SEADONA

PROFESSIONAL WATER PUMP MANUFACTURER

SPM

OEM HIGH EFFICIENCY CIRCULATOR PUMP

CIRCULATION PUMP

PRODUCT SERIES

HEATING, AIR-CONDITIONING, COOLING

GEOTHERMAL ENERGY SYSTEMS

SOLAR THERMAL ENERGY SYSTEMS

SEADONA

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

The SPM series is a OEM high-efficiency pump series in glandless construction which can be used both for:

- Hot-water heating systems of all kinds
- Closed cooling circuits
- Industrial circulation systems
- Circulation in solar thermal and geothermal systems
- Secondary hot water circulation systems of all kinds, in all OEM applications and it offers the following advantages:

Special features/product benefits

- Maximum efficiency thanks to ECM technology
- Up to 80% electricity savings compared to old un-controlled heating pumps
- High starting torque for reliable start-up
- Can be used in hot water heating systems of all kinds, geothermal and solar thermal systems, closed cooling circuits, industrial circulation systems in the temperature range of -10°C to +95°C (+110°C)
- Prevention of flow noise
- Reliability and comfort during installation and operation
- Functions adapted specially to the demands of the OEM market and space-saving design
- Optimum performance also in tight installation situations
- Delivery as standard with a cable for an easy electrical connection
- Convenient setting of the pump via external control signals
- Cataphoretically coated (KTL) cast iron pump housing to prevent corrosion when condensation occurs

Heating application

The SPM pumps are specially designed for the use in higher ambient temperatures which may occur in OEM systems in heating applications due their space-reduced construction.

Cooling application

Condensation takes place on cold surfaces if the fluid temperature is lower than the ambient air temperature.
The SPM series can also be used in such conditions.
They are constructed in a way that damage to electrical parts caused by condensation water is prevented.

PWM CONTROL

Mode1: When the PWM signal missing, the pump runs according to the maximum constant speed curve.

Mode2: When the PWM signal missing, the pump will stop.

PWM EXTERNAL SPEED CONTROL (OPTIONAL)

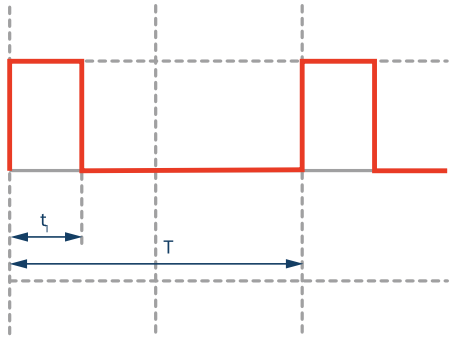
LOW-NOISE OPERATION

CLASS A ENERGY EFFICIENCY

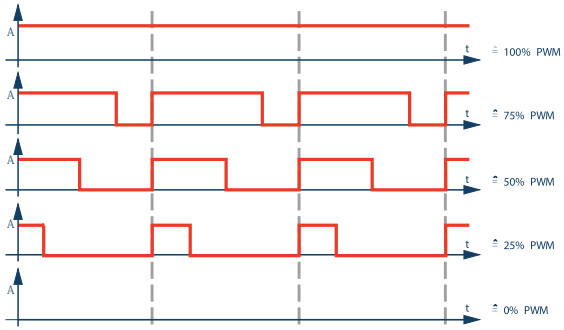
PWM CONTROL

External control via a PWM signal

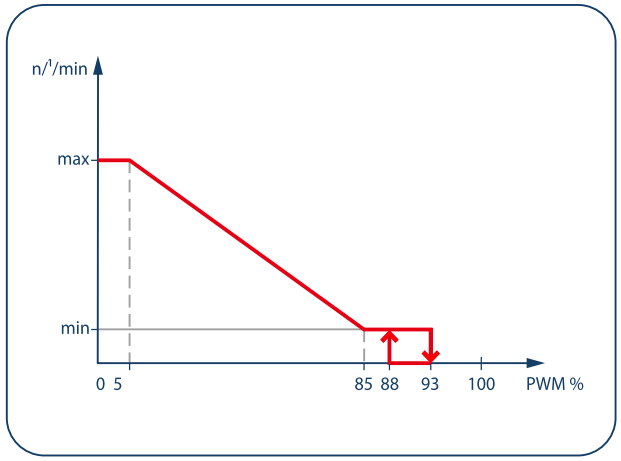
The actual/setpoint level assessment required for control is referred to a remote controller. The remote controller sends a PWM signal as an actuating variable to the SPM pump. The PWM signal generator gives a periodic order of pulses to the pump (the duty cycle), according to DIN IEC 60469-1. The actuating variable is determined by the ratio between pulse duration and the pulse period. The duty cycle is defined as a ratio without dimension, with a value of 0 … 1 or 0 … 100%. This is explained in the following with ideal pulses which form a rectangular wave.



t_i / T = 0,25 = 25 %



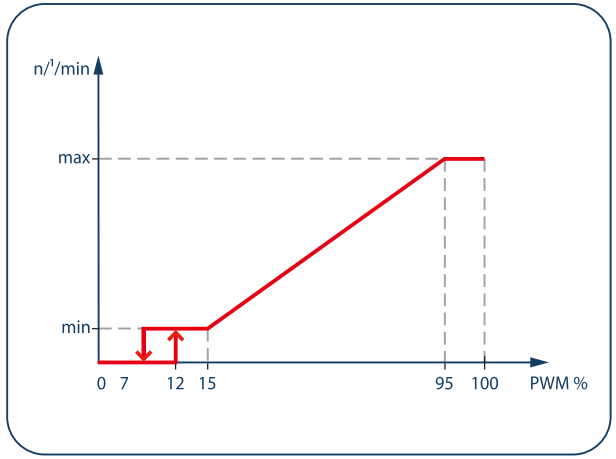
PWM signal logic 1 (heating):



PWM input signal [%]

< 5	Pump runs at maximum speed
5-85	Pump speed decreases linearly from maximum to minimum
85-93	Pump runs at minimum speed (operation)
85-88	Pump runs at minimum speed (start-up)
93-100	Pump stops (Standby)

PWM signal logic 2 (solar):



PWM input signal [%]

< 7	Pump stops (Standby)
7-15	Pump runs at minimum speed (operation)
12-15	Pump runs at minimum speed (start-up)
15-95	Pump speed increases linearly from minimum to maximum
> 95	Pump runs at maximum speed

Signal frequency: 150 Hz–5000 Hz

Signal amplitude:2.8V-5.5V

Signal polarity: none

SPM OEM high efficiency circulator pump

SEADONA

SPM/SPM-A

SPM-E/D

SPM-S

SPM-E

SPM-F

SPM-R

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

It is used in heating and hot water supply system, medium circulation of cooling system and air conditioning system, boiler, solar water supply and other fields.

- SPM with plastic motor case
- SPM-A with aluminum motor case

MODEL INSTRUCTION

SPM 20 - 4 - 130 A

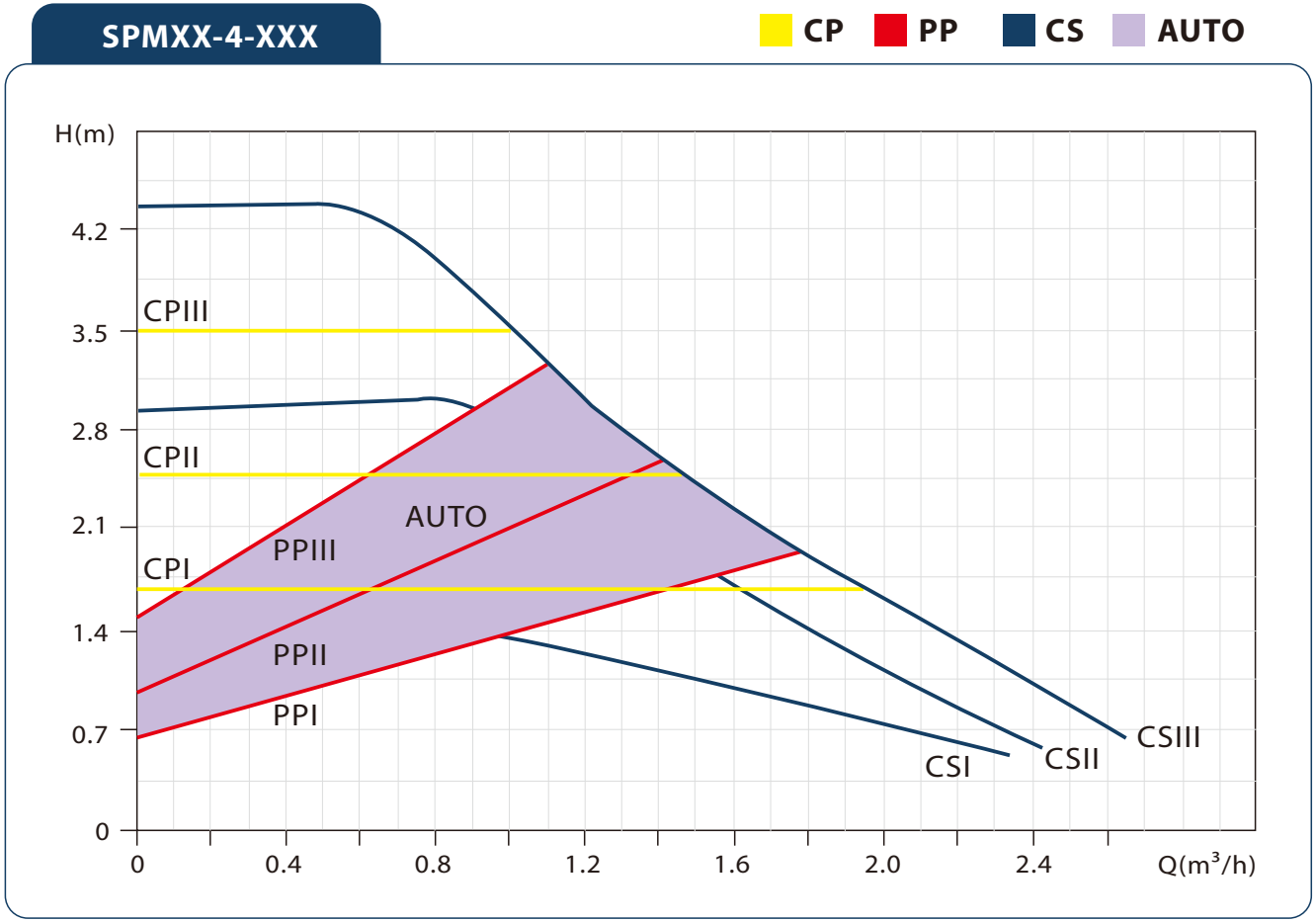
- A — Product type
- 130 — Distance between Inlet and Outlet(mm)
- 4 — Max.head
- 20 — Inlet and Outlet diameter(mm)
- SPM — Product Code

TECHNICAL SPECIFICATIONS

Max.Power	Max.Flow	Max.Head	System pressure	Liquid temperature
Up to 65W	4 m³/h	8 m	10 Bar	UP to +110°C

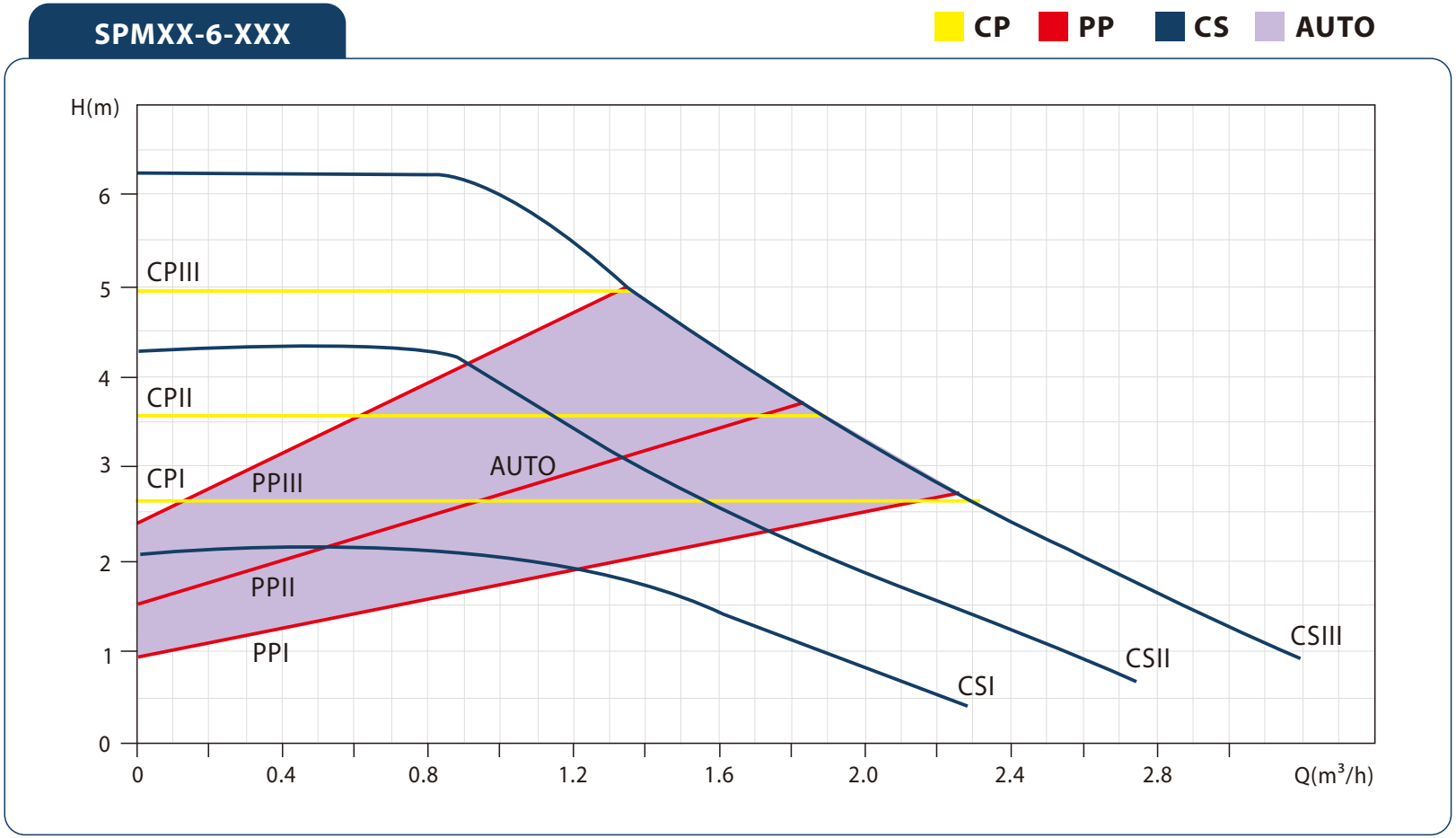
INTRODUCTION: PERFORMANCE CHART

- Five control modes
  - Constant speed mode
  - Proportional pressure mode
  - Constant pressure mode
  - Auto Adapt mode
  - PWM control mode
- The controller and motor are designed as a whole
- Class A energy efficiency, more energy-saving
- Low noise and no leakage



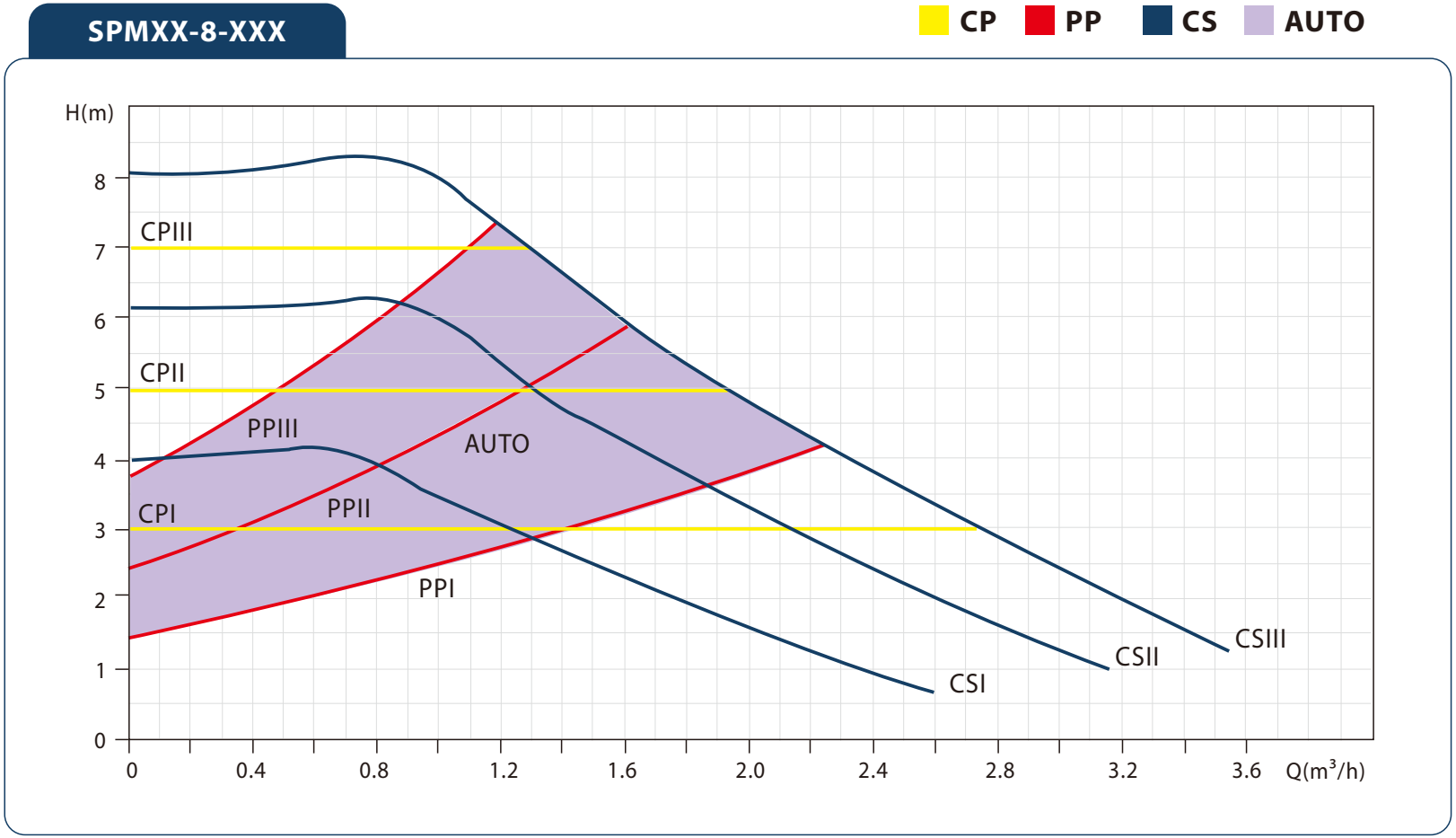
INTRODUCTION:
PERFORMANCE CHART

SPMXX-6-XXX

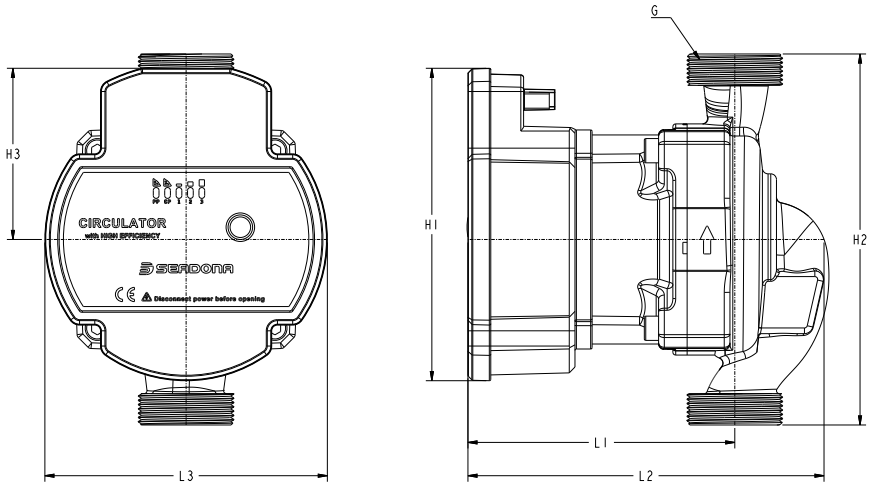


INTRODUCTION:
PERFORMANCE CHART

SPMXX-8-XXX



INTRODUCTION:
PERFORMANCE CHART



Model	Power	Max.flow	Max.head	Voltage	Pipe Distance	Dimention(mm)						
	W	m³/h	m	V/Hz	mm	L1	L2	L3	H1	H2	H3	G
SPM20-4-130(A)	25	2.2	4	220-240V	130	93	126	99	110	130	60	G1"
SPM25-4-130(A)		2.5			130					130		G1½"
SPM25-4-180(A)		2.5			180					180		G1½"
SPM32-4-180(A)		2.9			180					180		G2"
SPM20-6-130(A)	40	2.9	6		130					130		G1"
SPM25-6-130(A)		3.2			130					130		G1½"
SPM25-6-180(A)		3.2			180					180		G1½"
SPM32-6-180(A)		3.6			180					180		G2"
SPM20-8-130(A)	65	2.9	8		130					130		G1"
SPM25-8-130(A)		3.4			130					130		G1½"
SPM25-8-180(A)		3.6			180					180		G1½"
SPM32-8-180(A)		4			180					180		G2"

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

It is used in heating and hot water supply system, medium circulation of cooling system and air conditioning system, boiler, solar water supply and other fields.

- SPM-E with lamp indicate
- SPM-D with LED display

MODEL INSTRUCTION

SPM 20 - 4 - 130 D

- D — Product type
- 130 — Distance between Inlet and Outlet(mm)
- 4 — Max.head
- 20 — Inlet and Outlet diameter(mm)
- SPM — Product Code

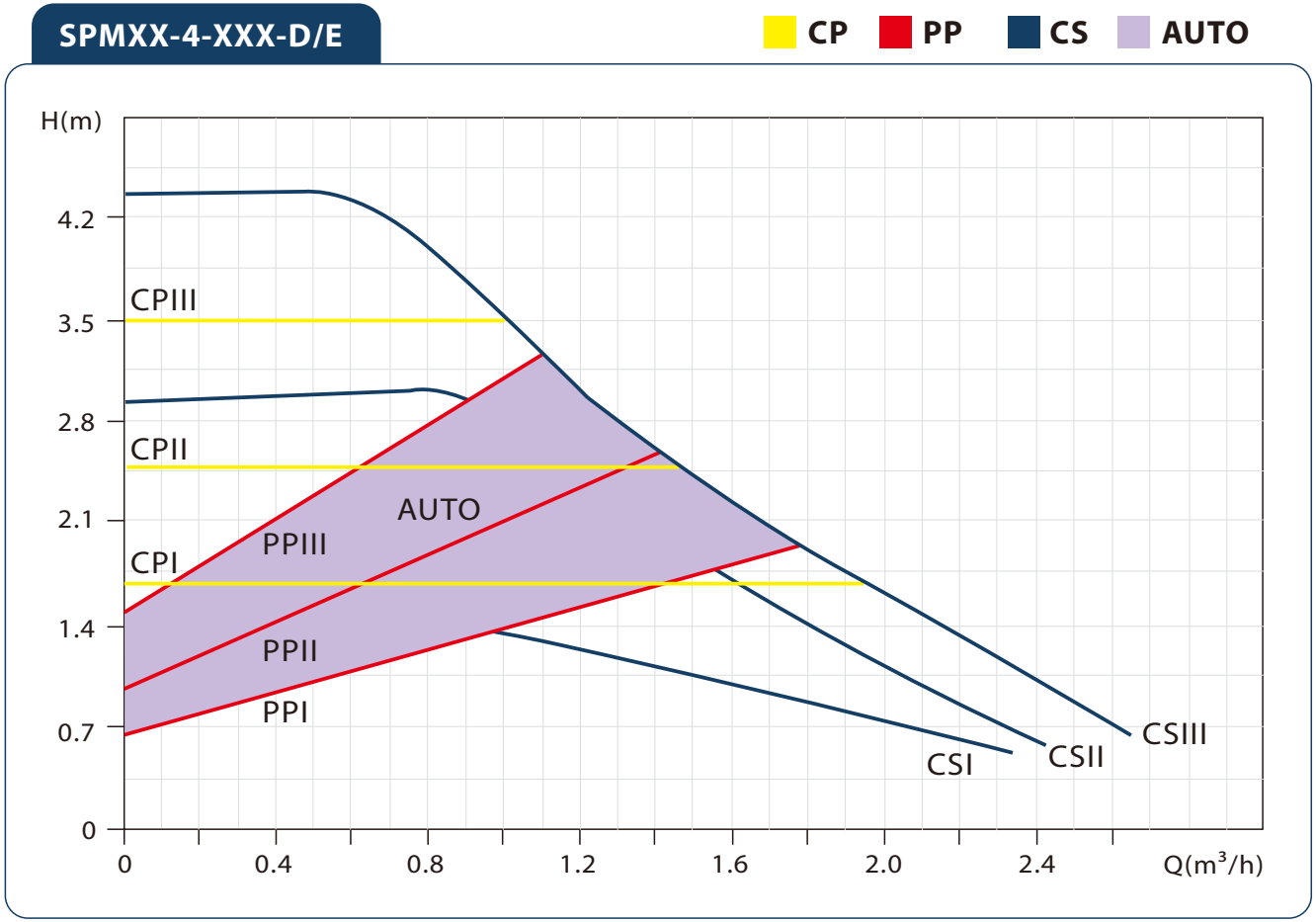
TECHNICAL SPECIFICATIONS

Max.Power	Max.Flow	Max.Head	System pressure	Liquid temperature
Up to 65W	4 m³/h	8 m	10 Bar	UP to +110°C

- Five control modes
  - Constant speed mode
  - Proportional pressure mode
  - Constant pressure mode
  - AUTO Adapt mode
  - PWM control mode
- The controller and motor are designed as a whole
- Class A energy efficiency, more energy-saving
- With power display
- Automatic exhaust function
- Low noise and no leakage

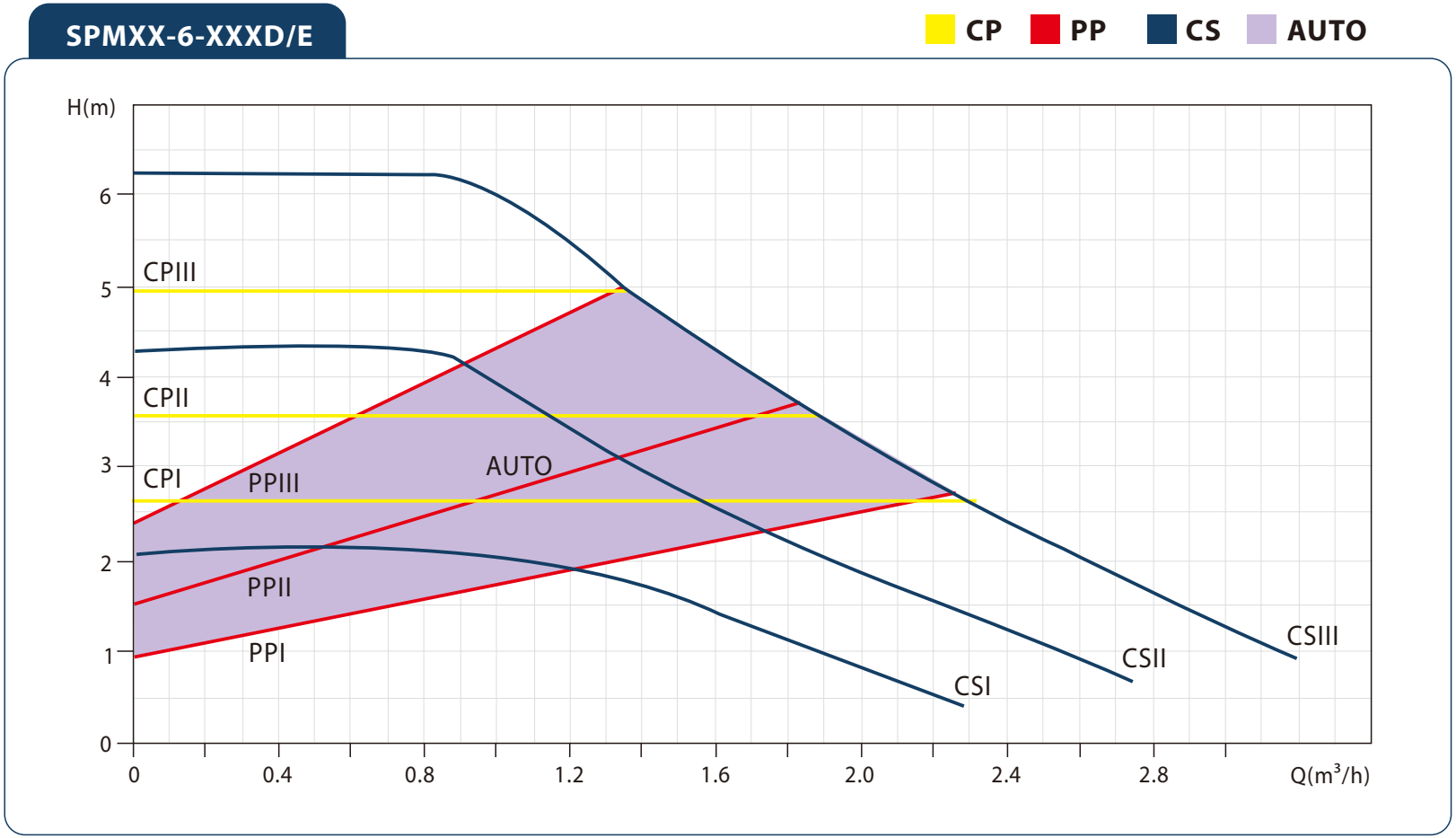
INTRODUCTION: PERFORMANCE CHART

SPMXX-4-XXX-D/E



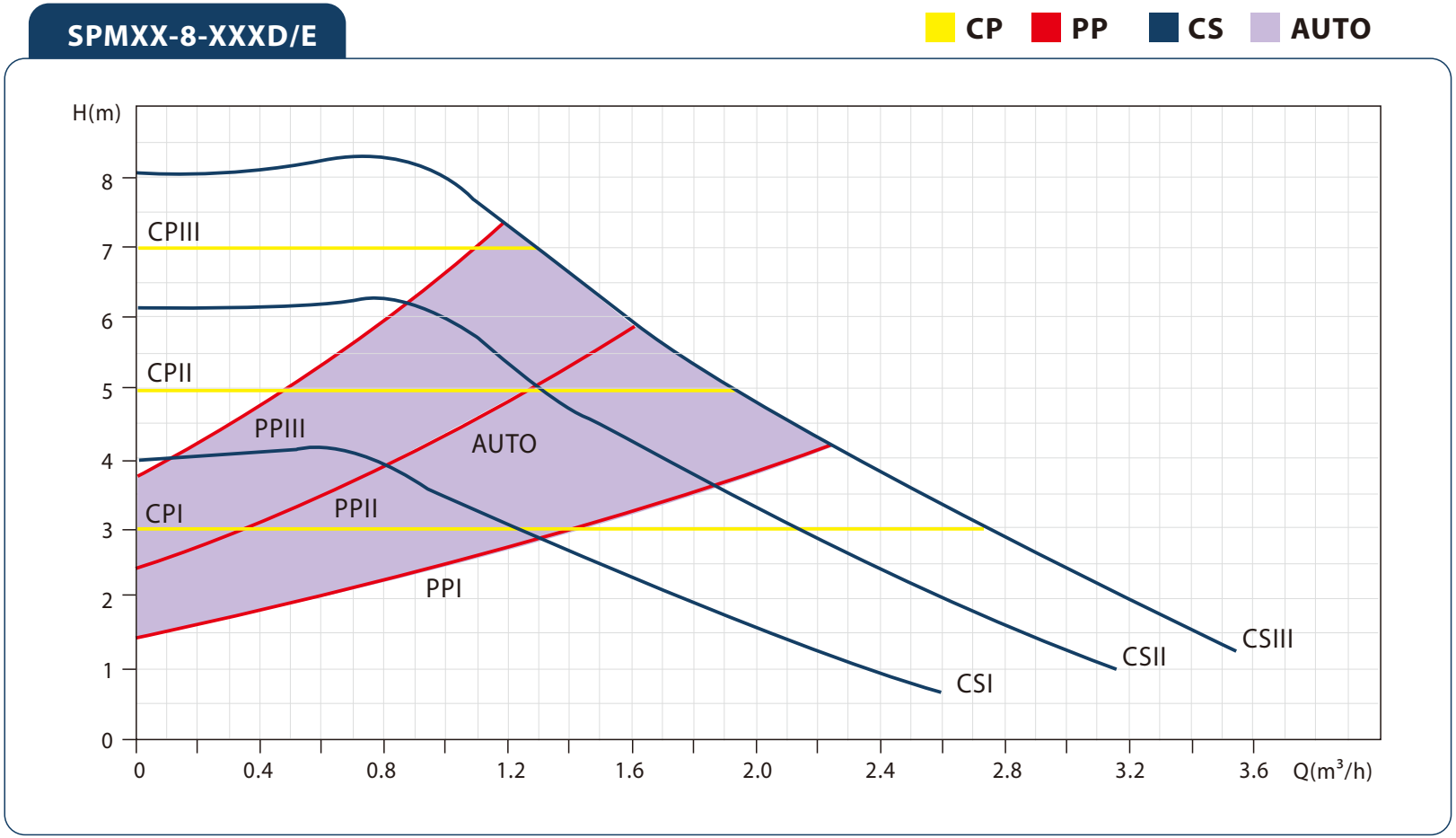
INTRODUCTION:
PERFORMANCE CHART

SPMXX-6-XXXD/E

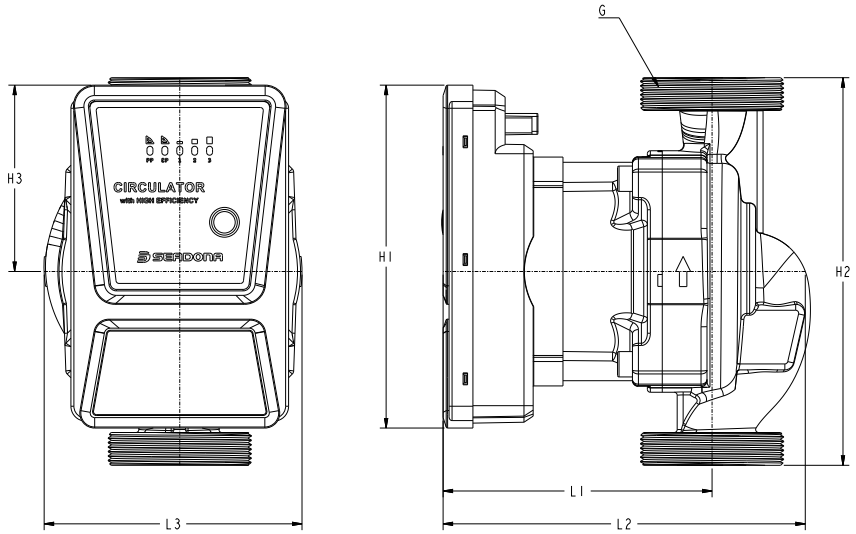


INTRODUCTION:
PERFORMANCE CHART

SPMXX-8-XXXD/E



INTRODUCTION:
PERFORMANCE CHART



Model	Power	Max.flow	Max.head	Voltage	Pipe Distance	Dimention(mm)						
	W	m³/h	m	V/Hz	mm	L1	L2	L3	H1	H2	H3	G
SPM20-4-130D/E	25	2.2	4	220-240V	130	93	126	86	114	130	62	G1"
SPM25-4-130D/E		2.5			130					130		G1½"
SPM25-4-180D/E		2.5			180					180		G1½"
SPM32-4-180D/E		2.9			180					180		G2"
SPM20-6-130D/E	45	2.4	6		130					130		G1"
SPM25-6-130D/E		3.2			130					130		G1½"
SPM25-6-180D/E		3.2			180					180		G1½"
SPM32-6-180D/E		3.6			180					180		G2"
SPM20-8-130D/E	65	2.9	8		130					130		G1"
SPM25-8-130D/E		3.4			130					130		G1½"
SPM25-8-180D/E		3.6			180					180		G1½"
SPM32-8-180D/E		4			180					180		G2"

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

It is used in heating and hot water supply system, medium circulation of cooling system and air conditioning system, boiler, solar water supply and other fields.

- SPM-S with single speed

MODEL INSTRUCTION

SPM 20 - 8 - 130 S

- S — Product type
- 130 — Distance between Inlet and Outlet(mm)
- 8 — Max.head
- 20 — Inlet and Outlet diameter(mm)
- SPM — Product Code

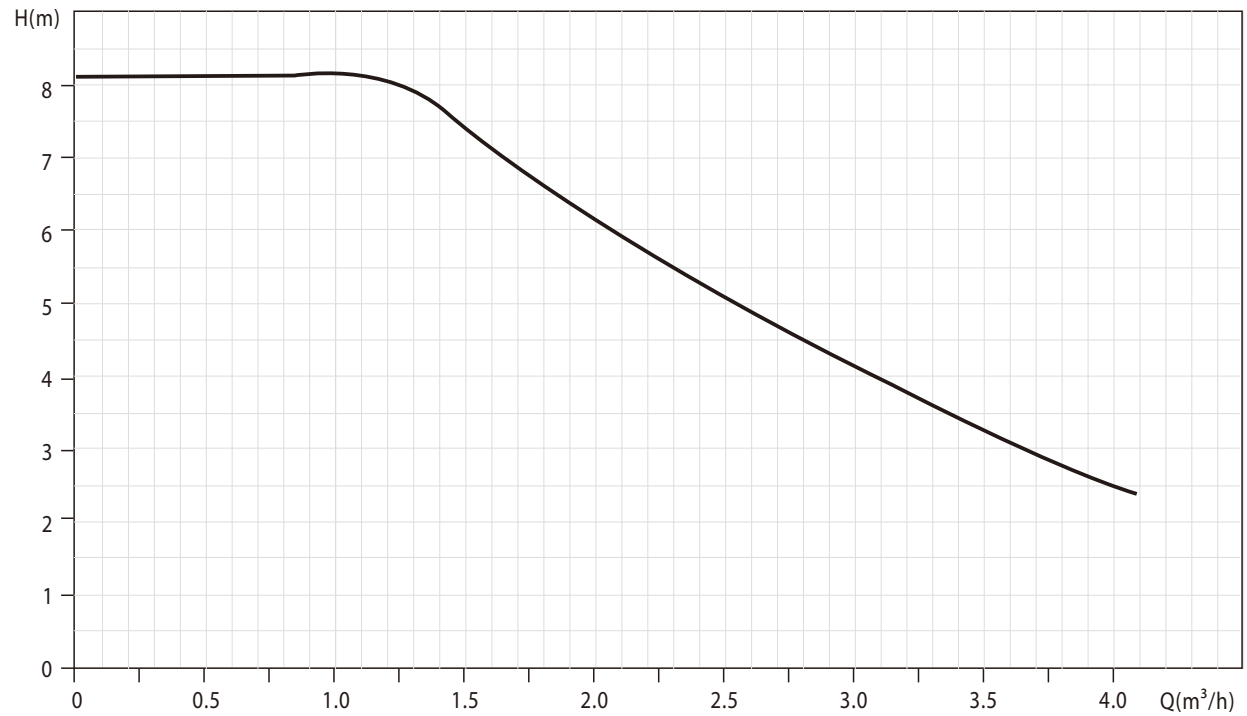
TECHNICAL SPECIFICATIONS

Max.Power	Max.Flow	Max.Head	System pressure	Liquid temperature
Up to 95W	4.5 m³/h	9 m	10 Bar	UP to +110°C

- Two control modes
  - Constant speed mode
  - PWM control mode
- The controller and motor are designed as a whole
- Class A energy efficiency, more energy-saving
- Automatic exhaust function
- Low noise and no leakage

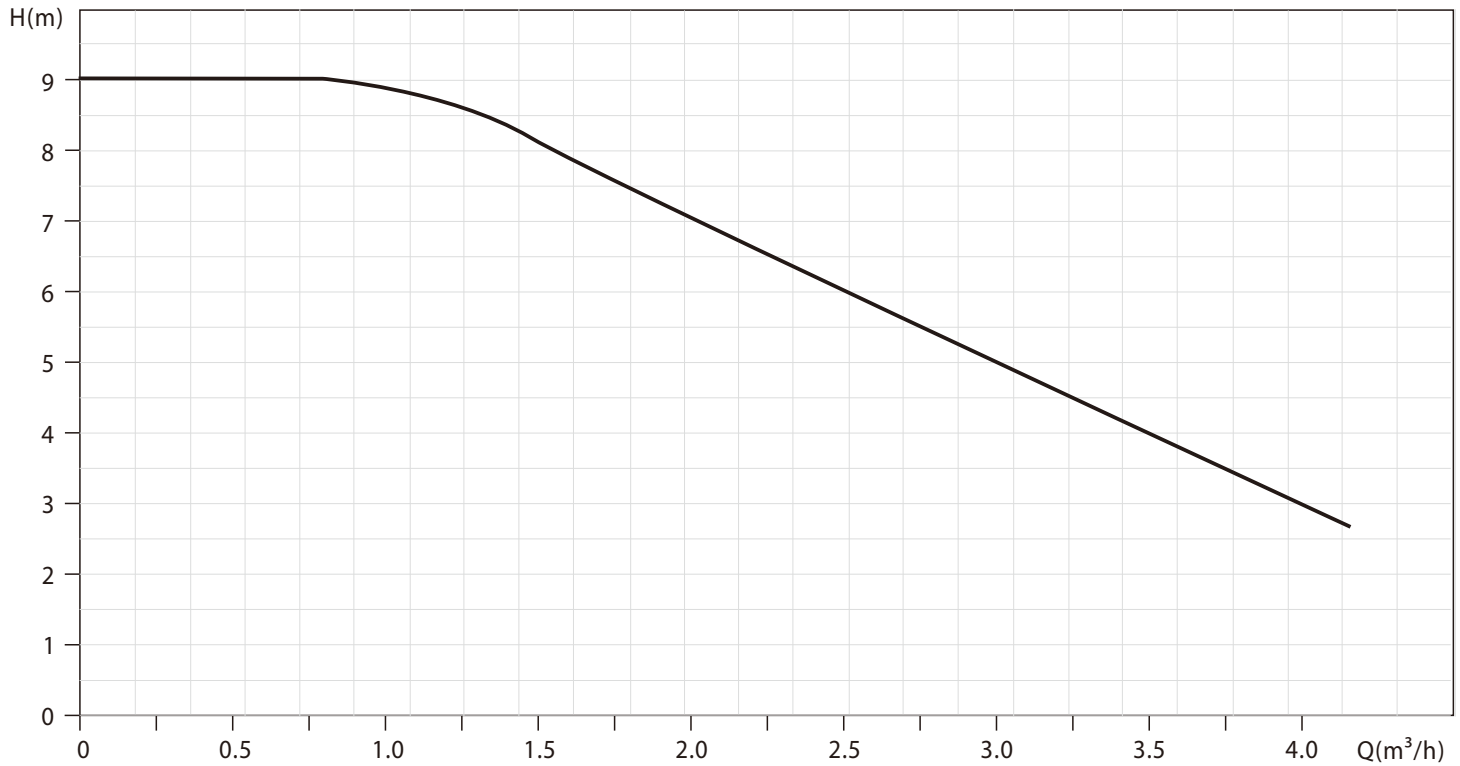
INTRODUCTION: PERFORMANCE CHART

SPMXX-8-XXX-S

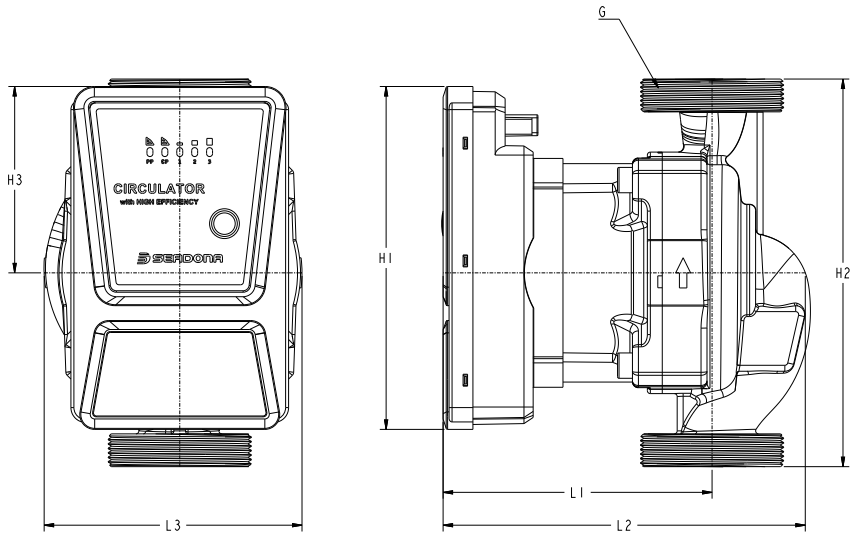


INTRODUCTION:
PERFORMANCE CHART

SPMXX-9-XXX-S



INTRODUCTION:
PERFORMANCE CHART



Model	Power	Max.flow	Max.head	Voltage	Pipe Distance	Dimention(mm)						
	W	m³/h	m	V/Hz	mm	L1	L2	L3	H1	H2	H3	G
SPM20-8-130S	80	3	8	220-240V	130	93	126	86	114	130	62	G1"
SPM25-8-130S		4.1			130					130		G1½"
SPM25-9-130S	95	4.5	9		130					130		G1½"
SPM25-9-180S		4.5			180					180		G1½"

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

It is used in heating and hot water supply system, medium circulation of cooling system and air conditioning system, boiler, solar water supply and other fields.

- SPM-E: Without PWM external speed regulation control

SPM-10E

SPM-12E

MODEL INSTRUCTION

SPM 25 - 10 - 180 E

- E: Product type
- 180: Distance between Inlet and Outlet(mm)
- 10: Max.head
- 25: Inlet and Outlet diameter(mm)
- SPM: Product Code

TECHNICAL SPECIFICATIONS

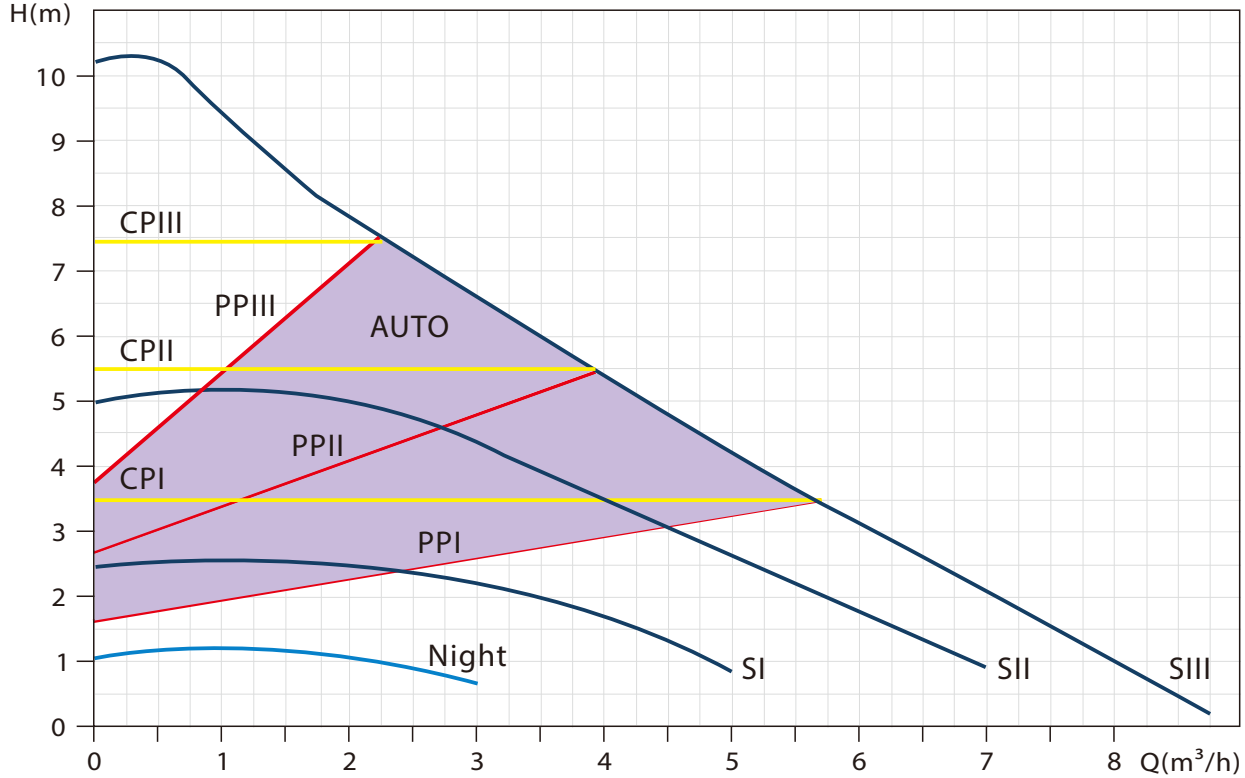
Max.Power	Max.Flow	Max.Head	System pressure	Liquid temperature
Up to 180W	10 m³/h	12 m	10 Bar	UP to +110°C

- Five control modes
  - Proportional pressure mode
  - Constant pressure mode
  - Constant speed mode
  - AUTO mode
  - Night-setback mode
- "A" Rated energy efficiency-lowest power consumption
- Permanent magnet motor-intelligent frequency conversion control
- Actual power display
- Low noise, no leakage

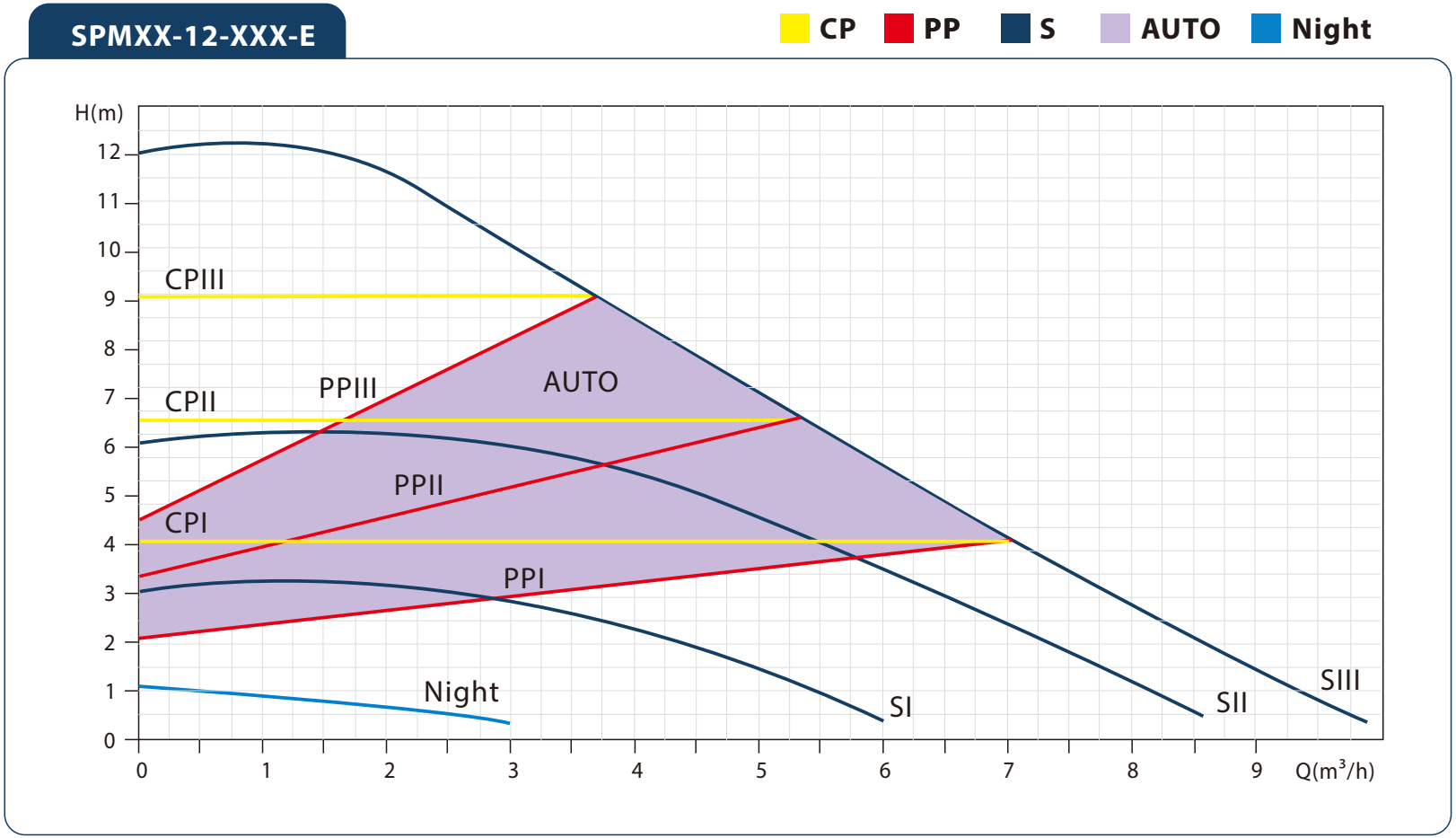
INTRODUCTION: PERFORMANCE CHART

SPMXX-10-XXX-E

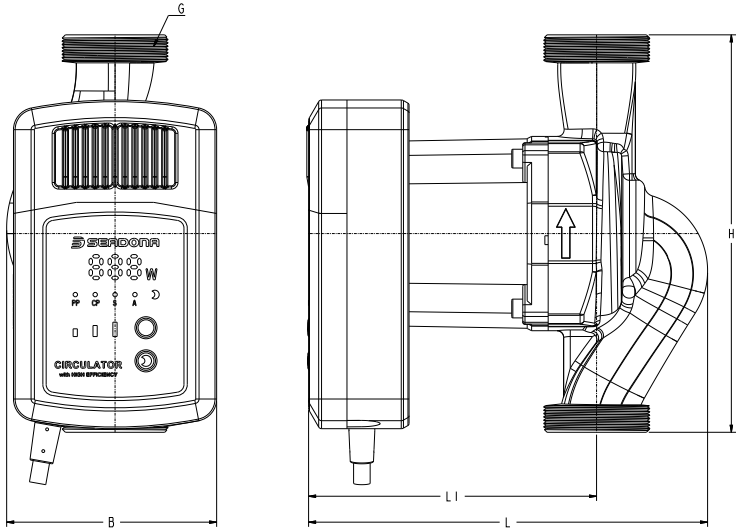
CP **PP** **S** **AUTO** **Night**



INTRODUCTION:
PERFORMANCE CHART



INTRODUCTION:
PERFORMANCE CHART



Model	Power	Max.flow	Max.head	Voltage	Pipe Distance	Dimention(mm)					
	W	m³/h	m	V/Hz	mm	L	L1	B	H	H3	G
SPM25-10-180E	120	9	10	220-240V	180	182	131	95	180	62	G1½"
SPM32-10-180E					180						G2"
SPM25-12-180E	180	10	12		180						G1½"
SPM32-12-180E					180						G2"

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

This series of products are suitable for supporting gas wall hang boiler, electric wall hang boiler ,cold and hot water circulation system.

MODEL INSTRUCTION

SPM 20 - 4 - 130 F

- F — Product type
- 130 — Distance between Inlet and Outlet(mm)
- 4 — Max.head
- 20 — Inlet and Outlet diameter(mm)
- SPM — Product Code

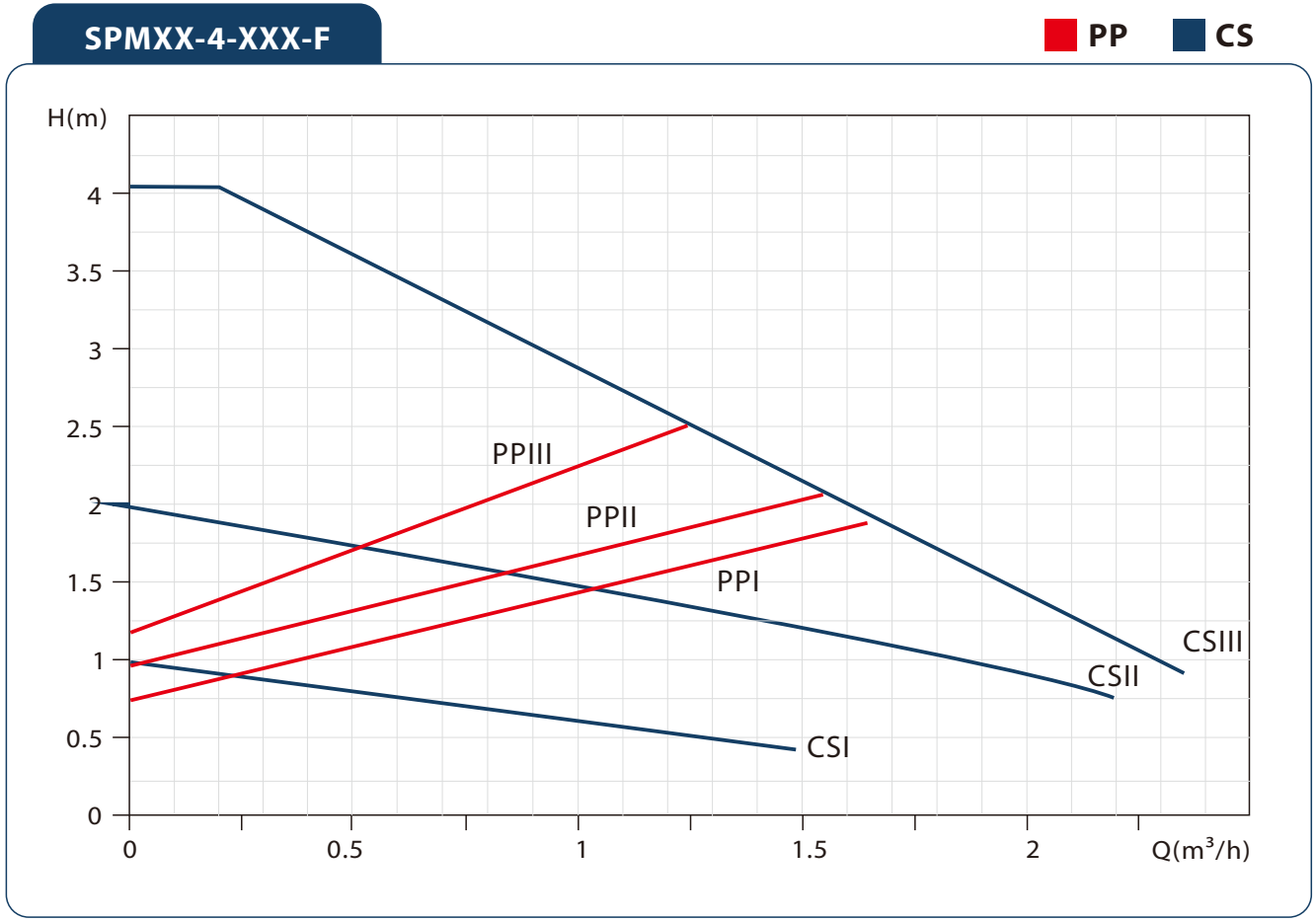
TECHNICAL SPECIFICATIONS

Max.Power	Max.Flow	Max.Head	System pressure	Liquid temperature
Up to 180W	10 m³/h	12 m	10 Bar	UP to +110°C

INTRODUCTION: PERFORMANCE CHART

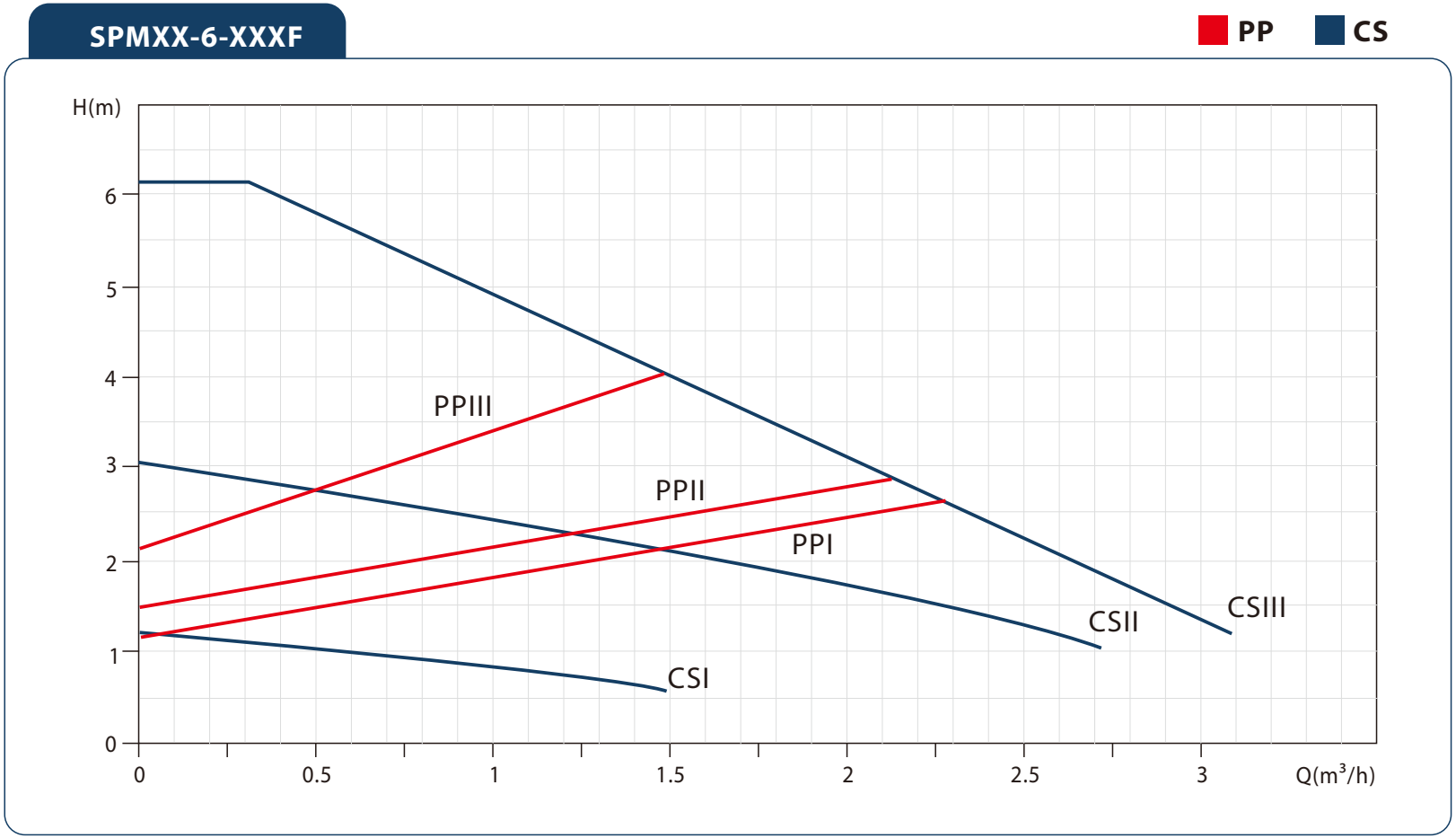
- Three control modes
  - Proportional pressure mode
  - Constant speed mode
  - PWM control mode
- "A" Rated energy efficiency-lowest power consumption
- Permanent magnet motor-intelligent frequency conversion control
- Low noise, no leakage

SPMXX-4-XXX-F



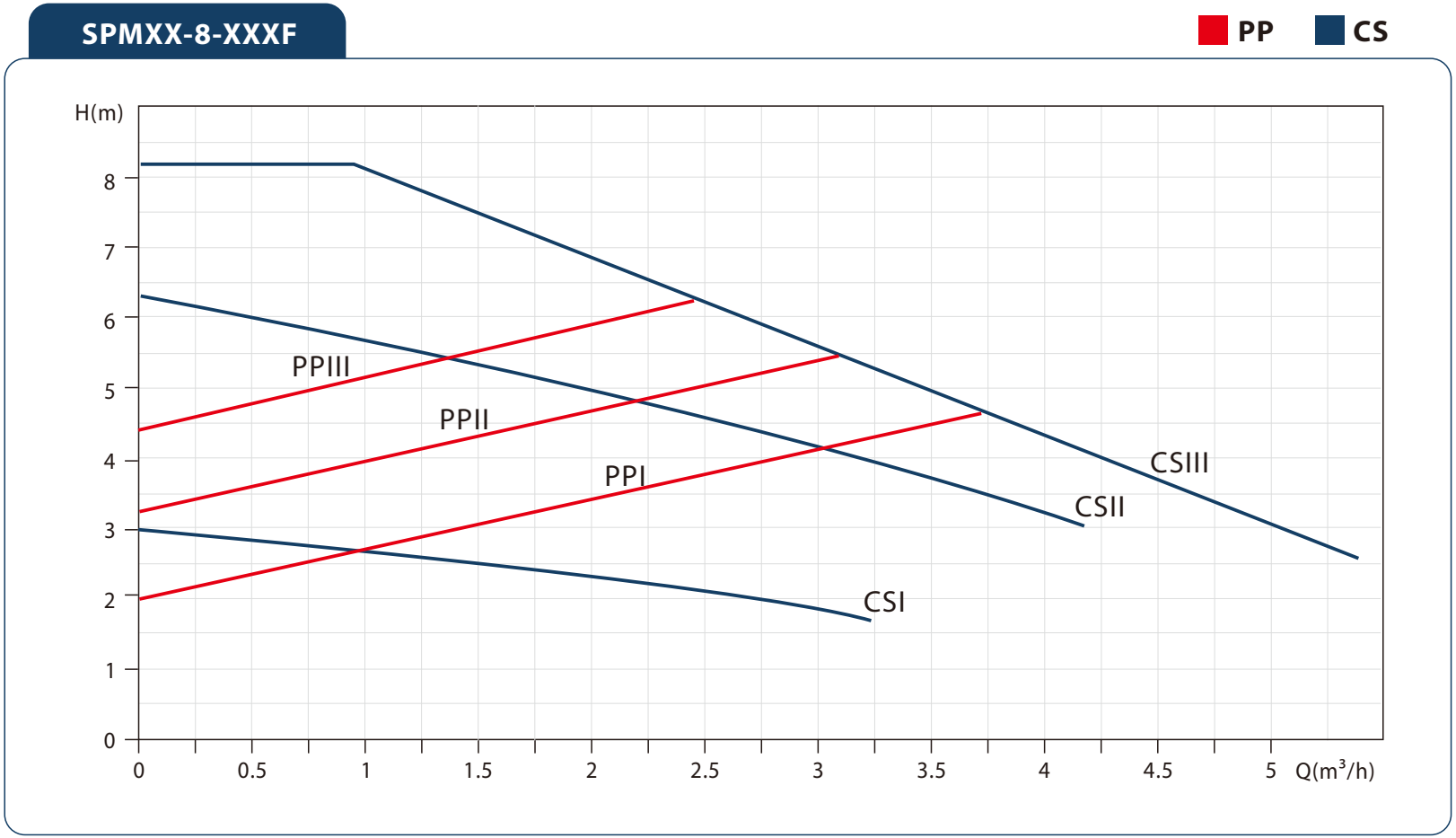
INTRODUCTION:
PERFORMANCE CHART

SPMXX-6-XXXF



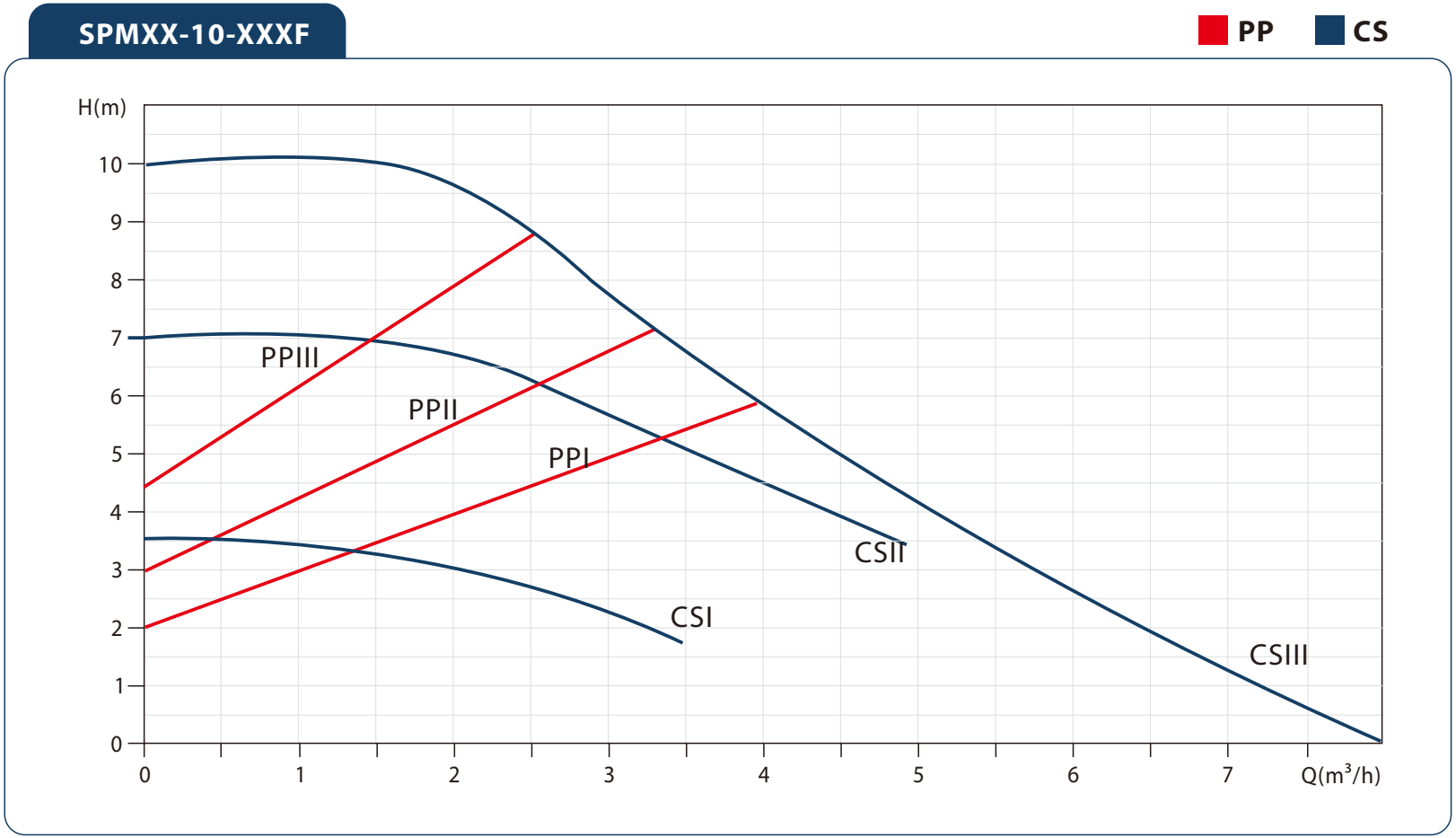
INTRODUCTION:
PERFORMANCE CHART

SPMXX-8-XXXF



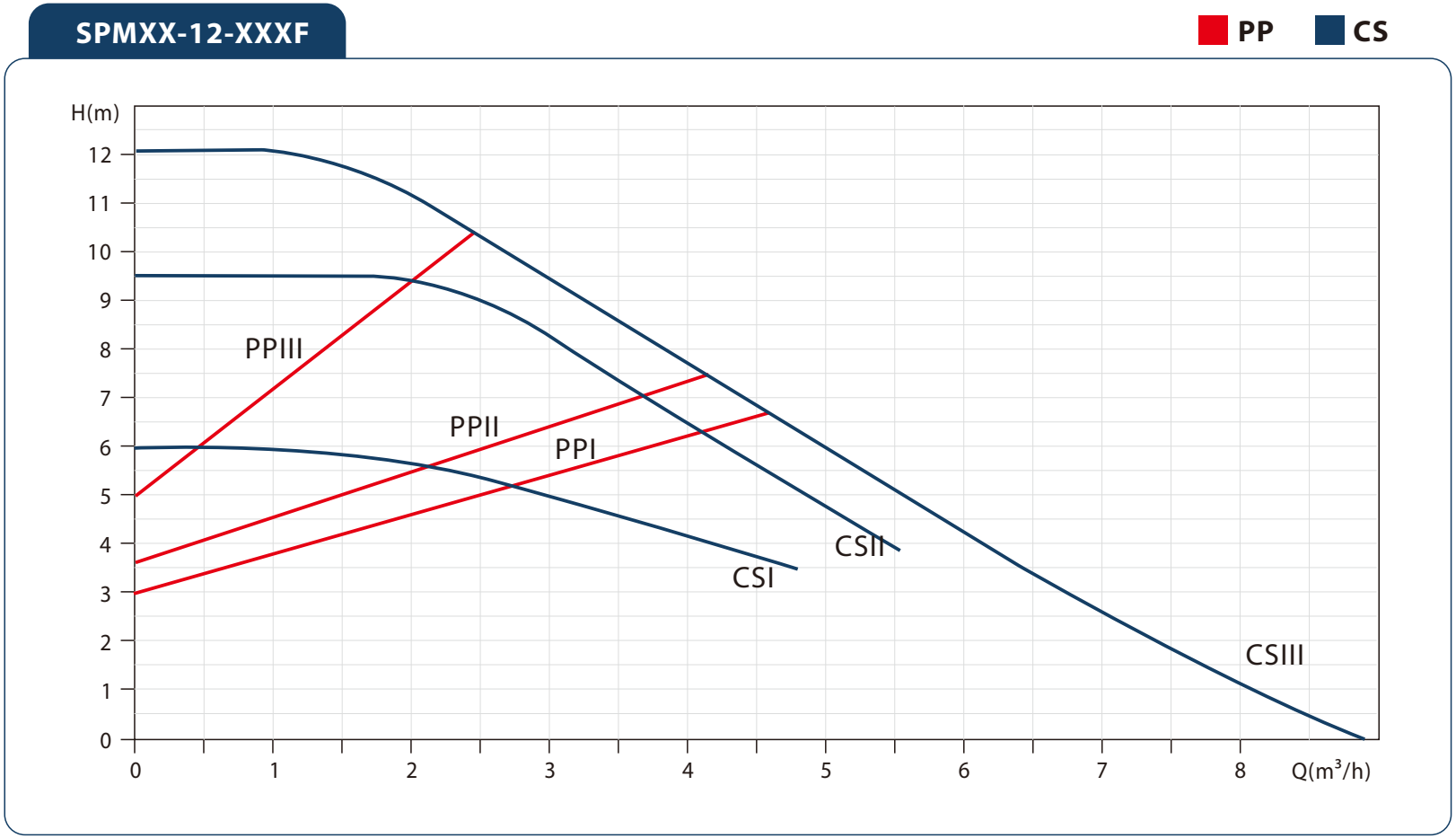
INTRODUCTION:
PERFORMANCE CHART

SPMXX-10-XXXF

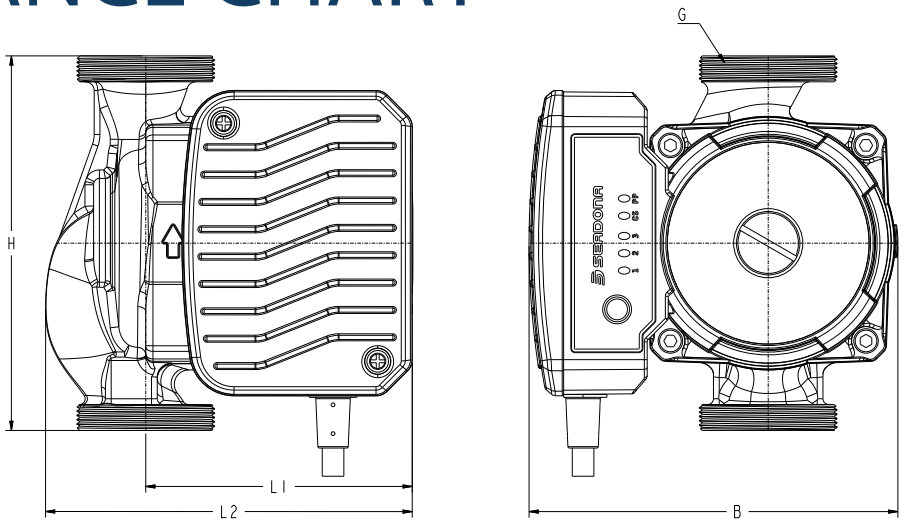


INTRODUCTION:
PERFORMANCE CHART

SPMXX-12-XXXF



INTRODUCTION:
PERFORMANCE CHART



Model	Power	Max.flow	Max.head	Voltage	Pipe Distance	Dimention(mm)				
	W	m³/h	m	V/Hz	mm	L1	L2	H	B	G
SPM20-4-130F	22	2.5	4	220-240V	130	100	126	130	130	G1"
SPM25-4-130F		2.5			130		126	130		G1½"
SPM25-4-180F		2.5			180		126	180		G1½"
SPM32-4-180F		2.5			180		131	180		G2"
SPM20-6-130F	38	3	6		130		126	130		G1"
SPM25-6-130F		3			130		126	130		G1½"
SPM25-6-180F		3			180		126	180		G1½"
SPM32-6-180F		3			180		131	180		G2"
SPM25-8-180F	80	7	8		180		148	180		G1½"
SPM32-8-180F		7			180		148	180		G2"
SPM25-10-180F	120	9	10		180	95	133	180	143	G1½"
SPM32-10-180F		9			180		133	180		G2"
SPM25-12-180F	180	10	12		180		133	180		G1½"
SPM32-12-180F		10			180		133	180		G2"

SPM OEM HIGH EFFICIENCY CIRCULATOR PUMP

This series of products are suitable for supporting gas wall hang boiler

MODEL INSTRUCTION

SPM 15 - 8 RA

- RA — Product type
- 8 — Max.head
- 15 — Inlet and Outlet diameter(mm)
- SPM — Product Code

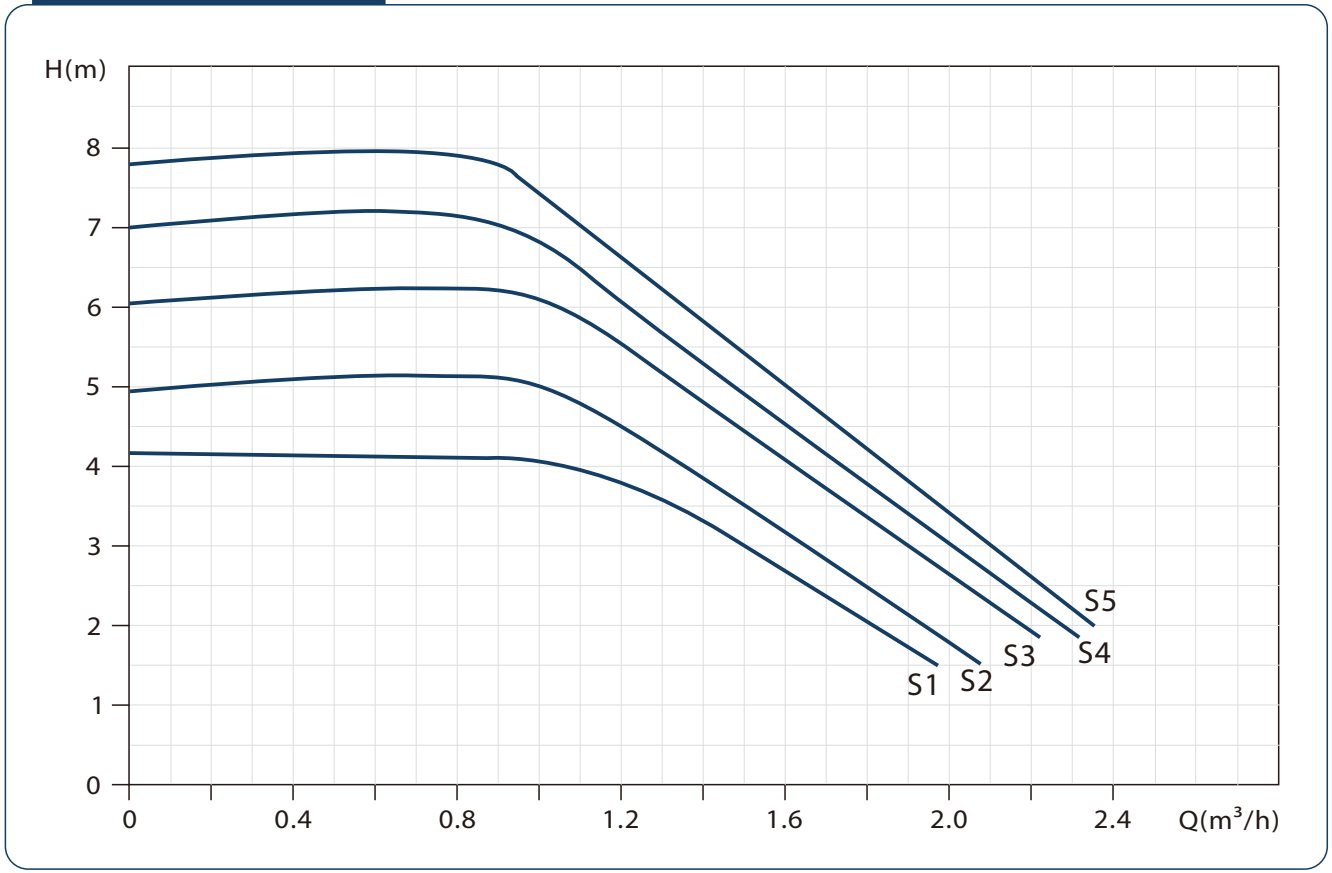
TECHNICAL SPECIFICATIONS

Max.Power	Max.Flow	Max.Head	System pressure	Liquid temperature
Up to 60W	2.2 m³/h	8 m	3 Bar	UP to +110°C

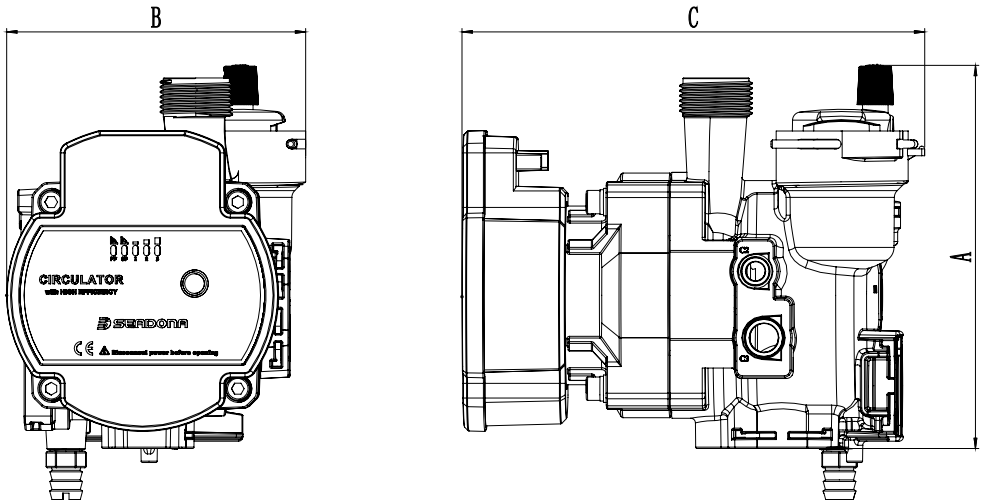
INTRODUCTION: PERFORMANCE CHART

- Anti condensation, high insulation
- Small size and light weight
- Automatic exhaust function
- EEI≤0.23
- Internal five speed adjustable, external PWM speed control available
- Low noise and no leakage

SPM-RA/B/C/D/E



INTRODUCTION:
PERFORMANCE CHART



Model	Power	Max.flow	Max.head	Voltage	Dimention(mm)		
	W	m³/h	m	V/Hz	A	B	C
SPM15-8RA	60	2.2	8	220-240V	133	105	123
SPM15-8RB					138	115	122
SPM15-8RC					150	115	120
SPM15-8RD					132	105	150
SPM15-8RE					136	115	147

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CONTINUE TO IMPROVE AND INNOVATE

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