HEAT PUMPS

Centrometal
HEATING TECHNIQUE

HEAT PUMPS

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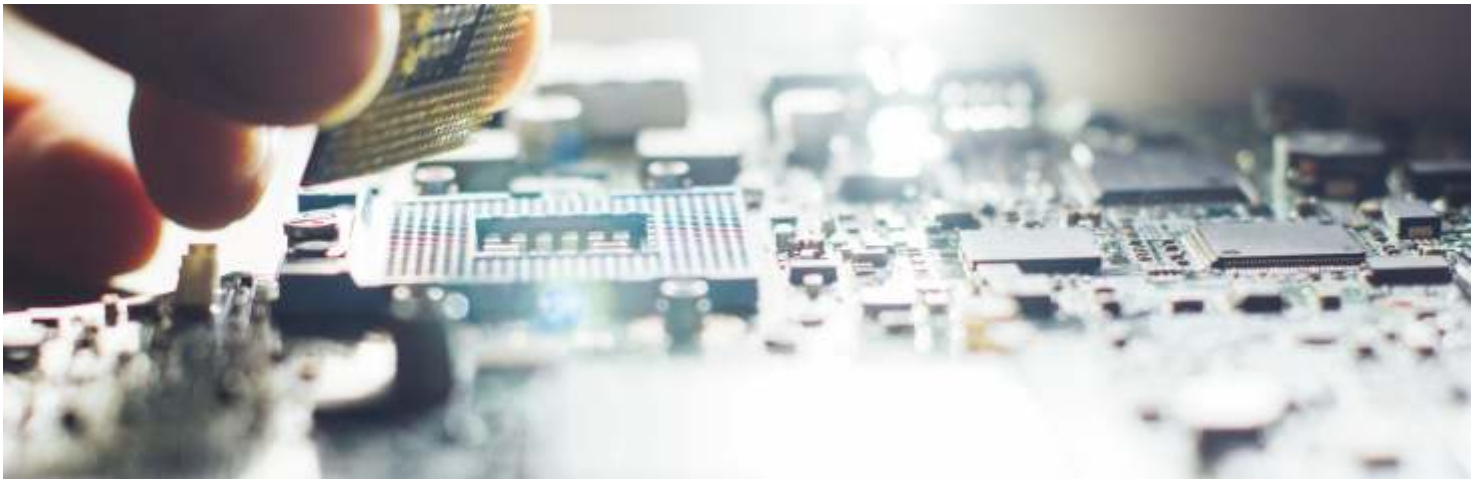
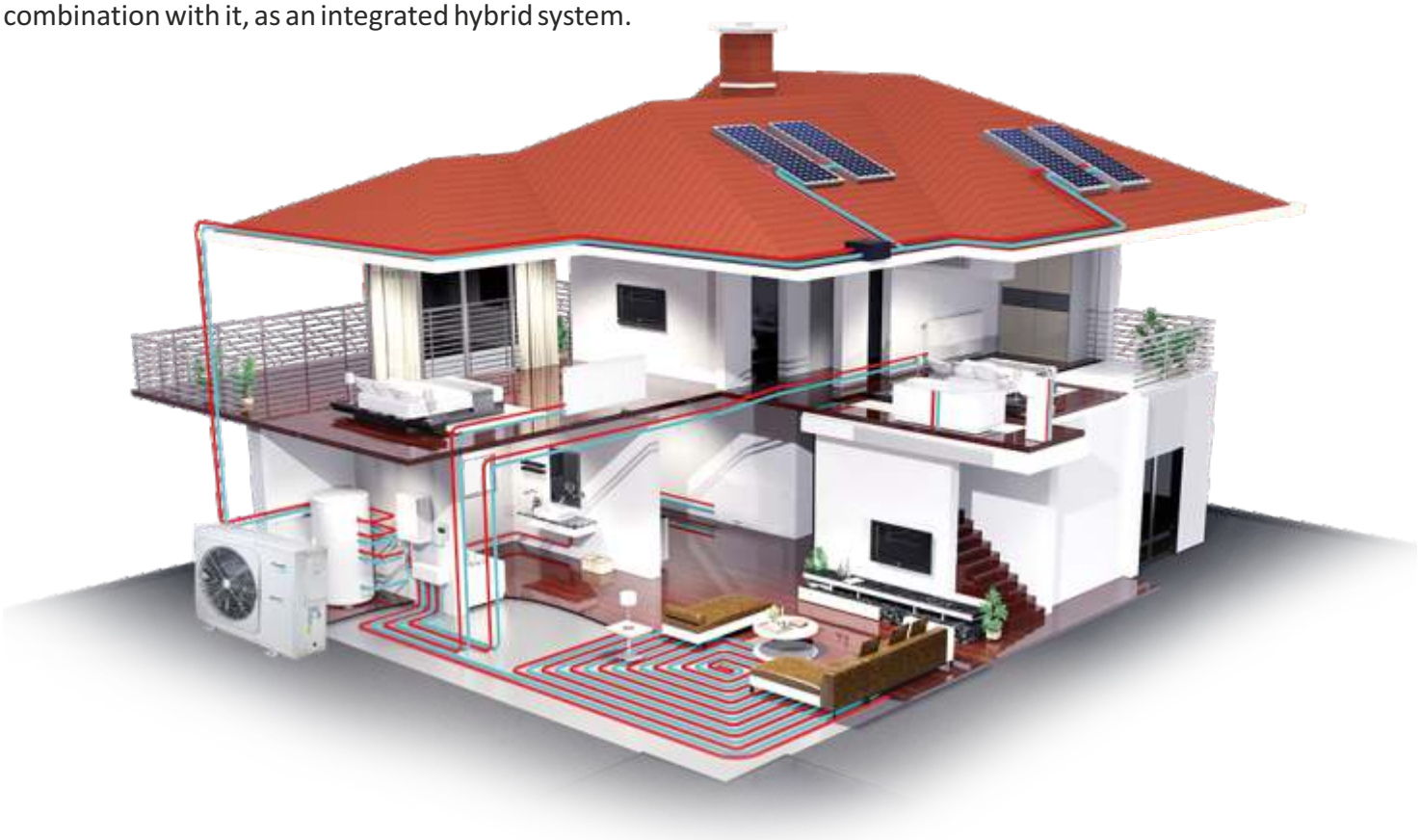
Monoblock and split models
Tower-S/170

PRESENT AND THE FUTURE OF HEATING AND COOLING

Heat pumps mono and split



A heat pump can be defined as a universal solution for a space comfort achieving. It is an integrated system that combines space heating and cooling function, and domestic hot water (DHW) preparation as well. It, therefore, offers versatile solution, which can be used throughout the whole year. It can replace any type of boiler or operate in combination with it, as an integrated hybrid system.



Monoblock and split type – CHARACTERISTICS

- **Air-to-water heat pump**
- **Monoblock (5-30 kW) and split models (6-16kW)**
- **Eco-friendly refrigerants: R32**
- **Lower space heating and cooling costs**
- **Lower CO2 emission**
- **High-efficiency source for space heating and cooling**
- **Control unit with colorful touchscreen panel controls the heat pump operation, and it can control system with up to two mixing heating/cooling circuits, one direct heating/cooling circuit and DHW preparation (with DHW circulation pump operation control as well) (mandatory additional equipment)**
- **It can be connected to a system that uses floor heating/cooling, fan coils and/or low-temperature radiators**
- **It can be connected to a web portal afterwards**

Control panel with a color touch screen

Specifications - MONOBLOCK[1]:

			5 kW	9 kW	16 kW P3	22 kW P3	30 kW P3
Power supply		V/f/Hz	220-240/1/50		380-415/3/50	380-415/3/50	380-415/3/50
Capacity	Heating[2] A7/W35	kW	6.50	10.00	16.00	22.00	30.10
Rated input		kW	1.23	2.13	3.56	5.00	7.70
COP			5.30	4.70	4.50	4.40	3.91
Capacity	Heating[3] A7/W55	kW	6.30	9.40	16.00	22.00	30.00
Rated input		kW	1.97	3.03	5.61	8.30	13.04
COP			3.20	3.10	2.85	2.65	2.30
Capacity	Cooling[4] A35/W18	kW	6.50	10.00	15.40	23.00	31.00
Rated input		kW	1.28	2.33	3.67	5.00	7.75
EER			5.10	4.30	4.20	4.60	4.00
Capacity	Cooling[5] A35/W7	kW	5.50	9.00	14.00	21.00	29.50
Rated input		kW	1.69	3.10	4.83	7.12	11.57
EER			3.25	2.90	2.90	2.95	2.55
Seasonal space heating energy efficiency class[6]	Main flow 35°C		A+++		A+++	A+++	A++
	Main flow 55°C		A++		A++	A++	A+
SCOP[6]	Main flow 35°C		5.12	5.12	4.84	4.53	4.20
	Main flow 55°C		3.59	3.71	3.59	3.23	3.15
ηs	Main flow 35°C		201.8	201.9	190.5	178	165
	Main flow 55°C		140.7	145.5	140.6	126	123
SEER[6]	Main flow 7°C		5.09	5.08	5.14	4.70	4.49
	Main flow 18°C		7.81	8.31	7.54	5.67	5.71
Sound power level			60	65	72	73	77
Sound pressure level			48	53	59	59.8	63.5
Compressor	Type		Twin rotary DC inverter				
Outdoor fan	Air flow		3900	4500	5200	10650	11200
Water side heat exchanger type			Plate				
Water pump	Pump head	m	9.0		9.0	12	12
Expansion vessel	Volume	l	5.0		5.0	8.0	8.0
Net dimensions (WxHxD)		mm	865x1040x410		865x1040x410	1129x1558x440	1129x1558x440
Packed dimensions (WxHxD)		mm	970x1190x560		970x1190x560	1220x1735x565	1220x1735x565
Net/Gross weight		kg	87/103	87/103	120/136	177/206	177/206
Piping connections (water)		R	1"		5/4"	5/4"	5/4"
Safety valve set pressure (water)		bar	3				
Operating temperature range	Cooling	°C	-5 to 43		-5 to 43	-5 to 46	-5 to 46
	Heating	°C	-25 to 35		-25 to 35	-25 to 35	-25 to 35
	DHW	°C	-25 to 43		-25 to 43	-25 to 43	-25 to 43
Main flow temperature range	Cooling	°C	5 to 25		5 to 25	5 to 25	5 to 25
	Heating	°C	25 to 65		25 to 65	25 to 60	25 to 60
	DHW	°C	20 to 60		20 to 60	30 to 60	30 to 60
Reftigerant	Type / GWP	°C	R32 / 675				
	Factory charge	kg	1.25	1.25	1.8	5.0	5.0
Backup electric heater	Standard mounted	kW	-	-	-	-	-
	Optional	kW	2/4	2/4	2/4	2/4	2/4
	Capacity steps		1	1	1	1	1

1. EU standards: EN14511: 2016; EN14825: 2016; EN50564: 2011; EN12102: 2017; (EU) N° 811/2013; (EU) N° 813/2013; OJ 2014/C 207/02; OJ 2017/C 229/01.
2. Outdoor air temperature 7°C, 85% R.H..; water temperature main flow/return 35/30°C.
3. Outdoor air temperature 7°C, 85% R.H.; water temperature main flow/return 55/47°C.
4. Outdoor air temperature 35°C; water temperature main flow/return 18/23°C.
5. Outdoor air temperature 35°C; water temperature main flow/return 7/12°C.
6. Seasonal space heating energy efficiency class tested in average climate conditions.

SPLIT 4-16kW (with hydronic box)[1]:

Specifications - SPLIT:				6 kW	10 kW	16 kW P3
Power supply			V/f/Hz	220-240/1/50		380-415/3/50
Capacity	Heating[2] A7/W35		kW	6.20	10.00	16.00
Rated input			kW	1.24	2.00	3.56
COP				5.00	5.00	4.50
Capacity	Heating[3] A7/W55		kW	6.00	9.50	16.00
Rated input			kW	2.00	3.06	5.52
COP				3.00	3.10	2.90
Capacity	Cooling[4] A35/W18		kW	6.55	10.00	14.90
Rated input			kW	1.34	2.08	4.38
EER				4.90	4.80	3.40
Capacity	Cooling[5] A35/W7		kW	7.00	8.20	14.00
Rated input			kW	2.33	2.48	5.71
EER				3.00	3.30	2.45
Seasonal space heating energy efficiency class[6]	Main flow 35°C			A+++	A+++	A+++
	Main flow 55°C			A++	A++	A++
SCOP[6]	Main flow 35°C			4.95	5.20	4.62
	Main flow 55°C			3.52	3.47	3.41
ηs	Main flow 35°C			195	205	182
	Main flow 55°C			138	137	133
SEER[6]	Main flow 7°C			5.34	5.98	4.67
Maximum overcurrent protection (MOP)				18	19	14
Minimum circuit ampacity (MCA)			A	14	17	12
Sound power level			A	58	60	68
Compressor	Type			Twin rotary DC inverter		
Outdoor fan	Air flow		m³/h	2770	4030	4650
Net dimension (WxHxD)			mm	1008x712x426	1118x865x523	1118x865x523
Packed dimension (WxHxD)			mm	1065x800x485	1180x890x560	1180x890x560
Net/Gross weight			kg	58/64	77/88	112/125
Operating temperature range	Cooling		°C	-5 to 43	-5 to 43	-5 to 43
	Heating		°C	-25 to 35	-25 to 35	-25 to 35
	DHW		°C	-25 to 43	-25 to 43	-25 to 43
Refrigerant	Type			R32	R32	R32
	Factory charge		kg	1.50	1.65	1.84
Piping connections	Type			Flare		
	Liquid phase		mm	Ø 6.35	Ø 9.52	Ø 9.52
	Gas phase		mm	Ø 15.9		
	Min. pipe lenght		m	2		
	Max. pipe lenght		m	30	30	30
Installation height difference	Outdoor unit above		m	20	20	20
	Outdoor unit below		m	20	20	20

Hydronic box:				6 kW	10 kW	16 kW
Compatible outdoor unit model				6	10	16
Power supply			V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50 / 380-415/3/50[7]
Sound power level			dB(A)	38	42	43
Dimensions (WxHxD)			mm	420x790x270	420x790x270	420x790x270
Net/Gross weight			kg	37/43	37/43	39/45
Water circuit	Piping connections		R	1"	1"	1"
	Safety valve		bar	3.0	3.0	3.0
	Internal water volume		l	5.0	5.0	5.0
	Drainage		mm	ø25	ø25	ø25
	Expansion vessel		l	8.0	8.0	8.0
	Water side heat exchanger	Type		Plate	Plate	Plate
	Water pump head		m	9.0	9.0	9.0
Water flow range			m³/h	0.4~1.25	0.4~2.10	0.7~3.00
Refrigerant circuit	Liquid phase		mm	ø 6.35	ø 9.52	ø 9.52
	Gas phase		mm	ø 15.9	ø 15.9	ø 15.9
Backup electric heater	Standard mounted		kW	3	3	9
	Optional		kW	2/4	2/4	2/4
	Capacity steps			1	1	1
Main flow temperature range	Cooling		°C	5 to 25		
	Heating		°C	25 to 65		
	DHW		°C	30 to 60		
Room temperature range			°C	5 to 35		

1. EU standards: EN14511: 2016; EN14825: 2016; EN50564: 2011; En12102: 2017; (EU) N° 811/2013; (EU) N° 813/2013; OJ 2014/C 207/02; OJ 2017/C 229/01. 2. Outdoor air temperature 7°C, 85% R.H.; water temperature main flow/return 35/30°C. 3. Outdoor air temperature 7°C, 85% R.H.; water temperature main flow/return 55/47°C. 4. Outdoor air temperature 35°C; water temperature main flow/return 18/23°C. 5. Outdoor air temperature 35°C; water temperature main flow/return 7/12°C. 6. Seasonal space heating energy efficiency class tested in average climate conditions. 7. If a 9 kW heater is used.

Countrol unit and additional equipment

- **Control unit HPCU360iCM(P) (HPxTouchCM)**

- **Thermostat HPxTouchCM**

- **Wireless thermostat HPx40CM**

- **Electric heater HPe2/4CM**

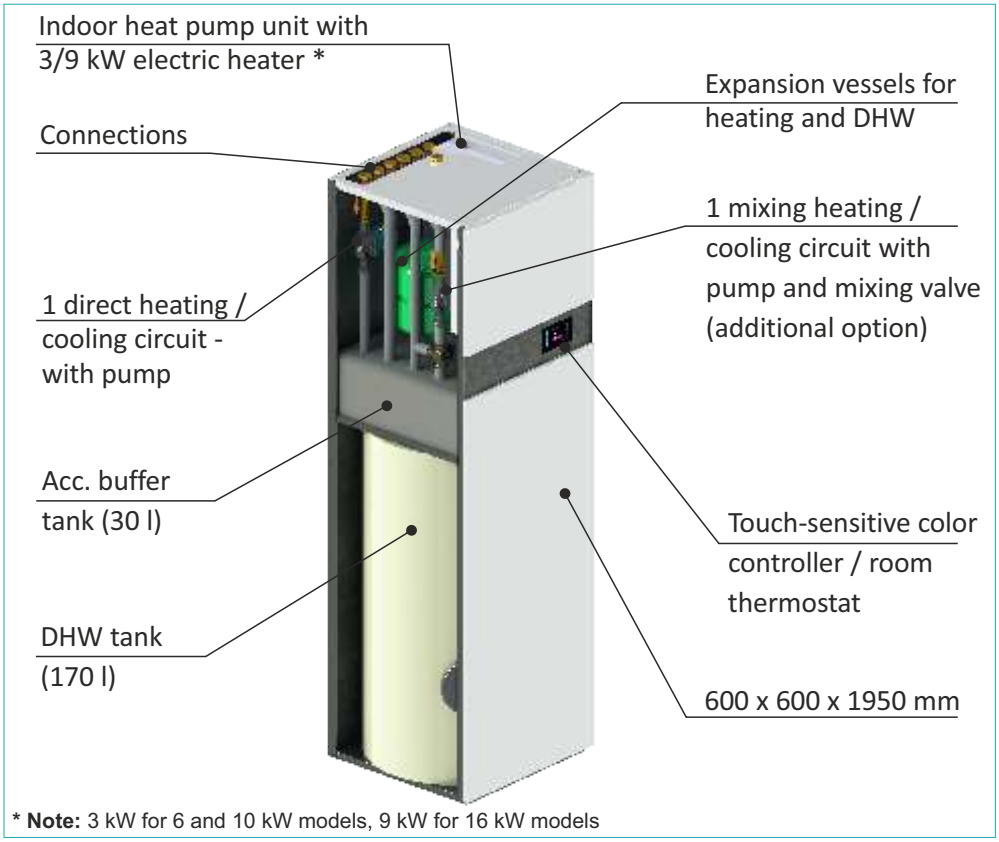
- **Connection to Web portal with WiFi module HPnet300CM**

- **HP-BOT 200-500 liters**

- **APAMET Enamelled tanks (STIL 50 - 200)**

Heat pumps - Tower-S/170

A heat pump can be defined as a comprehensive solution for heating, cooling and domestic hot water heating. The indoor unit of the split heat pump is an integrated “all-in-one” system that is able to heat or cool the space and prepare hot water for consumption. One of the great advantages of the Tower-S 170 is the minimal space it takes up, because with floor plan dimensions of 600x600mm it takes up the same space as a washing machine next to which it is usually installed in apartments. It can replace any type of boiler or work in combination with it, in an integrated hybrid system. A very practical and effective solution for apartments and houses!



* **Note:** 3 kW for 6 and 10 kW models, 9 kW for 16 kW models

CHARACTERISTICS of Tower-S/170 models

- **Air to water heat pump**
- **Split models 6-16 kW**
- **Eco-frendly refrigerant R32**
- **DHW tank 170 l**
- **Accumulation (buffer) tank**
- **1 direct heating circuit + 1 mixing heating circuit (additional option)**
- **Electric heater 3/9 kW**
- **Control unit with colorful touchscreen panel (in delivery)**

Control panel with a color touch screen

SHPAI60RP24CM-EHT170 + SHPAI100RP24CM-EHT170 + SHPAI160RP24CM-EHT170

Specifications - outdoor unit:[1]			6 kW	10 kW	16 kW
Model			SHPAO6RP24CM	SHPAO10 RP24CM	SHPAO16RP24P3CM
Power supply		V/f/Hz	220-240/1/50	220-240/1/50	380-415/3/50
Capacity	Heating A7/W35	kW	6.20	10.0	16.0
Rated input		kW	1.24	2.00	3.56
COP			5.00	5.00	4.50
Capacity	Heating A7/W55	kW	6.00	9.50	16.0
Rated input		kW	2.00	3.06	5.52
COP			3.00	3.10	2.90
Capacity	Cooling A35/W18	kW	6.55	10.0	14.9
Rated input		kW	1.34	2.08	4.38
EER			4.90	4.80	3.40
Capacity	Cooling A35/W7	kW	7.00	8.20	14.0
Rated input		kW	2.33	2.48	5.71
EER			3.00	3.30	2.45
Seasonal space heating energy efficiency class[2]	Main flow 35°C		A+++		
	Main flow 55°C		A++		
SCOP[2]	Main flow 35°C		4.95	5.20	4.62
	Main flow 55°C		3.52	3.47	3.41
ηs seasonal space heating efficiency	Main flow 35°C		195	205	182
	Main flow 55°C		138	137	133
SEER[2]	Main flow 7°C		5.34	5.98	4.67
Maximum overcurrent protection (MOP)		A	18	19	14
Minimum circuit ampacity (MCA)		A	14	17	12
Sound power level		dB(A)	58	60	68
Compressor	Type		Twin rotary DC inverter		
Outdoor fan	Air flow	m³/h	2770	4030	4650
Net dimension (WxHxD)		mm	1008x712x426	1118x865x523	1118×865×523
Packed dimension (WxHxD)		mm	1065x800x485	1180x890x560	1180×890×560
Net/Gross weight		kg	58/64	77/88	112/125
Operating temperature range	Cooling	°C	-5 to 43		
	Heating	°C	-25 to 35		
	DHW	°C	-25 to 43		
Refrigerant	Type		R32		
	Factory charge	kg	1.50	1.65	1.84
Piping connections	Type		Flare		
	Liquid phase	mm	Ø 6.35	Ø 9.52	Ø 9.52
	Gas phase	mm	Ø 15.9		
	Min. pipe lenght	m	2		
	Max. pipe lenght	m	30		
Installation height difference	Outdoor unit above	m	20		
	Outdoor unit below	m	20		

Specifications - indoor unit:[1]			6 kW	10 kW	16 kW
Compatible outdoor unit model			SHPAO6RP24CM	SHPAO10RP24CM	SHPAO16RP24P3CM
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	380-415/3/50
Sound power level		dB(A)	38	42	43
Dimensions (WxHxD)		mm	600x1950x600		
Net/Gross weight		kg	230/240		
Water circuit	Piping connections	R	1"		
	Safety valve	bar	3.0		
	Internal water volume	l	30		
	Drainage	mm	ø25		
	Expansion vessel	l	8.0		
	Water side heat exchanger		Plate		
Water flow range		m³/h	0.4~1.25	0.4~2.10	0.7~3.00
DHW	DHW tank volume	l	170		
	Exp. vessels for DHW	l	11		
	Connections	R	3/4"		
	Safety valve	bar	6		
Refrigerant circuit	Liquid phase	mm	ø 6.35	ø 9.52	ø 9.52
	Gas phase	mm	ø 15.9		
Backup electric heater	Standard	kW	3	3	9
	Capacity steps		1		
Main flow temperature range	Cooling	°C	5 to 25		
	Heating	°C	25 to 65		
	DHW[3]	°C	30 to 60		
Room temperature range		°C	5 to 35		

1. EU standards: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014. 2. In the average climatic conditions.
3. Maximum domes°C is only available with DHW heater support.

HEAT PUMPS

NEW

UNIVERSAL SOLUTION FOR SPACE HEATING AND COOLING

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HEATING TECHNIQUE

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