OPERATING LIMITS

Flow rates up to:	**8 m³/h**
Head up to:	**55 m**
Max. operating pressure:	**8 bar**
Temperature range:	**+5° to + 35 °C***
Max. ambient temperature:	**+ 40 °C***
DN of ports:	**1" (26-34)**
Max. suction lift:	**8 m**

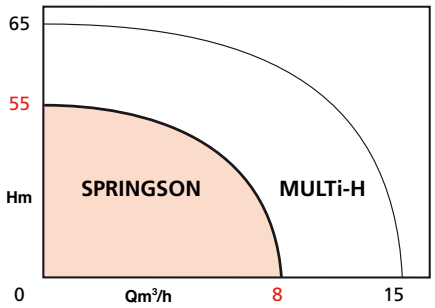
*above: contact us

SPRINGSON

SELF-PRIMING MULTI-STAGE PUMPS

Three lines: Standard, Automatic (PAC) and Hydromini

2 pole - 50 Hz



APPLICATIONS

Pumping and distributing clear or lightly charged water for domestic or agricultural use.

Rainwater collection, pick-up from tanks, shallow wells, rivers, or ponds or:

- Supply and distribution of water under pressure
- Irrigation
- Sprinkling
- Washing.

ADVANTAGES

- **Good priming, 100% automatic, with no risk of drainage after pump shutdown.**
- **Silent operation: suitable for home use.**
- **Stable hydraulic performance throughout flow range and all suction conditions.**
- **High efficiency, economical operation.**
- **Corrosion-resistant components.**

• **SPRINGSON** standard three-phase versions

• **SPRINGSON** standard single-phase

• **SPRINGSON PAC**

• **HYDROMINI SPRINGSON**

N.T. N° 141-6/ENG - Éd. 6/01-06

SPRINGSON

DESIGN

• Pump

- Horizontal, self-priming.
- Multistage pump, 4 to 5 stages.
- Axial suction, vertical radial discharge, tapped ports.
- Impellers mounted directly on the extended motor shaft.
- Standard mechanical seal.
- Pump attached to a lantern bracket at 8 points.

• Motor

- Standard ventilated - 2 pole.
- At the end of an extended shaft.
- Rotor shaft guide bearings greased for life.
- Single-phase: built-in capacitor and thermal protection, automatic reset.

Speed :	2900 rpm
Winding 1-phase :	230 V
*3-phase :	230-400 V
Frequency :	50 Hz (option 60 Hz)
Insulating category :	155 (F)
Protection index :	IP54

* Does not exist in PAC or Hydromini models

STANDARD CONSTRUCTION

Main components	Material
Pump casing	SS AISI 304
Motor pump support lantern	30% FG-filled Noryl *
Impeller	30% FG-filled Noryl *
Suction stage	30% FG-filled Noryl
Rotor shaft	SS (AISI 420)
Mechanical seal	Nitrile/Ceramic/ Resin impregnated carbon

*Contains 30% glass fibre

IDENTIFICATION

SPRINGSON - PAC 2 04 - M

Pump code

Version with automatic control

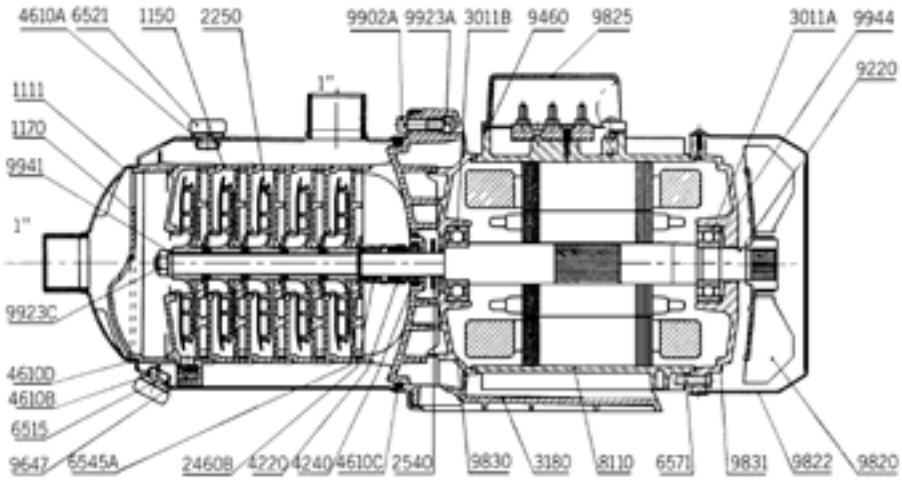
Rated delivery in m^3/h (2 or 4)

Number of stages

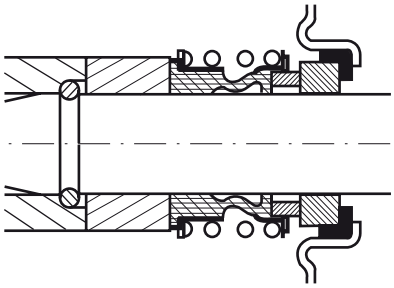
M : single-phase motor
T : three-phase motor

SECTIONAL DRAWING

• SPRINGSON 405-T



• MECHANICAL SEAL

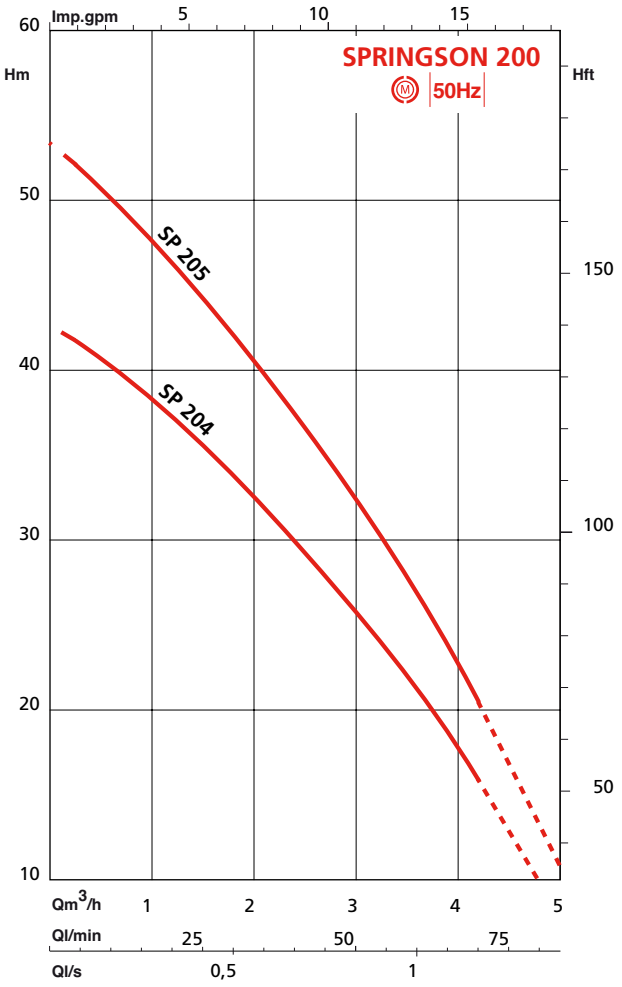


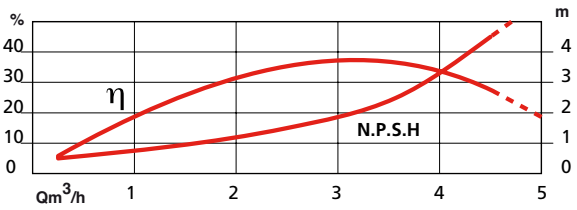
PARTS LIST

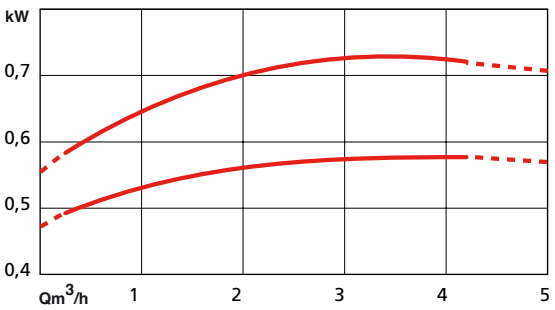
1111 - Pump casing
1150 - Stage body with return channel
1170 - Suction stage
• 2250 - Impeller
2460B - Mechanical seal stop ring
2540 - Deflector
3011A - Fan-side bearing
3011B - Pump-side bearing
3180 - Pump/motor support lantern
• 4220 - Rotating ring } mechanical seal
• 4240 - Fixed ring
•4610A/B/C/D - O-rings
6515 - Drain plug
6521 - Fill plug
6545A - 1/2 circlip
6571 - Motor tension rod
8110 - Motor housing assembly
9220 - Rotor shaft
9460 - Terminal block cover seal
9647 - Valve
9820 - Fan
9822 - Fan cover
9825 - Terminal block cover
9830 - Motor front bearing shield
9831 - Motor rear bearing shield
9902A - Body nut + screw
9923A - Bearing nut + screw
9923C - Shaft end nut
9941 - Flat washer
9944 - Flexible washer

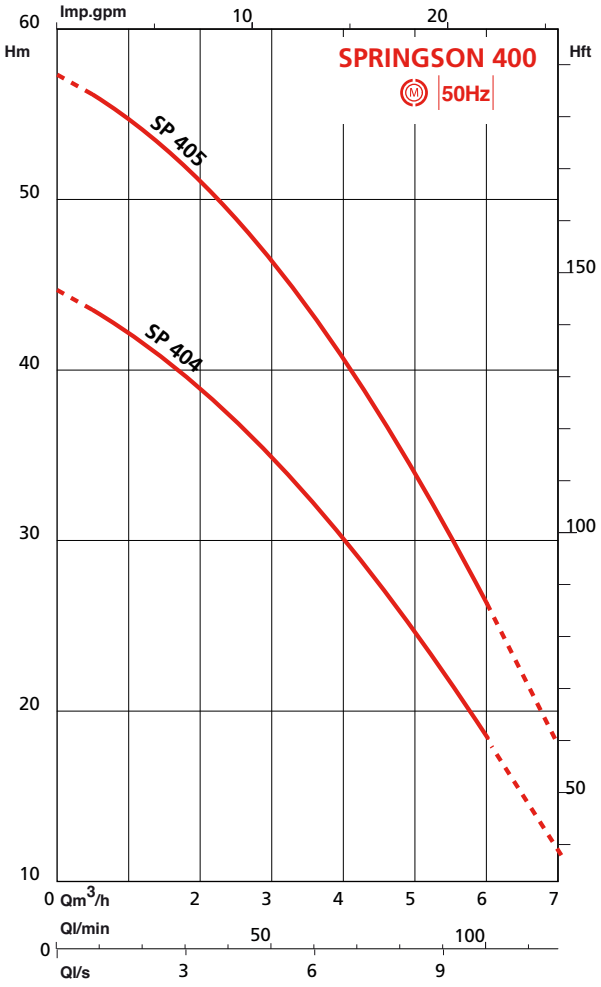
(•) Recommended replacement parts

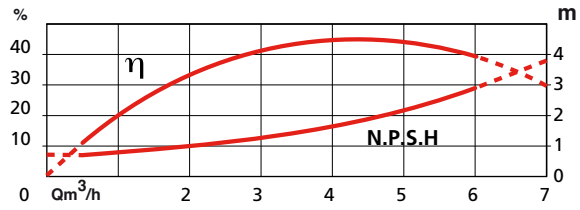
HYDRAULIC PERFORMANCES

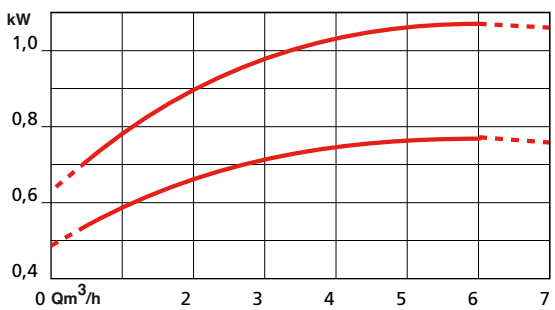








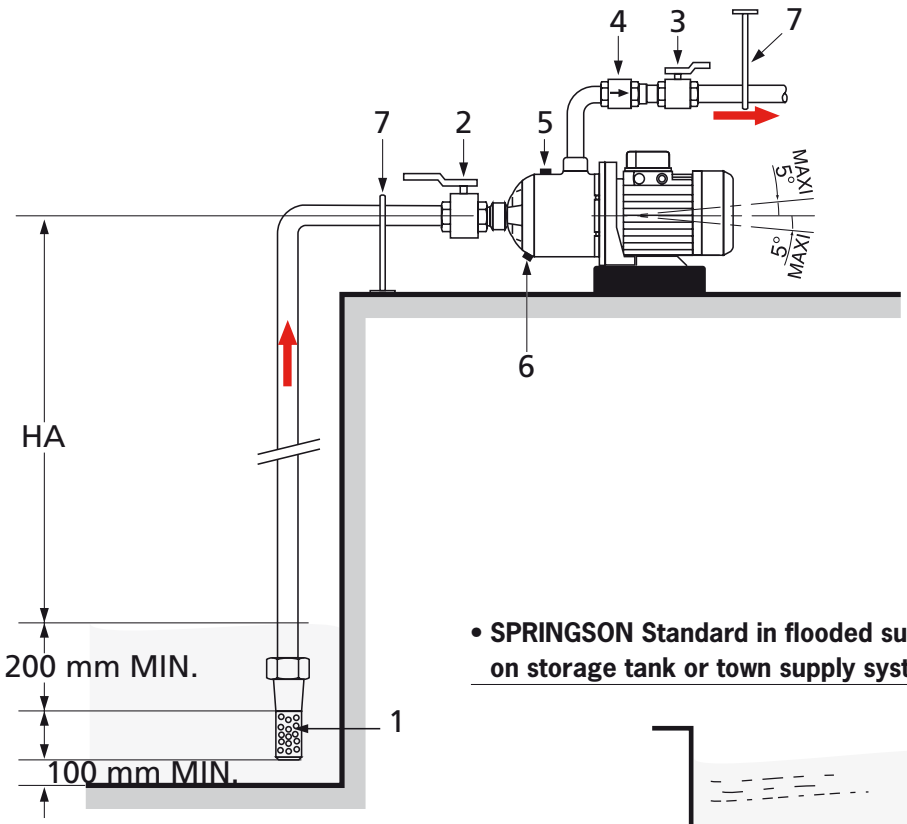




SPRINGSON

SPRINGSON STANDARD INSTALLATION DIAGRAMS

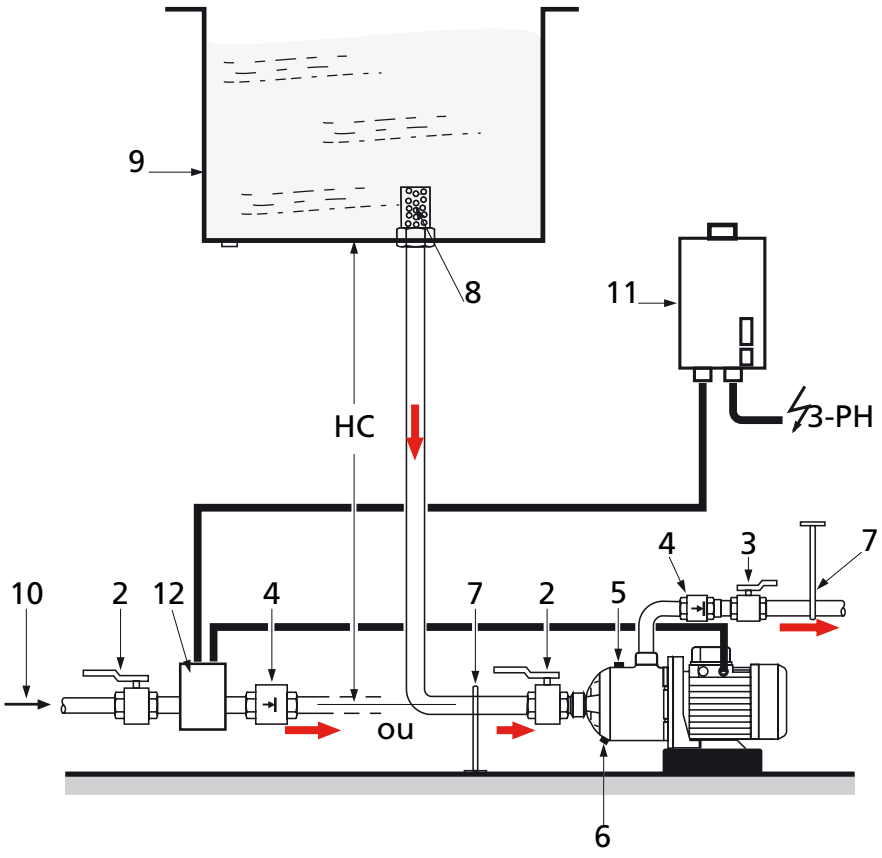
• **SPRINGSON Standard in suction mode**



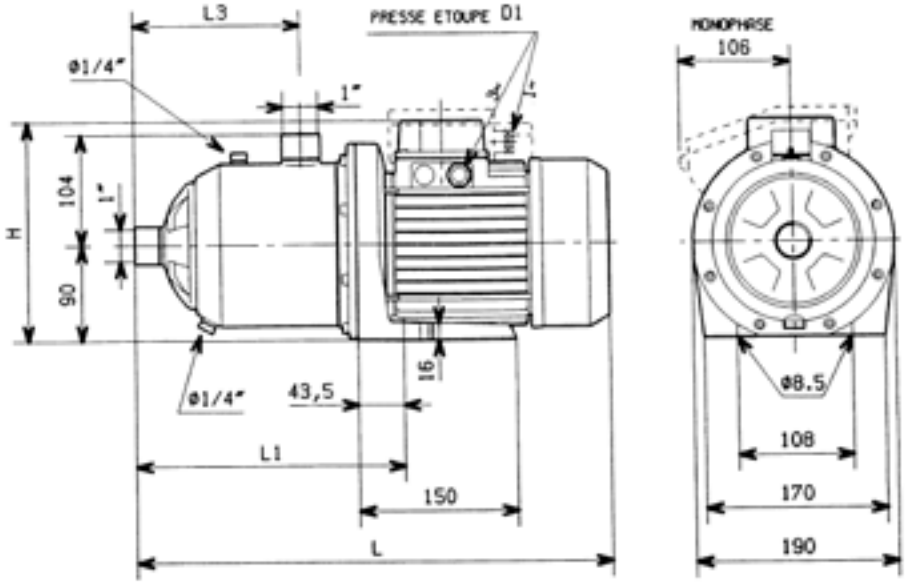
1 - Foot valve/strainer(max. opening area 1 mm)
2 - Pump suction valve
3 - Pump discharge valve
4 - Non-return valve
5 - Fill plug
6 - Drain plug
7 - Pipe support
8 - Strainer
9 - Storage tank
10 - Town water supply system
11 - Three-phase motor protection cut-out switch
12 - Dry running protection system
13 - Cable connecting pump to automatic control system
14 - Automatic control system
15 - Power cable with plug

HA : Suction height
HC : Flooded suction height
HR : Manometric head

• **SPRINGSON Standard in flooded suction mode on storage tank or town supply system**



ELECTRICAL DATA AND DIMENSIONS



ORDER REFERENCE	MOTOR				Capa citor	PUMP				WEIGHT	
	P2					H	L	L1	L3	Standard	PAC
	kW	1X 230 V	3X 230 V	3X 400 V	µF	mm	mm	mm	mm	kg	kg
SPRINGSON 204-M	0,55	4,0	–	–	12	216	418	253	157,5	8,4	9,8
SPRINGSON 204-T	0,55	–	3,3	1,9	–	192	423	253	157,5	9,3	–
SPRINGSON 205-M	0,75	5,3	–	–	16	216	447	277	181,5	11,7	13,1
SPRINGSON 205-T	0,75	–	3,6	2,1	–	192	447	277	181,5	10,8	–
SPRINGSON 404-M	0,75	5,3	–	–	16	216	423	253	157,5	11,7	13,1
SPRINGSON 404-T	0,75	–	3,6	2,1	–	192	423	253	157,5	10,8	–
SPRINGSON 405-M	1,10	7,2	--	–	30	224	472	277	181,5	14,8	16,2
SPRINGSON 405-T	1,10	–	5,0	2,9	–	192	447	277	181,5	12,3	–

FEATURES

a) Electrical
- Single-phase 230 V/50 Hz (M), with built-in thermal protection and automatic reset.
- Capacitor built into terminal box.
- Three-phase 230-400 V/50 Hz (T), motor protection through differential circuit breaker is compulsory (Standard model).

b) Installation
- Installation in suction mode or flooded suction mode, fixed or mobile.
- Springson PAC can be installed in flooded suction mode only if static pressure in the installation is < 2.5 bar.
- Fixed: secured via two slots in the support strut.
- Mobile (single-phase model): suction pipe to be secured if suction height is greater > 4 m.
- Connection using spiral hose or rigid pipes.
- Strainer recommended (passage diameter 1 mm)
- Foot valve recommended for pump in suction mode.

c) Packaging
- Delivered ready for use, equipped with cable with electrical plug (single-phase model).

d) Maintenance
- Repair: See recommended replacement parts (•) subject to wear.

ACCESSORIES

STANDARD MODEL
- Suction kit,
- Strainer,
- Foot valve/strainer,
- Non-return valve,
- Bladder or galvanised tanks,
- Dry running protection system,
- Three-phase motor protection cut-out switch.
- Kit-hydromini (to mount a hydromini version by yourself - Kit + tank + pump)
  - Ref: 1-phase: 4035209;
    3-phase: 4035210.

STARKIT
Suction kit with 7 m hose, foot valve /strainer, and two fittings (suction and discharge)

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

SPRINGSON PAC

FEATURES OF SPRINGSON PAC (AUTOMATIC CONTROL AND MONITORING)

• Principle of operation

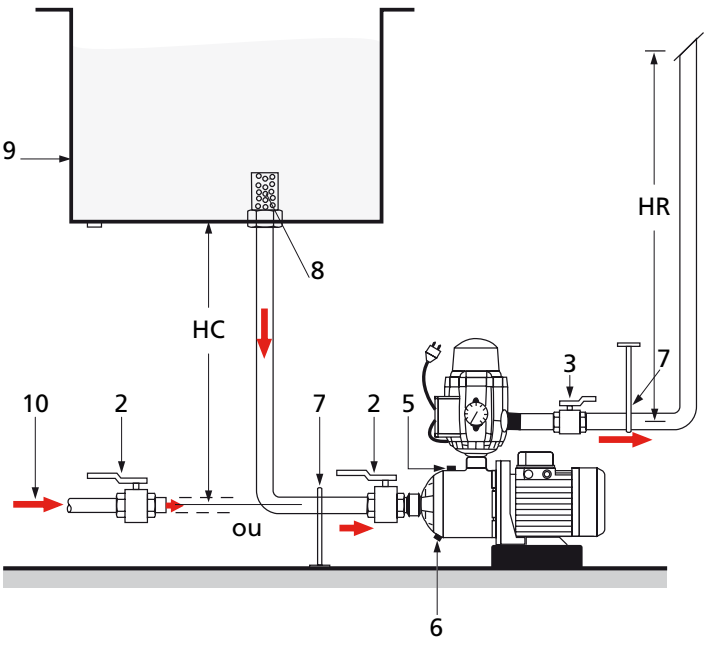
Automatic control
When the tap is open, the pressure in the system drops and the pump instantly starts up at the threshold of 1.5 bar, which is factory preset. This threshold may be increased on site according to the public water supply pressure (or HR, HC).
The pump continues to operate as long as a minimum flow remains in the network.

"Anti-hammering" safety
When the tap is closed, the pump automatically stops after a 3 to 5 second timeout has elapsed. This timeout avoids the need to install a tank.

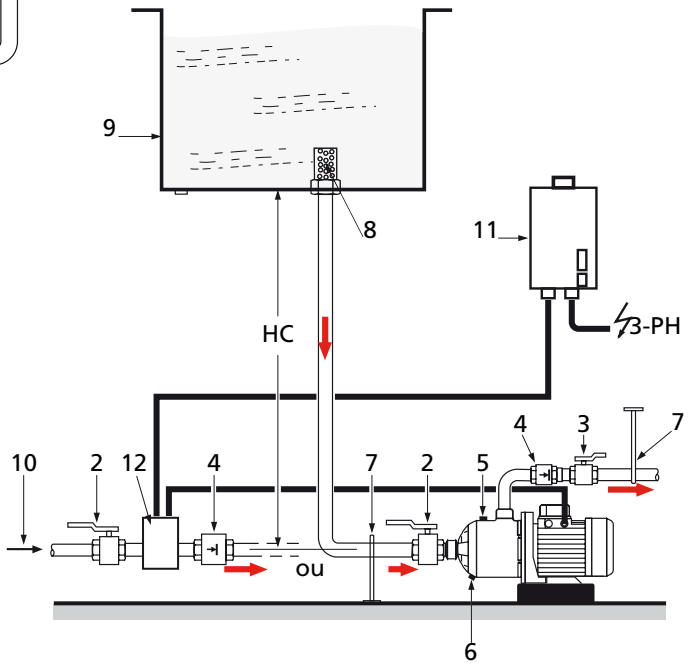
Dry running safety
The automatic mechanism protects the pump against dry running, by stopping the motor. The stopping of the pump is indicated through the "ALARM" light.
The pump must be manually restarted using the "RESET" key.
Even if the automatic mechanism is in use, all the pump's properties are maintained.
The self-priming function is enabled by keeping your finger on the "RESET" key during priming.

SPRINGSON PAC INSTALLATION DIAGRAMS

• SPRINGSON PAC in suction mode



• SPRINGSON PAC in flooded suction mode on storage tank or town supply system



1 - Foot valve/strainer (max. opening area 1 mm)
2 - Pump suction valve
3 - Pump discharge valve
4 - Non-return valve
5 - Fill plug
6 - Drain plug
7 - Pipe support
8 - Strainer
9 - Storage tank
10 - Town water supply system
11 - 3-phase motor protect. cut-out switch
12 - Dry running protection system
13 - Cable connecting pump to automatic control system
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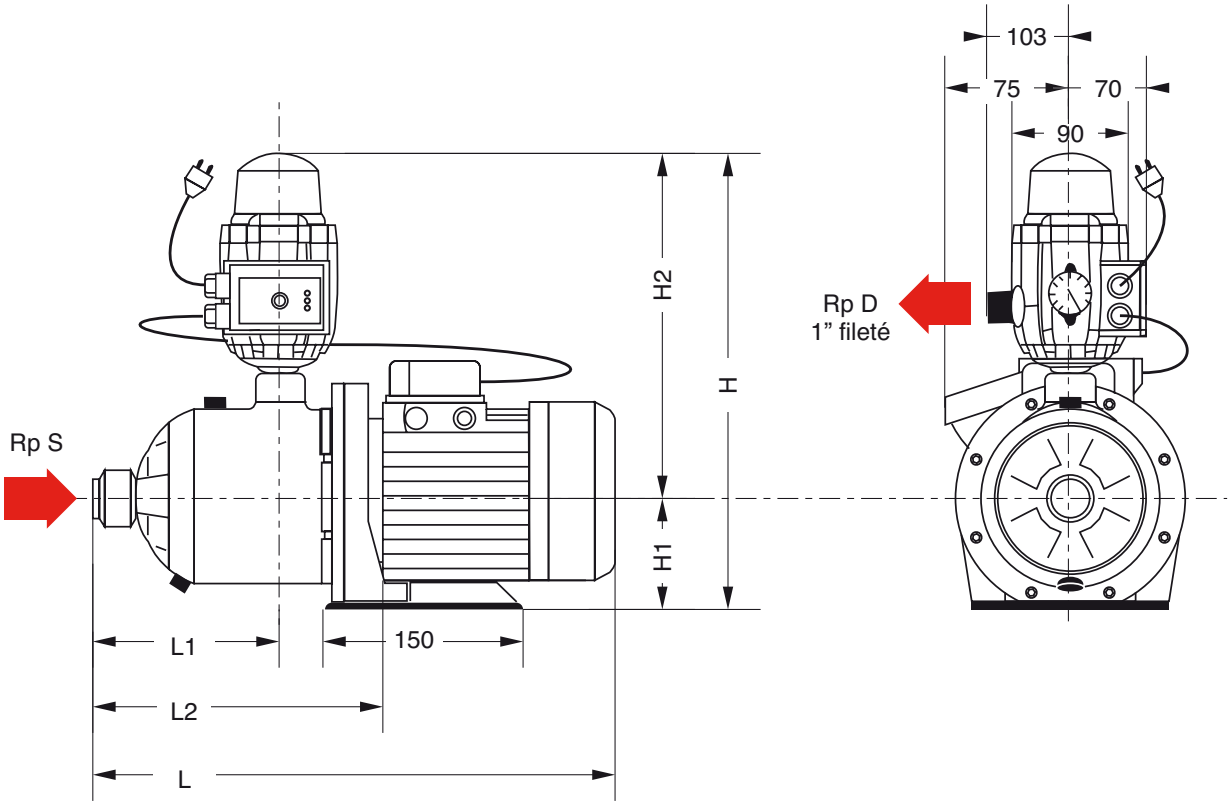
15 - Power cable with plug

HA : Suction height
HC : Flooded suction height
HR : Manometric head

ELECTRICAL DATA AND DIMENSIONS



ORDER REFERENCE	PUMP	H	L	H1	H2	L1	L2	RP S	RP D	WEIGHT
		mm	mm	mm	mm	mm	mm			kg
SPRINGSON-PAC204-M	SPR. 204	480	418	90	225	253	158	1»	1»	9,5
SPRINGSON-PAC205-M	SPR. 205	480	447	90	225	277	182	1»	1»	11,7
SPRINGSON-PAC404-M	SPR. 404	480	423	90	225	253	158	1»	1»	11,7
SPRINGSON-PAC405-M	SPR. 405	480	448	90	225	277	182	1»	1»	14,6
SPRINGSON-PAC204-M/6	SPR. 204	480	448	90	225	253	158	1»	1»	14,8
SPRINGSON-PAC404-M/6	SPR. 404	480	448	90	225	253	158	1»	1»	14,9

SPRINGSON PAC Cable H07RNF with plug.

ACCESSORIES

PAC MODEL
- Suction kit.
- Isolating valves

STARKIT
Suction kit with 7 m hose, foot valve /strainer, and two fittings (suction and discharge)

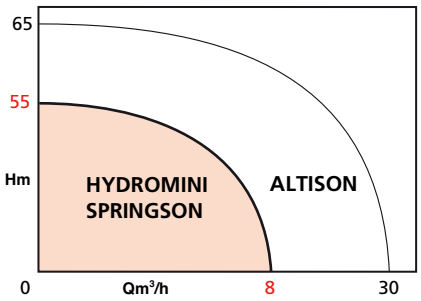
ORDER REFERENCE	ITEM PART NUMBER
STARKIT G1 (for SPRINGSON 204, 205)	4027874
STARKIT G1$^{1/4}$ (for SPRINGSON 404, 405)	4056081

HYDROMINI SPRINGSON

OPERATING LIMITS

Flow rates up to:	**8 bar**
Max. ambient temperature:	**+ 35 °C***
Average tank flow rate:	**2000 à 5000l/h**

* Higher temperatures: please contact us



APPLICATIONS

- Maintaining the pressure level of a water distribution network with an insufficient pressure.
- Particularly recommended for:
- Drip watering.
- Small farm operations.

ADVANTAGES

- **Fully assembled and wired ready-to-install booster.**
- **Available in 3 tank sizes to perfectly meet the needs of the application and the space available.**
- **Interchangeable bladder (non-toxic) tank eliminating the need for an air recycling device.**
- **Useful water tank so that the pump doesn't require frequent restarting.**
- **Easy installation.**
- **Easy operating and maintenance for a smaller cost.**

ACCESSORIES

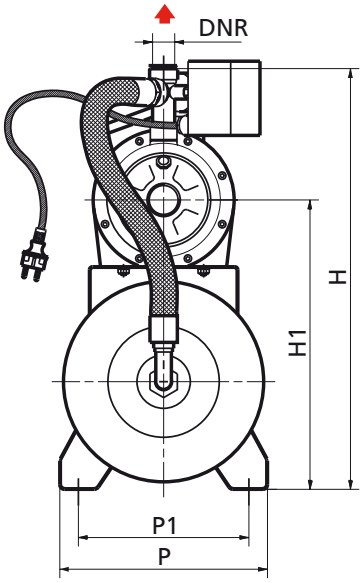
- Suction kit,
- G1$^{1/4}$ T valves on the suction and discharge
- Non-return valve
- Foot valve strainer.
- Pipe support.

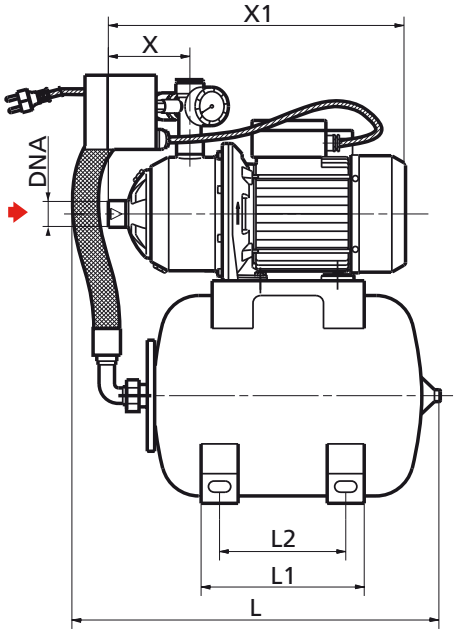
DESIGN

Automatic booster set including:

- A SPRINGSON 204, 205 or 405 pump with a 230 V - 50 Hz single-phase motor, built-in thermal protection and automatic repriming.
- A horizontal 20, 50 or 100 L capacity tank, depending on the model, with a non-toxic interchangeable bladder.
- A pressure switch with control gauge for automatic starting and stopping of the pump (factory preset).
- Mains connection via a 1.5m long electric cable with plug (2 poles + earth).

DIMENSIONS





ORDER REFERENCE HYDROMINI SPRINGSON...	tank capacity	useful water tank	pressures on	pressures off	P	P1	H	H1	L	L1	L2	X	X1	ØA	ØB	NDS threaded	NDD	Weight
	litre	litre	bar	bar	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	423	260	10	G1	G1	18,2
204-M-H50	50	18	1,8	3	360	280	655	470	700	350	300	158	423	380	10	G1	G1	35
204-M-H100	100	37,5	1,8	3	450	320	750	565	820	400	350	158	423	460	10	G1	G1	70
205-M-H50	50	18	1,8	3	360	280	655	470	700	350	300	158	423	380	10	G1	G1	35
205-M-H100	100	37,5	1,8	3	450	320	750	565	820	400	350	158	423	460	10	G1	G1	70
405-M-H100	100	37,5	1,8	3	450	320	750	565	820	400	350	158	448	460	10	G1	G1	70

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