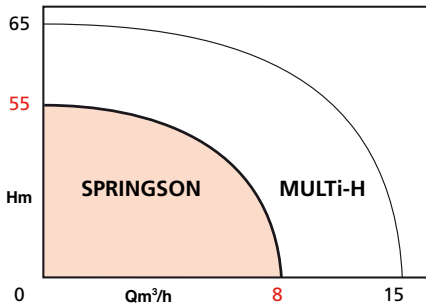


OPERATING RANGES

Flow rates of up to:	8 m ³ /h
Manometric heads of up to:	55 m
Max. operating pressure:	8 bar
Temperature range:	+5° at + 35 °C*
Max. ambient temperature:	+ 40 °C*
DN (nominal diameter) of ports:	1" (26-34)
Max. suction head:	8 m

*above this, please contact us.



BENEFITS

- 100% automatic, quick priming, with no risk of unpriming after the pump stops.
- Very quiet operation: can be used in inhabited premises.
- High hydraulic performance, even at high flow rates and on suction.
- High efficiency, economical operation.
- Corrosion-resistant components

SPRINGSON

MULTISTAGE SELF-PRIMING PUMPS

3 ranges:
Standard, Automatique (PAC)
and Hydromini
2 poles - 50 Hz

APPLICATIONS

- Pumping and distribution of clean or slightly muddy water in the housing and agriculture sectors
- Rainwater collection
- Abstraction from tanks, shallow wells, rivers or lakes for:
- Pressurised water supply and distribution
- Irrigation
- Watering
- Cleaning

• SPRINGSON
Single-phase version



• SPRINGSON
Three-phase version



• SPRINGSON PAC



• HYDROMINI
SPRINGSON



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DESIGN

Hydraulic part

- Horizontal, self-priming.
- Multistage: 4 to 5 stages.
- Axial suction and radial delivery; tapped ports
- Impellers fitted onto the extended motor shaft.
- Sealing of shaft opening by a standardised mechanical seal.
- Hydraulic unit attached to a lantern ring at 8 points.

Motor

- Standard ventilated - 2 poles.
- Extended shaft end.
- Lubricated rotor shaft guide bearings for extended service life.
- Single-phase: integral thermal protection and capacitor; automatic reset (except for -N version).

Speed:	2900 rpm
Single-phase winding:	230 V
*three-phase:	230-400 V
Frequency:	50 Hz (option 60 Hz)
Insulation class:	155 (F)
Protection class:	IP54
*not available in PAC and Hydromini versions	

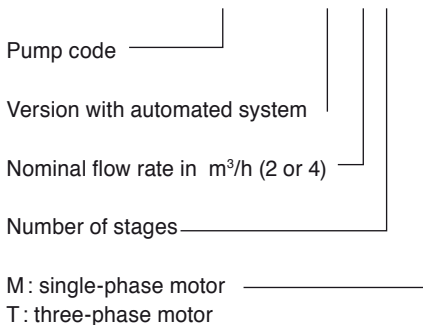
BASIC CONSTRUCTION

Main parts	Material
Pump housing:	AISI 304 stainless steel
Motor lantern ring bracket:	Aluminium
Impeller:	Noryl cont. 30 % FG*
Suction unit:	Noryl cont. 30 % FG*
Rotor shaft:	AISI 420 stainless steel
Pump shaft:	AISI 431 stainless steel
Mechanical seal:	Impregnated carbon

* FG: fibreglass

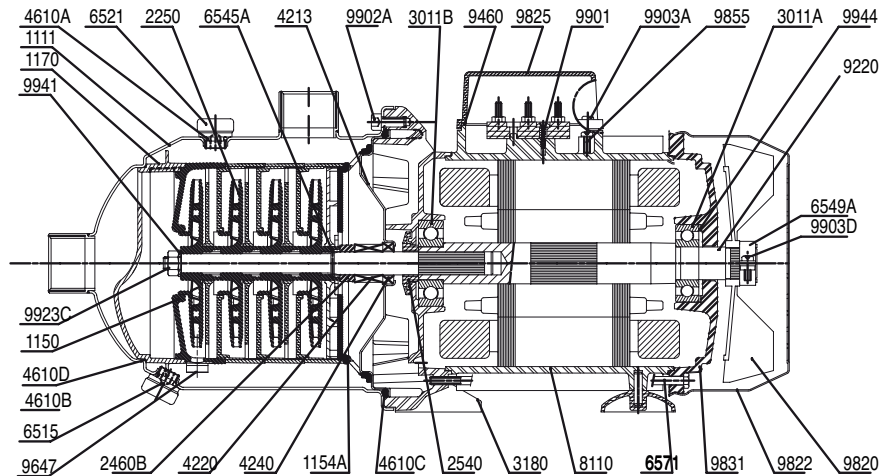
IDENTIFICATION

SPRINGSON - PAC 2 04 - M

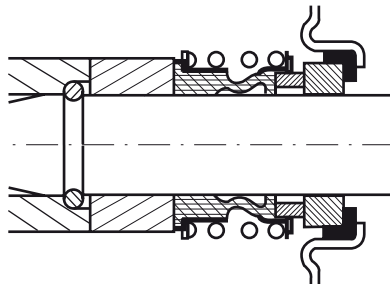


SECTIONAL DRAWING

SPRINGSON 405-T



Mechanical seal



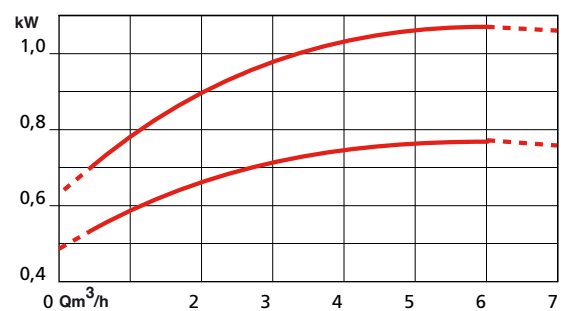
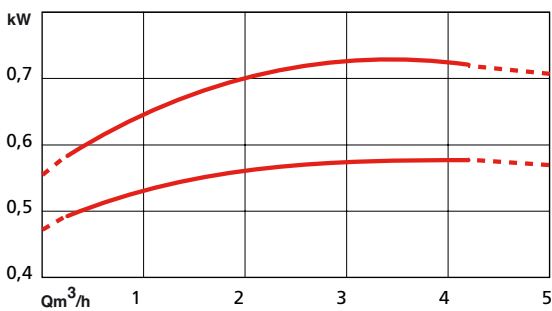
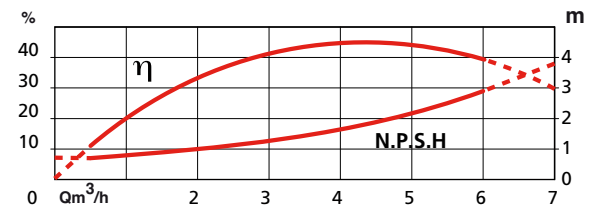
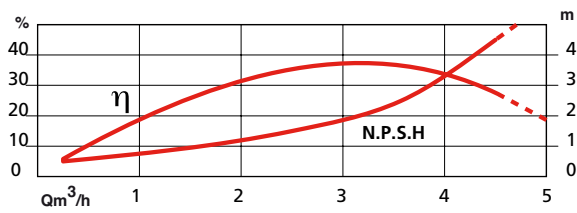
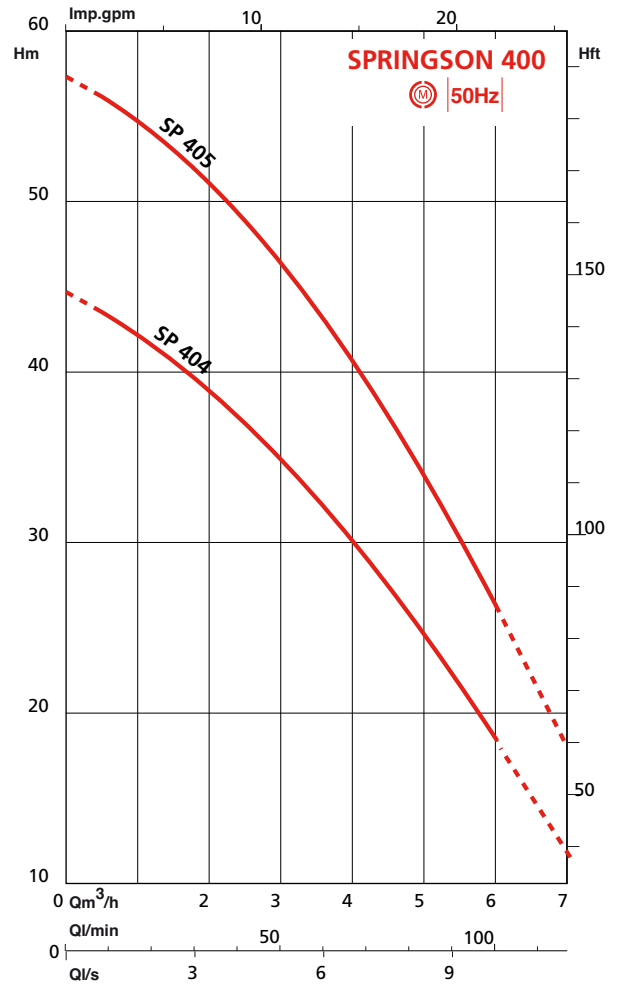
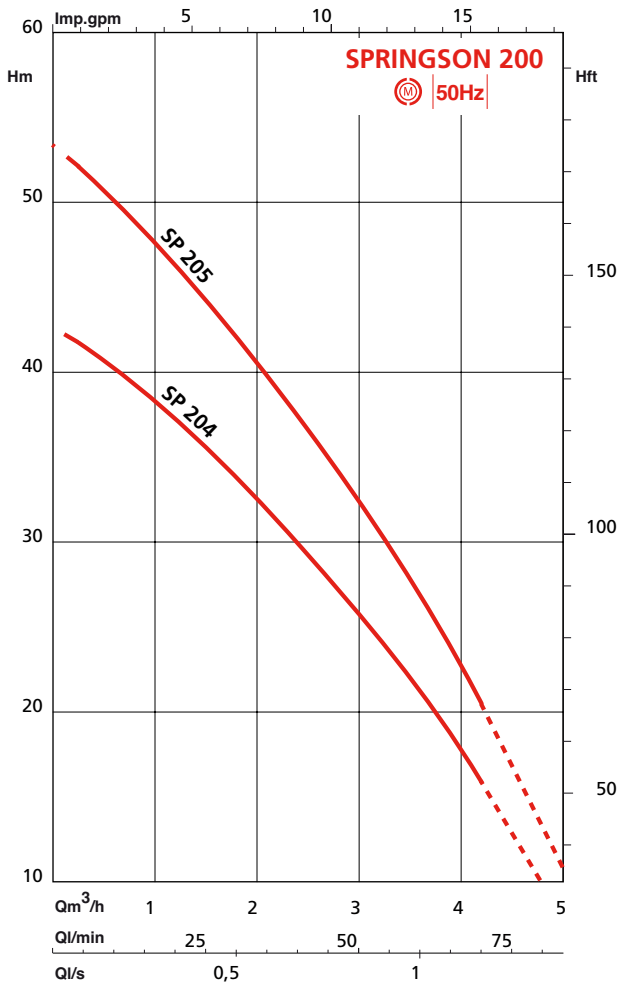
Parts list

- 1111 - Pump housing
- 1150 - Stage housing with return channel
- 1154 A - Centring device with return channel
- 1170 - Suction unit
- 2250 - Thrower
- 2460B - Axial bearing of mechanical seal
- 2540 - Thrower
- 3011A - Fan-side bearing
- 3011B - Pump-side bearing
- 3180 - Pump/motor lantern ring bracket
- 4213 - Throat bushing support
- 4220 - Rotating ring | Seal
- 4240 - Fixed ring | Mechanical
- 4610A/B/C/D - O-rings
- 6515 - Drain plug
- 6521 - Filler plug
- 6545A - 1/2 circlip
- 6571 - Motor tie rod
- 8110 - Motor housing assembly
- 9220 - Rotor-shaft
- 9460 - Terminal cover gasket
- 9647 - Valve
- 9820 - Fan
- 9822 - Fan cover
- 9825 - Terminal cover
- 9830 - Front motor bearing shield
- 9831 - Rear motor bearing shield
- 9902A - Housing nut + screw
- 9923A - Bearing nut + screw
- 9923C - Shaft end nut
- 9941 - Flat washer
- 9944 - Spring washer

(•) Recommended spare parts

SPRINGSON

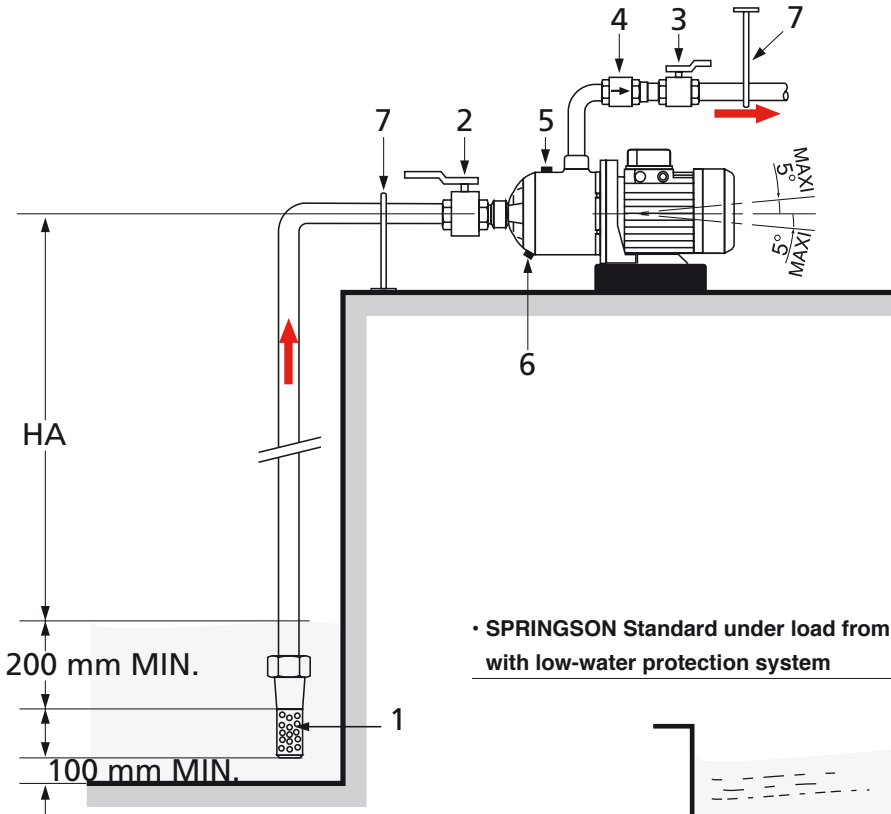
HYDRAULIC PERFORMANCE



SPRINGSON

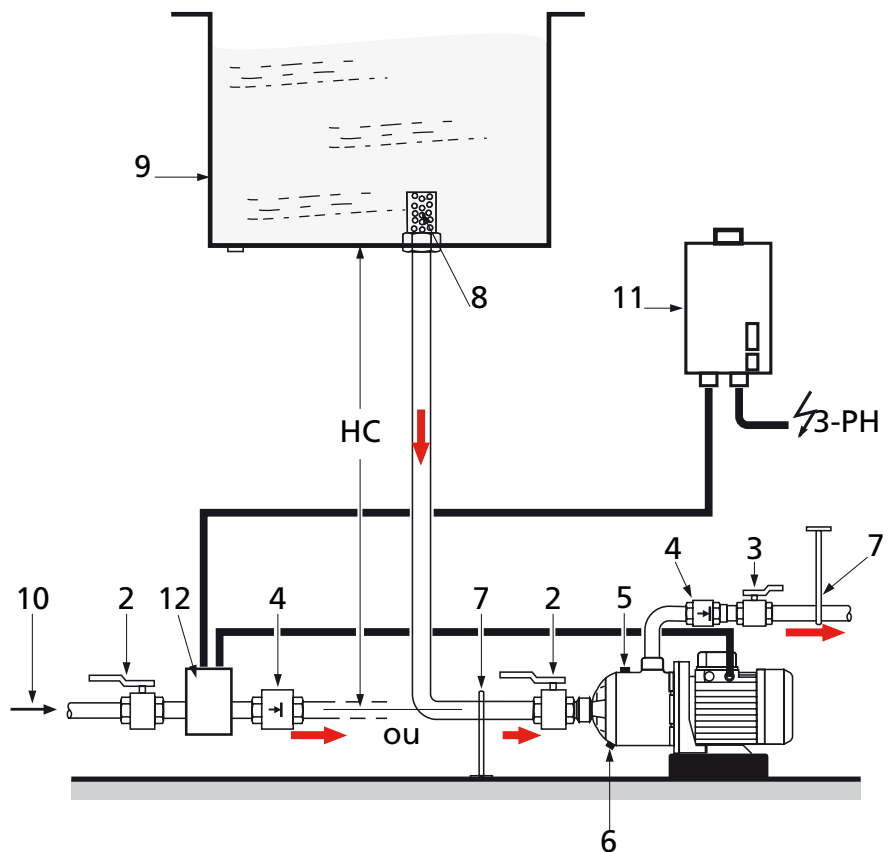
SPRINGSON STANDARD INSTALLATION DIAGRAMS

• SPRINGSON Standard on suction

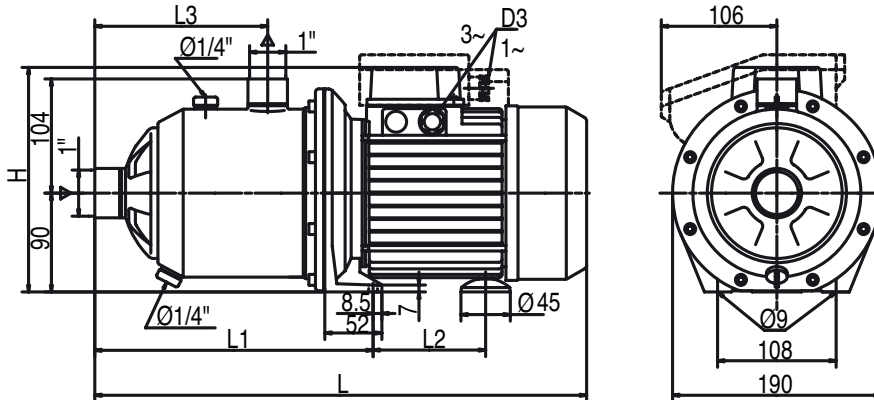


• SPRINGSON Standard under load from storage tank or mains water supply with low-water protection system

- 1 - Strainer foot valve (max. flow section: 1 mm)
 - 2 - Pump suction valve
 - 3 - Pump discharge valve
 - 4 - Non-return valve
 - 5 - Filler plug
 - 6 - Drain plug
 - 7 - Pipe hanger
 - 8 - Strainer
 - 9 - Storage tank
 - 10 - Mains water supply
 - 11 - Three-phase motor protective slave switch
 - 12 - Low-water protection system
 - 13 - Cable connecting pump and automated system
 - 14 - Automated system
 - 15 - Power cable with plug
- HA : Suction head
 HC : Flooded head
 HR : Discharge head



ELECTRICAL AND DIMENSIONAL SPECIFICATIONS



ORDER REFERENCE	MOTOR						PUMP						Weight		
	P2			P1	In (A)			Capacitor	H	L	L1	L2		L3	D3
	4/4	3/4	2/4		Motor efficiency %	230 V	230 V								
	kW			kW	1X	3X	3X		mm	mm	mm	mm	mm	mm	kg
SPRINGSON204-M	0.55	-	-	0.84	4.2	-	-	12	188	418	253	94	157.5	PG11	8.4
SPRINGSON204-T	0.55	-	-	0.83	-	3.3	1.9	-	190	418	253	94	157.5	PG11	9.3
SPRINGSON205-M	0.75	-	-	1.09	5.4	-	-	16	216	447	277	88	181.5	PG13.5	11.7
SPRINGSON205-N-T	0.75	77.4	74.4	76	1.11	-	3.3	1.9	219	481	277	110	181.5	1xM20	13
SPRINGSON404-M	0.75	-	-	1.09	5.1	-	-	16	216	423	253	88	157.5	PG13.5	11.7
SPRINGSON404-N-T	1.1	79.6	79.6	78	1.57	-	4.8	2.8	219	457	253	110	157.5	1xM20	13.8
SPRINGSON405-M	1.1	-	-	1.51	7.6	-	-	30	224	472	277	104	181.5	PG13.5	14.8
SPRINGSON405-N-T	1.1	79.6	79.6	78	1.37	-	4.3	2.5	219	481	277	110	181.5	1xM20	14.4

FEATURES

a) Electrical

- 230 V single-phase - 50 Hz (M), with integrated thermal protection and automatic reset (except for -N version).
 - Capacitor integrated into the terminal box.
 - 230-400V three-phase - 50 Hz (T), essential to use a differential circuit-breaker for motor protection (Standard version).
- Provide a switch and low-water protection box in both single-phase and three-phase.

b) Fitting

- Fixed or mobile, suction or gravity-primed installation
- The system must incorporate protection for the pump from adverse weather conditions and frost (no direct exposure to rain or sun).
- Gravity-primed installation of the Springson PAC is only possible if static pressure in the system is < 2.5 bar.
- Fixed installation via the two fixing holes in the lantern ring.
- Mobile (single-phase version): secure the suction pipe if the suction head is > 4 m.
- Connection via a flexible hose with reinforcing coil, or a rigid pipe.
- Strainer recommended (Ø mesh: 1 mm).
- Foot valve recommended for pump in suction mode.

c) Packaging

Delivered ready for use, with a pre-wired electrical plug (in single-phase).

d) Maintenance

- Repair: see recommended spare parts (*) subject to wear.

ACCESSORIES

STANDARD VERSION

- Suction kit
- Shut-off valves
- Strainer
- Strainer foot valve
- Non-return valve
- Bladder or galvanised tanks
- Low-water protection system
- Three-phase motor protective slave switch.
- Hydromini (a Hydromini version: Kit + tank + pump for self-assembly).

Ref. SINGLE-PHASE = 4035209

THREE-PHASE = 4035210.

STARKIT

Suction kit with long hose. 7 m, strainer foot valve and 2 connectors suction - discharge

REF. ORDER	REF. ARTICLE
STARKIT G1 (for SPRINGSON 204, 205)	4027874
STARKIT G1 ^{1/4} (for SPRINGSON 404, 405)	4036081



SPRINGSON PAC

SPECIFICITY OF SPRINGSON PAC (AUTOMATION AND CONTROL)

• Operating principle

Automation

When a tap is turned on, the system pressure falls and the pump starts up immediately at the factory-preset threshold of 1.5 bar. This threshold may be increased on site according to the mains supply pressure (or HR [discharge head], HC [flooded head]).

The pump continues to operate for as long as there is a minimum flow rate in the system.

“Anti-water-hammer” safety device

When the tap is turned off, the pump stops automatically after a 3-5 second time lag. This time lag avoids the need to install a tank.

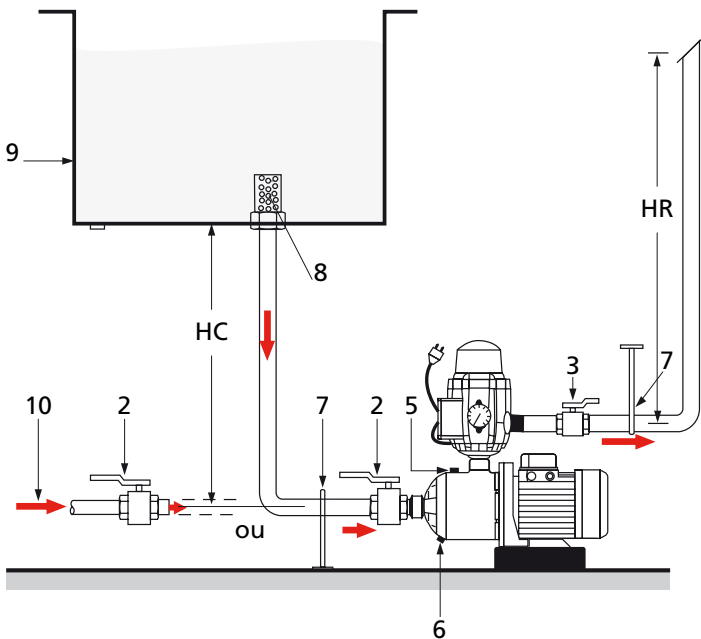
Low-water safety device

The automated system protects the pump from a lack of water by stopping the motor. This stoppage is signalled by the activation of the “ALARM” warning light. The pump must be manually restarted via the «Reset» button.

Even when the automated system is in use, all of the pump’s characteristics are maintained. The self-priming function is ensured by pressing and holding the «Reset» button during priming.

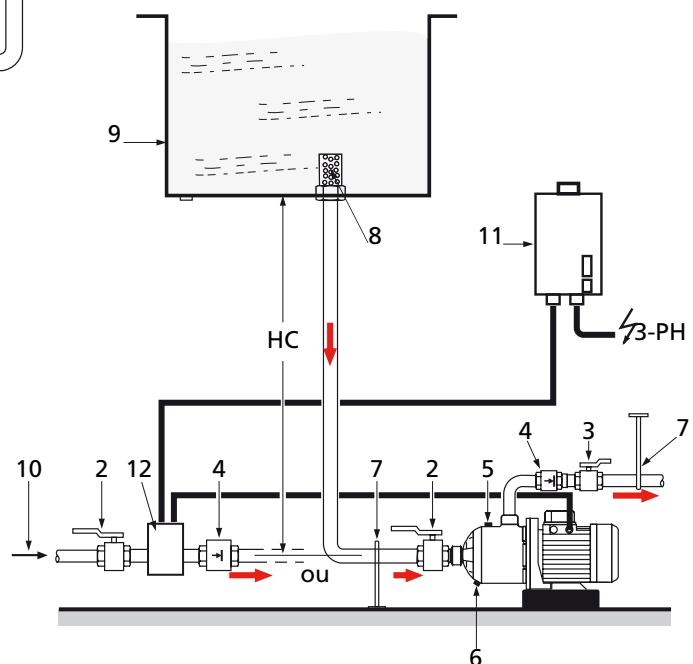


SPRINGSON PAC INSTALLATION DIAGRAMS



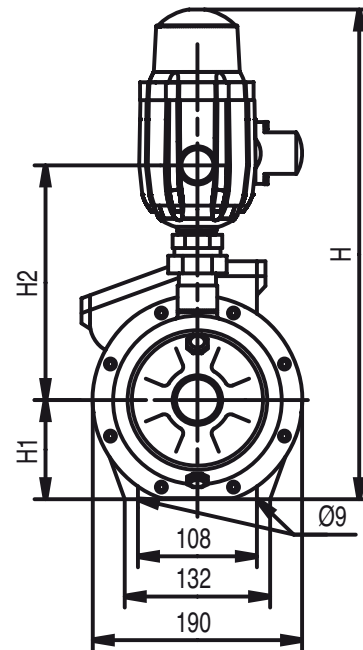
KEYS

- | | |
|--|--|
| 1 - Strainer foot valve
(max. flow section: 1 mm) | 11 - Three-phase motor
protective slave switch |
| 2 - Pump suction valve | 12 - Low-water protection system |
| 3 - Pump discharge valve | 13 - Cable connecting pump
and automated system |
| 4 - Non-return valve | 14 - Automated system |
| 5 - Filler plug | 15 - Power cable with plug |
| 6 - Drain plug | HA: Suction head |
| 7 - Pipe hanger | HC: Flooded head |
| 8 - Strainer | HR: Discharge head |
| 9 - Storage tank | |
| 10 - Mains water supply | |



SPRINGSON PAC

ELECTRICAL AND DIMENSIONAL SPECIFICATIONS



PRODUCT	PUMP	H	L	H1	H2	L1	L2	WEIGHT
		mm	mm	mm	mm	mm	mm	kg
SPRINGSON-PAC204-M	SPR. 204	240	418	90	205	253	94	9.8
SPRINGSON-PAC205-M	SPR. 205	240	447	90	205	277	88	13.1
SPRINGSON-PAC404-M	SPR. 404	240	423	90	205	253	88	13.1
SPRINGSON-PAC405-M	SPR. 405	240	472	90	205	277	104	16.2

SPRINGSON PAC Cable H07RNF with plug.

ACCESSORIES

PAC VERSION

- Suction kit
- Shut-off valves.

STARKIT

Suction kit with 7 m long hose, strainer foot valve and 2 connectors: suction and discharge.

REF. ORDER	REF. ARTICLE
STARKIT G1 (for SPRINGSON 204, 205)	4027874
STARKIT G1 ^{1/4} (for SPRINGSON 404, 405)	4056081

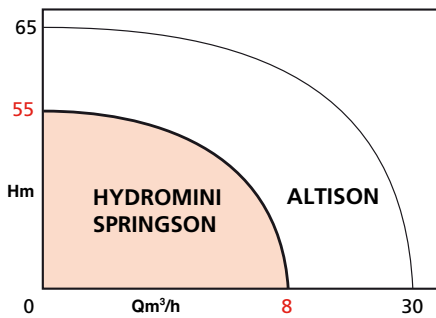


HYDROMINI SPRINGSON

OPERATING RANGES

Max. operating pressure:	10 bar
Max. water temperature:	+ 35 °C*
Average flow rate from tanks:	2000 to 5000l/h

*contact us for information about higher temperatures



APPLICATIONS

- Maintaining the pressurisation of a water distribution system with insufficient pressure.

Especially recommended for:

- Drip watering.
- Small farms.

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BENEFITS

- Fully assembled and pre-wired booster pump ready for installation.
- Available in 3 tank sizes for perfect compatibility with the application requirements and available space.
- Interchangeable bladder tank (food-grade).
- Handy water tank to avoid frequent starting of the pump.
- Easy to install.
- Easy and economical to operate and maintain.

ACCESSORIES & OPTIONS

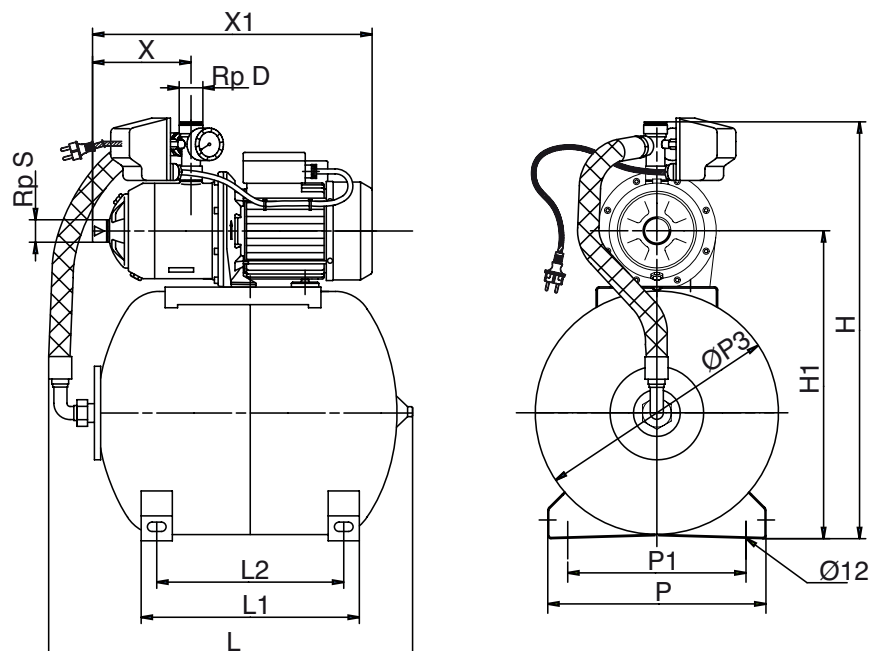
- Suction kit.
- G1 T valves for suction and delivery
- Non-return valve
- Strainer foot valve.
- Pipe hanger.

DESIGN

Automatic pressure booster featuring:

- A SPRINGSON 204, 205 or 405 pump
- With a 230 V - 50 Hz single-phase motor, including integrated thermal protection and automatic reset.
- Horizontal tank with capacity of 20, 50 or 100 l according to the models, with interchangeable, food-grade bladders.
- Pressure switch with a pressure control gauge for automatic starting and stopping of the pump (factory preset).
- Mains connection via a 1.5 m long electric cable with plug (2 pins + earth).

DIMENSIONAL SPECIFICATIONS



ORDER REFERENCE	Tank capacity	Effective water capacity	Pressures										RpD	RpS	Mass			
			On	Off	P	P1	H	H1	L	L1	L2	X				X1	ØP3	tapped
HYDROMINI SPRINGSON...	litres	litres	bar	bar	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
204-M-H20	20	10	1.8	3	280	230	570	385	500	220	170	158	418	260	G1	G1	17	
204-M-H50	50	18	1.8	3	360	280	655	470	700	350	300	158	418	360	G1	G1	22.2	
204-M-H100	100	37.5	1.8	3	320	260	760	585	820	370	310	158	418	460	G1	G1	30.8	
205-M-H50	50	18	1.8	3	360	280	655	470	700	350	300	182	447	360	G1	G1	24.7	
205-M-H100	100	37.5	1.8	3	320	260	760	585	820	370	310	158	418	460	G1	G1	33.3	
405-M-H100	100	37.5	1.8	3	320	260	760	585	844	370	320	182	447	460	G1	G1	35.2	