

R2-Series

R32
R410A

Simultaneous Cooling and Heating

Heat recovery

- Features P.15 - P.21
- Specifications
- R32 Standard PURY-M YNW-A1(-BS) P.49
 High efficiency PURY-EM YNW-A1(-BS) P.50
- R410A Standard PURY-P Y(S)NW-A2/TR2/RU2(-BS) P.51 - P.60
 High efficiency PURY-EP Y(S)NW-A2/TR2/RU2(-BS) P.61 - P.71
- Optional parts P.72
- BC controllers P.93 - P.101
- Technologies and functions P.153



*This image shows the standard type.

Lineup & Functions

Y-Series

R2-Series

ZUBADAN -Series

S-Series

BC Controllers

Ceiling cassette type

Ceiling concealed type

Ceiling suspended type

Wall-mounted type

Floor standing type

Functions

LOSSNAY System

Remote Controller

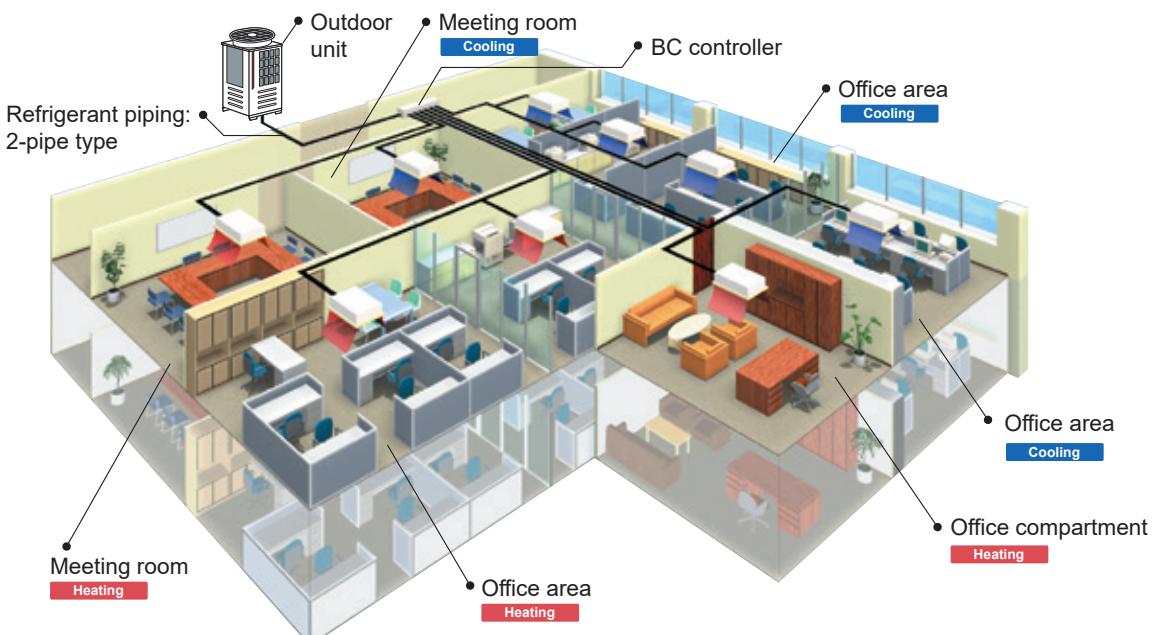
Hot Water Solution

The world's first two-pipe system that simultaneously cools and heats

The CITY MULTI R2-Series offers the ultimate in freedom and flexibility. Cool one zone while heating another. Our exclusive BC controller makes two-pipe simultaneous cooling and heating possible. It is the technological heart of the CITY MULTI R2-Series. It houses a liquid and gas separator, allowing the outdoor unit to deliver a mixture of hot gas for heating and liquid for cooling, all through the same pipe.

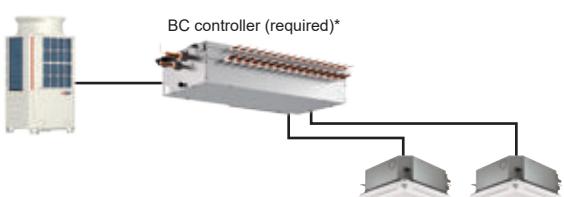
This innovation results in virtually no energy wasted by being expelled outdoors. Depending on capacity, up to 50 indoor units can be connected with up to 150% connected capacity.

• Installation image (R410A R2-Series)



*For details of the installation restrictions, refer to the DATABOOK.

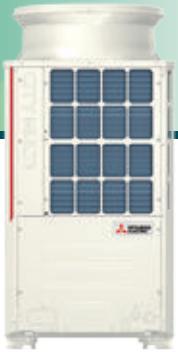
• System example



*R2-Series systems require the use of a BC controller.

R32 CITY MULTI-Series (R32)

CITY MULTI series utilizing R32 refrigerant. The lower GWP R32 model is a solution to reduce fluorocarbon emissions.



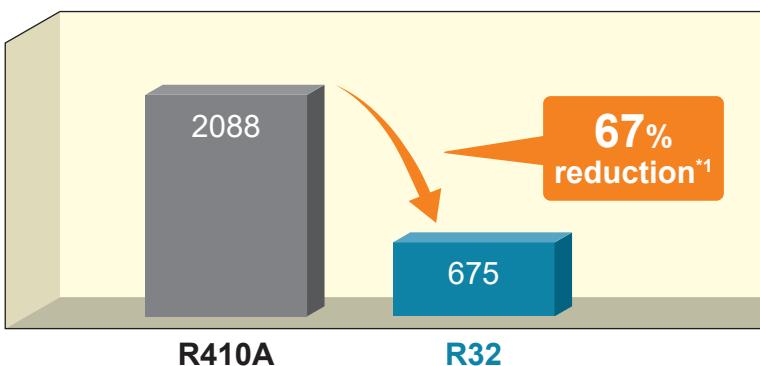
Low-GWP refrigerant

Adoption of R32 refrigerant

CITY MULTI series uses R32 with a 67% lower GWP than R410A to be more environmentally friendly.*1

*1. Source: IPCC 4th Assessment Report, global warming potential (GWP) 100-year value. Comparison of 2088 (R410A) and 675 (R32).

- Comparison of global warming potential



Development of compressor for adopting R32 refrigerant

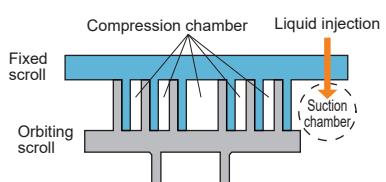


Stable operation with suction chamber injection mechanism

To suppress rises in discharge temperature, Mitsubishi Electric has developed a compressor that adopts a suction chamber injection mechanism. This solves the problem that R32 has a higher discharge temperature than R410A.

- A mechanism for injecting

This mechanism suppresses the temperature rise of the discharge gas and supports operation in a wide temperature range.

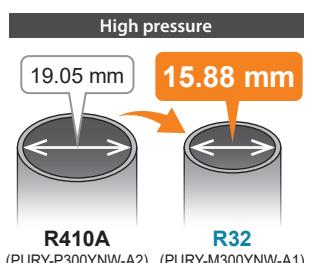


Reduced the amount of refrigerant

Reduced piping diameter

Compared to R410A, R32 is less susceptible to pressure-loss. This characteristic helps to reduce the refrigerant pipe size, reducing the refrigerant amount and the installation cost.

- Comparison of refrigerant piping diameter



R2-Series

High efficiency

R410A

PURY-EP YNW-A2/TR2/RU2 (-BS)



Model	PURY-EP200YNW-A2/TR2/RU2 (-BS)	PURY-EP250YNW-A2/TR2/RU2 (-BS)	PURY-EP300YNW-A2/TR2/RU2 (-BS)		
Power source	3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz		
Cooling capacity (Nominal)	*1 kW BTU / h	22.4 76,400	28.0 95,500		
	Power input kW	6.38	9.75		
	Current input A	10.7-10.2-9.8	16.4-15.6-15.0		
	EER kW / kW	3.51	2.87		
	SEER kW / kW	7.45	7.05		
	Temp. range of cooling *4 Indoor Outdoor	W.B. D.B.	15.0~24.0°C (59~75°F) -5.0~52.0°C (23~126°F)		
Heating capacity (Max)	*2 kW BTU / h	25.0 85,300	31.5 107,500		
	Power input kW	6.72	9.51		
	Current input A	11.3-10.7-10.3	16.0-15.2-14.7		
	COP kW / kW	3.72	3.31		
	(Nominal) *3 kW BTU / h	22.4 76,400	28.0 95,500		
	Power input kW	5.37	7.31		
Temp. range of heating *4 Indoor Outdoor	Current input A	9.0-8.6-8.3	12.3-11.7-11.2		
	COP kW / kW	4.17	3.83		
	SCOP kW / kW	3.51	3.51		
	Indoor D.B.	15.0~27.0°C (59~81°F)	15.0~27.0°C (59~81°F)		
	Outdoor W.B.	-20.0~15.5°C (-4~60°F)	-20.0~15.5°C (-4~60°F)		
Indoor unit connectable	Total capacity Model / Quantity	50~150% of outdoor unit capacity P10-P250, M20-M140/1~20	50~150% of outdoor unit capacity P10-P250, M20-M140/1~25		
Sound pressure level (measured in anechoic room) *5, 6	dB <A>	59.0/59.0	60.5/61.0		
Sound power level (measured in anechoic room) *5	dB <A>	76/76	78/80		
Refrigerant piping diameter	High pressure mm (in.) Low pressure mm (in.)	15.88 (5/8) Braze 19.05 (3/4) Braze	19.05 (3/4) Braze 22.2 (7/8) Braze		
FAN	Type x Quantity	Propeller fan x 1	Propeller fan x 1		
Compressor	Air flow rate m³/min L/s cfm	170 2,833 6,003	185 3,083 6,532		
	Control, Driving mechanism	Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor		
	Motor output kW	0.92 x 1	0.92 x 1		
	*7 External static press.	0 Pa (0 mmH₂O)	0 Pa (0 mmH₂O)		
External finish	Type x Quantity	Inverter scroll hermetic compressor x 1	Inverter scroll hermetic compressor x 1		
	Starting method	Inverter	Inverter		
	Motor output kW	4.9	7.5		
	Case heater kW	—	—		
External dimension HxWxD		mm in.	1,858 (1,798 without legs) x 920 x 740 73-3/16 (70-13/16 without legs) x 36-1/4 x 29-3/16	1,858 (1,798 without legs) x 920 x 740 73-3/16 (70-13/16 without legs) x 36-1/4 x 29-3/16	1,858 (1,798 without legs) x 920 x 740 73-3/16 (70-13/16 without legs) x 36-1/4 x 29-3/16
Protection devices	High pressure protection Inverter circuit (COMP/FAN) Compressor Fan motor	High pressure sensor, High pressure switch at 4.15 MPa (601 psi) Over-heat protection, Over-current protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi) Over-heat protection, Over-current protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi) Over-heat protection, Over-current protection	
Refrigerant	Type x original charge	R410A x 5.2 kg (12 lbs)	R410A x 5.2 kg (12 lbs)	R410A x 5.2 kg (12 lbs)	
Net weight	kg (lbs)	219 (483)	228 (503)	230 (508)	
Heat exchanger	Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube		
Optional parts	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1		

Notes:

*1, *2, *3 Nominal conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB/19°C WB (81°F DB/66°F WB)	35°C DB/24°C WB (95°F DB/75°F WB)	7.5m (24-9/16ft.)	0m (0ft.)
Heating	20°C DB/68°F DB	7°C DB/6°C WB (45°F DB/43°F WB)	7.5m (24-9/16ft.)	0m (0ft.)

*3 Eurovent registered

*4 -10°C D.B. (14°F D.B.) -11°C C.W.B. (12°F W.B.) to 21°C D.B. (70°F D.B.) / 15.5°C W.B. (60°F W.B.) with cooling/heating mixed operation.

*5 Cooling mode / Heating mode

*6 The sound pressure level measured by the conventional method in JIS for reference purpose.

*7 External static pressure option is available (30 Pa, 60 Pa, 80 Pa/3.1 mmH₂O, 6.1 mmH₂O, 8.2 mmH₂O).

Consult your dealer about the specification when setting External static pressure option.

*Due to continuing improvement, above specifications may be subject to change without notice.

	Hot Water Solution	Remote Controller	LOSSNAY System	Functions	Floor standing type	Wall-mounted type	Ceiling suspended type	Ceiling concealed type	Ceiling cassette type	BC Controllers	S-Series	ZUBADAN -Series	R2-Series	V-Series	Lineup & Functions
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R2-Series High efficiency

R410A

PURY-EP YNW-A2/TR2/RU2 (-BS)



Model	PURY-EP350YNW-A2/TR2/RU2 (-BS)	PURY-EP400YNW-A2/TR2/RU2 (-BS)	PURY-EP450YNW-A2/TR2/RU2 (-BS)	PURY-EP500YNW-A2/TR2/RU2 (-BS)	
Power source	3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz	
Cooling capacity (Nominal)	*1 kW BTU / h	40.0 136,500	45.0 153,500	50.0 170,600	
	Power input Current input EER SEER	kW A kW / kW	14.23 24.0-22.8-21.9 2.81 6.03	18.75 31.6-30.0-28.9 2.40 6.10	18.93 31.9-30.3-29.2 2.64 6.58
Temp. range of cooling *4	Indoor D.B. Outdoor D.B.	15.0~24.0°C (59~75°F) -5.0~52.0°C (23~126°F)	15.0~24.0°C (59~75°F) -5.0~52.0°C (23~126°F)	15.0~24.0°C (59~75°F) -5.0~52.0°C (23~126°F)	
Heating capacity (Max)	*2 kW BTU / h	45.0 153,500	50.0 170,600	56.0 191,100	
	Power input Current input COP	kW A kW / kW	13.39 22.6-21.4-20.6 3.36	16.33 27.5-26.1-25.2 3.06	18.36 30.9-29.4-28.3 3.05
(Nominal)	*3 kW BTU / h	40.0 136,500	45.0 153,500	50.0 170,600	
	Power input Current input COP SCOP	kW A kW / kW	10.63 17.9-17.0-16.4 3.76 3.56	13.15 22.1-21.0-20.3 3.42 3.57	14.61 24.6-23.4-22.5 3.42 3.56
Temp. range of heating *4	Indoor W.B. Outdoor W.B.	15.0~27.0°C (59~81°F) -20.0~15.5°C (-4~60°F)	15.0~27.0°C (59~81°F) -20.0~15.5°C (-4~60°F)	15.0~27.0°C (59~81°F) -20.0~15.5°C (-4~60°F)	
Indoor unit connectable	Total capacity Model / Quantity	50~150% of outdoor unit capacity P10~P250, M20~M140/1~35	50~150% of outdoor unit capacity P10~P250, M20~M140/1~40	50~150% of outdoor unit capacity P10~P250, M20~M140/1~45	
Sound pressure level (measured in anechoic room) *5, 6	dB <A>	62.5/64.0	65.0/69.0	65.5/70.0	
Sound power level (measured in anechoic room) *5	dB <A>	81/83	83/88	83/89	
Refrigerant piping diameter	High pressure mm (in.) Low pressure mm (in.)	19.05 (3/4) Brazed 28.58 (1-1/8) Brazed	22.2 (7/8) Brazed 28.58 (1-1/8) Brazed	22.2 (7/8) Brazed 28.58 (1-1/8) Brazed	
FAN	Type x Quantity Air flow rate Control, Driving mechanism Motor output *7 External static press.	Propeller fan x 2 mm ³ /min L/s cfm Inverter-control, Direct-driven by motor 0.46 x 2 0 Pa (0 mmH ₂ O)	Propeller fan x 2 315 5,250 11,123 Inverter-control, Direct-driven by motor 0.46 x 2 0 Pa (0 mmH ₂ O)	Propeller fan x 2 315 5,250 11,123 Inverter-control, Direct-driven by motor 0.46 x 2 0 Pa (0 mmH ₂ O)	
Compressor	Type x Quantity Starting method Motor output Case heater	Inverter scroll hermetic compressor x 1 Inverter kW kW	Inverter scroll hermetic compressor x 1 Inverter 11.4 —	Inverter scroll hermetic compressor x 1 Inverter 15.5 —	
External finish	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	
External dimension HxWxD	mm in.	1,858 (1,798 without legs) x 1,240 x 740 73-3/16 (70-13/16 without legs) x 48-7/8 x 29-3/16	1,858 (1,798 without legs) x 1,240 x 740 73-3/16 (70-13/16 without legs) x 48-7/8 x 29-3/16	1,858 (1,798 without legs) x 1,240 x 740 73-3/16 (70-13/16 without legs) x 48-7/8 x 29-3/16	
Protection devices	High pressure protection Inverter circuit (COMP./FAN) Compressor Fan motor	High pressure sensor, High pressure switch at 4.15 MPa (601 psi) Over-heat protection, Over-current protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi) Over-heat protection, Over-current protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi) Over-heat protection, Over-current protection	
Refrigerant	Type x original charge	R410A x 8.0 kg (18 lbs)	R410A x 8.0 kg (18 lbs)	R410A x 10.8 kg (24 lbs)	
Net weight	kg (lbs)	275 (607)	276 (609)	301 (664)	
Heat exchanger	Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube	
Optional parts	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2,CMY-R160-J1	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2,CMY-R160-J1	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2,CMY-R160-J1	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2,CMY-R160-J1	

Notes:

*1,*2,*3 Nominal conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB/19°C WB (81°F DB/66°F WB)	35°C DB/24°C WB (95°F DB/75°F WB)	7.5m (24-9/16ft.)	0m (0ft.)
Heating	20°C DB/68°F DB	7°C DB/6°C WB(45°F DB/43°F WB)	7.5m (24-9/16ft.)	0m (0ft.)

*3 Eurovent registered

*4 -10°C D.B. (14°F D.B.)/-11°C W.B. (12°F W.B.) to 21°C D.B. (70°F D.B.)/15.5°C W.B. (60°F W.B.) with cooling/heating mixed operation.

*5 Cooling mode / Heating mode

*6 The sound pressure level measured by the conventional method in JIS for reference purpose.

*7 External static pressure option is available (30 Pa, 60 Pa, 80 Pa/3.1 mmH₂O, 6.1 mmH₂O, 8.2 mmH₂O).

Consult your dealer about the specification when setting External static pressure option.

*Due to continuing improvement, above specifications may be subject to change without notice.

R2-Series

R410A

PURY-EP YNW-A2/TR2/RU2 (-BS)



Model		PURY-EP550YNW-A2/TR2/RU2 (-BS)	
Power source		3-phase 4-wire 380-400-415 V 50/60 Hz	
Cooling capacity (Nominal)	*1	kW	60.0
		BTU / h	204,700
Power input		kW	25.70
Current input		A	43.3-41.2-39.7
EER		kW / kW	2.33
SEER		kW / kW	6.40
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C (59~75°F)
*4	Outdoor	D.B.	-5.0~52.0°C (23~126°F)
Heating capacity (Max)	*2	kW	69.0
		BTU / h	235,400
Power input		kW	23.87
Current input		A	40.2-38.2-36.8
COP		kW / kW	2.89
(Nominal)	*3	kW	63.0
		BTU / h	215,000
Power input		kW	19.81
Current input		A	33.4-31.7-30.6
COP		kW / kW	3.18
SCOP		kW / kW	3.51
Temp. range of heating	Indoor	D.B.	15.0~27.0°C (59~81°F)
*4	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)
Indoor unit connectable	Total capacity		50~150% of outdoor unit capacity
	Model / Quantity		P10~P250, M20~M140/2~50
Sound pressure level (measured in anechoic room)	*5, 6	dB <A>	70.0/70.0
Sound power level (measured in anechoic room)	*5	dB <A>	89/89
Refrigerant piping diameter	High pressure	mm (in.)	22.2 (7/8) Brazed (28.58 (1-1/8) Brazed for the part that exceeds 65 m)
	Low pressure	mm (in.)	28.58 (1-1/8) Brazed
FAN	Type x Quantity		Propeller fan x 2
	Air flow rate	m³/min	410
		L/s	6,833
		cfm	14,477
	Control, Driving mechanism		Inverter-control, Direct-driven by motor
	Motor output	kW	0.92 x 2
*7	External static press.		0 Pa (0 mmH ₂ O)
Compressor	Type x Quantity		Inverter scroll hermetic compressor x 1
	Starting method		Inverter
	Motor output	kW	20.4
	Case heater	kW	—
External finish		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	
External dimension HxWxD	mm	1,858 (1,798 without legs) x 1,750 x 740	
	in.	73-3/16 (70-13/16 without legs) x 68-15/16 x 29-3/16	
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)	Over-heat protection, Over-current protection	
	Compressor	—	
	Fan motor	—	
Refrigerant	Type x original charge	R410A x 10.8 kg (24 lbs)	
Net weight	kg (lbs)	346 (763)	
Heat exchanger		Salt-resistant cross fin & aluminium tube	
Optional parts		Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1	

Notes:

*1,*2,*3 Nominal conditions (subject to JIS B8615-2)

E-8 Terminal conditions (subject to ASHRAE 198-E)				
	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB/19°C WB (81°F DB/66°F WB)	35°C DB/24°C WB (95°F DB/75°F WB)	7.5m (24.9/16ft.)	0m (0ft.)
Heating	20°C DB/6°F DB	7°C DB/6°C WB (45°F DB/43°F WB)	7.5m (24.9/16ft.)	0m (0ft.)

*3 Eurovent registered

*4 -10°C D.B. (14°F D.B.) to -11°C W.B. (12°F W.B.) to 21°C D.B. (70°F D.B.) to 15°C W.B. (60°F W.B.) with cooling/heating mixed operation.

*5 Cooling mode / Heating mode

*6 The sound pressure level measured by the conventional method i

*6 The sound pressure level measured by the conventional method in JIS for reference purpose.
*7 External static pressure option is available (30 Pa/3.1 mmH₂O).

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*Due to continuing improvement, above specifications may be subject to change without notice.

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