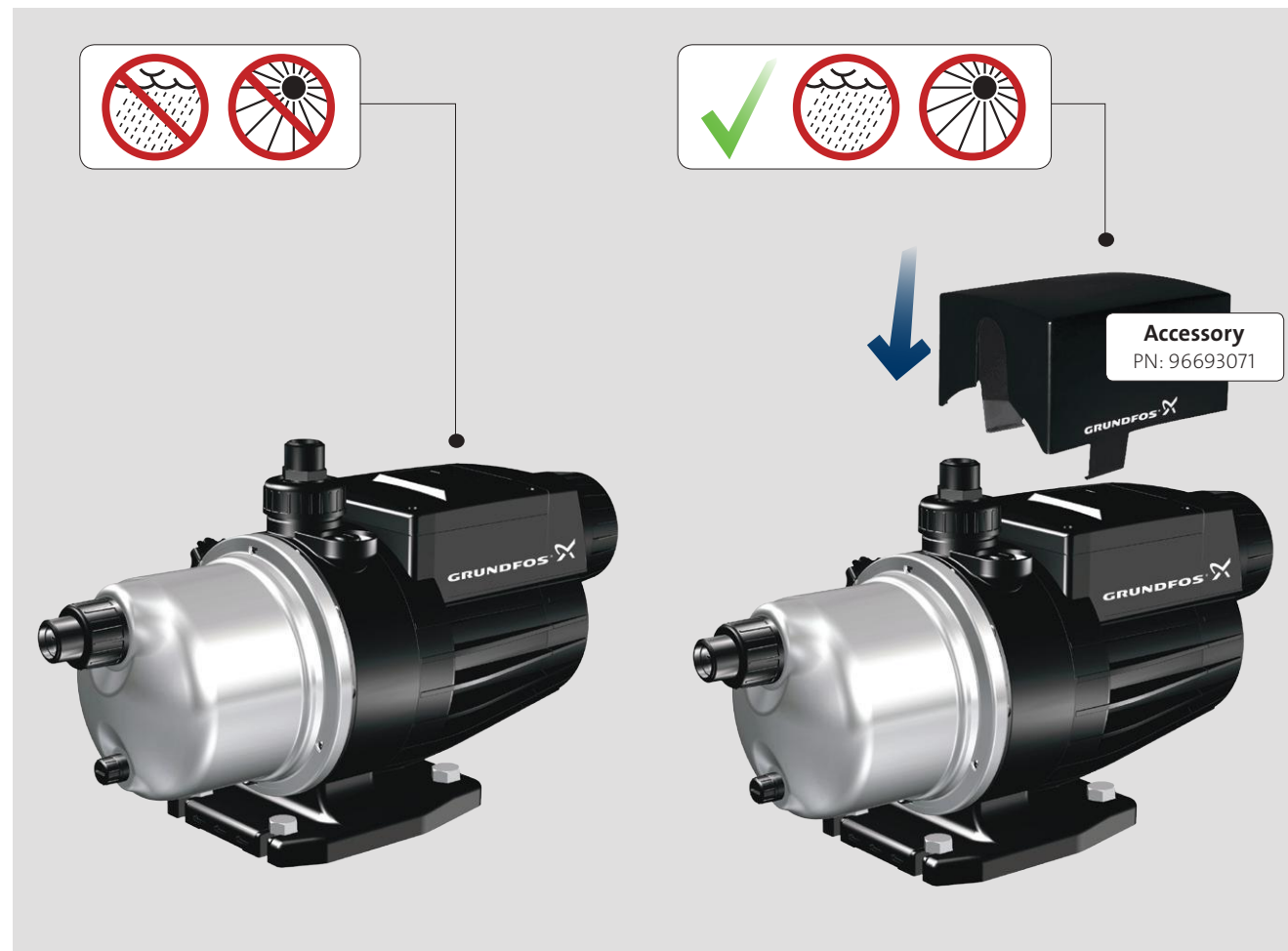
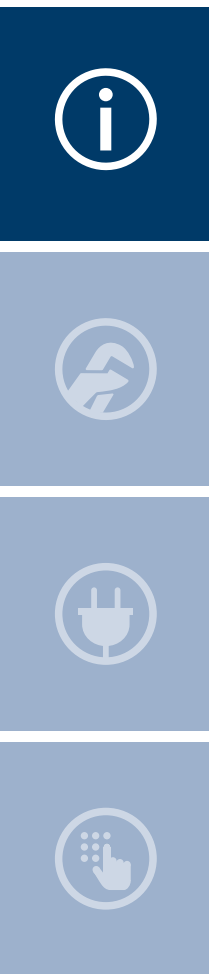


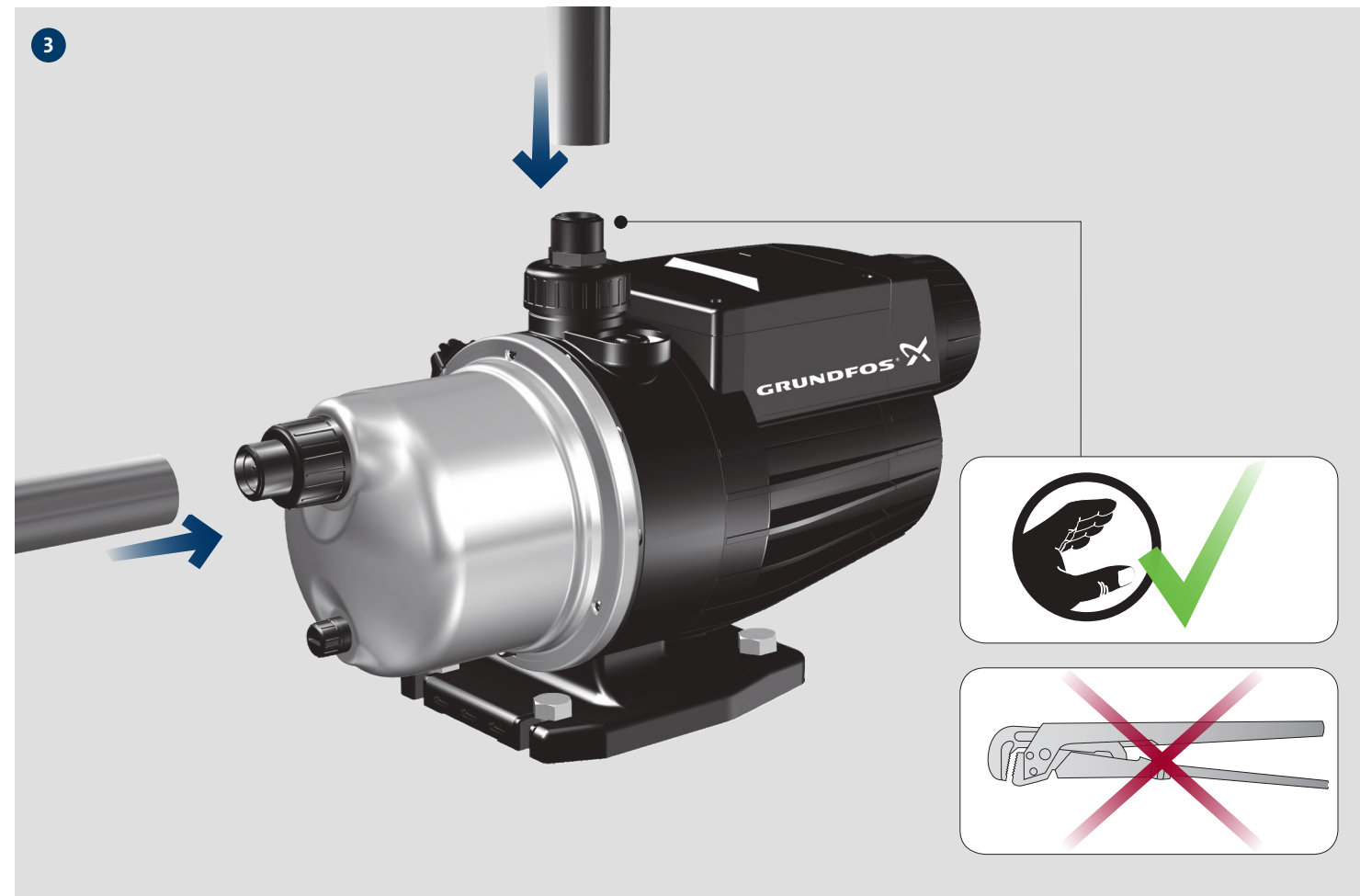
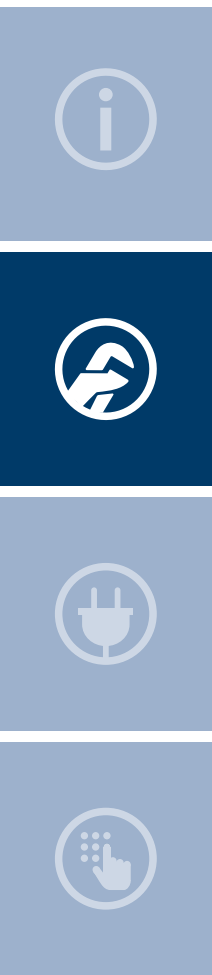
GRUNDFOS MQ

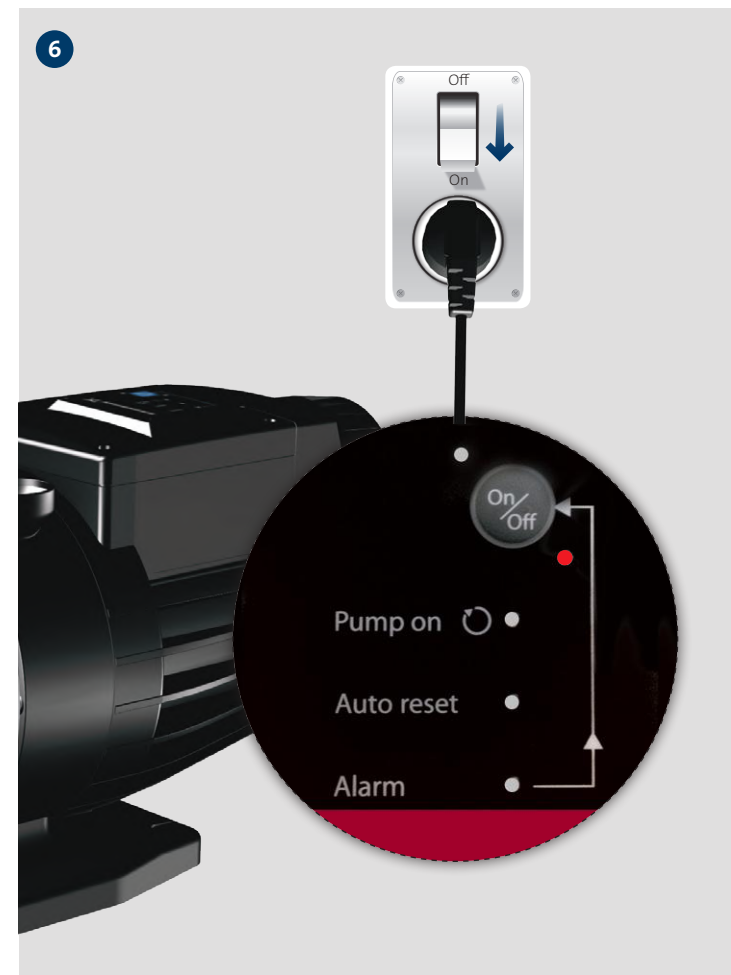
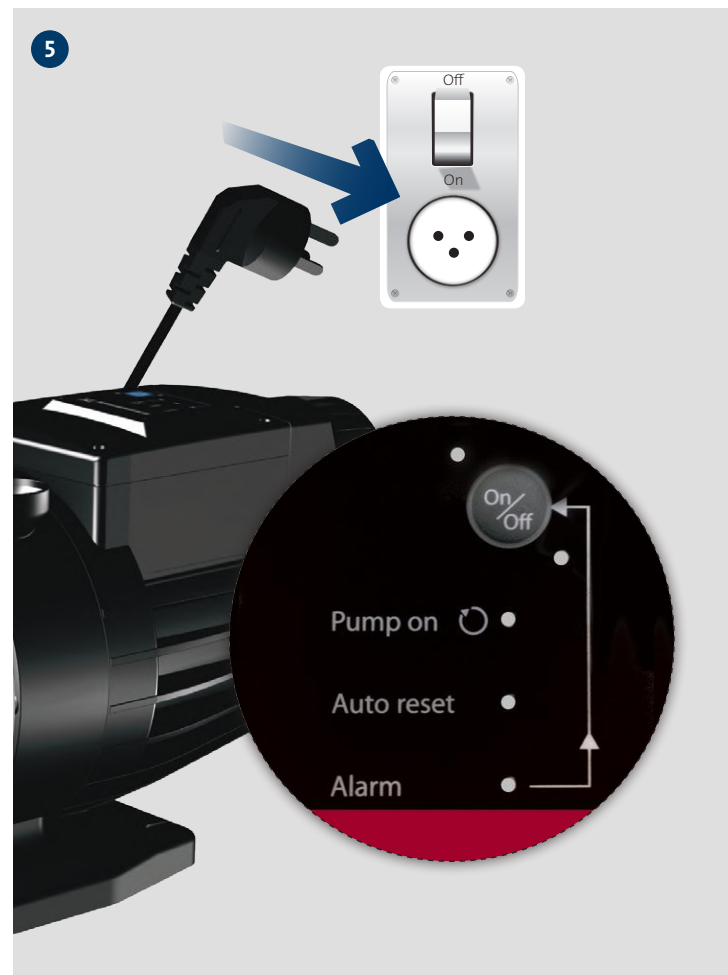
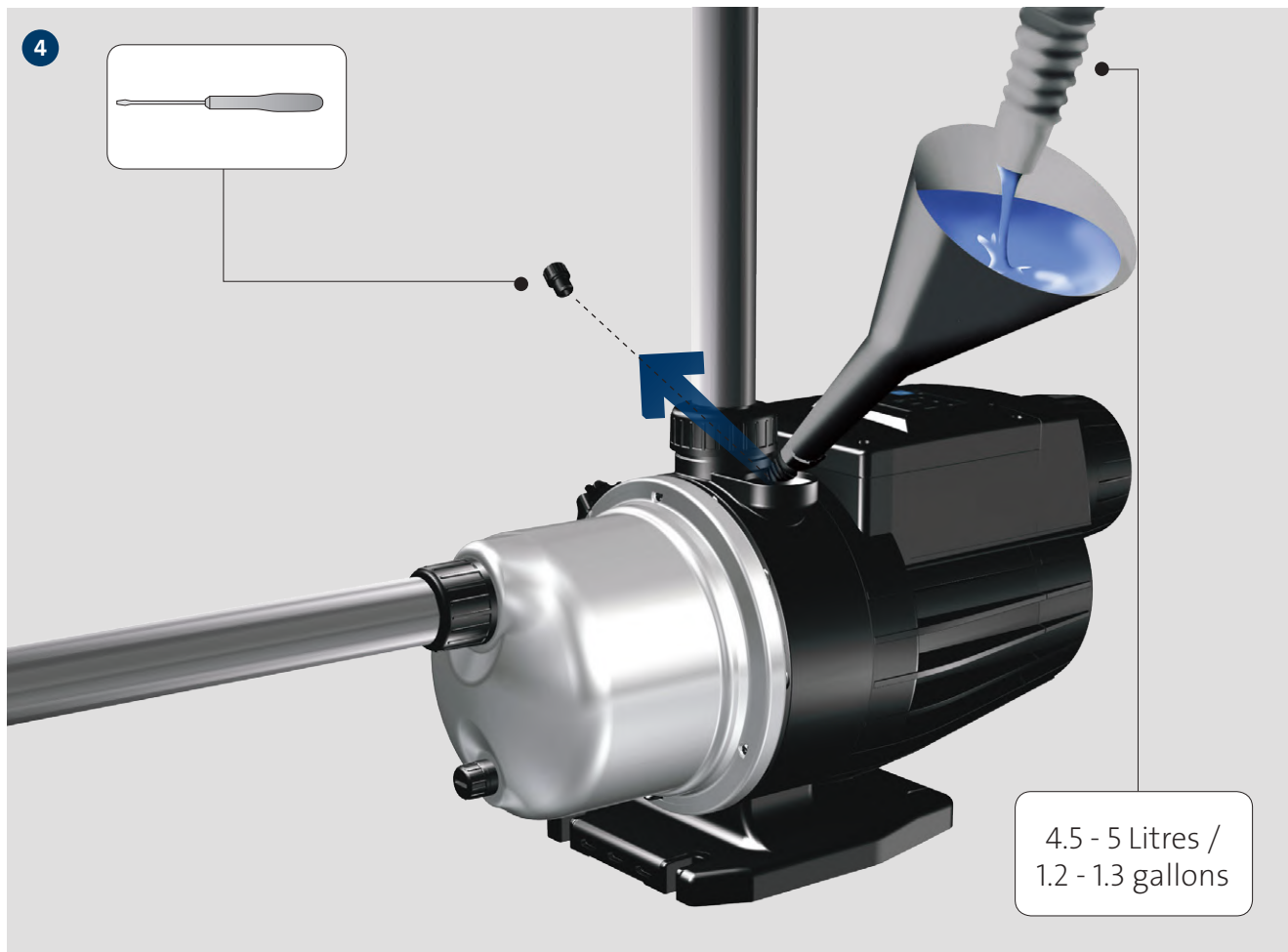


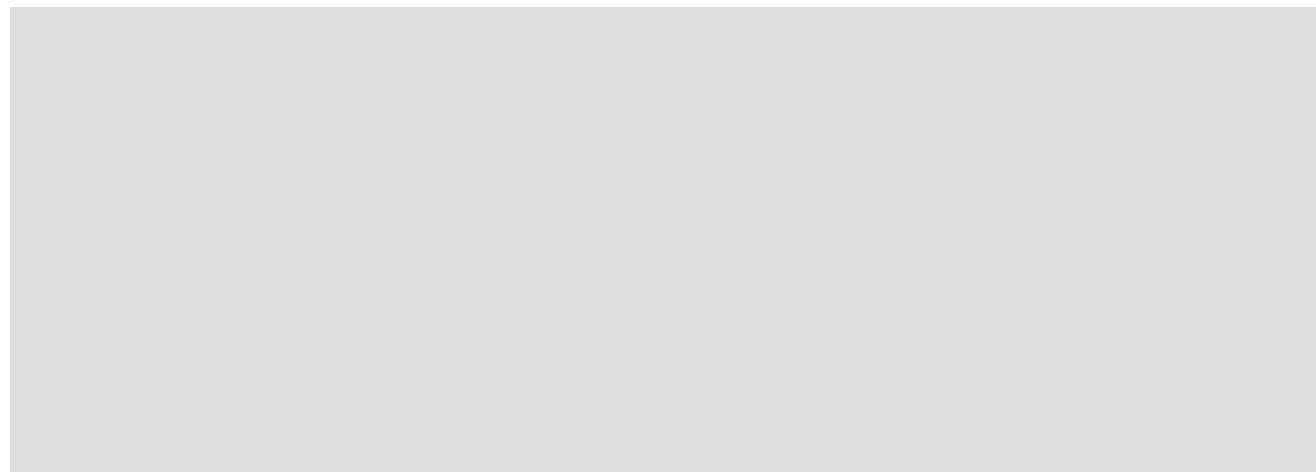
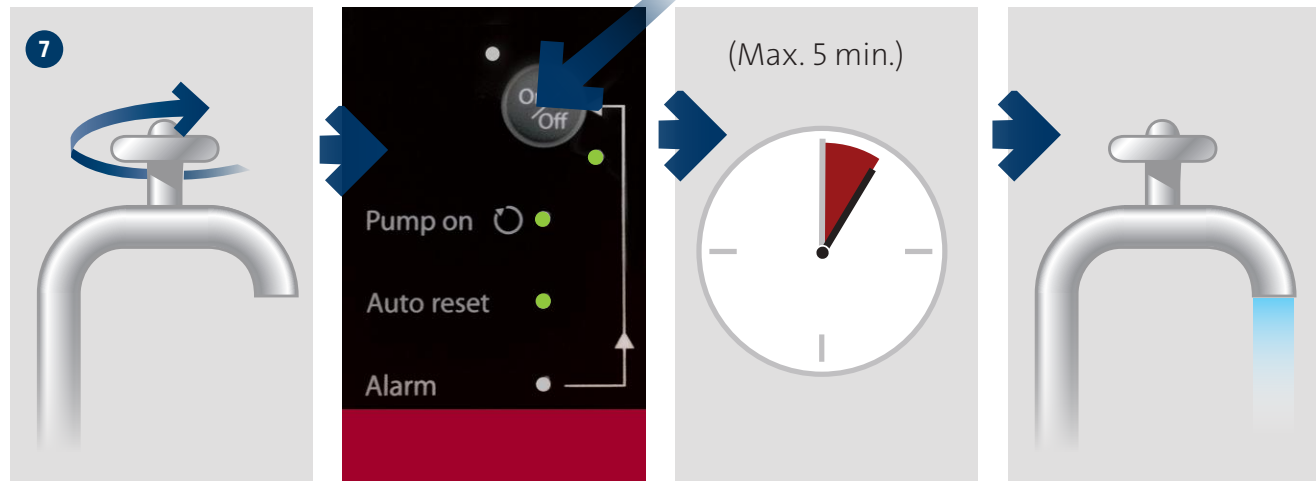
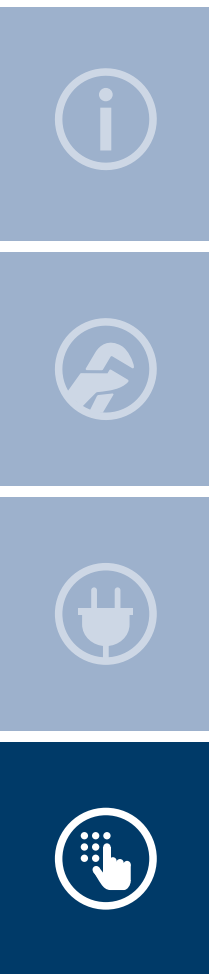
<http://qr.grundfos.com/i/MQinstallation>











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47. MQ, RMQ

MQ

50/60 Hz

Clamp

Pos.	Description/kit No	96450697
92	Clamp	1
93	Screw	1
93a	Washer	1
94	Self-locking nut	1

End cover

Pos.	Description/kit No	96488398
51	End cover	1
43	Tank cover	1
43a	Screw	1
152	Screw	6
152a	Spring washer	6
152b	Screw	4
152c	Spring washer	4
44	O-ring	1
52	O-ring	1

Fittings

Pos.			G 1"	NPT 1"
	Kit No		96577720	96634763
	Description		PPO	PPO
7	Plug		2	2
11a	O-ring	13.1 x 2.6	2	2
100	Union		1	1
100a	Adjustable discharge port		1	1
100b	O-ring	30.0 x 4.0	1	1
100c	O-ring	36.0 x 3.0	1	1
101	Suction port with non-return valve		1	1

Flow sensor

Pos.	Description/kit No	96450698
184	Cover with sensor	1
166a	Screw	6
185	Turbine wheel	1
185a	Washer	1
186	Turbine shaft	1
187	O-ring 49.2 x 3.5	1

Hydraulic parts

Pos.	Pump type		All	MQ 3-35	MQ 3-45
	Frequency		50 Hz	60 Hz	60 Hz
Description/kit No			96525909	96525930	96525931
4		Chamber	4	2	3
4a		Empty chamber	1	2	1
6		Inlet part	1	1	1
10		Valve seat	1	1	1
11		O-ring	12.3 x 3.5	1	1
11b		Spring	1	1	1
13		O-ring	31.3 x 3.5	1	1
14		Self-priming part	1	1	1
37		O-ring	105.0 x 1.5	5	5
37a		O-ring	164.5 x 5.3	1	1
37b		O-ring	110.7 x 3.5	1	1
49		Impeller	4	2	3
66		Washer	1	1	1
66a		Lock washer	1	1	1
67		Nut	1	1	1

O-ring

Pos.	Description/kit No	96526628	
7	Plug	2	
10	Valve seat	1	
11	O-ring	12.3 x 3.5	1
11a	O-ring	13.1 x 2.6	2
11b	Spring		1
13	O-ring	31.3 x 3.5	1
37	O-ring	105.0 x 1.5	4
37a	O-ring	164.5 x 5.3	2
37b	O-ring	110.7 x 3.5	1
38	O-ring	25 x 3	1
40	O-ring	18.7 x 2.6	2
44	O-ring	36.0 x 3.0	1
52	O-ring	98.0 x 3.5	1
53	O-ring	88.3 x 5.3	1
61a	O-ring	9.9 x 2.6	2
63	O-ring	28.2 x 3.5	1
64	O-ring	31.3 x 3.5	1
100b	O-ring	30.0 x 4.0	1
100c	O-ring	36.0 x 3.0	1
101a	O-ring	17.0 x 3.5	1
165	O-ring	158.4 x 2.6	1
174b	O-ring	13.1 x 2.6	1
187	O-ring	49.2 x 3.5	1

Pressure switch

Pos.	Description	MQ 3-25	MQ 3-35	MQ 3-45
Kit No		96526654	96526653	98652420
174a	Pressure switch	1	1	1
174b	O-ring	1	1	1
175	Screws	3	3	3

Shaft seal

Pos.	Description/kit No	96450696	
37	O-ring	105.0 x 1.5	5
37a	O-ring	164.5 x 5.3	1
37b	O-ring	110.7 x 3.5	1
66	Washer		1
66a	Lock washer		1
67	Nut		1
102	Washer		1
103	Stationary part		1
104	Rotating part		1

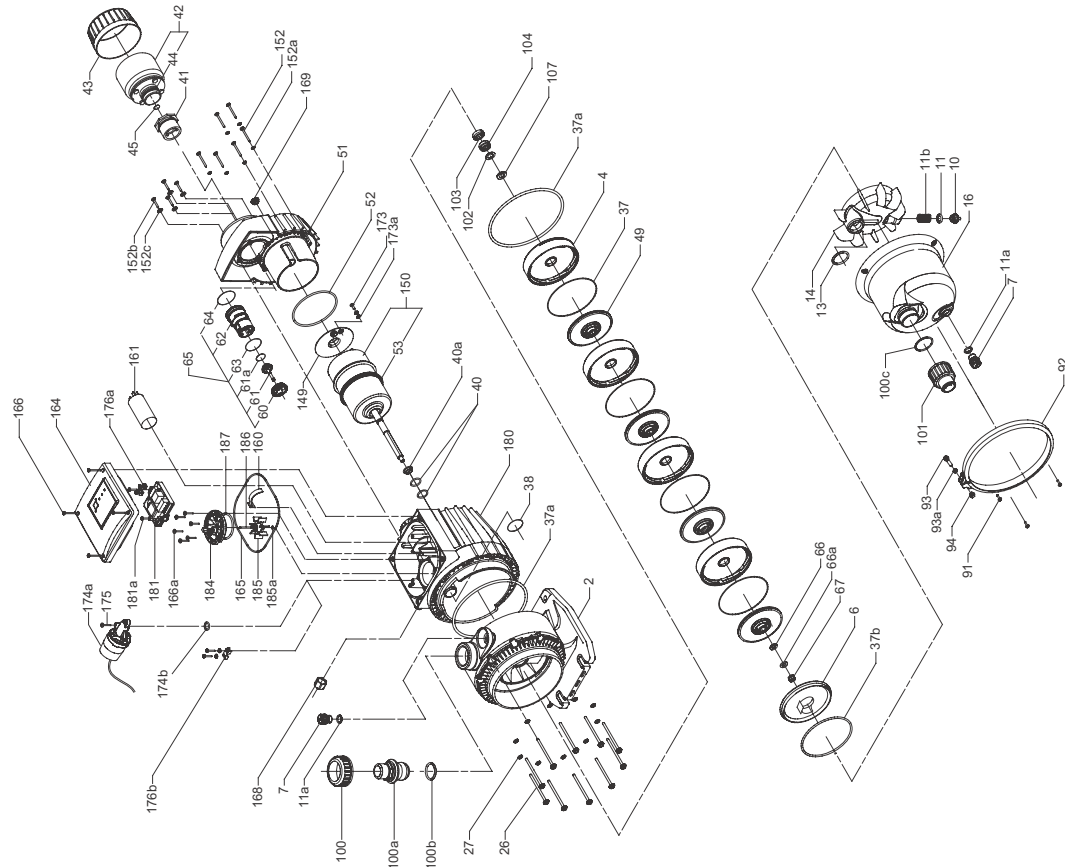
Terminal box connection

Pos.	Description/kit No	96488399	
164	Terminal box cover	1	
165	O-ring	158.4 x 2.6	1
166	Screw		4

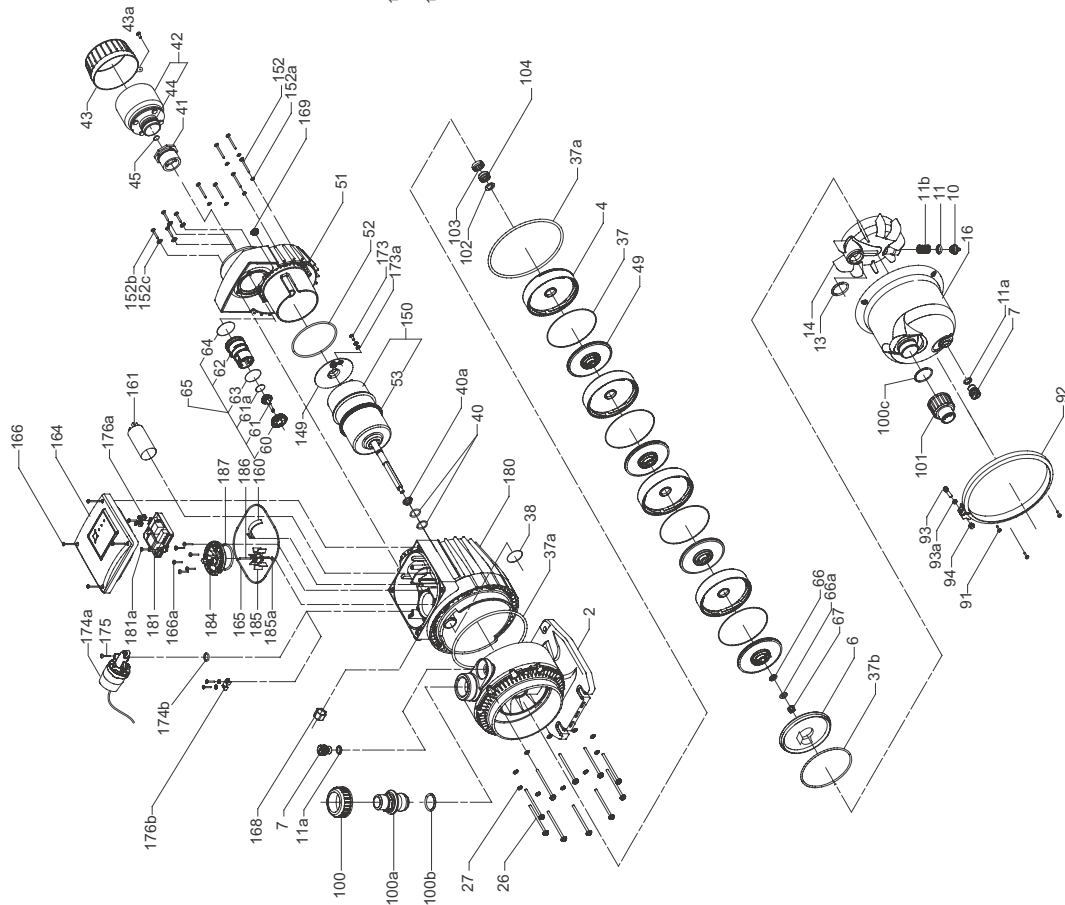
MQ 3-45 Model B

MQ MQ, RMQ

(until week 4, 2009)



(from week 4, 2009)



TM05 5951 1615 - TM05 5952 1615

Motor

Pos.	Pump type	MQ 3-35 115 V	MQ 3-45 115 V	MQ 3-25/35 230 V	MQ 3-45 230 V	MQ 3-35 230 V	MQ 3-45 230 V	MQ 3-25 230 V
	Frequency	60 Hz	60 Hz	50 Hz	50 Hz	60 Hz	60 Hz	50 Hz
	Kit No	96488396	96488397	96488391	96488392	96489277	96489276	98916994
40	O-ring	2	2	2	2	2	2	2
40a	O-ring retainer	1	1	1	1	1	1	1
53	O-ring	1	1	1	1	1	1	1
66	Washer	1	1	1	1	1	1	1
66a	Lock washer	1	1	1	1	1	1	1
67	Nut	1	1	1	1	1	1	1
150	Motor unit	1	1	1	1	1	1	1
160	Clip	1	1	1	1	1	1	1
161	Capacitor, 12.5 µF	-	-	1	1	-	-	1
161	Capacitor, 40 µF	1	1	-	-	1	1	-

Pos.	Pump type	MQ 3-35 AISI 304/416 230 V	MQ 3-45 AISI 304/416 230 V
	Frequency	50 Hz	50 Hz
	Kit No	96608428	96608429
40	O-ring	2	2
40a	O-ring retainer	1	1
53	O-ring	1	1
66	Washer	1	1
66a	Lock washer	1	1
67	Nut	1	1
150	Motor unit with AISI 304/416 shaft	1	1
160	Clip	1	1
161	Capacitor, 12.5 µF	1	1

Drain plug

Pos.	Description/kit No	96457923
7	Plug	2
11a	O-ring 13.1 x 2.6	2

Electronic parts

Pos.	Voltage	230 V	115 V	230 V
	Frequency	50 Hz	60 Hz	60 Hz
	Kit No	96525934	96525932	96526828
164	Terminal box cover	1	1	1
181	Electronic unit	1	1	1
181a	Screw	2	2	2

Spare parts and bulk parts

Capacitor

Pos.	Capacitor size	12.5 µF	40 µF
	Kit No	96590742	97523217
161	Capacitor	1	1

Motor stool

Pos.	Description/kit No	96590739
2	motor stool	1

Non-return valve

Pos.	Description/kit No	96526663
65	Non-return valve complete	1

Pump cover

Pos.	Description/kit No	96590745
16	Pump cover	1

Tank

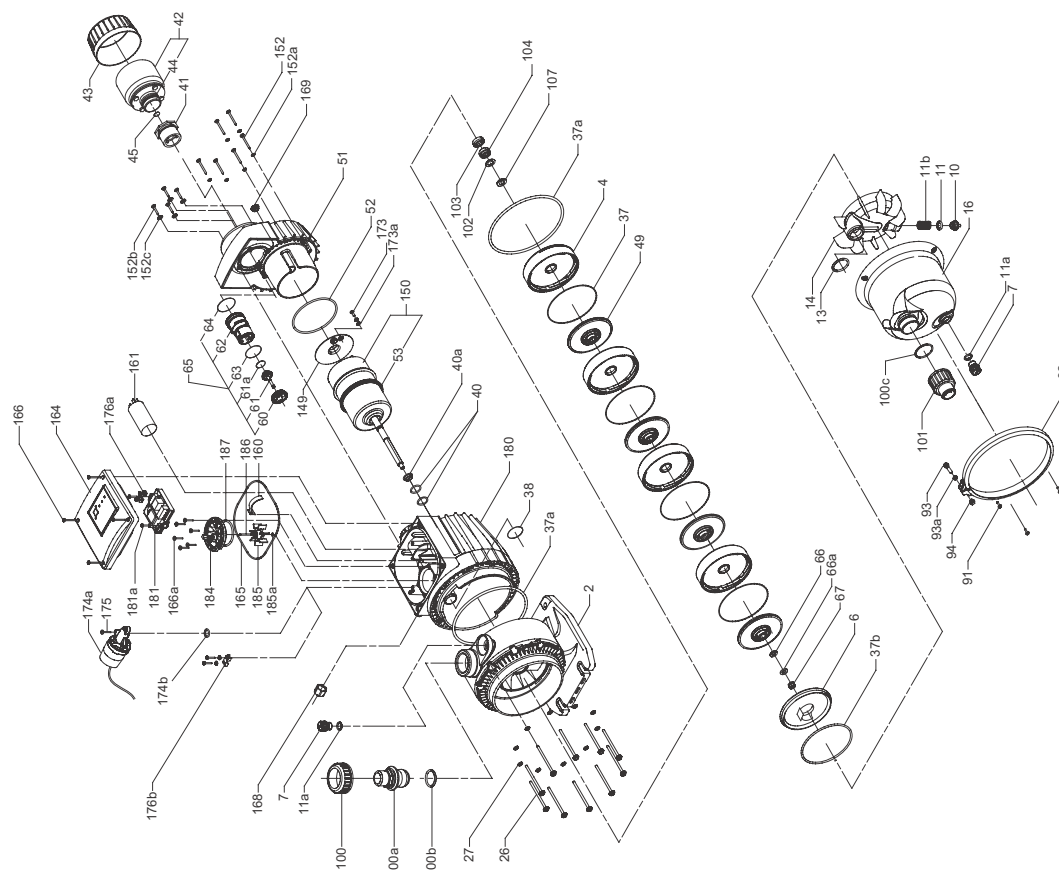
Pos.	Description/kit No	98893507
42	Pressure tank including O-ring	1

Motor housing

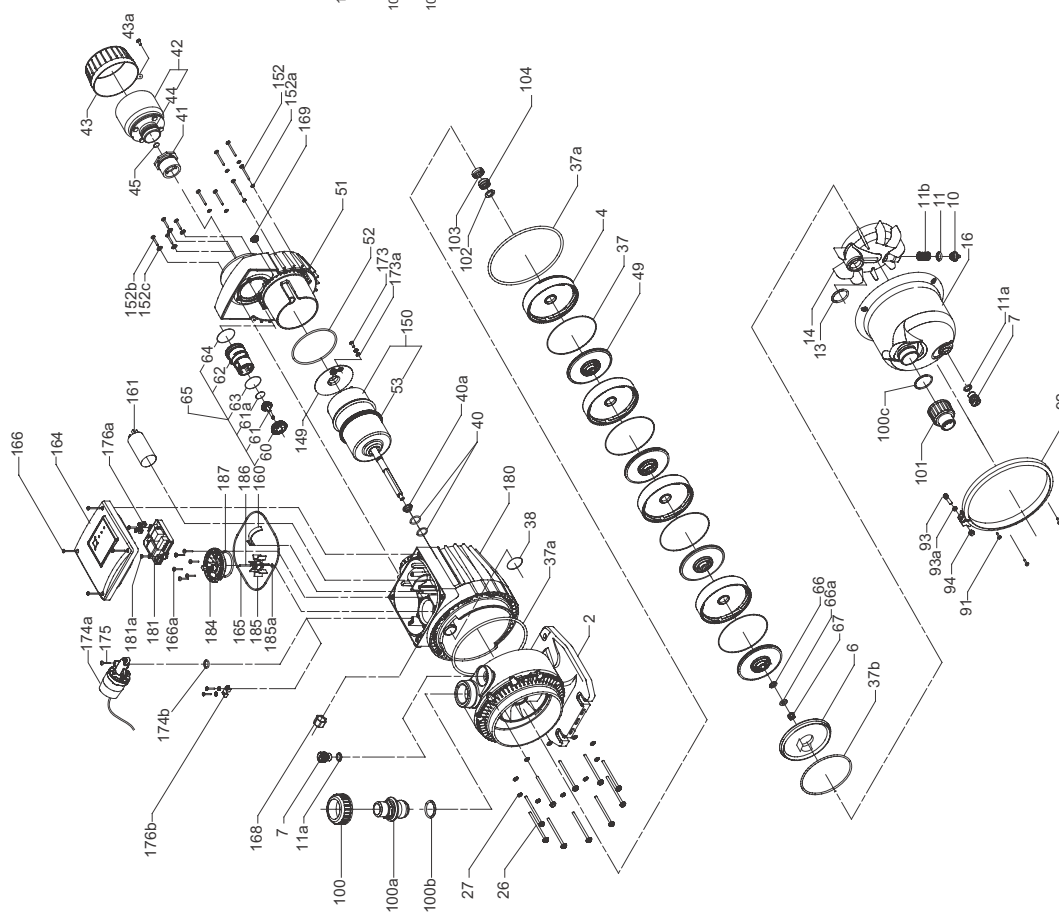
Pos.	Description/kit No	98664813
180	Motor housing MQ model B	1

MQ 3-45 Model B

(until week 4, 2009)



(from week 4, 2009)



TM05 5951 4212 - TM05 5952 4212

RMQ

Control box

Pos.	Description/kit No	RMQ A	RMQ B
		96603590	96603591
501	Control box complete	1	1

Float valve

Pos.	Description	Manufactured before 1 April 2009	Manufactured after 1 April 2009
		96961201	97505627
409	Float valve	1	1
410	3/4" hose	1	-
420	Steel angle	1	-

Housing

Pos.	Description/kit No	96603580
403	Housing	1
404	Wall-mounting fitting	1
405	Back plate	1
406	Plug	1
408	Strap	1
425	Fixing plate for pump	1
-	Eyelet	1

Internal water tank

Pos.	Description/kit No	96603568
401	Internal water tank	1
409	Float valve	1
410	3/4" inlet hose	1
420	Steel angle	1
424	Reed relay	1

Three-way valve

Pos.	Description/kit No	96603585
411	Motor	1
412	Three-way valve + fittings	1

Service parts

Motor for three-way valve

Pos.	Description/kit No	96603584
411	Motor for three-way valve	1

Hose

Pos.	Description/kit No	96603583
413	1" hose	1

Level sensor

Pos.	Description/kit No	96603587
460	Level sensor, RMQ A	1

Level switch

Pos.	Description/kit No	96603588
460	Level switch, RMQ B	1

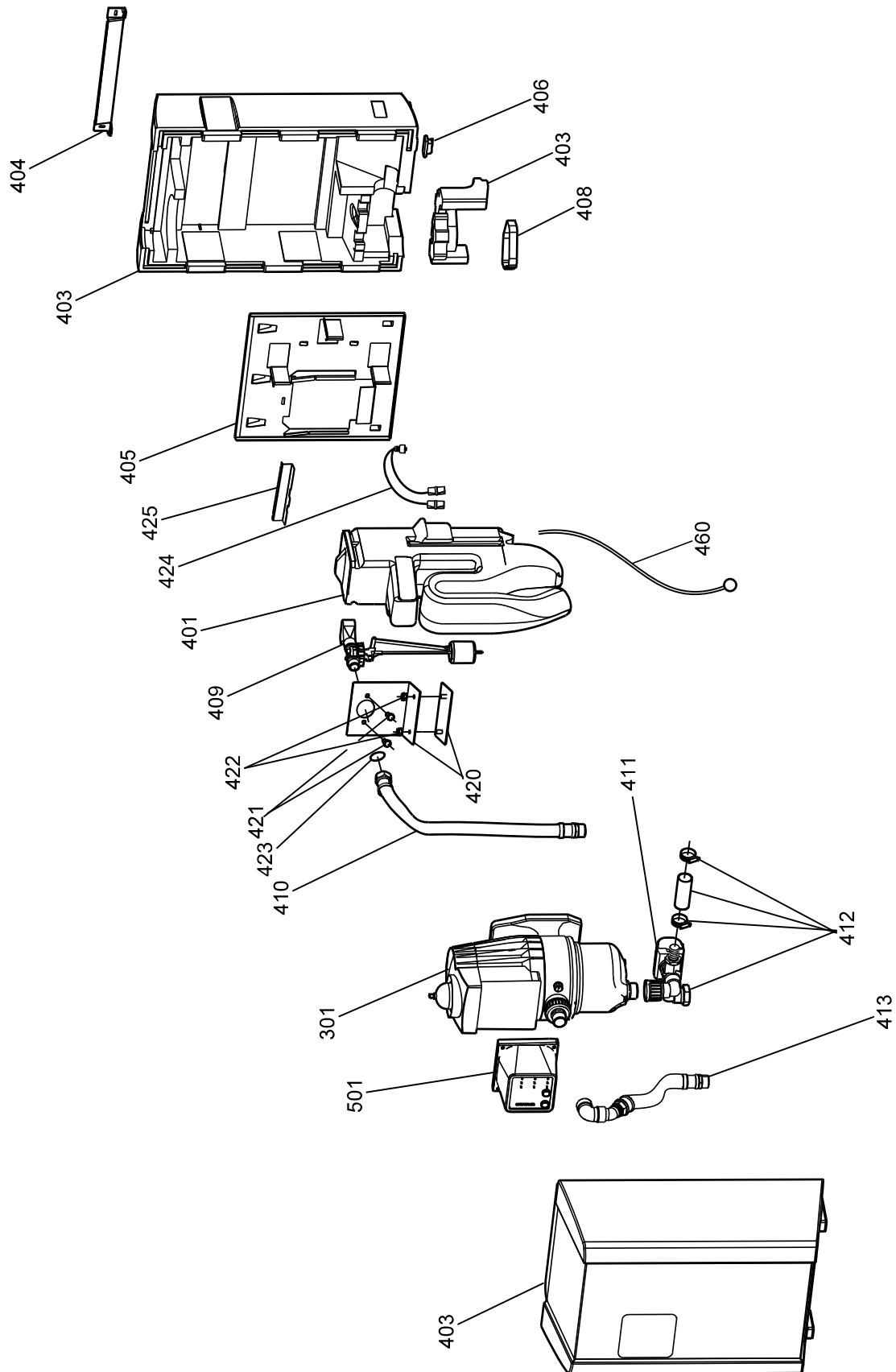
Reed relay

Pos.	Description/kit No	96603586
424	Reed relay	1

Float valve

Pos.	Description/kit No	97505627
409	Float valve	1
423	Seal	1

RMQ



TM02 6455 0405