# **Y** Series High COP (8-14hp)

## **Heat Pump Outdoor Unit**





# New and Improved for even higher efficiency

The City Multi Y Series makes use of a two pipe refrigerant circuit throughout, with branch pipes feeding indoor units, allowing manual changeover from cooling to heating to ensure that a constant indoor climate is maintained.

## **Key Features**

- Designed from day 1 for seasonal efficiency up to 27% more efficient than the 2010 equivalent
- Flat tube aluminium micro-channel heat exchanger protected with a sacrificial zinc coating a world's first in VRF providing higher heat transfer, improved efficiency and reduced weight, size and refrigerant volume
- New energy-saving inverter driven outdoor compressor with very low start currents
- Improved flow distribution of the refrigerant circuit and redesigned bellmouth grille to minimise power input
- Reduced standby power by up to 50% using induction heated compressor
- Automated dynamic control of refrigerant evaporating temperature based on internal load, provides added comfort whilst improving seasonal efficiency by 8%
- Increase and fix system evaporating temperature to enable increased indoor unit SHF, air off temperature conditions and therefore efficiency and comfort
- Compact chassis for easier installation no requirement for plant rooms or bulky service shafts
- The choice to either provide standard reverse defrost or can continue to provide indoor units heat during the defrost cycle by utilising hot gas defrost technology



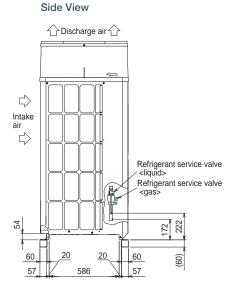
OUTDOOR UNITS		PUHY-EP200YLM-A	PUHY-EP250YLM-A	PUHY-EP300YLM-A	PUHY-EP350YLM-A
CAPACITY (kW) Heatin	ng (nominal)	25.0	31.5	37.5	45.0
Coolin	ng (nominal)	22.4	28.0	33.5	40.0
High F	Performance Heating (UK)	25.0	31.5	35.6	42.7
COP F	Priority Heating (UK)	22.8	28.7	34.2	41.1
	ng (UK)	20.0	25.0	29.9	35.8
POWER INPUT (kW) Heatin	ng (nominal)	5.73	7.68	9.16	12.53
Coolin	ng (nominal)	5.19	6.89	8.56	11.69
High F	Performance Heating (UK)	7.24	9.61	12.22	16.72
COP F	Priority Heating (UK)	5.70	7.64	9.10	12.46
Coolin	ng (UK)	2.21	3.00	3.66	5.00
COP / EER (nominal)	- · ·	4.36 / 4.31	4.10 / 4.06	4.09 / 3.91	3.59 / 3.42
SCOP / SEER (system)		5.53 / 9.02	6.00 / 9.02	6.00 / 7.75	5.90 / 7.16
MAX No. OF CONNECTABLE INDOOR UNITS		17	21	26	30
MAX CONNECTABLE CAPAC	YTY	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity
IRFLOW (m <sup>3</sup> /min)	High	175	175	200	200
IPE SIZE mm (in)	Gas	22.2 (7/8")	22.2 (7/8")	28.58 (1-1/8")	28.58 (1-1/8")
	Liquid	9.52 (3/8")	9.52 (3/8")**	9.52 (3/8")**	12.7 (1/2")
OUND PRESSURE LEVEL (dB.	A)	57	60	61	61
OUND POWER LEVEL (dBA	Α)	79.5	80	82	82.5
/EIGHT (kg)		208	208	252	252
IMENSIONS (mm)	Width	920	920	1220	1220
	Depth	740	740	740	740
650mm without legs)	Height	1710	1710	1710	1710
LECTRICAL SUPPLY *		380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz
HASE*		Three	Three	Three	Three
TARTING CURRENT (A)*		8	8	8	8
NOMINAL SYSTEM RUNNING CURRENT (A)* Heating / Cooling [MAX]		8.8 / 8.0 [16.1]	11.8 / 10.6 [18.1]	14.1 / 13.2 [21.6]	19.3 / 18.0 [28.7]
GUARANTEED OPERATING RANGE (°C) Heating / Cooling		-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52
USE RATING (MCB sizes BS E	N 60947-2) - (A)*	1 x 20	1 x 20	1 x 25	1 x 32
MAINS CABLE No. Cores*		4	4	4	4

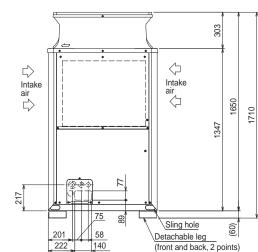
Note: \* A separate power supply is required for each module. Where more than one figure is quoted there are multiple modules. Price includes Twinning Kit where necessary. \*\*12.7mm(1/2") if furthest length ≥ 40m.

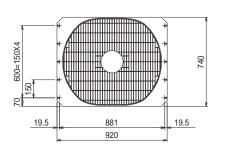
PIPING RESTRICTIONS	PUHY-EP200-350YLM-A
TOTAL PIPING LENGTH	1000m max
FURTHEST PIPING LENGTH	165m max
FURTHEST PIPING LENGTH AFTER 1st BRANCH	40m*1 max
BETWEEN INDOOR AND OUTDOOR UNITS - HEIGHT	50 max (40m max if outdoor installed below)
BETWEEN INDOOR AND INDOOR UNITS - HEIGHT	15m <sup>+</sup> <sup>2</sup> max

Notes: \*1 90m is available. When the piping length is 40m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 40m from first joint. \*2 30m is available. When the piping length is 15m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 15m from first joint.

### Product Dimensions PUHY-EP200/250YLM-A







Upper View

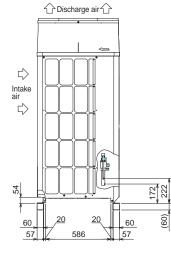
## **Product Dimensions**

PUHY-EP300/350YLM-A

Side View

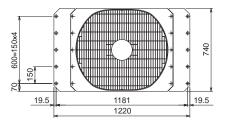
Front View

Front View



303 Intake air  $\langle \rangle$ Intake air 1650 1710 1347 1 217 88 75 Sling hole (09) 251 58 Detachable leg (front and back, 2 points) 272 140

Upper View





**1.5.27** Air Conditioning

# **Y** Series High COP (16-24hp)

## **Heat Pump Outdoor Unit**







# New and Improved for even higher efficiency

The City Multi Y Series makes use of a two pipe refrigerant circuit throughout, with branch pipes feeding indoor units, allowing manual changeover from cooling to heating to ensure that a constant indoor climate is maintained.

### **Key Features**

- Designed from day 1 for seasonal efficiency up to 27% more efficient than the 2010 equivalent
- Flat tube aluminium micro-channel heat exchanger protected with a sacrificial zinc coating a world's first in VRF providing higher heat transfer, improved efficiency and reduced weight, size and refrigerant volume
- New energy-saving inverter driven outdoor compressor with very low start currents
- Improved flow distribution of the refrigerant circuit and redesigned bellmouth grille to minimise power input
- Reduced standby power by up to 50% using induction heated compressor
- Automated dynamic control of refrigerant evaporating temperature based on internal load, provides added comfort whilst improving seasonal efficiency by 8%
- Increase and fix system evaporating temperature to enable increased indoor unit SHF, air off temperature conditions and therefore efficiency and comfort
- Compact chassis for easier installation no requirement for plant rooms or bulky service shafts
- The choice to either provide standard reverse defrost or can continue to provide indoor units heat during the defrost cycle by utilising hot gas defrost technology



OUTDOOR UNI	TS	PUHY-EP400YLM-A	PUHY-EP450YLM-A	PUHY-EP500YLM-A	PUHY-EP550YSLM-A	PUHY-EP600YSLM-A
CAPACITY (kW)	Heating (nominal)	50.0	56.0	63.0	69.0	76.5
. ,	Cooling (nominal)	45.0	50.0	56.0	63.0	69.0
	High Performance Heating (UK)	44.9	50.7	57.0	62.4	69.2
	COP Priority Heating (UK)	43.0	48.7	54.5	60.0	66.6
	Cooling (UK)	40.1	44.5	49.9	55.9	61.2
POWER INPUT (kW)	Heating (nominal)	13.15	16.09	19.68	17.73	19.66
	Cooling (nominal)	12.26	14.79	18.72	16.62	18.59
	High Performance Heating (UK)	15.01	18.37	22.46	20.24	22.44
	COP Priority Heating (UK)	12.79	15.65	19.14	16.19	17.96
	Cooling (UK)	6.16	7.08	8.68	8.04	8.83
COP / EER (nominal)		3.80 / 3.67	3.48 / 3.38	3.20 / 2.99	3.89 / 3.79	3.89 / 3.71
SCOP / SEER (syste		4.79 / 6.97	4.85 / 7.03	4.90 / 7.28	6.07 / 8.75	6.08 / 7.45
MAX No. OF CONNE	ECTABLE INDOOR UNITS	34	39	43	47	50
MAX CONNECTABL	E CAPACITY	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity
AIRFLOW (m <sup>3</sup> /min)	High	320	370	370	200 / 175	200 / 200
PIPE SIZE mm (in)	Gas	28.58 (1-1/8")	28.58 (1-1/8")	28.58 (1-1/8")	28.58 (1-1/8")	28.58 (1-1/8")
	Liquid	12.7 (1/2")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
SOUND PRESSURE L	EVEL (dBA)	62.5	63	63.5	63.5	64
SOUND POWER LE	VEL (dBA)	82.5	83	83.5	84.5	85
WEIGHT (kg)		318	318	332	252 + 208	252 +252
DIMENSIONS (mm)	Width	1750	1750	1750	1220 + 920	1220 + 1220
	Depth	740	740	740	740	740
(1650mm without legs		1710	1710	1710	1710	1710
ELECTRICAL SUPPL	<u>Y</u> *	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz
PHASE*		Three	Three	Three	Three	Three
STARTING CURREN		8	8	8	8/8	8 / 8
	NING CURRENT (A)* Heating/Cooling [MAX]	20.3 / 18.9 [32.1]	24.8 / 22.8 [38.0]	30.4 / 28.9 [46.5]	27.4 / 25.6 [21.6+18.1]	30.3 / 28.7 [21.6+21.6]
	NG RANGE (°C) Heating / Cooling	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52
	sizes BS EN 60947-2) - (A)*	1 x 40	1 x 40	1 x 50	1 x 25 / 1 x 20	1 x 25 / 1 x 25
MAINS CABLE No. C	Orec*	4	4	4	4	4

Note: \* A separate power supply is required for each module. Where more than one figure is quoted there are multiple modules. Price includes Twinning Kit where necessary

PIPING RESTRICTIONS	PUHY-EP400-600Y(S)LM-A
TOTAL PIPING LENGTH	1000m max
FURTHEST PIPING LENGTH	165m max
FURTHEST PIPING LENGTH AFTER 1st BRANCH	40m*1 max
BETWEEN INDOOR AND OUTDOOR UNITS - HEIGHT	50 max (40m max if outdoor installed below)
BETWEEN INDOOR AND INDOOR UNITS - HEIGHT	15m* <sup>2</sup> max

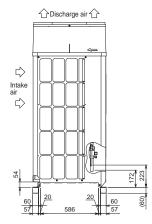
Notes: \*1 90m is available. When the piping length is 40m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 40m from first joint. \*2 30m is available. When the piping length is 15m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 15m from first joint.

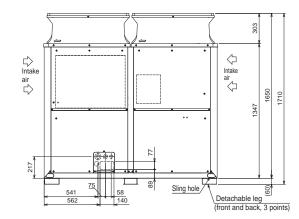
#### Product Dimensions

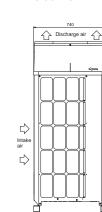
#### PUHY-EP400/450/500YLM-A



Front View





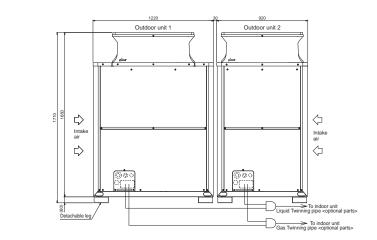


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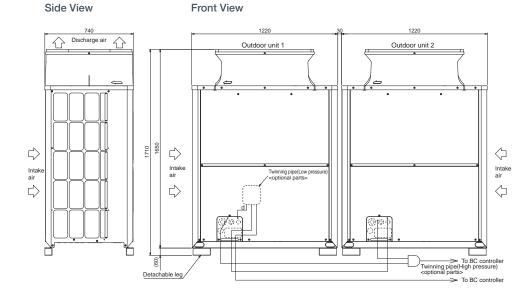
Side View

Front View



#### **Product Dimensions**

PUHY-EP600YSLM-A



# Y Series High COP (26-30hp)

## **Heat Pump Outdoor Unit**





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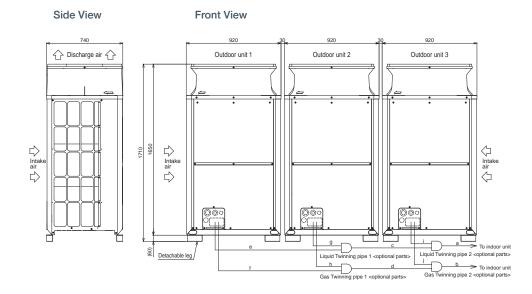
OUTDOOR UNIT	S	PUHY-EP650YSLM-A	PUHY-EP700YSLM-A	PUHY-EP750YSLM-A
APACITY (kW)	Heating (nominal)	81.5	88.0	95.0
- ( )	Cooling (nominal)	73.0	80.0	85.0
	High Performance Heating (UK)	73.8	88.0	95.0
	COP Priority Heating (UK)	70.9	76.6	82.7
	Cooling (UK)	64.8	69.5	73.8
OWER INPUT (kW)	Heating (nominal)	20.07	21.67	23.92
	Cooling (nominal)	18.15	20.15	21.85
	High Performance Heating (UK)	22.91	27.12	29.93
	COP Priority Heating (UK)	18.33	20.12	22.19
	Cooling (UK)	8.59	9.17	10.21
OP / EER (nominal)	0.	4.06 / 4.02	4.06 / 3.97	3.97 / 3.89
COP / SEER (system	n)	5.40 / 8.48	5.61 / 8.29	6.41 / 8.79
AX No. OF CONNEC	TABLE INDOOR UNITS	50	50	50
AX CONNECTABLE	CAPACITY	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity
RFLOW (m <sup>3</sup> /min)	High	175 / 175 / 175	200 / 175 / 175	200 / 175 / 175
PE SIZE mm (in)	Gas	28.58 (1-1/8")	34.93 (1-3/8")	34.93 (1-3/8")
	Liquid	15.88 (5/8")	19.05 (3/4")	19.05 (3/4")
UND PRESSURE LEV	VEL (dBA)	63	63.5	64.5
OUND POWER LEVE	EL (dBA)	84.5	85.5	85.5
EIGHT (kg)		208 + 208 + 208	252 + 208 + 208	252 + 208 + 208
MENSIONS (mm)	Width	920 + 920 + 920	1220 + 920 + 920	1220 + 920 + 920
	Depth	740	740	740
650mm without legs)		1710	1710	1710
ECTRICAL SUPPLY	f *	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz
IASE*		Three	Three	Three
STARTING CURRENT (A)*		8/8/8	8/8/8	8/8/8
NOMINAL SYSTEM RUNNING CURRENT (A)* Heating / Cooling [MAX]		31.0 / 28.0 [18.1+16.1+16.1]	33.4 / 31.1 [21.6+16.1+16.1]	36.9 / 33.7 [21.6+18.1+16.1]
	G RANGE (°C) Heating / Cooling	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52
	es BS EN 60947-2) - (A)*	1 x 20 / 1 x 20 / 1 x 20	1 x 25 / 1 x 20 / 1 x 20	1 x 25 / 1 x 20 / 1 x 20
AINS CABLE No. Co	pres*	4	4	4

Note: \* A separate power supply is required for each module. Where more than one figure is quoted there are multiple modules. Price includes Twinning Kit where necessary.

PIPING RESTRICTIONS	PUHY-EP650-750YSLM-A
TOTAL PIPING LENGTH	1000m max
FURTHEST PIPING LENGTH	165m max
FURTHEST PIPING LENGTH AFTER 1st BRANCH	40m*1 max
BETWEEN INDOOR AND OUTDOOR UNITS - HEIGHT	50 max (40m max if outdoor installed below)
BETWEEN INDOOR AND INDOOR UNITS - HEIGHT	15m <sup>1</sup> <sup>2</sup> max

Notes: \*1 90m is available. When the piping length is 40m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 40m from first joint. \*2 30m is available. When the piping length is 15m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 15m from first joint.

### Product Dimensions PUHY-EP650YSLM-A

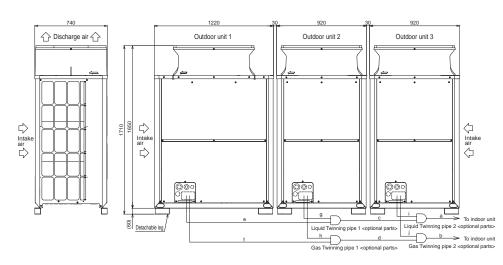


### Product Dimensions PUHY

PUHY-EP700/750YSLM-A

Side View

Front View



# Y Series High COP (32-36hp)

## **Heat Pump Outdoor Unit**





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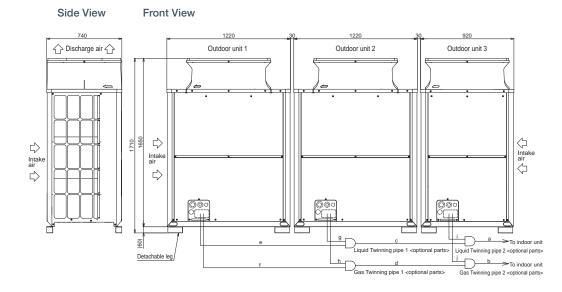
HIGH EFFICIENCY HEAT PUMP	PUHY-EP800YSLM-A	PUHY-EP850YSLM-A	PUHY-EP900YSLM-A
CAPACITY (kW) Heating (nominal)	100.0	108.0	113.0
Cooling (nominal)	90.0	96.0	101.0
High Performance Heating (UK)	100.0	102.6	107.4
COP Priority Heating (UK)	87.0	95.0	99.4
Cooling (UK)	78.2	85.2	89.6
POWER INPUT (kW) Heating (nominal)	25.18	27.76	29.04
Cooling (nominal)	23.43	25.53	27.22
High Performance Heating (UK)	31.51	37.04	38.74
COP Priority Heating (UK)	23.37	25.35	26.52
Cooling (UK)	10.72	11.80	12.58
COP / EER (nominal)	3.97 / 3.84	3.89 / 3.76	3.89 / 3.71
SCOP / SEER (system)	6.40 / 7.53	6.03 / 7.68	6.02 / 7.58
MAX No. OF CONNECTABLE INDOOR UNITS	50	50	50
MAX CONNECTABLE CAPACITY	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity
AIRFLOW (m <sup>3</sup> /min) High	200 / 200 / 175	200 / 200 / 175	200 / 200 / 200
PIPE SIZE mm (in) Gas	34.93 (1-3/8")	41.28 (1-5/8")	41.28 (1-5/8")
Liquid	19.05 (3/4")	19.05 (3/4")	19.05 (3/4")
SOUND PRESSURE LEVEL (dBA)	65	65.5	66
SOUND POWER LEVEL (dBA)	86.5	86.5	87
WEIGHT (kg)	252 + 252 + 208	252 + 252 + 208	252 + 252 + 252
DIMENSIONS (mm) Width	1220 + 1220 + 920	1220 + 1220 + 920	1220 + 1220 + 1220
Depth	740	740	740
1650mm without legs) Height	1710	1710	1710
ELECTRICAL SUPPLY *	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz
PHASE*	Three	Three	Three
STARTING CURRENT (A)*	8/8/8	8/8/8	8/8/8
OMINAL SYSTEM RUNNING CURRENT (A)* Heating / Cooling [MAX]	38.9 / 36.2 [21.6+21.6+16.1]	42.9 / 39.4 [21.6+21.6+18.1]	44.8 / 42.0 [21.6+21.6+21.6]
GUARANTEED OPERATING RANGE (°C) Heating / Cooling	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52
FUSE RATING (MCB sizes BS EN 60947-2) - (A)*	1 x 25 / 1 x 25 / 1 x 20	1 x 25 / 1 x 25 / 1 x 20	1 x 25 / 1 x 25 / 1 x 25
MAINS CABLE No. Cores*	4	4	4

Note: \* A separate power supply is required for each module. Where more than one figure is quoted there are multiple modules. Price includes Twinning Kit where necessary.

PIPING RESTRICTIONS	PUHY-EP800-900YSLM-A
TOTAL PIPING LENGTH	1000m max
FURTHEST PIPING LENGTH	165m max
FURTHEST PIPING LENGTH AFTER 1st BRANCH	40m*1 max
BETWEEN INDOOR AND OUTDOOR UNITS - HEIGHT	50 max (40m max if outdoor installed below)
BETWEEN INDOOR AND INDOOR UNITS - HEIGHT	15m*2 max

Notes: \*1 90m is available. When the piping length is 40m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 40m from first joint. \*2 30m is available. When the piping length is 15m or longer, use the one size larger liquid pipe between the first joint all the way to all indoor units greater than 15m from first joint.

#### Product Dimensions PUHY-EP800/850YSLM-A



### Product Dimensions PUHY-EP900YSLM-A

