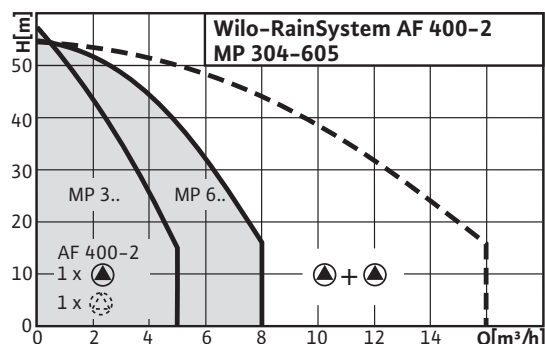


Series description: Wilo-RainSystem AF 400



Design

Automatic rainwater utilisation system with run-down tank container and 2 non-self-priming pumps

Application

Commercial and industrial rainwater utilisation for conserving potable water as a hybrid system in conjunction with rainwater storage tanks or vessels

Type key

Example	Wilo-AF 400-2 MP 304 EM
AF	Automatic rainwater utilisation and potable water replenishment system (Aqua Feed)
400	Nominal capacity replenishment reservoir (hybrid tank) (l)
2	Number of pumps
MP	Self-priming, horizontal, multistage centrifugal pump of the series MultiCargo MP
3	Volume flow (m³/h) at optimum efficiency
04	Number of stages
EM	Single-phase motor 1-230 V, 50 Hz

Special features/product advantages

- Low-noise due to standard multistage centrifugal pumps
- All parts that come in contact with the fluid are corrosion-free
- Highest operational reliability thanks to fully electronic Rain-Control Hybrid controller
- High economic efficiency due to needs-based fresh water replenishment
- High reliability thanks to flow- and noise-optimised overall concept
- Automatic control of the feeding pump
- System / level control in the low-volt range
- Approved according to the quality specifications of the RAL quality standard GZ 994

Technical data

- Operating pressure max. 10 bar
- Protection class: IP 54
- Connections:
 - Pressure pipe/pressure-side joint tubing R 1 ½
 - Inflow pipe HT 50
 - Overflow connection DN 100

Equipment/function

- Connection-ready module with compact construction
- Completely connected, electrically and hydraulically, and mounted on vibration-insulated baseplate, comprising:
 - 2x non-self-priming, corrosion-free, low-noise centrifugal pumps of the MultiPress series
 - R 1 1/2 joint tubing on the pressure side, including transmitter unit with DIN/DVGW-certified 8-l diaphragm pressure vessel following the flow-through principle and shut-off device with draining, manometer 0-10 bar
 - Ball valve on suction and pressure side and non-return valve with DIN/DVGW approval
 - High-volume hybrid tank with all connections, calmed inlets and overflow with siphon
 - RainControl Hybrid central switchgear with control electronics, 4-20 mA pressure transmitter, as well as level control device in the low-volt range
 - Signals concerning operation and faults
 - Steady system control by means of cyclical pump cycling and integrated test run on idle pumps
 - Automatic fault-actuated switchover and peak-load cut-in
 - Automatic water exchange in the replenishment reservoir
 - Permanent display of rainwater storage tank level, system pressure, operating status via LCD (optional)
 - Including DVGW-certified R 1 solenoid valve for the potable water replenishment

Description/design

- Ready-to-connect water-supply unit with 2 to 4 water-supply pumps as compact module for commercial and industrial rainwater utilisation
- For fully automatic supply with rainwater from ground reservoir or rainwater storage tank using submersible pumps as feeding pumps
- Depending on the pump dimensioning, greater distances between the system and rainwater storage tank can be bridged over with this hybrid system (see also Wilo submersible pumps, Wilo-Drain series)
- High-volume hybrid tank with all integrated functions offers needs-based replenishment of potable water in the consumer network when rainwater storage tanks are not full.
- Fully-electronic control unit for controlling the water supply and cistern pump, equipped with main switch, control switch for each pump with Manual-0-Automatic function and display of the operating status operation/fault for each pump as well as low-water display
- Depending on the pressure, pumps are switched on/off in cascade according to water demand.
- Diaphragm pressure vessel for energy savings in the event of smallest leakages in buildings
- Steady system control by means of cyclical pump cycling and integrated test run on idle pumps.
- Automatic fault-actuated switchover and peak-load cut-in guarantee maximum system availability.
- In the event of low water, the system is switched off by built-in dry-running protection
- including integrated electronic motor protection

Series description: Wilo-RainSystem AF 400

- Switchgear outputs extensive signals; it also has additional potential-free contacts for collective run and fault signals
- System is ideally suited for connection to the building management system (BMS/DDC)

Materials

- Pump housing made of 1.4301 stainless steel
- Impeller made of Noryl
- Shaft made of 1.4028 stainless steel
- Mechanical seal made of ceramic/carbon
- Stage chambers made of Noryl
- Diaphragm expansion tank, steel, painted

Scope of delivery

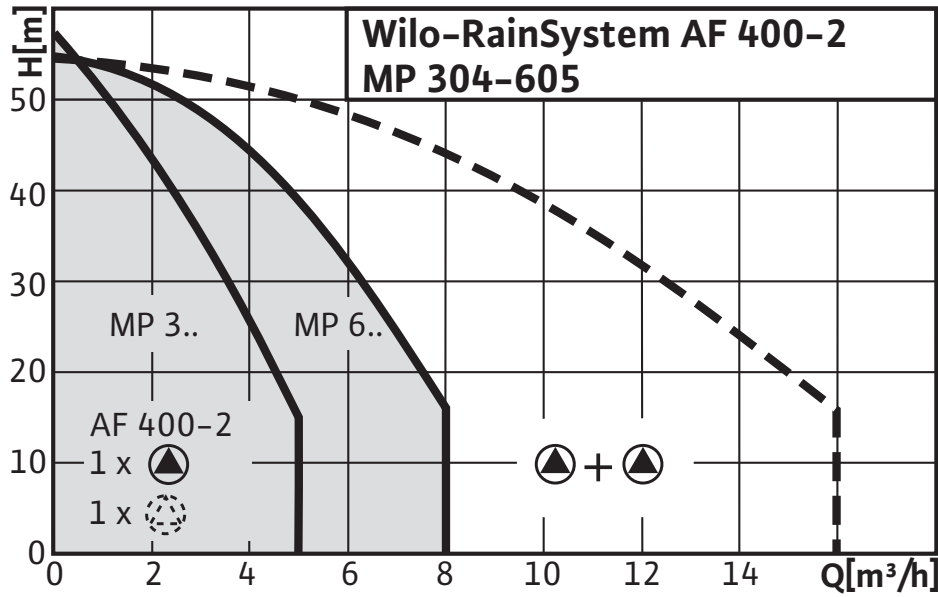
- Two noise-reduced, normal suctioning, multistage centrifugal pumps
- 400 l hybrid tank with all required connections, transmitter unit with 8 l diaphragm pressure vessel, central switchgear, RainControl-Hybrid with control electronics and level control device of Wilo-Drain TM or TS cistern pumps in three-phase version (optionally in single-phase version) to be ordered separately

Options

- Rainwater storage level indicator
- Operating hours counter
- Individual run/fault signals
- Clock timer
- 3~230 V, 50 Hz
- 60 Hz versions
- Extension module AF 400

Duty chart: Wilo-RainSystem AF 400

Pump curves



Equipment/function: Wilo-RainSystem AF 400

Design

Compact rainwater utilisation system		–
Replenishment reservoir	V	400 l
Corrosion-free		•
Protection against low water level		•
UV-stabilized system tank		•
Diaphragm pressure vessel		•
Connection for backflow warning		–
Corrosion-free steel tubing framework		•
Ball valve on suction and pressure sides		•
Joint tubing on pressure side		•
Pressure gauge		•

Hydraulics

Self-priming		–
Non-self-priming		•
Multistage centrifugal pump		•
Directly flanged motor		•

Motor data

Mains connection		3~400 V, 50 Hz
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Equipment/function

Electronic control, RainControl Professional		–
Electronic system control, RainControl Hybrid		•
Menu-prompted operation and LCD display		–
Operation and fault signals		•
Wilo-Fluidcontrol (for automatic operation)		–
Pump cycling and test run function		•
Automatic fault-actuated switchover and peak-load cut-in		•
Automatic water exchange in the replenishment reservoir		•
Automatic prevention of lime deposits on the solenoid valve		–

Accessories

Water backflow signalling device		–
Extension modules		•
EPP cap		–
Overflow signalling device		•

• = available, – = not available

Technical data: Wilo-RainSystem AF 400

Approved fluids (other fluids on request)

Pure water without settling sediment

•

Rainwater

•

Output

Q_{\max}	Q	16 m ³ /h
H_{\max}		55 m
Nominal motor power	P_2	550 W 750 W 1100 W
Start-up pressure		variably adjustable starting from 1.0 bar
Switch-off pressure		variably adjustable starting from 1.0 bar
Fluid temperature	T	+5...+35 °C
Max. ambient temperature	T	40 °C
Mains connection		3~400 V, 50 Hz
Replenishment reservoir	V	400 l
Gross weight	m	119 kg

Motor/electronics

Protection class	IP 54
Insulation class	F

Connections

Pressure pipe/pressure side	Joint tubing R 1½
Inlet	2)
Connection overflow [DN]	100 ³⁾

Materials

Pump housing	1.4301
Impeller	Noryl
Pump shaft	1.4057
Mechanical seal	Carbon/ceramic
Stage chambers	Noryl

• = available, = not available

1) Potable water replenishment via float valve with free outlet in accordance with EN 1717

2) Potable water rep□

Rainwater storage pump connection: Connecting piece d.50 (inlet integrated with non-turbulent supply line on the tank side)

3) with overflow siphon as anti-siphon trap and full passage in accordance with DIN 1986) Overall system protection class: