

McDonald's Restaurant
External Plant Details for Planning Consent

Ruislip #263

Rev 00

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EXTERNAL PLANT SCHEDULE

Project: McDonald's Restaurant – Ruislip #263

Ref: 9663

Revision: 0

(Type) - Denotes plant item for technical details

Ref (Type)	Location	Service	Capacity kW	Manufacturer	Model	Weight kg	Remarks
S1 (V1050)	Roof	Kitchen Supply	63kW (cooling)	Weatherite	IL200 S1	675	
S1 /C1 (V2001a)	Roof	S1 Cond 1	22kW cooling 27kW heating	Mitsubishi	PUZ- ZM250YKA	138	
S1 /C2 (V2001a)	Roof	S1 Cond 2	22kW cooling 27kW heating	Mitsubishi	PUZ- ZM250YKA	138	
S1 /C3 (V2001a)	Roof	S1 Cond 2	22kW cooling 27kW heating	Mitsubishi	PUZ- ZM200YKA	138	
S2 (V1051)	Roof	Dining Supply	44kW (cooling)	Weatherite	IL150 S2	675	
S2 /C1 (V2001a)	Roof	S2 Cond 1	22kW cooling 27kW heating	Mitsubishi	PUZ- ZM250YKA	138	
S2 /C2 (V2001a)	Roof	S2 Cond 2	22kW cooling 27kW heating	Mitsubishi	PUZ- ZM250YKA	138	
S3 (V1051)	Roof	First Floor Dining Supply	44kW (cooling)	Weatherite	IL150 S3	675	
S3 /C1 (V2001a)	Roof	S2 Cond 1	22kW cooling 27kW heating	Mitsubishi	PUZ- ZM250YKA	138	
S3 /C2 (V2001a)	Roof	S2 Cond 2	22kW cooling 27kW heating	Mitsubishi	PUZ- ZM250YKA	138	
AC1 AC1/C1 (V2004)	Manager/ Roof	Split Wall AC Unit	3.5kW cooling 3.3kW Heating	Mitsubishi	PKA-M35HA PUZ-ZM35VKA	40	
AC2 AC2/C1 (V2004)	Crew Room /Roof	Split Wall AC Unit	3.5kW cooling 3.3kW Heating	Mitsubishi	PKA-ZM35HA PUZ-ZM35VKA	40	
DH1 DH1/C1 (V2005) (V2001)	Entrance/ Roof	Heatpump Door Curtain	8.3kW	Mitsubishi	HP1000R DXE & PUZ-ZM71 R32	70	

Ref (Type)	Location	Service	Capacity kW	Manufacturer	Model	Weight kg	Remarks
E1 (V3003)	Roof	Kitchen Canopy Extract		Woodcock & Wilson	BCW 550	300	
(V9005)	Roof	HWS Heatpump Condenser		AO Smith	FPI-9 Condensing Unit	78	

EQUIPMENT TYPE LIST

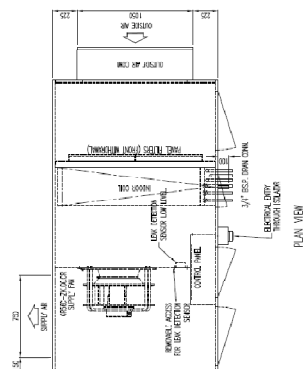
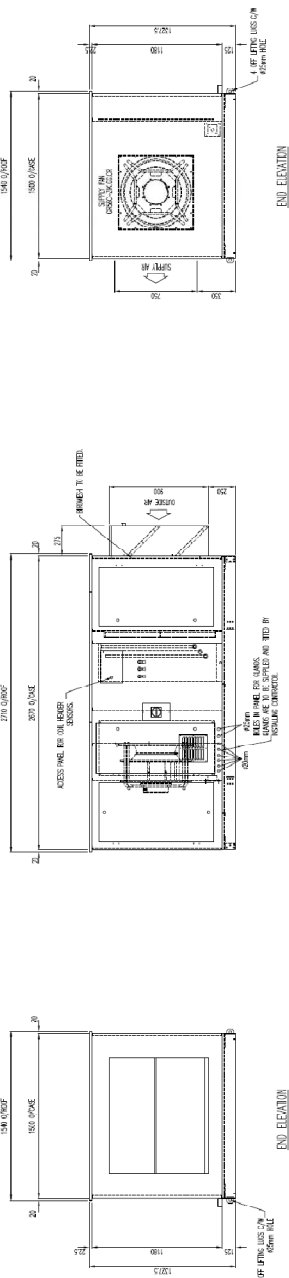
Type Reference	Description	Manufacturer	Model
V1050	Kitchen AHU	Weatherite	S1 200 IL
V1051	Lobby AHU	Weatherite	S2, S3150 IL
V2001	AHU Condenser	Mitsubishi	PUHZ-RP(35-250)YKA
V2001a	AHU Condenser	Mitsubishi	PUZ-ZM(100-250)YKA
V2004	Wall Mounted Split a/c Unit R32	Mitsubishi	PKA-(M35-M100) R32
V3003	Kitchen Extract Fan	Woodcock & Wilson	BCW 550 Single Motor
V9005	HWS Heatpump Condenser	AO Smith	FPI 9 Condensing Unit

MANUFACTURER'S DAT

V1050

Weatherite AHU S1 200 IL

DO NOT SCALE – IF IN DOUBT, ASK



A	11/01/22	GH	UNIT MODEL CHANGED TO IL260	MG
REV	DAE	DRN	MODIFICATION	YCR No. CHC

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DATE	06/01/2002		DRAWING No:
	CONTACT No:	422051	
BY	DATE	CHECKED	DATE
	6 JUL		

422051/1 A

TO _ _ R A N C E S

Overall Unit Size : + 1mm - 0.9mm
Internal Threaded Components : + 1mm - 2mm
Holes : ± 0.1mm
Flat Surfaces : ± 0.1mm
Chamfers : ± 0.1mm
Cut Edges : ± 0.1mm
Clearance : ± 0.1mm

Up to M10 = 1 mm Clearance
Over M10 = 2 mm Clearance

For pay fields and % screws are drilled
the manufacturer's recommended drill size

EQUIPMENT TECHNICAL SCHEDULE

Model Reference: *McRFD031x3063FOAIL200S1*

Location: *External (Restaurant Unit) S2*

Arrangement: *Outside Air Inlet, Filters, DX Coil, Supply Fan (Controls Section)*

FAN SECTION

Air Volume: 3.11 m³/s
 External Resistance: 400 Pa (max)
 Type: 1 –off Ziehl GR56C Type, SISW, Direct Drive EC
 Motor Fitted Power: 3.5 kW
 Full Load Current: 4.40 Amps
 Starting Current: Inverter Controlled, 0-10Volt Signal
 Electrical Supply: 400V / 3Ph / 50Hz
 Fan Nozzle K-Factor: 308

FILTER SECTION

Type: Disposable Pleated Panel
 Efficiency: G4 Rated efficiency when measured in accordance with B.S.EN 779
 ISO Course 70% (ISO 16890)
 Size: 594 mm x 494 mm x 48 mm (4-off)
 Face Velocity: 2.64 m/s

COOLING COIL SECTION

Air Volume: 3.11 m³/s
 Face Velocity: 2.37 m/s
 Total Duty: 63 kW
 On Coil: 27 °C dB / 48.0 % RH
 Off Coil: 14.3 °C dB / 91 % RH
 Medium: R410A
 Evap Temp: 8°C (dew point)
 Rows/Fins: 5 Rows / 2.1 mm Fin Spacing
 Max test pressure: 47 bar
 Max operating pressure: 42 bar

UNIT ELECTRICAL DETAILS

Full Load Current (including remote condensing units): 66.4 Amps / Phase
 Voltage: 400V / 3Ph / 50Hz

SOUND POWER LEVELS

S.W.L (dB) at Fan

Reference: 10⁻¹² Watts

Octave Band Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Supply Fan Outlet – In Duct	78	85	85	84	81	75	74	71
Supply Fan Inlet	73	80	81	77	72	70	69	67

Unit Weight – 675kg.

S1 acoustic data (Alternative fans in use circa 2022 due to standard fan procurement issues)

Hz	63	125	250	500	1000	2000	4000	8000
Inlet	83	83	82	76	72	70	67	72
Outlet	83	89	85	85	81	80	79	77



V1051

Weatherite AHU S2/S3 150 IL

EQUIPMENT TECHNICAL SCHEDULE

Model Reference: *McRFD025x2044IL150S2*

Location: *External (Restaurant Unit) S2*

Arrangement: *Return/Outside Air Mixing Section, Filters, DX Coil, Supply Fan (Controls Section)*

FAN SECTION

Air Volume: 2.44 m³/s
External Resistance: 400 Pa (max)
Type: 1 –off Ziehl GR56C Type, SISW, Direct Drive EC
Motor Fitted Power: 3.5 kW
Full Load Current: 4.40 Amps
Starting Current: Inverter Controlled, 0-10Volt Signal
Electrical Supply: 400V / 3Ph / 50Hz
Fan Nozzle K-Factor: 308

FILTER SECTION

Type: Disposable Pleated Panel
Efficiency: G4 Rated efficiency when measured in accordance with B.S.EN 779
ISO Course 70% (ISO 16890)
Size: 594 mm x 594 mm x 48 mm (2-off)
594 mm x 297 mm x 48 mm (2-off)
Face Velocity: 2.30 m/s

COOLING COIL SECTION

Air Volume: 2.44 m³/s
Face Velocity: 2.49 m/s
Total Duty: 45.25 kW
On Coil: 27 °C dB / 48.0 % RH
Off Coil: 15.9 °C dB / 81 % RH
Medium: R410A
Evap Temp: 8°C (dew point)
Rows/Fins: 4 Rows / 2.3 mm Fin Spacing
Max test pressure: 47 bar
Max operating pressure: 42 bar

UNIT ELECTRICAL DETAILS

Full Load Current (including remote condensing units): 48.9 Amps / Phase
Voltage: 400V / 3Ph / 50Hz

SOUND POWER LEVELS

S.W.L (dB) at Fan

Reference: 10⁻¹² Watts

Octave Band Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Supply Fan Outlet – In Duct	75	85	81	80	77	73	70	65
Supply Fan Inlet	71	79	76	72	69	67	64	59

Model Ref: *McRGFD025x2044IL150S2* Continued

DIMENSIONS & WEIGHTS

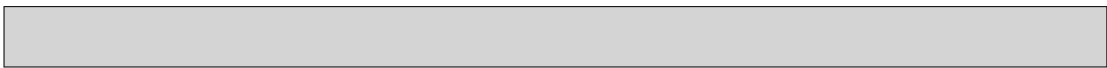
Unit Dimensions: 2670mm Long (excluding Intake hood of 275mm) x 1500mm Wide x 1198mm High (Height includes Base frame and Weatherproof Roof)

Unit Weight: 575 kG (Approximate)



V2001

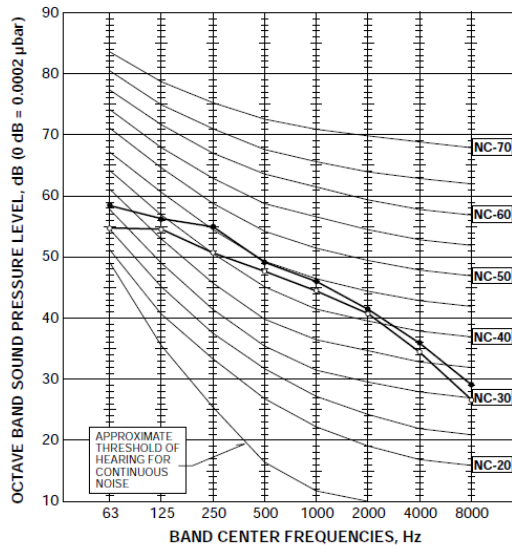
Mitsubishi Electric Condenser
PUHZ-RP(35-250)YKA



Service Ref.				PUHZ-RP200YKA PUHZ-RP200YKAR1		PUHZ-RP250YKA		
Mode				Cooling		Heating		
OUTDOOR UNIT	Power supply (phase, cycle, voltage)			3 phase 50Hz, 400V				
	Max. current		A	19		21		
	External finish			Munsell 3Y 7.8/1.1				
	Refrigerant control			Linear Expansion Valve				
	Compressor			Hermetic				
	Model			ANB52FFQMT		ANB66FFRMT		
	Motor output		kW	4.7		5.5		
	Starter type			Inverter				
	Protection devices			HP switch Comp.shell thermo Discharge thermo				
	Crankcase heater		W	—				
	Heat exchanger			Plate fin coil				
	Fan	Fan(drive) × No.		Propeller fan × 2				
		Fan motor output		kW	0.150 + 0.150			
		Airflow		m³/min(CFM)	140(4,940)			
	Defrost method			Reverse cycle				
	Noise level	Cooling	dB	58		58		
		Heating	dB	59		59		
	Dimensions	W	mm(in.)	1,050(41-5/16)				
		D	mm(in.)	330 + 30(13+1-3/16)				
		H	mm(in.)	1,338(52-11/16)				
	Weight		kg(lbs)	135(297)		141(311)		
	Refrigerant			R410A				
	Charge		kg(lbs)	7.1(15.7)		7.7(17.0)		
	Oil (Model)		L	1.70(FV50S)		1.70(FV50S)		
Pipe size O.D.	Liquid	mm(in.)	9.52(3/8)		12.7(1/2)			
	Gas	mm(in.)	25.4(1)		25.4(1)			
Connection method		Indoor side	Flared					
		Outdoor side	Flared & Brazing					
Between the indoor & outdoor unit		Height difference	Max. 30m					
		Piping length	Max. 120m					
REFRIGERANT PIPING								

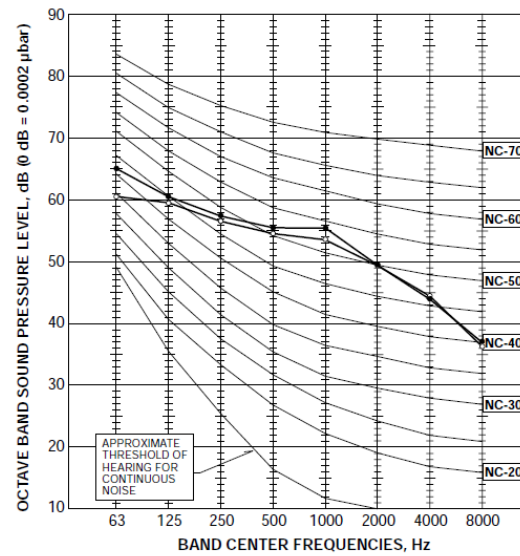
**PUHZ-RP140VKA
PUHZ-RP140YKA**

MODE	SPL(dB)	LINE
COOLING	50	○—○
HEATING	52	●—●



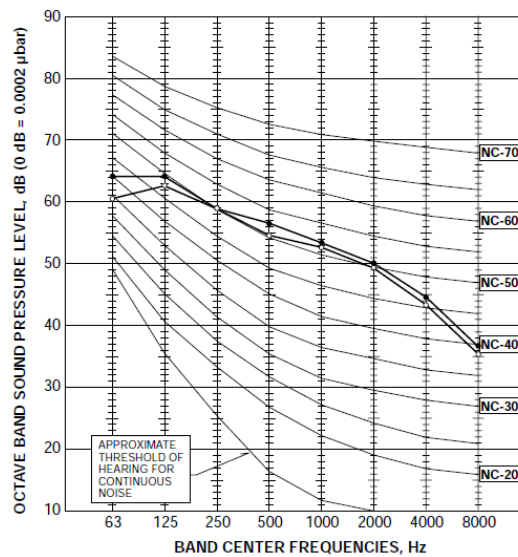
**PUHZ-RP200YKA
PUHZ-RP200YKAR1**

MODE	SPL(dB)	LINE
COOLING	58	○—○
HEATING	59	●—●



PUHZ-RP250YKA

MODE	SPL(dB)	LINE
COOLING	58	○—○
HEATING	59	●—●



Special function

(a) Low-level sound priority mode (Local wiring)

By performing the following modification, operation noise of the outdoor unit can be reduced by about 3-4 dB.

The low noise mode will be activated when a commercially available timer or the contact input of an ON/OFF switch is added to the CNDM connector (option) on the control board of the outdoor unit.

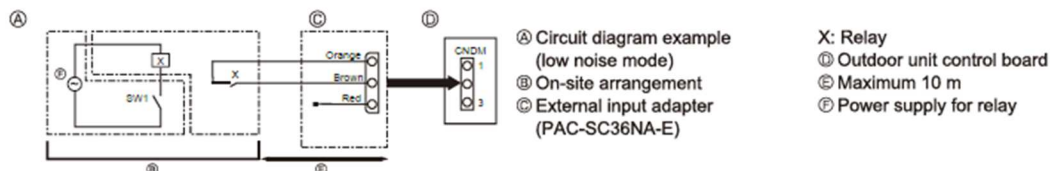
- The ability varies according to the outdoor temperature and conditions, etc.

① Complete the circuit as shown when using the external input adapter (PAC-SC36NA-E). (Option)

② SW7-1 (Outdoor unit control board): OFF

③ SW1 ON: Low noise mode

SW1 OFF: Normal operation



Unit : mm



V2001a

Mitsubishi Electric Condenser
PUZ-ZM(100-250)YKA

Air Conditioning Product Information

R32



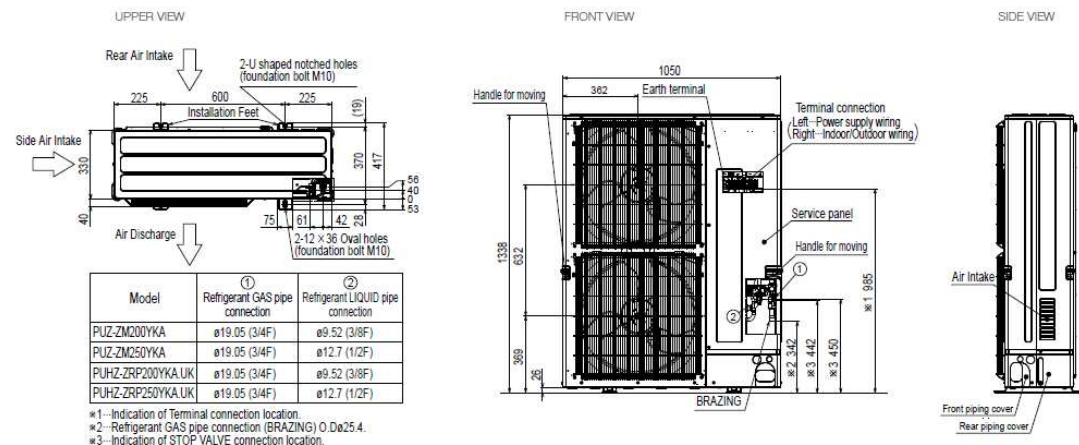
PUZ-ZM200/250YKA R32 High Capacity Outdoor Units Power Inverter Heat Pump (Three Phase)



PUZ-ZM200/250YKA OUTDOOR UNITS		PUZ-ZM200YKA	PUZ-ZM250YKA
Capacity (kW)	Heating (nominal)	22.4	27.0
	Cooling (nominal)	19.0	22.0
SCOP (nsh) / SEER (nsc) (BS EN14825)*1		4.50 (177.1%) / 7.49 (296.4%)	4.47 (175.7%) / 7.43 (294.3%)
SOUND PRESSURE LEVEL (dBA)	Heating/Cooling	62 / 59	62 / 59
WEIGHT (kg)		137	138
DIMENSIONS (mm)	Width x Depth x Height	1050 x 330+40 x 1338	1050 x 330+40 x 1338
PIPE SIZE mm (in)	Gas	28.58 (1 1/8")	28.58 (1 1/8")
	Liquid	9.52 (3/8")	12.7 (1/2")
ELECTRICAL SUPPLY		380-415V, 50Hz	380-415V, 50Hz
PHASE		Three	Three
SYSTEM POWER INPUT (kW)	Heating/Cooling (nominal)	5.63 / 4.95	7.81 / 6.86
	Heating/Cooling (UK)	5.07 / 4.11	7.03 / 5.69
STARTING CURRENT (A)		5	5
SYSTEM RUNNING CURRENT (A)	Heating/Cooling (MAX)	9.57 / 8.58 [22.5]	13.3 / 11.6 [22.5]
FUSE RATING (BS88) - HRC (A)		25	25
MAINS CABLE No. CORES		5	5
MAX PIPE LENGTH (m)		100	100
MAX HEIGHT DIFFERENCE (m)		30	30
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675) - 30m	6.3 / 4.25	6.8 / 4.59
MAX ADDITIONAL REFRIGERANT (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	2.9 / 1.96	2.4 / 1.62

*1 PUZ-ZM200YKA connected to 2 x PLA-ZM100EA, PUZ-ZM250YKA connected to 2 x PLA-ZM125EA

PUZ-ZM200/250YKA DIMENSIONS



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Mitsubishi Electric Living
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UNITED KINGDOM Mitsubishi Electric Europe Living Environment Systems Division, Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England. Telephone: 01707 282880 Fax: 01707 278881
IRELAND Mitsubishi Electric Europe, Westgate Business Park, Ballymount, Dublin 24, Ireland. Telephone: (01) 419 8800 Fax: (01) 419 8890 International code: 003531

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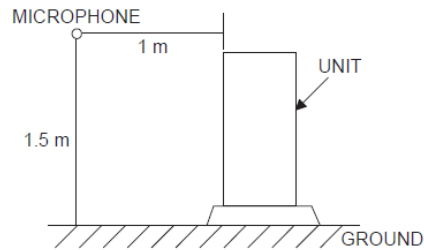
Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:454), R1234ze (GWP:7) or R1234yf (GWP:4). These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows: R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of May 2020



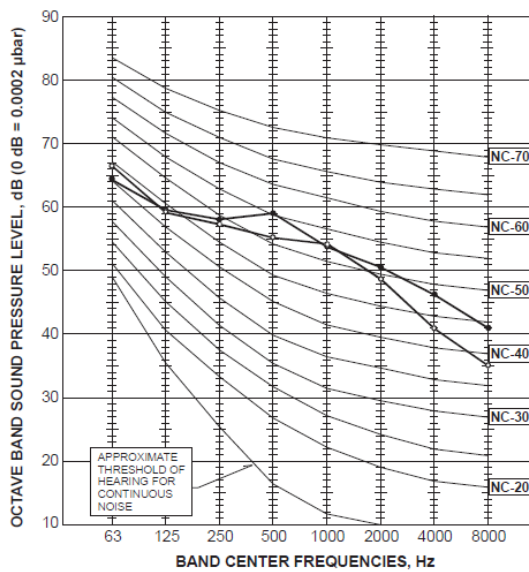
greengateway.mitsubishielectric.co.uk

5-4. NOISE CRITERION CURVES



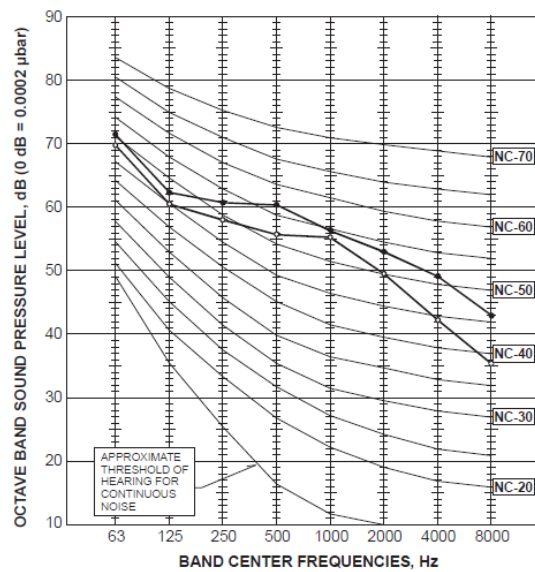
PUZ-M200YKA.UK

MODE	SPL(dB)	LINE
COOLING	58	○—○
HEATING	60	●—●



PUZ-M250YKA.UK

MODE	SPL(dB)	LINE
COOLING	59	○—○
HEATING	62	●—●



Special function

(a) Low-level sound priority mode (Local wiring)

By performing the following modification, operation noise of the outdoor unit can be reduced by about 3-4 dB.

The low noise mode will be activated when a commercially available timer or the contact input of an ON/OFF switch is added to the CNDM connector (option) on the control board of the outdoor unit.

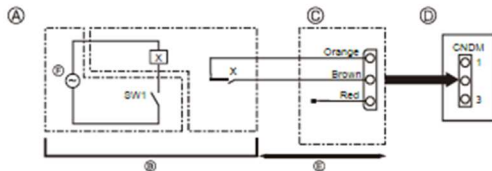
- The ability varies according to the outdoor temperature and conditions, etc.

① Complete the circuit as shown when using the external input adapter (PAC-SC36NA-E). (Option)

② SW7-1 (Outdoor unit control board): OFF

③ SW1 ON: Low noise mode

SW1 OFF: Normal operation

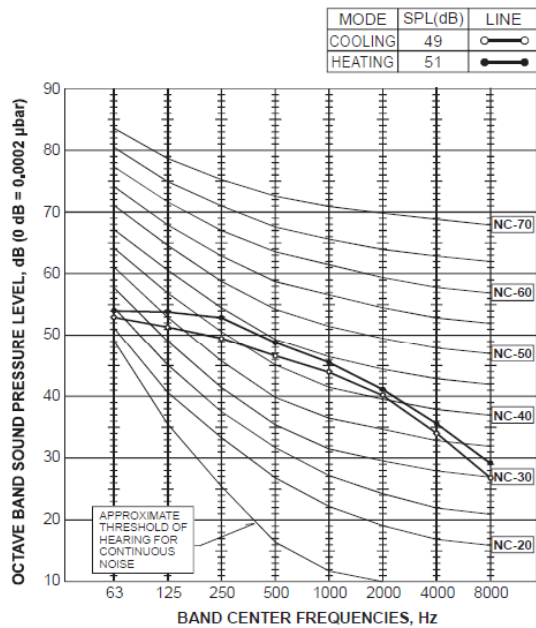


① Circuit diagram example (low noise mode)
② On-site arrangement
③ External input adapter (PAC-SC36NA-E)

X: Relay
④ Outdoor unit control board
⑤ Maximum 10 m
⑥ Power supply for relay

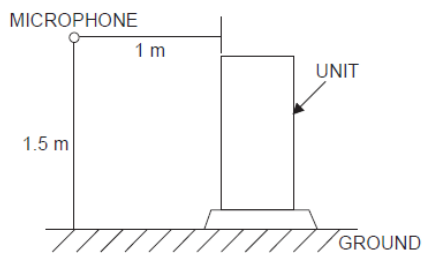
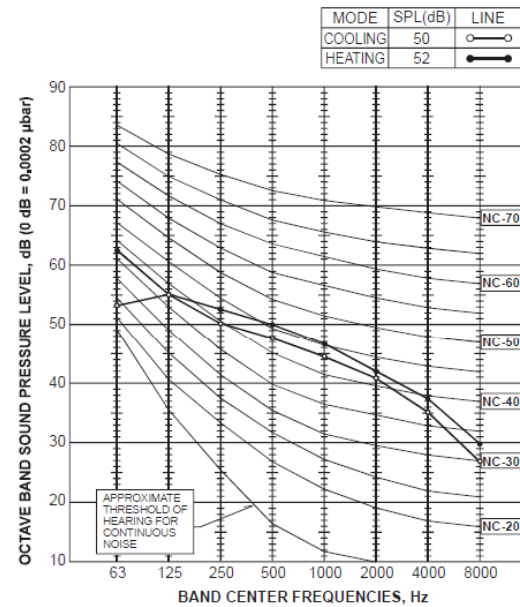
5-3. NOISE CRITERION CURVES

PUZ-ZM100VKA.UK
 PUZ-ZM100VKAR1.UK
 PUZ-ZM100YKA.UK
 PUZ-ZM100YKAR1.UK



PUZ-ZM125VKA.UK
 PUZ-ZM125VKAR1.UK
 PUZ-ZM125VKAR2.UK
 PUZ-ZM140VKA.UK
 PUZ-ZM140VKAR1.UK
 PUZ-ZM140VKAR2.UK

PUZ-ZM125YKA.UK
 PUZ-ZM125YKAR1.UK
 PUZ-ZM125YKAR2.UK
 PUZ-ZM140YKA.UK
 PUZ-ZM140YKAR1.UK
 PUZ-ZM140YKAR2.UK





V2004

Mitsubishi Wall Split
PKA- (M35-M100) R32

Air Conditioning

Product Information

PKA-M R32 Power Inverter Heat Pump Wall Mounted System (Single Phase)

Making a
World of
Difference



PKA-M - INDOOR UNITS		PKA-M35HA	PKA-M50HA	PKA-M60KA	PKA-M71KA	PKA-M100KA
CAPACITY (kW)	Heating (nominal)	4.1 (1.6-5.2)	5.0 (2.5-7.3)	7.0 (2.8-8.2)	8.0 (3.5-10.2)	11.2 (4.5-14.0)
	Cooling (nominal)	3.6 (1.6-4.5)	4.6 (2.3-5.6)	6.1 (2.7-6.7)	7.1 (3.3-8.1)	9.5 (4.9-11.4)
	Heating (UK)	3.5 (1.35-4.4)	4.25 (2.15-6.2)	5.95 (2.4-8.95)	6.8 (3.0-8.65)	9.5 (4.85-11.9)
	Cooling (UK)	3.3 (1.45-4.15)	4.23 (2.1-5.15)	5.5 (2.5-6.15)	6.55 (3.05-7.45)	9.2 (4.5-10.5)
SHF (nominal)		0.81	0.72	0.86	0.78	0.73
COP / EER (nominal)		3.94 / 4.14	3.71 / 3.71	4.04 / 3.91	3.78 / 3.81	3.61 / 3.95
SCOP / SEER (BS EN14826)		4.0 / 6.3	4.1 / 6.4	4.2 / 6.8	4.3 / 6.8	4.4 / 6.5
ERP ENERGY EFFICIENCY CLASS	Heating/Cooling	A+ / A++	A+ / A++	A+ / A++	A+ / A++	A+ / A++
AIRFLOW (l/s)	Lo-Mi-Hi	150-175-200	150-175-200	300-333-367	300-333-367	333-363-433
PIPE SIZE MM (in)	Gas	12.7 (1/2")	12.7 (1/2")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Liquid	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
SOUND PRESSURE LEVEL (dBA)	Lo-Mi-Hi	38-40-43	38-40-43	39-42-45	39-42-45	41-45-49
SOUND POWER LEVEL (dBA)		80	80	84	84	85
DIMENSIONS (mm)	Width x Depth x Height	898 x 249 x 295	898 x 249 x 295	1170 x 295 x 365	1170 x 295 x 365	1170 x 295 x 365
WEIGHT (kg)		13	13	21	21	21
ELECTRICAL SUPPLY		Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit
FUSE RATING (BS88) - HRC (A)		6	6	6	6	6
INTERCONNECTING CABLE NO. CORES		4	4	4	4	4
WIRED REMOTE CONTROLLER REFERENCE		PAR-33MAA	PAR-33MAA	PAR-33MAA	PAR-33MAA	PAR-33MAA

PUZ-ZM - OUTDOOR UNITS		PUZ-ZM35VKA	PUZ-ZM50VKA	PUZ-ZM60VKA	PUZ-ZM71VKA	PUZ-ZM100VKA
SOUND PRESSURE LEVEL (dBA)	Heating/Cooling	46 / 44	46 / 44	49 / 47	49 / 47	51 / 49
	Cooling	45	45	47	47	49
WEIGHT (kg)		48	48	70	70	116
DIMENSIONS (mm)	Width x Depth x Height	809 x 300 x 630	809 x 300 x 630	950 x 330 x 25 x 943	950 x 330 x 25 x 943	1050 x 330 x 40 x 1338
ELECTRICAL SUPPLY		220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz
PHASE		Single	Single	Single	Single	Single
SYSTEM POWER INPUT (kW)	Heating/Cooling (nominal)	1.040 / 0.869	1.347 / 1.239	1.732 / 1.560	2.116 / 1.963	3.102 / 2.405
	Heating/Cooling (UK)	0.81 / 0.84	1.12 / 1.12	1.25 / 1.65	1.54 / 1.92	2.47 / 2.06
STARTING CURRENT (A)		5.0	5.0	0.0	0.0	13.0
SYSTEM RUNNING CURRENT (A)	Heating/Cooling [MAX]	4.97 / 4.31 [13.4]	5.98 / 5.57 [13.4]	7.41 / 6.65 [19.4]	9.10 / 7.96 [19.4]	13.46 / 10.45 [27.1]
FUSE RATING (BS88) - HRC (A)		16	16	25	25	32
MAINS CABLE NO. CORES		3	3	3	3	3
MAX PIPE LENGTH (m)		50	50	55	55	100
MAX HEIGHT DIFFERENCE (m)		30	30	30	30	30
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675) - 30m	2.0 / 1.35	2.00 / 1.35	2.80 / 1.89	2.80 / 1.89	4.00 / 2.70
MAX ADDITIONAL REFRIGERANT (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	0.30 / 0.20	0.30 / 0.20	0.80 / 0.54	0.80 / 0.54	2.80 / 1.89

PRODUCT DIMENSIONS		PKA-M35/50HA	PRODUCT DIMENSIONS	PKA-M60-100KA	
Upper View			Side View		
Front View			Upper View		
			Side View		
			Front View		



Telephone: 01707 282880
email: air.conditioning@meuk.mee.com
web: airconditioning.mitsubishielectric.co.uk microsite: timeforR32.co.uk

UNITED KINGDOM Mitsubishi Electric Europe Living Environment Systems Division
Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England General Enquiries Telephone: 01707 282880 Fax: 01707 278881
IRELAND Mitsubishi Electric Europe Westgate Business Park, Ballymount, Dublin 24, Ireland
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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrical/technical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP-2088), R32 (GWP-675), R407C (GWP-1774) or R134a (GWP-1430). These GWP values are based on Regulation (EU) No 517/2014 from POC 4th edition. In case of Regulation (EU) No 605/2011 from POC 3rd edition, these are as follows. R410A (GWP-1975), R32 (GWP-550), R407C (GWP-1650) or R134a (GWP-1300).

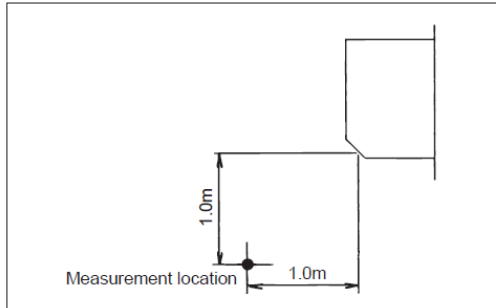


Effective as of May 2017

5

NOISE CRITERION CURVES

5-1. SOUND LEVELS

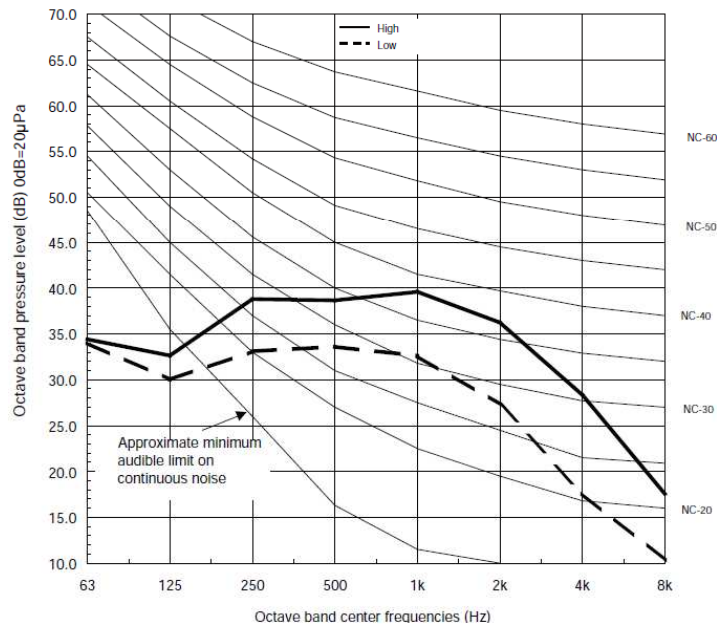


* Measured in anechoic room.

Sound level at anechoic room : Low-Middle-High

Model	Sound level dB (A)
PKA-M35/50HA(L)	36 - 40 - 43

5-2. NOISE CRITERION CURVES





V2005

Thermoscreens Door Heater **Mr Slim HP DXE / R DXE R32**

(Note – Linked to external Condenser V2001)

HP DX 2.0

Air Curtain System

Power Inverter Heat Pump

Mr.SLIM™

Thermoscreens 

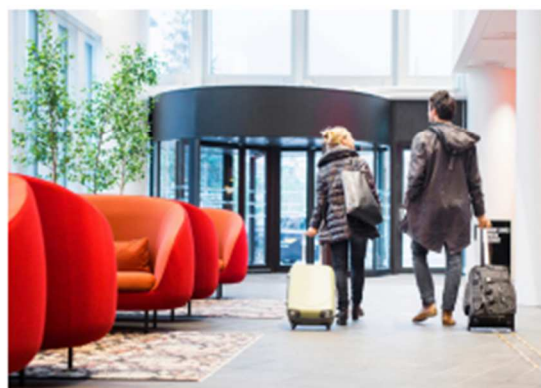
The HP DX 2.0 air curtain range is the latest innovation from the collaboration between Mitsubishi Electric and Thermoscreens.

These R32 / R410A dual refrigerant split air curtains are available as exposed or recessed versions, giving exceptional flexibility for commercial overdoor applications such as retail stores, office and hotel lobbies.

R32

Key Features & Benefits:

- Helps our customers meet their corporate social responsibility targets by using lower GWP R32 refrigerant
- Lower run costs and carbon emissions achieved with connection to flagship Mr Slim Power Inverter high efficiency outdoor units
- Large / double door openings are supported through twin-split air curtain capability
- Suitable for use with Mr Slim R410A outdoor units



les.mitsubishielectric.co.uk

Air Conditioning Product Information

HP DX 2.0 Air Curtain System Power Inverter Heat Pump



HP DX 2.0 - RECESSED	HP1000R DX 2.0	HP1500R DX 2.0	HP1500R DX 2.0	HP2000R DX 2.0	HP2000R DX 2.0	HP2000R DX 2.0
CAPACITY (kW)						
Heating (nominal)	8.3	13.2	13.2	15.7	15.7	21.0
Cooling (nominal)	7.4	11.8	11.8	14.0	14.0	18.7
APFLOW MAX (l/s)	364	575	575	720	720	720
SOUND PRESSURE LEVEL AT 3m (dBA)	47-54-57	45-52-56	45-52-56	47-54-57	47-54-57	47-54-57
WEIGHT (kg)	52	75	75	93	93	93
DIMENSIONS (mm) (inc. grille)	Width x Depth x Height	1250 (1300) x 485 (538) x 348	1750 (1800) x 485 (538) x 348	1750 (1800) x 485 (538) x 348	2340 (2390) x 485 (538) x 348	2340 (2390) x 485 (538) x 348
ELECTRICAL SUPPLY	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz
PHASE	Single	Single	Single	Single	Single	Single
RUNNING CURRENT (A)	0.8	1.2	1.2	1.4	1.4	1.4
MAINS CABLE No. Cores	3	3	3	3	3	3
UNIFORMITY AT OUTLET (%) ¹	90	92	92	90	90	90
MAX MOUNTING HEIGHT (m)	3.2	3.2	3.2	3.2	3.2	3.2

HP DX 2.0 - FREE STANDING	HP1000 DX 2.0	HP1500 DX 2.0	HP1500 DX 2.0	HP2000 DX 2.0	HP2000 DX 2.0	HP2000 DX 2.0
CAPACITY (kW)						
Heating (nominal)	8.3	13.2	13.2	15.7	15.7	21.0
Cooling (nominal)	7.4	11.8	11.8	14.0	14.0	18.7
APFLOW MAX (l/s)	364	575	575	720	720	720
SOUND PRESSURE LEVEL AT 3m (dBA)	47-54-57	45-52-56	45-52-56	47-54-57	47-54-57	47-54-57
WEIGHT (kg)	46	67	67	84	84	84
DIMENSIONS (mm)	Width x Depth x Height	1300 x 488 x 306	1825 x 488 x 306	1825 x 488 x 306	2350 x 488 x 306	2350 x 488 x 306
ELECTRICAL SUPPLY	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz
PHASE	Single	Single	Single	Single	Single	Single
RUNNING CURRENT (A)	0.8	1.2	1.2	1.4	1.4	1.4
MAINS CABLE No. Cores	3	3	3	3	3	3
UNIFORMITY AT OUTLET (%) ¹	90	92	92	90	90	90
MAX MOUNTING HEIGHT (m)	3.2	3.2	3.2	3.2	3.2	3.2

HEAT PUMP OUTDOOR UNITS R32	PUZ-ZM1V1HAR1	PUZ-ZM125VKAR2	PUZ-ZM125YKAR2	PUZ-ZM140VKAR2	PUZ-ZM140YKAR2	PUZ-ZM200YKA
SOUND PRESSURE LEVEL (dBA)	Heating/Cooling	49 / 47	52 / 50	52 / 50	52 / 50	62 / 59
SOUND POWER LEVEL (dBA)	Cooling	67	70	70	70	77
WEIGHT (kg)		70	116	125	118	131
DIMENSIONS (mm)	Width x Depth x Height	950 x 330 x 25 x 943	1050 x 330 x 40 x 1338	1050 x 330 x 40 x 1338	1050 x 330 x 40 x 1338	1050 x 330 x 40 x 1338
ELECTRICAL SUPPLY	220-240V, 50Hz	220-240V, 50Hz	380-415V, 50Hz	220-240V, 50Hz	380-415V, 50Hz	380-415V, 50Hz
PHASE	Single	Single	Three	Single	Three	Three
STARTING CURRENT (A)	6.0	13	6.0	13	6.0	5.0
SYSTEM RUNNING CURRENT (A)	Heating/Cooling (MAX)	7.79 / 7.06 (19.5)	15.77 / 14.53 (27.0)	5.32 / 4.89 (10.0)	18.41 / 15.86 (28.7)	6.23 / 5.37 (13.7)
FUSE RATING (BS88) - HRC (A)	25	32	16	40	16	25
INTERCONNECTING CABLE	2 Core	2 Core	2 Core	2 Core	2 Core	2 Core
MAX PIPE LENGTH (m)	55	85	85	85	85	85
MAX HEIGHT DIFFERENCE (m)	30	30	30	30	30	30
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (g) - R32 (GWP 675) - 30m	2.80 / 1.89	4.00 / 2.70	4.00 / 2.70	4.00 / 2.70	4.00 / 2.70	6.3 / 4.25
MAX ADDITIONAL REFRIGERANT (kg) / CO ₂ EQUIVALENT (g) - R32 (GWP 675) - 30m	0.80 / 0.54	2.20 / 1.49	2.20 / 1.49	2.20 / 1.49	2.20 / 1.49	2.20 / 1.49

HEAT PUMP OUTDOOR UNITS R410A	PUH2-ZRP1V1HA2	PUH2-ZRP125YKA3	PUH2-ZRP125YKA3	PUH2-ZRP140YKA3	PUH2-ZRP140YKA3	PUH2-ZRP200YKA3
SOUND PRESSURE LEVEL (dBA)	Heating/Cooling	48 / 47	52 / 50	52 / 50	52 / 50	62 / 59
SOUND POWER LEVEL (dBA)	Cooling	67	70	70	70	77
WEIGHT (kg)		70	116	125	118	131
DIMENSIONS (mm)	Width x Depth x Height	950 x 330 x 30 x 943	1050 x 330 x 40 x 1338	1050 x 330 x 40 x 1338	1050 x 330 x 40 x 1338	1050 x 330 x 40 x 1338
ELECTRICAL SUPPLY	220-240V, 50Hz	220-240V, 50Hz	380-415V, 50Hz	220-240V, 50Hz	380-415V, 50Hz	380-415V, 50Hz
PHASE	Single	Single	Three	Single	Three	Three
STARTING CURRENT (A)	5	5	5	5	5	5
FUSE RATING (BS88) - HRC (A)	25	32	16	40	16	25
INTERCONNECTING CABLE	2 Core	2 Core	2 Core	2 Core	2 Core	2 Core
MAX PIPE LENGTH (m)	50	75	75	75	75	100
MAX HEIGHT DIFFERENCE (m)	30	30	30	30	30	30
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (g) - R410A (GWP 2088) - 30m	3.50 / 7.31	5.00 / 10.44	5.00 / 10.44	5.00 / 10.44	5.00 / 10.44	7.10 / 14.82
MAX ADDITIONAL REFRIGERANT (kg) / CO ₂ EQUIVALENT (g) - R410A (GWP 2088) - 30m	1.20 / 2.51	2.40 / 5.01	2.40 / 5.01	2.40 / 5.01	2.40 / 5.01	3.60 / 7.52 up to 75m ²

Three Phase Notes: ¹ Tested to ISO 27327. ² For 75-100m please consult the Service Handbook.

Product dimensions available at: library.mitsubishielectric.co.uk/pdf/book/2020_Product_Catalogue#page-85



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Note: The use rating is for guidance only. Please refer to the relevant data sheet for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and cable rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas. R410A (GWP 2088), R32 (GWP 675), R450C (GWP 174), R134a (GWP 1430), R513A (GWP 675), R454B (GWP 466), R1234ze (GWP 1) or R1234yf (GWP 4). These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No 609/2011 from IPCC 3rd edition, these are as follows: R410A (GWP 1975), R32 (GWP 665), R450C (GWP 160) or R134a (GWP 1300).

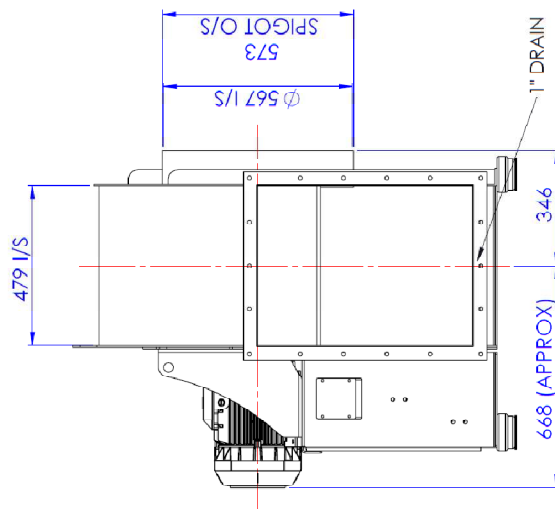
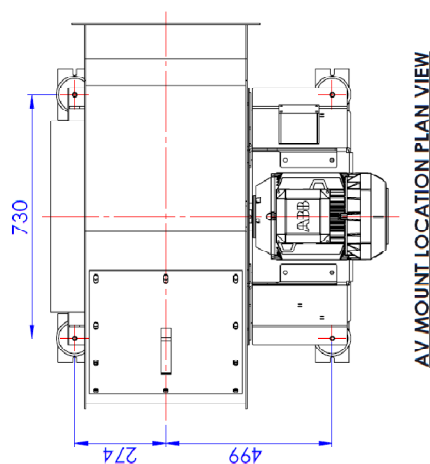
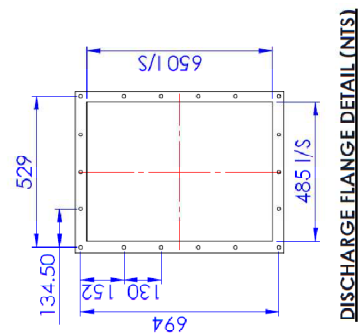
Effective as of September 2020





V3003

Woodcock & Wilson BCW550
Kitchen Extract Fan



INLET VOLUME: 2.8 M3 / S
STATIC PRESSURE: 1200 Pa
TEMP: 50°C
SPEED : 1631 RPM
POWER : 4.0 kW
MOTOR: 5.5 kW/4 POLE,
400-3-50Hz
FRAME : 132 SMF
EST WEIGHT : 300KG

STANDARD ACCESSORIES:

- 20FF XL INSPECTION DOOR
- SHAFT SEAL
- DRAIN SOCKET AND PLUG
- GASKET SEALS
- SAFE AREA VIBRATION SENSOR C/W FAN MOUNTED GRP ENCLOSURE (TO BE WIRED BY OTHERS)

**OPTIONAL
ACCESSORIES :
(REFER TO QUOTE)**

FAN FINISH: S3 - BS 00-A-05

REVISIONS			APPROVED
REV.	DESCRIPTION	DATE	
DETAILS			



WOODCOCK
& WILSON



WOODCOCK
& WILSON

TITLE GENERAL ARRANGEMENT DRAWING MCD-BCW-550-LG270-1631		DWG NO. MCD-BCW-550-LG270-1631-GA		REV
SIZE A3	WORKS REF. MCD-BCW-550-LG270	CLIENT 120	SCALE	SHEET 1 OF

Woodcock & Wilson

Phone : ##

Fax : LiamBrook@fanmanufacturers.com

Customer : McDonalds

Project : High Eff Kitchen Extract

Item 1 - Ref : Universal Fan



Quote Ref : Q56633

17/10/2022

Gas Properties :

Barom Pressure : 99725 pa
Operating Temp : 25 Deg.C.
Humidity : 38 %
Specific Gravity : 1.0
Inlet Density : 1.1598 Kg/m3
Dust Load : 0 g/m3

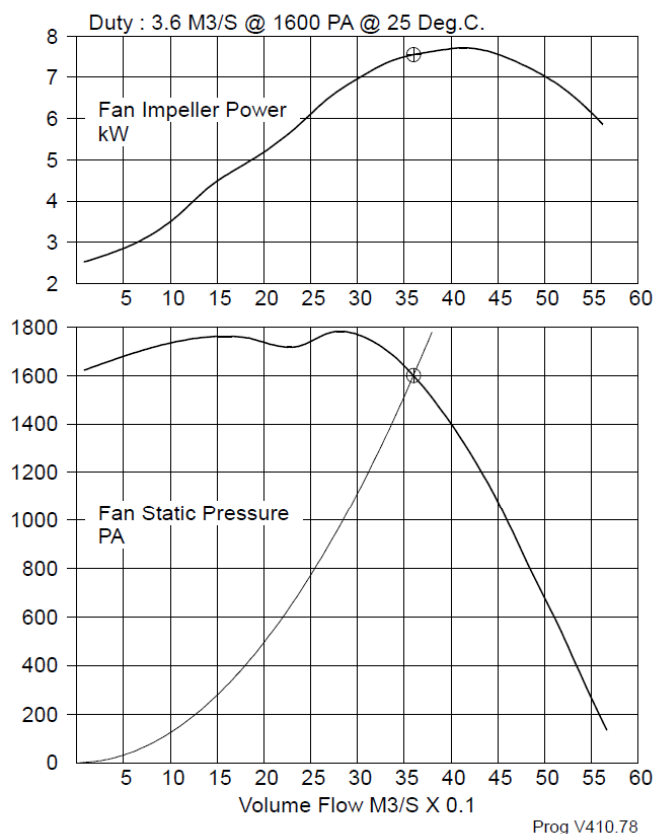
Duty Required :

Inlet Volume Flow : 3.6 m3/s
Fan Static Pressure :
Inlet Pressure : -1600 pa
Outlet Pressure : 0 pa

Fan Selected :

SWSI-BCW-550/100-100
Speed : 2018 Rpm
Impeller Ø : 550 mm
Fan Class : 2

Impeller Power :
@ 10 Deg C : 7.95 kW
@ Duty Temp : 7.55 kW
Tip Speed : 58.1 m/s
Inlet Velocity : 14.3 m/s
Outlet Velocity : 11.7 m/s
Temp Rise : 1.8 Deg.C.



<u>Noise Details :</u>	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Total
Internal SWL dB	102	99	98	93	89	86	83	81	105
Free Inlet SPL dBA	59	71	80	83	82	80	77	73	88
Free Outlet SPL dBA	61	73	82	84	83	81	78	74	89
Outside Casing dBA	56	62	65	66	65	63	60	54	72

Motor noise is NOT included in the figures above.

Sound Pressure levels (SPL) are estimated within the Near Field range at 1 metre(s)

Breakout at 1 metre from 3 mm thick casing (inside Near Field range).

Casing levels assume the inlet / outlet are ducted and noise does not breakout through duct.

All values are averages. Free Inlet assumes that outlet is ducted and vice versa.

Woodcock & Wilson

Phone : ##

Fax : LiamBrook@fanmanufacturers.com

Customer : McDonalds

Project : High Eff Kitchen Extract

Item 1 - Ref : Universal Fan



Quote Ref : Q56633

17/10/2022

Gas Properties :

Barom Pressure : 100525 pa
Operating Temp : 25 Deg.C.
Humidity : 38 %
Specific Gravity : 1.0
Inlet Density : 1.1692 Kg/m3
Dust Load : 0 g/m3

Duty Required :

Inlet Volume Flow : 2.8 m3/s
Fan Static Pressure:
Inlet Pressure : -800 pa
Outlet Pressure : 0 pa

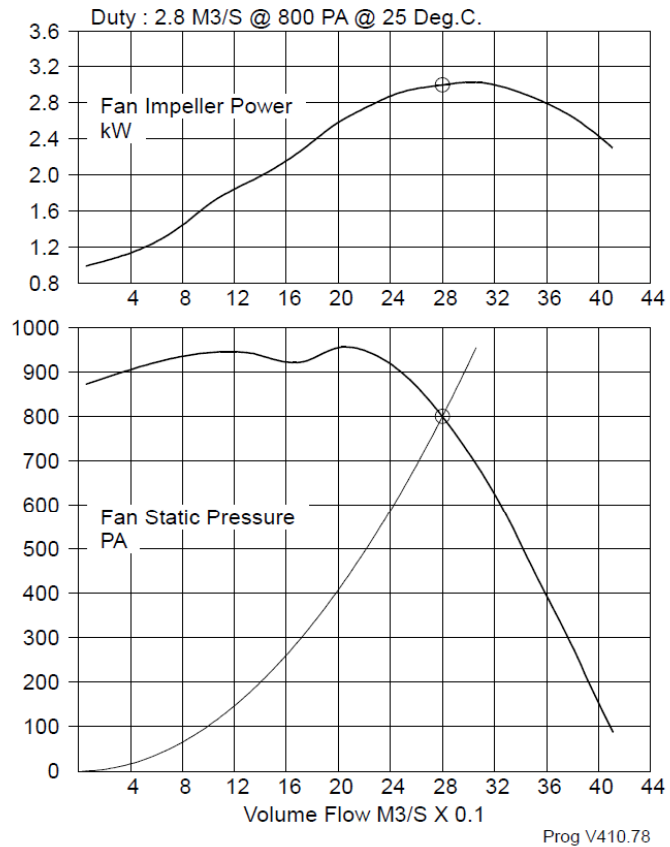
Fan Selected :

SWSI-BLW-550/100-100
Speed : 1474 Rpm
Impeller Ø : 550 mm
Fan Class : 1

Impeller Power :
@ 10 Deg C : 3.16 kW
@ Duty Temp : 3.00 kW
Tip Speed : 42.4 m/s
Inlet Velocity : 11.1 m/s
Outlet Velocity : 9.1 m/s
Temp Rise : 0.9 Deg.C.

Noise Details :

	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Total
Internal SWL dB	95	92	90	85	81	78	75	72	98
Free Inlet SPL dBA	52	64	72	75	74	72	69	64	80
Free Outlet SPL dBA	54	66	74	76	75	73	70	65	81
Outside Casing dBA	49	55	57	58	57	55	52	45	64



Motor noise is NOT included in the figures above.

Sound Pressure levels (SPL) are estimated within the Near Field range at 1 metre(s)

Breakout at 1 metre from 3 mm thick casing (inside Near Field range).

Casing levels assume the inlet / outlet are ducted and noise does not breakout through duct.

All values are averages. Free Inlet assumes that outlet is ducted and vice versa.

Woodcock & Wilson

Phone : ##

Fax : LiamBrook@fanmanufacturers.com

Customer : McDonalds

Project : High Eff Kitchen Extract

Item 1 - Ref : Universal Fan



Quote Ref : Q56633

17/10/2022

Gas Properties :

Barom Pressure : 100125 pa
Operating Temp : 25 Deg.C.
Humidity : 38 %
Specific Gravity : 1.0
Inlet Density : 1.1645 Kg/m3
Dust Load : 0 g/m3

Duty Required :

Inlet Volume Flow : 2.8 m3/s
Fan Static Pressure:
Inlet Pressure : -1200 pa
Outlet Pressure : 0 pa

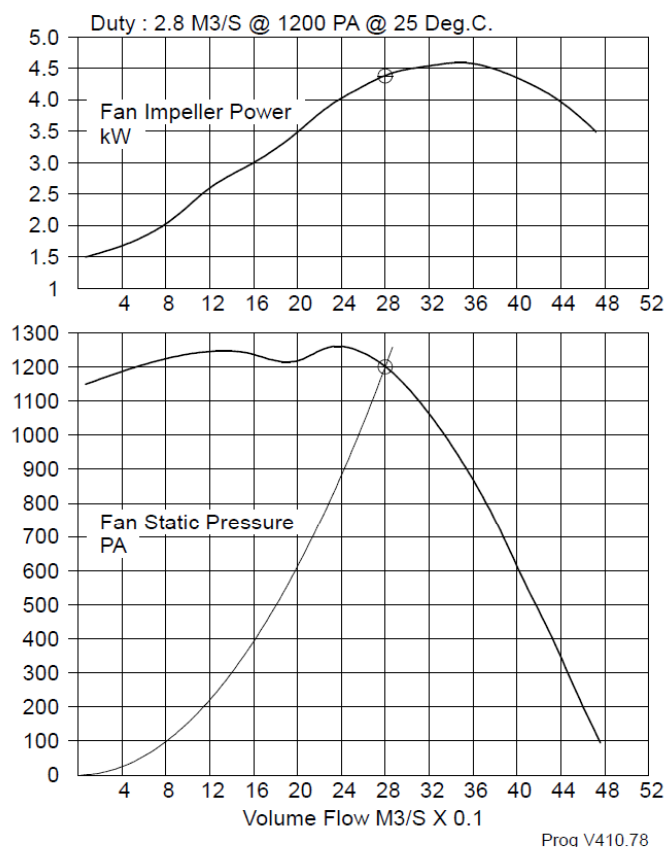
Fan Selected :

SWSI-BLW-550/100-100
Speed : 1695 Rpm
Impeller Ø : 550 mm
Fan Class : 1

Impeller Power :
@ 10 Deg C : 4.61 kW
@ Duty Temp : 4.38 kW
Tip Speed : 48.8 m/s
Inlet Velocity : 11.1 m/s
Outlet Velocity : 9.1 m/s
Temp Rise : 1.3 Deg.C.

Noise Details :

	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Total
Internal SWL dB	98	95	94	89	84	82	79	76	101
Free Inlet SPL dBA	55	67	76	79	77	76	73	68	84
Free Outlet SPL dBA	57	69	78	80	78	77	74	69	85
Outside Casing dBA	52	58	61	62	60	59	56	49	68



Motor noise is NOT included in the figures above.

Sound Pressure levels (SPL) are estimated within the Near Field range at 1 metre(s)

Breakout at 1 metre from 3 mm thick casing (inside Near Field range).

Casing levels assume the inlet / outlet are ducted and noise does not breakout through duct.

All values are averages. Free Inlet assumes that outlet is ducted and vice versa.

Woodcock & Wilson

Phone : ##

Fax : LiamBrook@fanmanufacturers.com

Customer : McDonalds

Project : High Eff Kitchen Extract

Item 1 - Ref : Universal Fan



Quote Ref : Q56633

17/10/2022

Gas Properties :

Barom Pressure : 100525 pa
Operating Temp : 25 Deg.C.
Humidity : 38 %
Specific Gravity : 1.0
Inlet Density : 1.1692 Kg/m3
Dust Load : 0 g/m3

Duty Required :

Inlet Volume Flow : 3.6 m3/s
Fan Static Pressure:
Inlet Pressure : -800 pa
Outlet Pressure : 0 pa

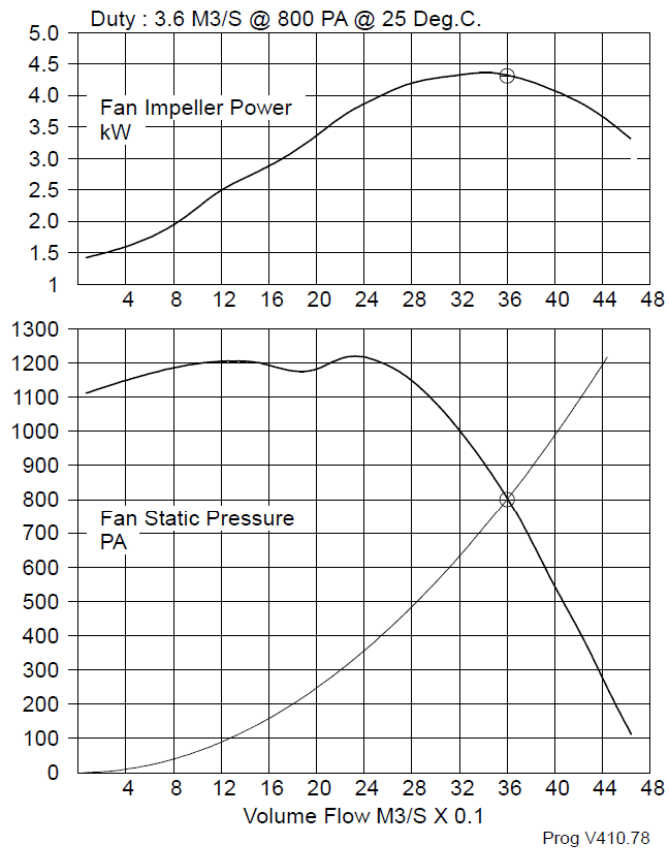
Fan Selected :

SWSI-BLW-550/100-100
Speed : 1664 Rpm
Impeller Ø : 550 mm
Fan Class : 1

Impeller Power :
@ 10 Deg C : 4.54 kW
@ Duty Temp : 4.31 kW
Tip Speed : 47.9 m/s
Inlet Velocity : 14.3 m/s
Outlet Velocity : 11.7 m/s
Temp Rise : 1.0 Deg.C.

Noise Details :

	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Total
Internal SWL dB	98	95	93	88	84	81	78	75	101
Free Inlet SPL dBA	55	67	75	78	77	75	72	67	83
Free Outlet SPL dBA	57	69	77	79	78	76	73	68	84
Outside Casing dBA	52	58	60	61	60	58	55	48	67



Motor noise is NOT included in the figures above.

Sound Pressure levels (SPL) are estimated within the Near Field range at 1 metre(s)

Breakout at 1 metre from 3 mm thick casing (inside Near Field range).

Casing levels assume the inlet / outlet are ducted and noise does not breakout through duct.

All values are averages. Free Inlet assumes that outlet is ducted and vice versa.

Woodcock & Wilson

Phone : ##

Fax : LiamBrook@fanmanufacturers.com

Customer : McDonalds

Project : High Eff Kitchen Extract

Item 1 - Ref : Universal Fan



Quote Ref : Q56633

17/10/2022

Gas Properties :

Barom Pressure : 100125 pa
Operating Temp : 25 Deg.C.
Humidity : 38 %
Specific Gravity : 1.0
Inlet Density : 1.1645 Kg/m3
Dust Load : 0 g/m3

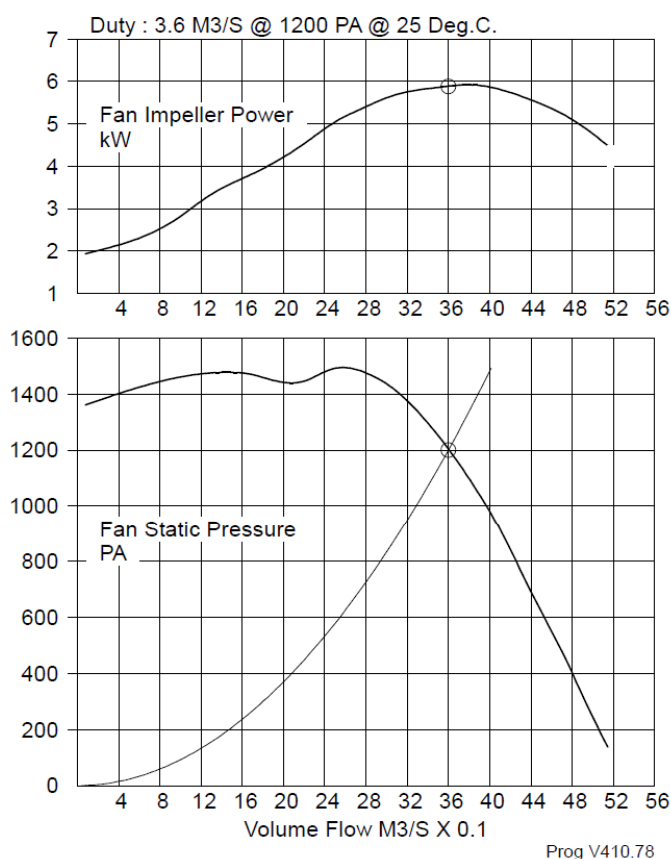
Duty Required :

Inlet Volume Flow : 3.6 m3/s
Fan Static Pressure :
Inlet Pressure : -1200 pa
Outlet Pressure : 0 pa

Fan Selected :

SWSI-BLW-550/100-100
Speed : 1845 Rpm
Impeller Ø : 550 mm
Fan Class : 2

Impeller Power :
@ 10 Deg C : 6.19 kW
@ Duty Temp : 5.88 kW
Tip Speed : 53.1 m/s
Inlet Velocity : 14.3 m/s
Outlet Velocity : 11.7 m/s
Temp Rise : 1.4 Deg.C.



Noise Details :

	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Total
Internal SWL dB	100	97	96	91	86	84	81	78	103
Free Inlet SPL dBA	57	69	78	81	79	78	75	70	86
Free Outlet SPL dBA	59	71	80	82	80	79	76	71	87
Outside Casing dBA	54	60	63	64	62	61	58	51	70

Motor noise is NOT included in the figures above.

Sound Pressure levels (SPL) are estimated within the Near Field range at 1 metre(s)

Breakout at 1 metre from 3 mm thick casing (inside Near Field range).

Casing levels assume the inlet / outlet are ducted and noise does not breakout through duct.

All values are averages. Free Inlet assumes that outlet is ducted and vice versa.

Kitchen Extract Fan in Acoustic Enclosure



V9005

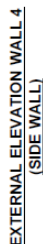
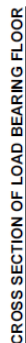
AO Smith
Airsource Heatpump
Condensing Unit

Note:
Noise levels to be taken as at 1.5m distance.

DOUBLE DOOR:
1no. 2500mm Wide x 1120mm High
4no. Stainless Steel Hinges
2no. Stainless Steel Spring Tower Bolts
2no. Stainless Steel Door Stays
1no. Stainless Steel Hasp & Staple

VENTILATION:
3no. GRP Cowls sent loose for retro fitting

LOAD-BEARING FLOOR:
1no. 2750mm Wide x 1200mm Deep Load Bearing Floor



WG #	MG0832	Rev	N/A	
		B	12/12/19	
		Scale		
Order #	Mark Gregory		AO Smith Water Heaters	
Company Contact			External Finish: Textured: Stipple Effect	
			Internal Color: White	External Color: Bottle Green (RAL6007)
			Base Flange: Load Bearing Floor	Roof Construction: GRP/12mm Ply/GRP
			Ventilation:	Wall Construction: GRP/18mm Ply/GRP

FPI Air Source Heat Pumps

ASHP Range for DHW Applications



The Advenco FPI is a range of 9–13kW air to water heat pumps designed for use with domestic hot water applications.

The FPI ASHP uses ambient air as a heat source for a refrigerant circuit to transfer heat to a building, providing a renewable source of hot water in a compact, simple to install unit with a reduced environmental impact.

Effective with ambient air temperatures as low as -25°C, the FPI is capable of providing 55°C hot water throughout the year.

The FPI range is ideal for integration into a hybrid hot water system for commercial applications, helping to reduce emissions and increase efficiency without compromising reliability or performance.

FEATURES

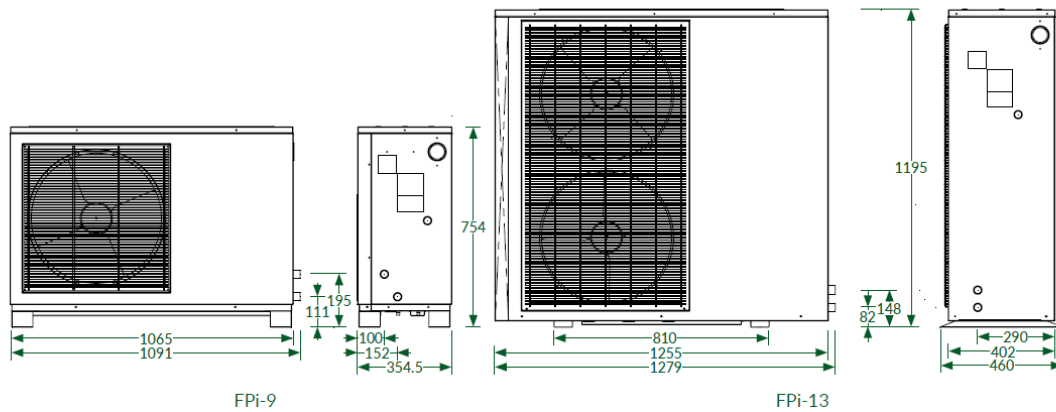
- Compact monobloc design
- Year-round efficiency with COP up to 4.7
- Easy to install and maintain with low running costs
- Integrated controls, non-return valves, pressure gauges, and frost protection as standard
- Provides DHW at 55°C, or higher in hybrid systems
- Low noise impact

COP

T _{ambient} (°C)		FPI-9		FPI-13	
		Q (Joules)	COP	Q (Joules)	COP
Water in/out: 30°C/35°C	-7	7.5	2.9	8.1	2.9
	2	9.6	3.8	10.6	3.6
	7	10.1	4.0	12.6	3.9
	12	12.0	4.4	14.2	4.7
Water in/out: 40°C/45°C	-7	6.1	2.1	7.6	2.4
	2	8.2	2.6	10.3	2.9
	7	9.5	3.1	11.5	3.0
	12	10.2	3.2	13.3	3.6
Water in/out: 50°C/55°C	-7	5.5	1.5	7.1	1.9
	2	6.9	1.9	9.4	2.3
	7	8.4	2.2	9.8	2.7
	12	9.2	2.4	11.5	2.9



EXPERTLY ENGINEERED FOR YOU

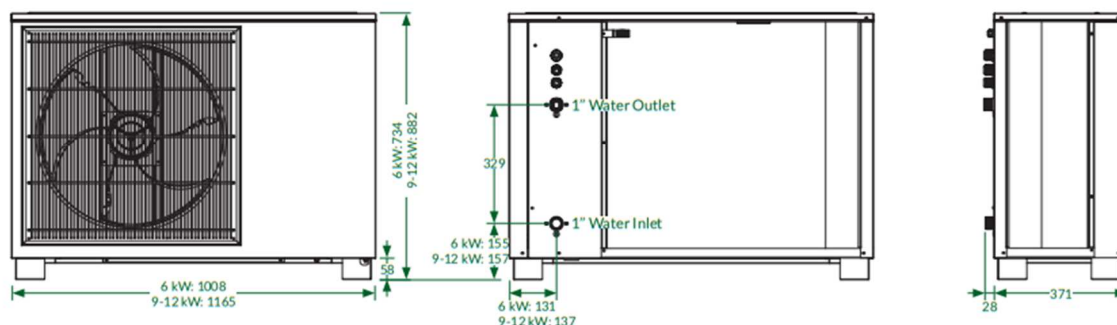


Model		units	FPI-9	FPI-13
Maximum heating capacity (1)	Minimum	kW	4.33	4.20
	Maximum		10.10	12.60
Maximum heating capacity (2)	Minimum	kW	4.19	3.76
	Maximum		9.53	11.50
Heating power input (1)	Minimum	W	975	926
	Maximum		2153	3072
Heating power input (2)	Minimum	W	1230	1267
	Maximum		2990	3723
COP (1)	Minimum		4.02	3.89
	Maximum		4.65	4.77
COP (2)	Minimum		3.12	2.97
	Maximum		3.55	3.28
Refrigerant	Type		R410A	R410A
	Mass	kg	2.45	3.00
Power supply		V/Hz/Phase	230 / 50 / 1ph	230 / 50 / 1ph
Circuit maximum pressure		bar	42	42
Noise level		dB(A)	56	59
Ambient operational temperature range	Heating	°C	-25-46	-25-46
	Cooling		0-55	0-55
Water inlet operational temperature range		°C	7-75	7-75
Water content		kg	4.5	4.5
Compressor	Type		Twin rotary	
	Quantity		1	
	Oil		FV50S	
Fan	Quantity		1	2
	Airflow	m³/h	3000	4100
	Rated power	W	60	120
	Face area	m²	0.54	1.50
Allowable fan flow	Row—fins/inch		2 Rows—14	
	Tube diameter	Inches O.D.	3/8	
Water side plate heat exchanger	Material		Steel — Copper	
	Water pressure drop	kPa	23	26
	Pipe connection	Inches	G1"	
Allowable water flow	Minimum		0.26	0.37
	Rated	L/s	0.43	0.61
	Maximum		0.51	0.73
Available pump pressure	At minimum water flow		0.73	0.87
	At rated water flow	bar	0.52	0.80
	At maximum water flow		0.41	0.63

(1) Heating conditions: Water in/out temperature 30°C/35°C. Ambient temperature DB/WB 7°C/6°C

(2) Heating conditions: Water in/out temperature 40°C/45°C. Ambient temperature DB/WB 7°C/6°C

Advenco Ltd. Unit 7&8 Armstrong Mall, Southwood Business Park, Farnborough, Hampshire GU14 0NR
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Model		units	FPI32-6	FPI32-9	FPI32-12
Maximum heating capacity (1)	Minimum	kW	3.50	4.30	5.50
	Maximum		7.45	9.21	11.67
Maximum heating capacity (2)	Minimum	kW	3.15	3.90	4.90
	Maximum		6.80	8.68	11.25
Heating power input (1)	Minimum	W	758	927	1107
	Maximum		1410	2097	2683
Heating power input (2)	Minimum	W	943	1162	1401
	Maximum		1732	2550	3263
Coefficient of Performance (COP) (1)			4.51	4.48	4.35
Coefficient of Performance (COP) (2)			3.44	3.46	3.45
Seasonal Coefficient of Performance (SCOP)			4.74	4.73	4.71
Seasonal Energy Efficiency Rating (SEER)			4.10	4.07	3.93
Refrigerant	Type	kg	R32	R32	R32
	Mass		0.9	1.4	1.8
		V/Hz/Phase	230 / 50 / 1ph		
Power supply	Starting current	A	Soft start		
	Run current	A	8	12	15
Circuit maximum pressure		bar	42	42	42
Noise level		dB(A)	52	53	52
Ambient operational temperature range	Heating	°C	-25~43	-25~43	-25~43
	Cooling		20~55	20~55	20~55
Water content		kg	3.0	3.5	4.0
Compressor	Type		Twin rotary		
	Quantity		1		
	Oil		FV68S		
Fan	Airflow	m³/h	2700	3150	3150
	Rated power	W	60	60	60
Water side plate heat exchanger	Material		Steel — Stainless Steel		
	Pipe connection	Inches	G 1"	G 1"	G 1"
Minimum water flow rate		L/s	0.35	0.44	0.55
Available pump head		kPa	75	73	60
Dry Mass	Appliance	kg	65	78	85
	Appliance + Packaging		75	90	105

(1) Heating conditions: Water in/out temperature 30°C/35°C. Ambient temperature DB/WB 7°C/6°C

(2) Heating conditions: Water in/out temperature 40°C/45°C. Ambient temperature DB/WB 7°C/6°C

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