



TECHNICAL SUBMISSION

Hale Spa, Manchester



Client	FG Mechanical
Document Title:	VRF Condenser
Document ref no	ACTS01
Zircon Ref No:	4135_ACTS01_Condensers
Date:	20/04/21
Revision no:	0

Amendments

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



System	Location	Model	Quantity	Description
System 1	All Areas	PURY-EP450YNW-A1	1	Outdoor Condenser

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).

Air Conditioning

Product Information

R2 Series High Efficiency (50-63kW)

Simultaneous Heating and Cooling
with Heat Recovery Outdoor Unit

Making a
World of
Difference

CITY MULTI

next
GENERATION VRF



Throughout the year, many buildings require cooling in some areas and heating in others - even in adjacent rooms. The outstanding City Multi R2 system meets these requirements by distributing surplus heat from cooling operations (and vice versa) to rooms where it is needed. This efficiency can result in energy savings up to 30% over conventional systems.

Key Features

- Highest specification, highest efficiency heat recovery system available
- Delivers the highest levels of comfort, both thermally and acoustically
- Flexible design, installation and maintenance



Cooling | Heating | Ventilation | Controls

Air Conditioning

Product Information

R2 Series High Efficiency (50-63kW)

Simultaneous Heating and Cooling
with Heat Recovery Outdoor Unit

Making a
World of
Difference



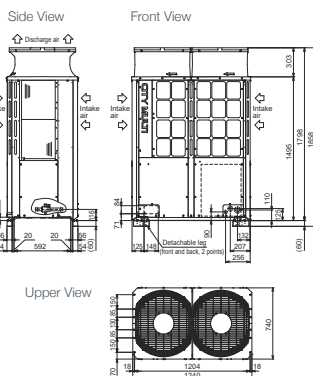
OUTDOOR UNITS		PURY-EP450YNW-A	PURY-EP450YSNW-A	PURY-EP500YNW-A	PURY-EP500YSNW-A	PURY-EP550YNW-A	PURY-EP550YSNW-A
CAPACITY (kW)	Heating (nominal)	56.0	56.0	63.0	63.0	69.0	69.0
	Cooling (nominal)	50.0	50.0	56.0	56.0	63.0	63.0
	High Performance Heating (UK)	50.4	56.0	56.7	63.0	62.1	65.6
	COP Priority Heating (UK)	48.2	51.0	54.2	57.3	59.3	62.8
	Cooling (UK)	44.8	44.8	50.1	50.1	56.4	56.4
POWER INPUT (kW)	Heating (nominal)	13.14	10.76	14.21	12.34	17.59	14.61
	Cooling (nominal)	10.72	10.04	12.69	11.59	15.98	13.66
	High Performance Heating (UK)	14.85	17.00	16.06	15.80	19.88	19.43
	COP Priority Heating (UK)	12.75	10.76	13.78	12.34	17.06	14.61
	Cooling (UK)	6.86	5.82	8.12	6.72	10.23	7.92
COP / EER (nominal)		4.26 / 4.66	5.20 / 4.98	4.43 / 4.41	5.10 / 4.83	3.92 / 3.94	4.72 / 4.61
SCOP / SEER*		-	-	-	-	-	-
MAX No. OF CONNECTABLE INDOOR UNITS		45	45	50	50	50	50
MAX CONNECTABLE CAPACITY		50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity
AIRFLOW (m³/min)	High	315	170 / 185	295	185 / 185	410	185 / 240
	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")	28.58 (1-1/8")
PIPE SIZE mm (in)	Liquid	22.2 (7/8")	22.2 (7/8")	22.2 (7/8")	22.2 (7/8")	22.2 (7/8") / 28.58 (1-1/8") ¹	22.2 (7/8") / 28.58 (1-1/8") ¹
	Gas	22.2 (7/8")	22.2 (7/8")	22.2 (7/8")	22.2 (7/8")	22.2 (7/8") / 28.58 (1-1/8") ¹	22.2 (7/8") / 28.58 (1-1/8") ¹
SOUND PRESSURE LEVEL (dBA)		70.0	63.5	64.5	64.0	70.0	68.0
SOUND POWER LEVEL (dBA)		89.0	82.5	84.0	83.0	89.0	87.5
WEIGHT (kg)		306	234 + 234	345	234 + 234	345	234 + 236
DIMENSIONS (mm)	Width	1240	920 + 920	1750	920 + 920	1750	920 + 920
	Depth	740	740	740	740	740	740
	Height	1858	1858	1858	1858	1858	1858
(1798mm without legs)							
ELECTRICAL SUPPLY ²		380-415V, 50Hz	380-415V, 50Hz	380-415V, 50Hz	380-415V, 50Hz	380-415V, 50Hz	380-415V, 50Hz
PHASE ²		Three	Three	Three	Three	Three	Three
STARTING CURRENT (A) ²		8	8	8	8	8	8
NOMINAL SYSTEM RUNNING CURRENT (A) ²		20.3 / 16.5 [34.6]	16.6 / 15.5 [16.1 + 17.0]	21.9 / 19.6 [40.3]	19.0 / 17.9 [17.0 + 17.0]	27.1 / 24.7 [44.3]	22.5 / 21.1 [17.0 + 20.3]
GUARANTEED OPERATING RANGE (°C)		Heating / Cooling [MAX]	Heating / Cooling [MAX]	Heating / Cooling [MAX]	Heating / Cooling [MAX]	Heating / Cooling [MAX]	Heating / Cooling [MAX]
FUSE RATING (MCB sizes BS EN 60947-2) - (A) ²		1 x 40	1 x 20 / 1 x 20	1 x 50	1 x 20 / 1 x 20	1 x 50	1 x 20 / 1 x 25
MAINS CABLE No. Cores ²		4 + earth	4 + earth / 4 + earth	4 + earth	4 + earth / 4 + earth	4 + earth	4 + earth / 4 + earth
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (t) R410A (GWP 2088)		10.8 / 22.5	10.4 / 21.7	10.8 / 22.6	10.4 / 21.7	10.8 / 22.6	10.4 / 21.7
MAX ADDITIONAL REFRIGERANT (kg) / CO ₂ EQUIVALENT (t) R410A (GWP 2088)		44.7 / 93.3	53.6 / 111.9	45.2 / 94.4	53.6 / 111.9	45.2 / 94.4	53.6 / 111.9

Notes: *SCOP / SEER available separately in the 'City Multi VRF Seasonal Efficiency' document. Based on Ecodesign Lot 21 / 6 to EN14825 standard.

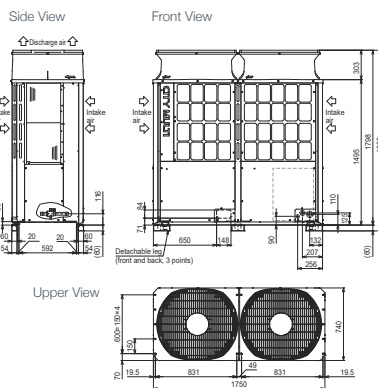
¹ If distance from OU to BC controller is greater than 65m. ² A separate power supply is required for each module. Where more than one figure is quoted there are multiple modules.

PRODUCT DIMENSIONS

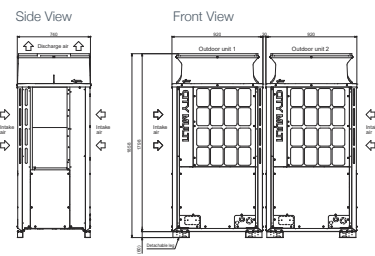
PURY-EP450YNW-A



PURY-EP500/550YNW-A



PURY-EP450/500/550YSNW-A



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com

web: airconditioning.mitsubishielectric.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

Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom - Japan - Thailand - Malaysia. ©Mitsubishi Electric Europe 2017. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.

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) or R134a (GWP:1430). *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).



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment

Follow us @meuk_jes
Follow us @green_gateway

Mitsubishi Electric
Living Environmental Systems UK

[mitsubishielectric2](https://www.youtube.com/channel/UCm5b8w8w8w8w8w8w8w8w8w8)

thehub.mitsubishielectric.co.uk

Effective as of November 2017



TECHNICAL SUBMISSION

Hale Spa, Manchester



Client	FG Mechanical
Document Title:	VRF Branch Connector Box
Document ref no	ACTS02
Zircon Ref No:	4135_ACTS02_Branch Connector
Date:	20/04/21
Revision no:	0

Amendments

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



System	Location	Model	Quantity	Description
System 1	All Areas	CMB-M1016V-JA1	1	BC Box Master
		CMB-M108V-KB1	1	BC Box Slave

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



At the heart of both the R2 and WR2 Series, the BC controller makes simultaneous heating and cooling possible. Improved system efficiency is achieved when energy is transferred intelligently around the building.

Key Features

- Allows unique 2-pipe heat recovery application
- Heating and cooling at the same time on larger systems
- Instructs the heat source unit/outdoor unit on the amount of refrigerant (liquid or gas) that is required to achieve the requested cooling or heating requirements
- Slim profile for more flexible installation
- Easy servicing and maintenance access through underside drain pan
- Brazed connections

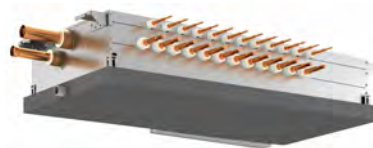


Product Information

Master BC Controllers

CMB-P108/1012/1016V-JA/1016V-KA

Making a World of Difference



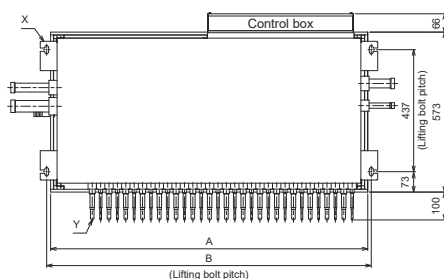
BC CONTROLLERS		CMB-P108V-JA	CMB-P1012V-JA	CMB-P1016V-JA	CMB-P1016V-KA
NUMBER OF CONNECTIONS		8	12	16	16
WEIGHT (kg)		45	55	63	65
DIMENSIONS (mm)	Width	911	1135	1135	1135
	Depth	639	639	639	639
	Height	246	246	246	246
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
PHASE		Single	Single	Single	Single
POWER INPUT (kW)		0.161	0.236	0.312	0.312
RUNNING CURRENT (A)		0.68	0.99	1.30	1.30
FUSE RATING (BS88) – HRC (A)		6	6	6	6
MAINS CABLE NO. CORES		3	3	3	3

Note: CMB-P-V-JA units are for use with PURY-P200-900Y/SINW-A, PURY-EP200-900Y/SINW-A & PQRY-P200-600Y/SILM-A units only. CMB-P1016V-KA unit is for use with PURY-P950-1100YSNW-A & PURY-EP950-1100YSNW-A units only.

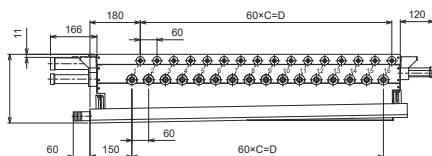
PRODUCT DIMENSIONS

CMB-P108/1012/1016V-JA

Upper View



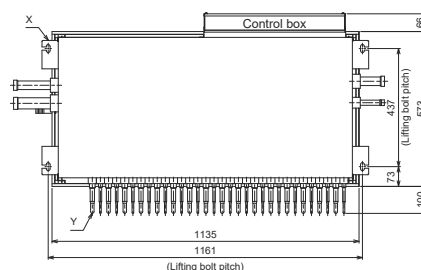
Side View



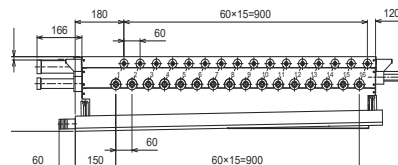
	A	B	C	D
CMB-P108V-JA	911	938	7	420
CMB-P1012V-JA	1135	1161	11	660
CMB-P1016V-JA	1135	1161	15	900

CMB-P1016V-KA

Upper View



Side View



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com

web: airconditioning.mitsubishielectric.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

Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom – Japan – Thailand – Malaysia. ©Mitsubishi Electric Europe. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.

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) or R134a (GWP:1430). 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).



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment



Follow us @meuk_les
Follow us @green_gateway



Mitsubishi Electric
Living Environmental Systems UK



mitsubishielectric2



thehub.mitsubishielectric.co.uk



Effective as of December 2017



At the heart of both the R2 and WR2 Series, the BC controller makes simultaneous heating and cooling possible. Improved system efficiency is achieved when energy is transferred intelligently around the building.

Key Features

- Heating and cooling at the same time on larger systems
- Instructs the heat source unit/outdoor unit on the amount of refrigerant (liquid or gas) that is required to achieve the requested cooling or heating requirements
- Multiple indoor unit connection and flexible piping layout to suit a wide range of applications
- Slim profile for more flexible installation
- Easy servicing and maintenance access through underside drain pan
- Brazed connections



Air Conditioning

Product Information

Sub BC Controllers CMB-P104/108V-KB

Making a
World of
Difference



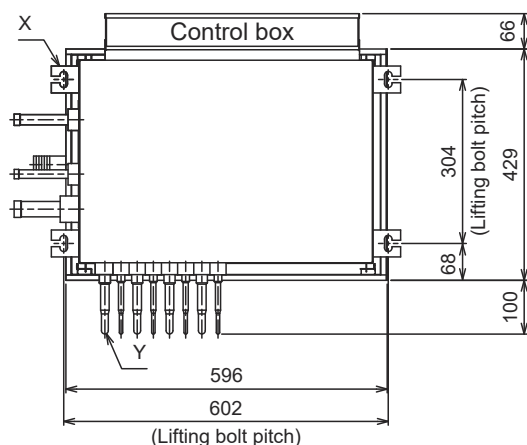
BC CONTROLLERS		CMB-P104V-KB	CMB-P108V-KB
NUMBER OF CONNECTIONS		4	8
WEIGHT (kg)		21	28
DIMENSIONS (mm)	Width	596	596
	Depth	495	495
	Height	246	246
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz
PHASE		Single	Single
POWER INPUT (kW)		0.076	0.135
RUNNING CURRENT (A)		0.32	0.59
FUSE RATING (BS88) – HRC (A)		6	6
MAINS CABLE NO. CORES		3	3

Note: Maximum index of 350 allowable on each sub BC.

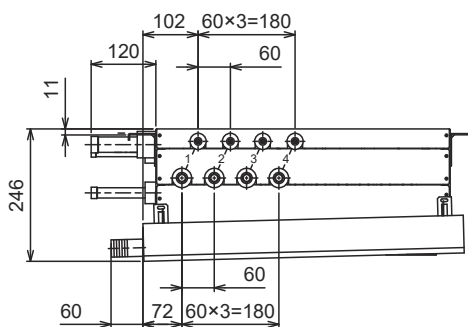
PRODUCT DIMENSIONS

CMB-P104V-KB

Upper View



Side View



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com

web: airconditioning.mitsubishielectric.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

Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom – Japan – Thailand – Malaysia. ©Mitsubishi Electric Europe 2017. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.

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) or R134a (GWP:1430). *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).



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment



Follow us @meuk_les
Follow us @green_gateway



Mitsubishi Electric
Living Environmental Systems UK



[mitsubishielectric2](https://www.youtube.com/mitsubishielectric2)



thehub.mitsubishielectric.co.uk

Effective as of December 2017



TECHNICAL SUBMISSION

Hale Spa, Manchester



Client	FG Mechanical
Document Title:	VRF Indoor Units
Document ref no	ACTS03
Zircon Ref No:	4135_ACTS03_Indoor Units
Date:	20/04/21
Revision no:	0

Amendments

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



Unit ID	Floor	Room	Model	Description
IU/B/01	Basement	Room 534	PEFY- P40VMS	Ducted Unit
IU/B/02	Basement	Reception	PEFY- P15VMS	Ducted Unit
IU/B/03	Basement	Treatment Room 1	PEFY- P20VMS	Ducted Unit
IU/B/04	Basement	Treatment Room 2	PEFY- P20VMS	Ducted Unit
IU/B/05	Basement	Treatment Room 3	PEFY- P15VMS	Ducted Unit
IU/B/06	Basement	Express Room	PEFY- P25VMS	Ducted Unit
IU/B/07	Basement	Relaxation Area	PEFY- P15VMS	Ducted Unit
IU/B/09	Basement	Relaxation Area	PEFY- P20VMS	Ducted Unit
IU/00/01	Ground Floor	Office	PEFY- P15VMS	Ducted Unit
IU/00/02	Ground Floor	Gym	PEFY- P63VMS	Ducted Unit
IU/00/03	Ground Floor	Gym	PEFY- P32VMS	Ducted Unit
IU/00/04	Ground Floor	Gym	PEFY- P20VMS	Ducted Unit
IU/00/05	Ground Floor	Gym	PEFY- P32VMS	Ducted Unit
IU/00/06	Ground Floor	Gym	PEFY- P80VMA	Ducted Unit
IU/00/07	Ground Floor	Gym	PEFY- P80VMA	Ducted Unit
IU/00/08	Ground Floor	Spa Entrance	PEFY- P32VMS	Ducted Unit
IU/00/09	Ground Floor	Staff Room	PEFY- P15VMS	Ducted Unit

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).

PEFY-P-VMA-E2

Ceiling Concealed Ducted Indoor Unit

Making a
World of
Difference

CITY MULTI



The **PEFY-P-VMA-E2** ducted indoor unit is concealed within the ceiling space to allow unobtrusive air conditioning. Flexibility of duct layout allows air flow patterns to be arranged to suit any application.

Key Features

- Low height - only 250mm
- Wide range of external static pressure settings across entire range (35-150Pa)
- Low noise levels thanks to the use of a centrifugal fan - as low as 23dBA (size 20-40)
- Drain pump included as standard
- CN105 connector available - connect to MELCOBEMS MINI for simple BEMS interfacing



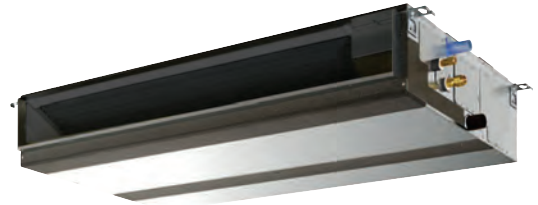
Air Conditioning

Product Information

PEFY-P-VMA-E2

Ceiling Concealed Ducted Indoor Unit

Making a
World of
Difference

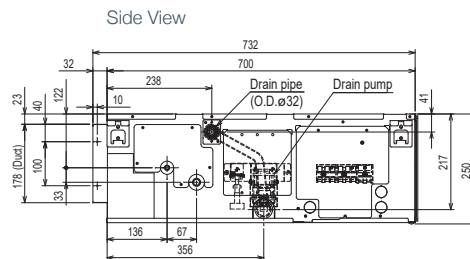
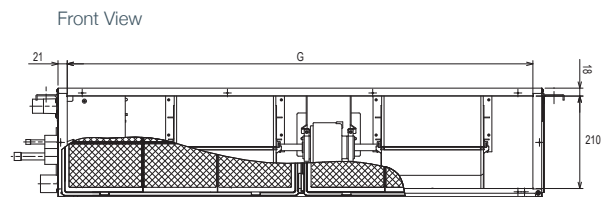
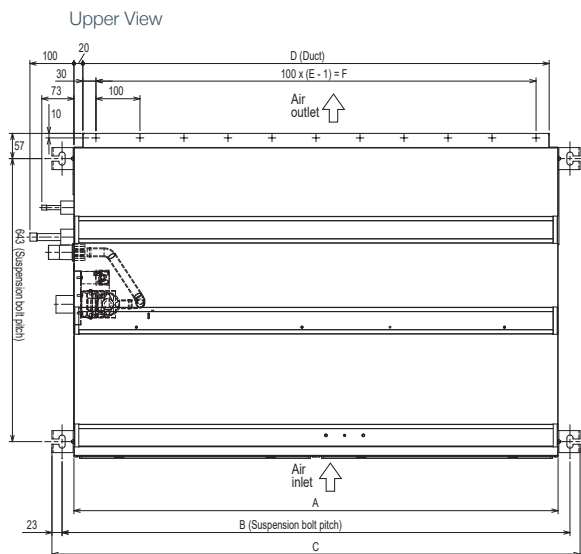


INDOOR UNITS		PEFY-P20VMA-E2	PEFY-P25VMA-E2	PEFY-P32VMA-E2	PEFY-P40VMA-E2	PEFY-P50VMA-E2	PEFY-P63VMA-E2	PEFY-P80VMA-E2	PEFY-P100VMA-E2	PEFY-P125VMA-E2
CAPACITY (kW)	Heating (nominal)	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0
	Cooling (nominal)	2.2	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0
	UK Heating	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0
	UK Total Cooling - Hi (Sensible)	2.00 (1.80)	2.50 (2.00)	3.20 (2.50)	4.10 (3.30)	5.00 (4.10)	6.40 (5.10)	8.10 (5.90)	10.10 (8.10)	12.60 (9.90)
POWER INPUT (kW)	UK Total Cooling - Mi2	-	-	-	-	-	-	-	-	-
	UK Total Cooling - Mi1	1.94	2.42	3.07	3.94	4.80	6.11	7.78	9.67	12.07
	UK Total Cooling - Lo	1.78	2.22	2.86	3.67	4.45	5.71	7.14	8.93	11.17
	Cooling (nominal)	0.035	0.035	0.043	0.060	0.083	0.069	0.083	0.144	0.200
AIRFLOW (l/s)	Lo-Mi-Hi	0.037	0.037	0.045	0.062	0.085	0.071	0.085	0.146	0.202
	Lo-Mi-Hi	100-125-142	100-125-142	125-150-175	167-200-233	200-242-283	225-267-317	242-300-350	383-467-550	467-567-667
EXTERNAL STATIC PRESSURE (Pa)		35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150
SOUND PRESSURE LEVEL (dBA)* (50Pa) Lo-Mi-Hi		23-25-26	23-25-26	23-26-29	23-27-30	25-29-32	25-29-33	26-29-34	28-33-37	32-36-40
WEIGHT (kg)		22	22	22	26	26	31	31	39	39
DIMENSIONS (mm)	Width	700	700	700	900	900	1100	1100	1400	1400
	Depth	732	732	732	732	732	732	732	732	732
	Height	250	250	250	250	250	250	250	250	250
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	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	Single	Single	Single
RUNNING CURRENT (A) Heating / Cooling		0.35 / 0.35	0.35 / 0.35	0.37 / 0.37	0.45 / 0.45	0.55 / 0.55	0.45 / 0.45	0.60 / 0.60	0.95 / 0.95	1.29 / 1.29
FUSE RATING (BS88) - HRC (A)		6	6	6	6	6	6	6	6	6
MAINS CABLE No. Cores		3	3	3	3	3	3	3	3	3

Note: *1 Additional sound data is available for this model. Separated inlet and breakout sound power level and discharge sound power level data is available on request.

PRODUCT DIMENSIONS

PEFY-P20/25/32/40/50/63/80/100/125VMA-E2



Model	A	B	C	D	E	F	G
PEFY-P20-32VMA-E2	700	754	800	660	7	600	658
PEFY-P40-50VMA-E2	900	954	1000	860	9	800	858
PEFY-P63-80VMA-E2	1100	1154	1200	1060	11	1000	1058
PEFY-P100-125VMA-E2	1400	1454	1500	1360	14	1300	1358



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com

web: airconditioning.mitsubishielectric.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

Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom - Japan - Thailand - Malaysia. ©Mitsubishi Electric Europe 2017. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.

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) or R134a (GWP:1430). *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).



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment

Follow us @meuk_Jes
Follow us @green_gateway

Mitsubishi Electric
Living Environmental Systems UK

[YouTube](https://www.youtube.com/channel/UCm0b0b0b0b0b0b0b0b0b0b0)
mitsubishielectric2

thehub.mitsubishielectric.co.uk

Effective as of September 2017

Air Conditioning

Product Information

PEFY-P-VMS1-E
Ultra Thin Ceiling Concealed
Ducted Indoor Unit

Making a
World of
Difference

CITY MULTI



The ultra thin ceiling concealed ducted indoor unit offers increased flexibility and is particularly suitable for places where low noise operation is desired from a slimline body, such as hotels.

Key Features

- Ultra thin body - height of only 200mm & width of only 790mm (size P15-32)
- Extremely quiet operation - as low as 22dBA (size P15-20)
- Static pressure of 5-50Pa
- Available in a size P15, ideal for hotel rooms



Cooling | Heating | Ventilation | Controls

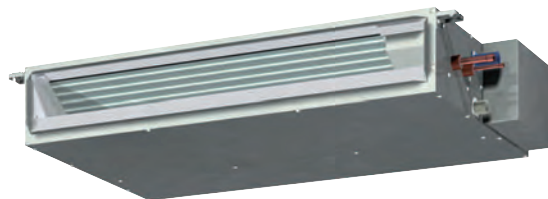
Air Conditioning

Product Information

PEFY-P-VMS1-E

Ultra Thin Ceiling Concealed
Ducted Indoor Unit

Making a
World of
Difference



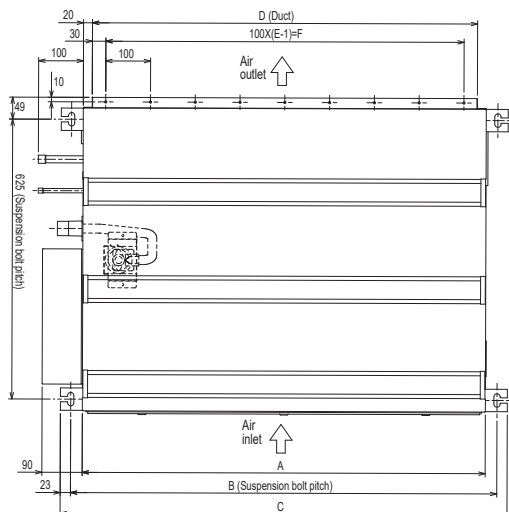
INDOOR UNITS		PEFY-P15VMS1-E	PEFY-P20VMS1-E	PEFY-P25VMS1-E	PEFY-P32VMS1-E	PEFY-P40VMS1-E	PEFY-P50VMS1-E	PEFY-P63VMS1-E
CAPACITY (kW)	Heating (nominal)	1.9	2.5	3.2	4.0	5.0	6.3	8.0
	Cooling (nominal)	1.7	2.2	2.8	3.6	4.5	5.6	7.1
	UK Heating	1.9	2.5	3.2	4.0	5.0	6.3	8.0
	UK Total Cooling - Hi (Sensible)	1.50 (1.40)	2.00 (1.70)	2.50 (2.10)	3.20 (2.50)	4.10 (3.00)	5.00 (3.70)	6.40 (4.70)
	UK Total Cooling - Mi2	-	-	-	-	-	-	-
POWER INPUT (kW)	UK Total Cooling - Mi1	1.44	1.89	2.32	2.99	3.95	4.78	6.13
	UK Total Cooling - Lo	1.34	1.76	2.07	2.63	3.70	4.51	5.77
	Heating (nominal)	0.03	0.03	0.04	0.05	0.05	0.07	0.07
AIRFLOW (l/s)	Cooling (nominal)	0.05	0.05	0.06	0.07	0.07	0.09	0.09
	Lo-Mi-Hi	83-100-117	91-108-133	91-117-150	100-133-167	133-158-183	158-183-217	200-233-275
EXTERNAL STATIC PRESSURE (Pa)		5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50
SOUND PRESSURE LEVEL (dBA)*1 Lo-Mi-Hi		22-24-28	22-25-29	24-26-30	24-27-32	28-30-33	30-32-35	30-33-36
WEIGHT (kg)		19	19	19	20	24	24	28
DIMENSIONS (mm)	Width	790	790	790	790	990	990	1190
	Depth	700	700	700	700	700	700	700
	Height	200	200	200	200	200	200	200
ELECTRICAL SUPPLY		220-240v, 50Hz	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	Single
RUNNING CURRENT (A) Heating / Cooling		0.31 / 0.42	0.36 / 0.47	0.39 / 0.50	0.39 / 0.50	0.45 / 0.56	0.56 / 0.67	0.61 / 0.72
FUSE RATING (BS88) - HRC (A)		6	6	6	6	6	6	6
MAINS CABLE No. Cores		3	3	3	3	3	3	3

Note: *1 Additional sound data is available for this model. Separated inlet and breakout sound power level and discharge sound power level data is available on request.

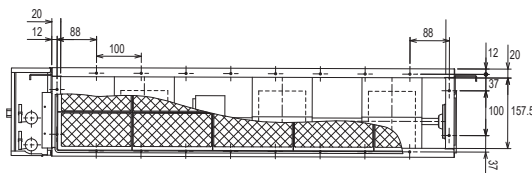
PRODUCT DIMENSIONS

PEFY-P15/20/25/32/40/50/63VMS1-E

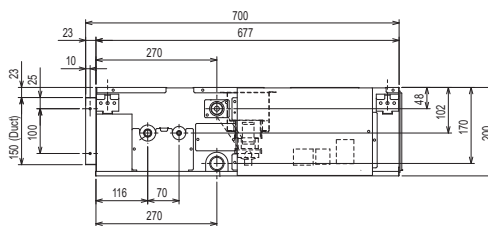
Upper View



Front View



Side View



Model	A	B	C	D	E	F
PEFY-P15-32VMS1-E	700	752	798	660	7	600
PEFY-P40-50VMS1-E	900	952	998	860	9	800
PEFY-P63VMS1-E	1100	1152	1198	1060	11	1000



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com

web: airconditioning.mitsubishielectric.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

Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom - Japan - Thailand - Malaysia. ©Mitsubishi Electric Europe 2017. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.

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) or R134a (GWP:1430). *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).



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment

Follow us @meuk_Jes
Follow us @green_gateway

Mitsubishi Electric
Living Environmental Systems UK

[mitsubishielectric2](https://www.youtube.com/user/mitsubishielectric2)

thehub.mitsubishielectric.co.uk

Effective as of September 2017



TECHNICAL SUBMISSION

Hale Spa, Manchester



Client	FG Mechanical
Document Title:	VRF Controls
Document ref no	ACTS04
Zircon Ref No:	4135_ACTS04_Controls
Date:	20/04/21
Revision no:	0

Amendments

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



Location	Model	Quantity	Description
All Units	PAR-U02MEDA-K	17	Remote Controller
TBC	AE-200E	1	Centralised Controller
TBC	Procon-Melco BEMS	1	Melcotel

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



The **AE-200E** is a large 10.4" touch screen centralised controller with simple intuitive operation and control over M-NET network.

Key Features

- 10.4" full function touch screen
- Centralised controller
- Monitor and control up to 50 indoor units (or up to 200 indoor units with EW-50Es)
- Monitor and control general equipment
- Energy monitoring, load shedding
- Web based controller
- Onboard HTML5 web browser
- Optional direct BACnet connection

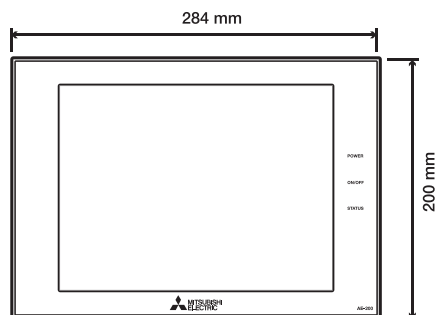


CENTRALISED CONTROLLER		AE-200E
Description	10.4" Touch Screen Controller	
Connect to	M-NET Network	
Max Number of Units	50 and 4 Pulse Meters	
Compatibility	M Series, Mr Slim, City Multi, Lossnay and Ecodan CAHV	
Power Supply	220-240v, 50Hz	
Dimensions (mm) (WxDxH)	283 x 64 x 199	
Control	On/Off	✓
	Mode	✓
	Setpoint	✓
	Fan Speed	✓
	Air Direction	✓
	Permit/Prohibit	✓
	Filter Sign	✓
Monitor	On/Off	✓
	Mode	✓
	Setpoint	✓
	Fan Speed	✓
	Air Direction	✓
	Permit/Prohibit	✓
	Filter Sign	✓
	Fault Codes	✓
	Room Temperature	✓
Weekly Schedule	✓	
Annual Schedule	✓	
Night Set Back	✓	
Web Pages	✓	
Optimised Start	✓	
Automatic Setpoint Adjustment	✓	
Load Shedding	✓	
Occupied / Unoccupied Settings Reset	x	
Remote Monitoring with M2M	-	
Simple Energy Monitoring	✓	
Advanced Energy Monitoring	✓	

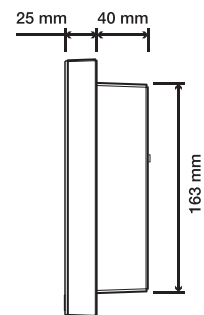
✓ = Yes, x = No, - = Not applicable.

DIMENSIONS

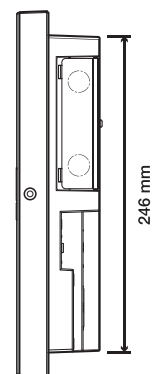
Front View



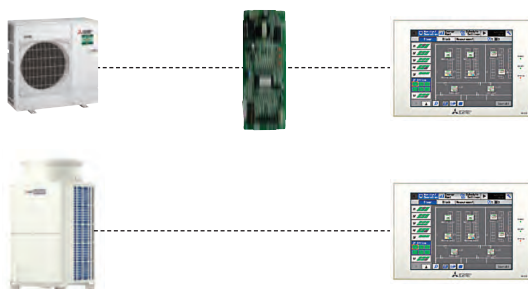
Side View



Upper View

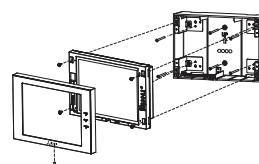


SYSTEM DIAGRAM

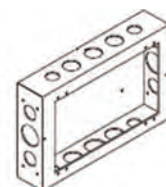


OPTIONS

PAC-YG82TB



PAC-YG84UTB



Description	AE-200E Plastic Wall Mounted Box	AE-200E Metal Wall Mounted Box
Compatibility	AE-200E	AE-200E
Dimensions (mm) (WxDxH)	282 x 77 x 198	380 x 90 x 280



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com

web: airconditioning.mitsubishielectric.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
Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom – Japan – Thailand – Malaysia. ©Mitsubishi Electric Europe 2017. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.

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) or R134a (GWP:1430). *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).



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment

Follow us @meuk_Jes
Follow us @green_gateway

Mitsubishi Electric
Living Environmental Systems UK

[mitsubishielectric2](https://www.youtube.com/channel/UCm5b1h1h1h1h1h1h1h1h1h1)

thehub.mitsubishielectric.co.uk

Effective as of September 2017



The MELCOTEL2 provides connection of up to 200 City Multi indoor units to communicate via centralised controllers AE-200E and EW-50E. It is ideal for hotel energy save solution applications and is supplied with an intuitive display screen for use by reception / management.

Key Features

- Monitor and control up to 200 indoor units
- Dedicated hotel interface
- Key card and non key card integration
- Automatic setpoint adjustment
- Occupied / unoccupied settings reset



Air Conditioning | Heating
Ventilation | Controls

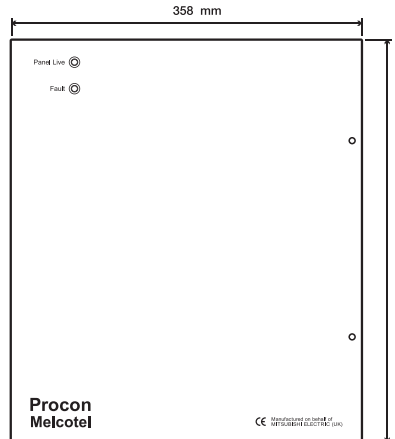


SOLUTION INTERFACE		MELCOTEL2
Description		AE-200E / EW-50E Hotel Interface and display
Connect to		AE-200E and EW-50E*1
Max Number of Units		200
Compatibility		City Multi
Power Supply		220-240v, 50Hz
Dimensions (mm) (WxDxH)		350 x 80 x 400
SMS/GPRS Capabilities		x
Ethernet Capabilities		x
SIM Card Provided		x
Inputs		x
Outputs		x
Control	On/Off	✓
	Mode	✓
	Setpoint	✓
	Fan Speed	x
	Air Direction	x
	Permit/Prohibit	x
Monitor	Filter Sign	x
	On/Off	✓
	Mode	✓
	Setpoint	✓
	Fan Speed	x
	Air Direction	x
Weekly Schedule	Permit/Prohibit	x
	Filter Sign	x
	Fault Codes	x
	Room Temperature	✓
	Weekly Schedule	x
	Annual Schedule	x
Night Setback	Night Setback	✓
	Web Pages	x
	Optimised Start	x
	Automatic Setpoint Adjustment	✓
	Load Shedding	x
	Occupied / Unoccupied Settings reset	✓
Simple Energy Monitoring		x

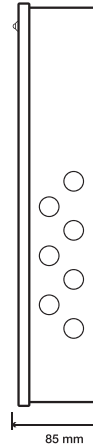
Note: *1 First centralised controller MUST be AE-200E
✓ = Yes, x = No, - = Not applicable.

DIMENSIONS

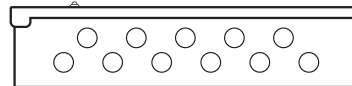
Front View



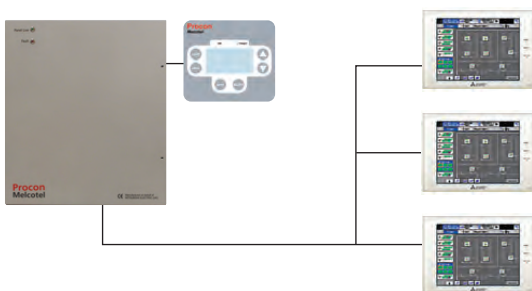
Side View



Top View



SYSTEM DIAGRAM



Note: Power supply by direct 230v AC mains power. No additional power supply required.



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com web: www.airconditioning.mitsubishielectric.co.uk

UNITED KINGDOM Mitsubishi Electric Europe Living Environmental 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
Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom - Japan - Thailand - Malaysia. ©Mitsubishi Electric Europe 2015. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.



Effective as of April 2015



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment

Follow us @meuk_Jes
Follow us @green_gateway

Mitsubishi Electric
Living Environmental Systems UK

YouTube [mitsubishielectric2](https://www.youtube.com/mitsubishielectric2)



The PAR-U02MEDA is a MNET back lit touch screen remote controller. It includes a built in PIR sensor allowing the air conditioning to be switched on/off automatically when a room is occupied and can also set the air conditioning in night set back when the room is unoccupied.

This controller is compatible with City Multi as standard and M Series / Mr Slim using a MNET adapter.

Key Features

- Touch screen MNET Controller
- Night set back, scheduling, setpoint limitation
- Built in Occupancy/Brightness sensor
- Back Light
- 0.5°C Set Point adjustment
- Dual Set Point



Air Conditioning | Heating
Ventilation | Controls



Controls

Product Information

PAR-U02MEDA Remote Controller

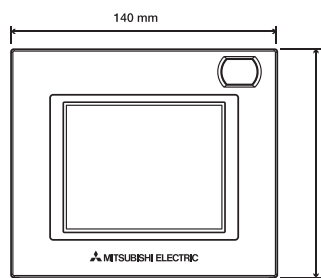
Making a
World of
Difference

REMOTE CONTROLLER		PAR-U02MEDA
Description	Touch Remote Controller	
Connect to	MNET Network	
Max Number of Units	16	
Compatibility	City Multi, Mr Slim and M Series via A2M Adaptor	
Power Supply	-	
Dimensions (mm) (WxDxH)	140 x 25 x 120	
Control	On/Off	✓
	Mode	✓
	Setpoint	✓ (0.5°C)
	Fan Speed	✓
	Air Direction	✓
	Permit/Prohibit	✓
	Filter Sign	✓
Monitor	On/Off	✓
	Mode	✓
	Setpoint	✓ (0.5°C)
	Fan Speed	✓
	Air Direction	✓
	Permit/Prohibit	✓
	Filter Sign	✓
	Fault Codes	✓
	Room Temperature	✓ (0.5°C)
Weekly Schedule	✓	
Annual Schedule	✓	
Night Set Back	x	
Web Pages	x	
Optimised Start	Weekly	
Automatic Setpoint Adjustment	✓	
Load Shedding	✓	
Occupied / Unoccupied Settings Reset	x	
Remote Monitoring with M2M	x	
Simple Energy Monitoring	x	
Advanced Energy Monitoring	x	

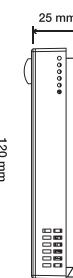
Note: ✓ = Yes, x = No, - = Not applicable.

DIMENSIONS

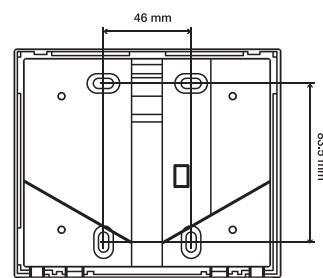
Front View



Side View



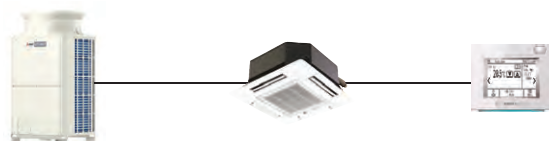
Back View



Top View



SYSTEM DIAGRAM



Telephone: 01707 282880

email: air.conditioning@meuk.mee.com web: www.airconditioning.mitsubishielectric.co.uk

UNITED KINGDOM Mitsubishi Electric Europe Living Environmental 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
Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

Country of origin: United Kingdom - Japan - Thailand - Malaysia. ©Mitsubishi Electric Europe 2015. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.



Effective as of April 2015



www.greengateway.mitsubishielectric.co.uk

Mitsubishi Electric UK's commitment
to the environment



Follow us @meuk_Jes
Follow us @green_gateway



Mitsubishi Electric
Living Environmental Systems UK



mitsubishielectric2



TECHNICAL SUBMISSION

Hale Spa, Manchester



Client	FG Mechanical
Document Title:	Containment
Document ref no	ACTS05
Zircon Ref No:	4135_ACTS05_Containment
Date:	20/04/21
Revision no:	0

Amendments

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



Location	Support	Type	Size
Roof	Condensers	Fix-it foot	1000mm
Roof	Pipework	Fix-it foot	250mm
All Areas	Pipework	Medium Return Tray	Various
Risers	Pipework	Cushion clamps	Various
All Areas	Cables	Medium Return tray	Various

Notes:

- All pipework will be run on cable tray, held in place with C brackets and M10 stud which is secured to building fabric using Wedge or Screw in Anchors.
- All control cabling will with be cabled tied to pipework cable tray and not pipework.
- All BC boxes and Units will be hung from stud secured to building fabric using wedge anchors.

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).

Flexi Foot with Strut



Flexi Foot with Strut



Flexi Foot with Strut – These feet can support pipework, cable tray, and can also be used to mount air conditioning units, air source heat pumps and a variety of outdoor equipment. Solar thermal and solar photovoltaic on flat roof installations can also be accommodated.

Features

- Available in four sizes: 250mm, 400mm, 600mm and 1000mm
- Made from heavy duty recycled rubber
- 21 x 41mm galvanized steel strut is supplied bonded to the rubber
- Drain slots molded to the underside of the foot

Related Products

Flexi H Frames
Flexi Frames

The Package

- 1 x Flexi Foot with Strut •

Material	
Rubber	Compression moulded using milled, sieved and graded, recycled rubber bound with high quality adhesive
Density	1.0 kg/cm ³
Strut	41 x 21 x 1.5mm galvanized steel

Part Code	Description	Length	Width	Height	Safe Working Load*	Weight
FF-250-S	Flexi Foot – 250mm Strut	250mm	185mm	100mm	175kg	2.8kg
FF-400-S	Flexi Foot – 400mm Strut	400mm	185mm	100mm	280kg	4.6kg
FF-600-S	Flexi Foot – 600mm Strut	600mm	185mm	100mm	420kg	7.6kg
FF-1000-S	Flexi Foot – 1000mm Strut	1000mm	185mm	100mm	700kg	12.0kg

* The maximum loads quoted in the above table is based on loads applied over the top surface, and have been tested with a 4:1 safety ratio.

• It is the installer's responsibility to ensure that equipment weights do not exceed the safe working loads quoted and that the roof structure onto which these products are being applied is sufficiently sound to withstand the weight and point loading. If these products are used in contact with a PVC roof membrane the installer should seek advice from the membrane manufacturer on the possible migration of plasticizers, and the effect of this on the roof guarantee. These products should not be used for any purpose other than that for which they have been designed, and the products must not be modified in any way. Pump House accepts no liability for damage caused by the incorrect application or installation of these products.

The Pump House sales team are available to answer your questions or queries on this product. Our experts are waiting for your call **+44 (0)115 900 5858** or if you prefer send an email to **sales@pumph.co.uk** or visit **www.pumph.co.uk**



The Cable Tray Range

The complete range of Unistrut cable Tray for use in Light, Medium and Heavy duty applications. Available in a variety of sizes the Unistrut system provides the ultimate in flexibility, quality and speed in cable management. Ideal for all your cable applications from low power control & signalling to mains power supply cabling. With a complete range of fixings and accessories including bends and risers.

- ♦ All material is European standard graded
- ♦ Available in UK standard slot pattern
- ♦ Available in multiple finishes for a wide range of jobs, including Galvanised and Stainless Steel.
- ♦ An extensive range of dedicated accessories, bracketry and support systems.
- ♦ Commercial buildings, including office blocks, shopping centres and super markets
- ♦ Hospitals, Data centres, correction facilities
- ♦ Infrastructure applications such as Airports, road and rail tunnels.
- ♦ Automotive industry
- ♦ Petrochemical, Food and Beverage and general industrial applications





Unistrut slot Pattern

Traditional Unistrut standard design in use since 1965, synonymous with strength and quality.

Light Duty

Available in 3m lengths with depths of 12mm (50mm wide to 225mm wide) and 18mm (300mm to 900mm wide), in [PG] Pre-galvanised, [HG] hot-dip galvanised and [SS] stainless steel finishes.

Medium Duty

Available in 3m lengths with a depth of 25mm and widths from 50 to 900mm, in [PG] Pre-Galvanised, [HG] hot-Dip Galvanised and [SS] Stainless steel finishes.

Heavy Duty

Available in 3m lengths with a depth of 50mm and widths from 75 to 900mm, in [PG] Pre-Galvanised, [HG] Hot-Dip Galvanised and [SS] stainless steel.

Extra Heavy Duty*

Available in 3m lengths with a depth of 50mm and in 75 & 100mm widths. Finish applications include [PG] Pre-Galvanised, [HG] Hot-Dip Galvanised and [SS] stainless Steel.

*Details on extra heavy duty tray available upon request.

Cable Trays - Unistrut

Unistrut Tray - Features

- ♦ UK traditional Slot pattern
- ♦ Widths : 50, 75, 100, 150, 225, 300, 450, 600, 750 and 900mm
- ♦ Compatible with Unistrut Fittings only
- ♦ Stock held in the UK

Standard Material & Finish Codes

Finish	Code
Pre-Galvanised	PG
Hot Dipped Galvanised	HDG
Stainless Steel	SS

Other materials and finishes available upon request.
Materials standards and details can be found on page 27.

Icon Key - Feature



Incl Fittings



Sold as Pair



Sold as Individual

Material Standards

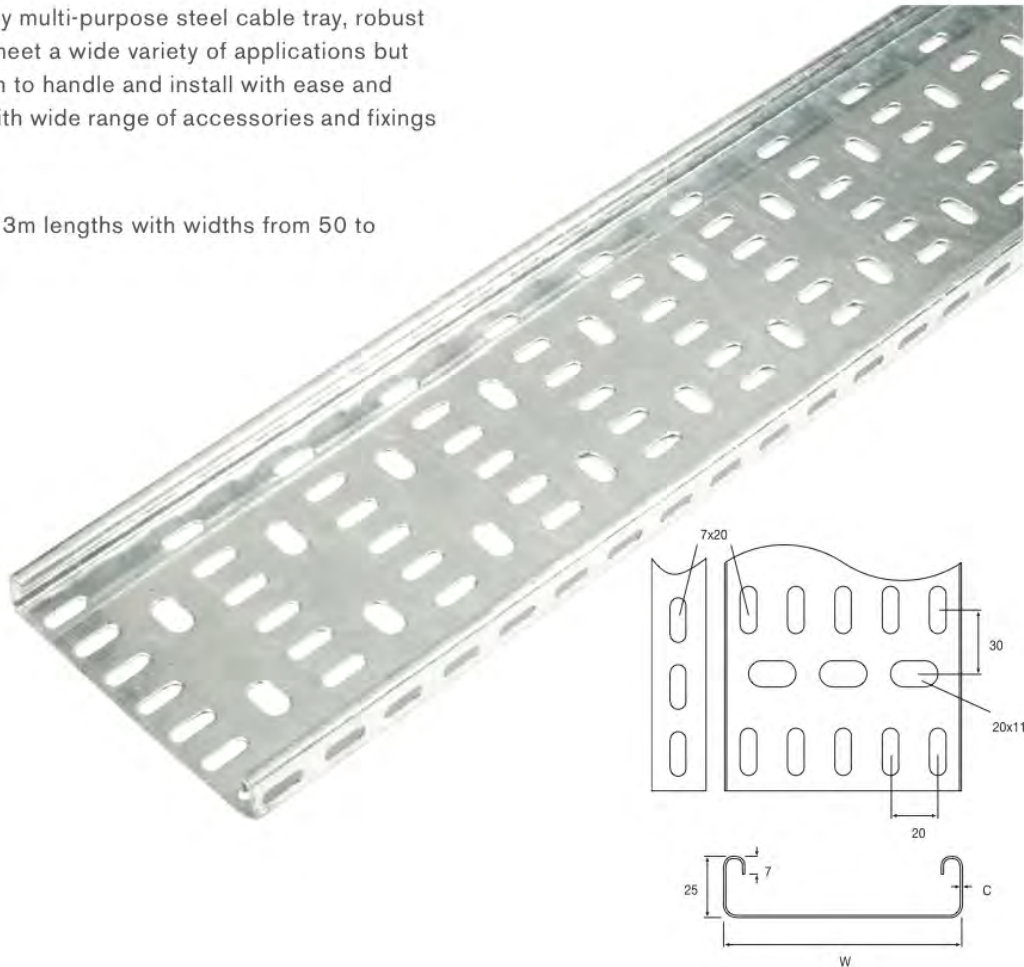
Finish	Standard
PG	Pre-Galvanised Steel to BS EN 10346 DX51D Z275-N-A-
HG	Mild Steel to BS EN 10111 - DD11 or BS EN 10139 - DC01
DH	BS EN 10025 S275JO+AR+CL1 or equivalent/ better - 2mm thick min. material.
SS	Stainless Steel - Hot Rolled to B.S.EN10088-2-1.4404+1D

Medium Duty

Unistrut Medium Cable Tray

Medium duty multi-purpose steel cable tray, robust enough to meet a wide variety of applications but light enough to handle and install with ease and complete with wide range of accessories and fixings to suit.

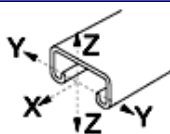
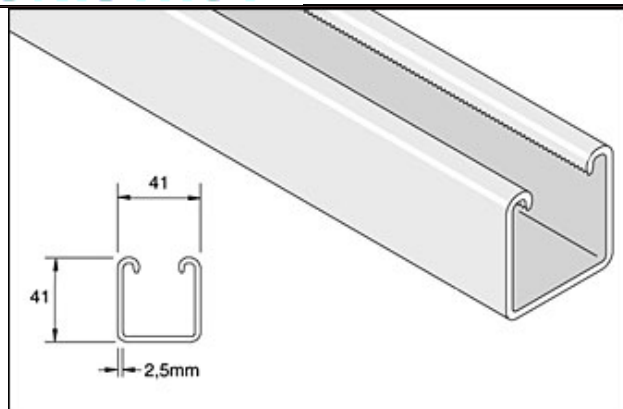
Available in 3m lengths with widths from 50 to 900mm,



Sold as Individual

Size (W)	Part No.			W	C	Weight
	PG	HG	SS			
50mm x 3m	TUMLT050/10PG	TUMLT050/10HG	TUMLT050/10SS	50	0.80	2.02
75mm x 3m	TUMLT075/10PG	TUMLT075/10HG	TUMLT075/10SS	75	0.80	2.48
100mm x 3m	TUMLT100/10PG	TUMLT100/10HG	TUMLT100/10SS	100	0.80	2.93
150mm x 3m	TUMLT150/10PG	TUMLT150/10HG	TUMLT150/10SS	150	0.80	3.72
225mm x 3m	TUMLT225/10PG	TUMLT225/10HG	TUMLT225/10SS	225	0.80	4.97
300mm x 3m	TUMLT300/15PG	TUMLT300/15HG	TUMLT300/15SS	300	1.20	9.13
450mm x 3m	TUMLT450/15PG	TUMLT450/15HG	TUMLT450/15SS	450	1.20	12.82
600mm x 3m	TUMLT600/15PG	TUMLT600/15HG	TUMLT600/15SS	600	1.20	16.5
750mm x 3m	TUMLT750/20PG	TUMLT750/20HG	TUMLT750/20SS	750	2.00	40.75
900mm x 3m	TUMLT900/20PG	TUMLT900/20HG	TUMLT900/20SS	900	2.00	48.13

100mm Extra Heavy Duty Tray also available. Contact our team for more information.



A (cm ²)	/m (kg/m)	-
3.35	2.88	-
I y-y (cm ⁴)	Z y-y (cm ³)	r y-y (cm)
7.21	3.1	1.46
I z-z (cm ⁴)	Z z-z (cm ³)	r z-z (cm)
9.23	4.47	1.66

Load Data						
	$\sigma = 175 \text{ N/mm}^2$ Fmax(kN) fmax(mm)		$f = 1/200L$ F (kN)	$f = 1/360L$ F (kN)	 F (kN)	
250	17.354	0.23	-	-	16.608	
500	8.672	0.95	-	-	16.187	
750	5.778	2.15	-	5.602	15.245	
1000	4.336	3.82	-	3.149	13.685	
1250	3.463	5.97	-	2.011	12.086	
1500	2.884	8.60	2.521	1.393	10.722	
1750	2.472	11.70	1.844	1.020	9.575	
2000	2.168	15.29	1.413	0.785	8.623	
2250	1.923	19.35	1.118	0.618	7.819	
2500	1.727	23.89	0.903	0.500	7.112	
2750	1.570	28.91	0.746	0.412	6.504	*
3000	1.442	34.40	0.628	0.343	5.995	*
*kL/r > 180						

Part No.	Finish	Length	Weight
P1000X3	HG	3M	7.94
P1000X6	HG	6M	17.30
P1000X3	PG	3M	7.88
P1000X6	PG	6M	15.75
P1000X3	PO	3M	7.88
P1000X6	PO	6M	15.75
P1000X3	SS	3M	8.03
P1000X6	SS	6M	16.06

Project: _____

Approval Stamp: _____

Architect / Engineer: _____

Date: _____ Phone: _____

Contractor: _____

Address: _____

Notes 1: _____

BZP Studding (Threaded Rod)

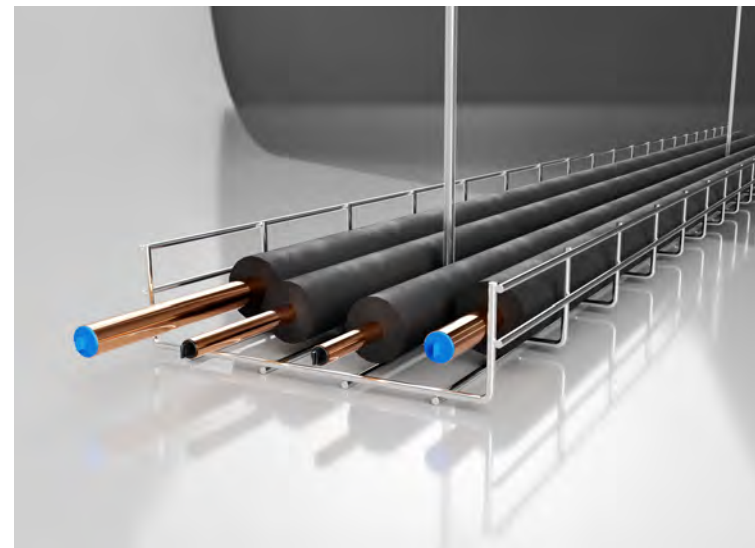
PRODUCT CODE(S):

GMCN34 & GMCN35 & GMCN40

STÖRNCH 3m BZP (Bright Zinc Plated) Studding

Threaded rod made of steel to class 4.8, and bright zinc plated. Can be post-installed through fixture in some cases.

Manufactured according to DIN 976-1



Studding used to hang basket tray

M12 - GMCN40



M10 - GMCN35



M8 - GMCN34



Studding Connector - GMCN37



Studding Cutter - GMSTD20



Socket Bolts Dual Thread M8-M10



Socket Bolts Dual Thread M8-M10

The Socket Bolt is a self tapping anchor for use in a variety of base materials. The undercutting action provides a positive anchorage with no expansion forces.

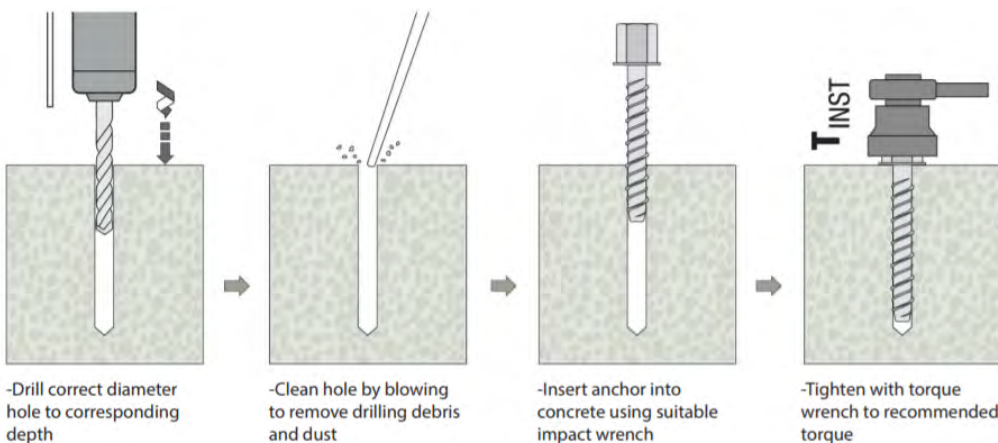
- The Dual Thread allows for the use of M8 and M10 Threaded Rod with the need for only one socket.
- The choice of M8 and M10 gives options for the diameter of Threaded Rod being used.

Features

- Undercutting action
- Fast and Secure Installation
- Expansion Free
- High Performance
- Reaction to Fire Class A1
- Fire Resistant Classification R120

Base Material

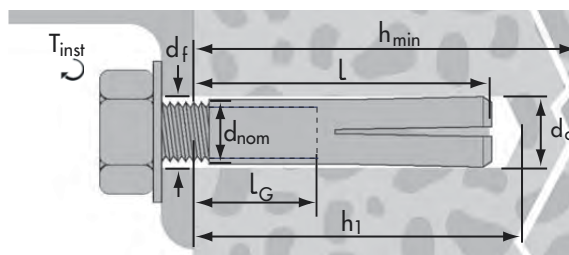
- Concrete C20/25 to C50/60
- Hollow Concrete Planks
- Solid Brickwork
- Concrete Block
- Natural Stone



Code	Description	Quantity
X-SB810-B4	Socket Bolt - Dual Thread M8-M10	Bag of 4
X-SB810-B100	Socket Bolt - Dual Thread M8-M10	Box of 100

The Pump House sales team are available to answer your questions or queries on this product. Our experts are waiting for your call **0115 900 5858** or if you prefer send an email to **sales@pumph.co.uk** or visit **www.pumph.co.uk**





No.	Name	Material
1	Drop in Anchor	Zinc plated steel / stainless A4
1	Setting tool	Zinc plated steel

Building materials

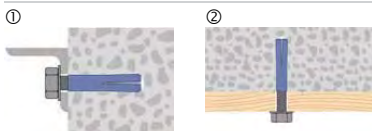
Qualities



Characteristics

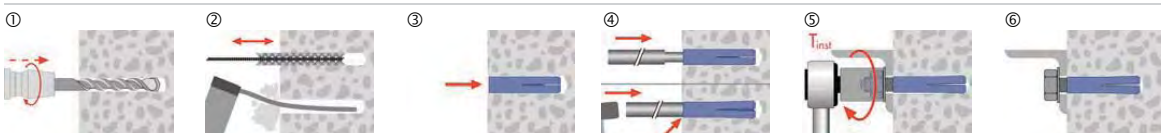
- Approved for lightweight suspended ceilings according to DIN 18168 in concrete KC20/25 and γ C50/60
- Internally threaded anchor for metric screws of M6 - M 20 and loads up to 16 kN (in cracked concrete on the ceiling up to 1 kN / m²)
- The expansion force of the setting tool is conserved after dismantling of the screw.
- Can be used with screws from most materials.
- Fast, easy assembling with minor setting depth.
- Strengthened design M12 with anchor $\varnothing$ 16 for use with diamond drill rigs and saws.

Applications



- ① Wall assembling.
- ② Ceiling assembling (uncracked / cracked concrete).
- For applications in outside sectors and damp locations use stainless A4 anchors.
- Required screw in depth from 1 to 1.5 x $\varnothing$ thread.

Installation



- ① Take drill hole- $\varnothing$ and drill hole depth from the table.
- ② Clean the drill hole with a brush, then blow it out with a purging pump.
- ③ Insert the Drop in Anchor.
- ④ Drive the cone into the plug with a setting tool.
- ⑤ Tighten the Building materials with the predetermined torque setting.
- ⑥ The screw can be dismantled anytime (anchor stays expanded in the base material).

All information detailed in our data sheets is based on technical approvals, formulas and site and laboratory testing under optimum conditions and include a stated safety factor. As we have no direct or indirect control over where or how our products are applied or installed, we do not accept any liability either directly or indirectly arising from the use of our products, whether or not in accordance with any advice, specification or recommendation given by us and we recommend site testing of all products for suitability.

Anchor size			M6	M8	M10	M12			M16	M20
Recommended tension loads: ¹⁾										
N _{Emp}	- Concrete uncracked C20/25 - C50/60	kN	2	3.2	5	7			9.7	16
V _{Emp}	Recommended shear loads	kN	1.5	3	4.5	6.8			12	20
c	Min. distance to the edge	mm	105	105	140	175			230	280
s	Min. distance betw. anchors	mm	105	105	140	175			230	280
h _{min}	Min. thickness of foundation	mm	100	100	100	120			140	180
T _{inst}	Torque at anchoring	Nm	5	11	22	37			80	160
h ₁	Drill hole depth	mm	33	33	44	54			71	86
d ₀	Drill hole-Ø in the building material	mm	8	10	12	15	16	15	20	25
d _{cut}	Max. drill cut-Ø	mm	8.5	10.45	12.5	15.5	16.5	15.5	20.5	25.5
d _f	Hole-Ø in the attached part	mm	7	9	12	14			18	22
l _G	Thread length	mm	11	13	15	18			23	34
d _{nom}	Outside-Ø anchor	mm	8	10	12	15	16	15	20	25
l	Anchor length	mm	30	30	40	50			65	80
Alloy			zinc plated	zinc plated	zinc plated	zinc plated	zinc plated	zinc plated	zinc plated	zinc plated
			stainless A4							



Drop in Anchor

1) Without influence of anchor and edge distance / Safety factor 3
2) for diamond drill and diamond saw rigs

Approved loads for the application of lightweight ceilings and anchorage according to DIN 18168

Anchor size			M6	M8	M10	M12
Approved tension loads:						
N _{Zul}	- Concrete cracked/uncracked C20/25 - C50/60	kN	0.5	0.5	0.8	0.8
c	Min. distance to the edge	mm	100	100	100	200
s	Min. distance betw. anchors	mm	400	400	400	400
h _{min}	Min. thickness of foundation	mm	100	100	100	100
T _{inst}	Torque at anchoring	Nm	2	3	6	15

Approved load in application of single fixing

Anchor size			M8	M10	M12
Approved tension loads:					
N _{Zul}	- Concrete uncracked C20/25 - C50/60	kN	2	3	5.3
V _{Zul}	Recommended shear loads	kN	2	3	5.3
c	Min. distance to the edge	mm	90	120	150
s	Min. distance betw. anchors	mm	180	240	300
h _{min}	Min. thickness of foundation	mm	100	120	150
T _{inst}	Torque at anchoring	Nm	8	15	35

Setting Tool

The original Setting Tool is for the setting of the Drop in Anchor obligatory. The tool has to conform with the corresponding anchor sizes.

M6	M8	M10	M12	M16	M20

Setting Tool

All information detailed in our data sheets is based on technical approvals, formulas and site and laboratory testing under optimum conditions and include a stated safety factor. As we have no direct or indirect control over where or how our products are applied or installed, we do not accept any liability either directly or indirectly arising from the use of our products, whether or not in accordance with any advice, specification or recommendation given by us and we recommend site testing of all products for suitability.



TECHNICAL SUBMISSION

Hale Spa, Manchester



Client	FG Mechanical
Document Title:	Pipe & Insulation
Document ref no	ACTS06
Zircon Ref No:	4135_ACTS06_Pipe & Insulation
Date:	20/04/21
Revision no:	0

Amendments

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



Notes:

- Copper Pipe brazed using Oxygen/Mapp.
- Copper Pipe lagged with ½" wall Armaflex and all joints sealed with Armaflex Tape.

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).

Refrigeration and Air Conditioning Tubes

Pipeline solutions for refrigeration and air conditioning, all to EN 12735-1.

Our copper tubing is designed specifically for refrigeration and air conditioning use and accordingly cleaned, nitrogen-purged and capped.

Material Analysis

Material Grade Phosphorus de-oxidised copper; Cu-DHP or CW024A as defined in BS EN 1976.

Minimum Copper Content 99.90 % (including silver)

Phosphorus 0.015-0.040 %

Total Impurity Maxima 0.060 % (excluding phosphorus and silver)

The melting point of copper is 1083°C and it has a density of 8.9 gm/cc

Mechanical Properties

BS EN 12735-1 Refrigeration and Air Conditioning Tubes



Material Temper EN 1173	Tensile Strength min. (N/mm2)	Elongation min. (%)	Hardness (Indicative) HV5 VPN
R220 (soft)	220	40	40-70
R250 (Half Hard)	250	30	75-100
R290 (Hard)	290	3	Over 100

The table below and on the next page give the maximum working pressure (MWP)

They have been calculated based on the requirements of EN378 using the stress values according to BS 1306.

Although straight tube is supplied in either half hard or fully hard condition, we have also quoted figures based on annealed condition which is representative of the tube in the area immediately surrounding brazed joints.

The maximum test pressure can be 1.5 times that of the (MWP)

Standard Copper Coiled Tube to EN 12735-1 R220



O.D. (inches)	Wall (inches)	Gauge (SWG)	Max Working Pressure in annealed condition
1/4	0.028	22	92
5/16	0.028	22	72
5/16	0.036	20	94
3/8	0.032	21	68
1/2	0.032	21	50
5/8	0.036	20	45
3/4	0.040	19	39
7/8	0.040	19	33

Economy Copper Coiled Tube to EN 12735-1 R220



O.D. (inches)	Wall (inches)	Gauge (SWG)	Max Working Pressure in annealed condition
1/4	0.020	25	72
5/16	0.020	25	51
3/8	0.020	25	47
1/2	0.022	24	37
5/8	0.028	22	34
3/4	0.032	21	33
7/8	0.040	19	33
1 1/8	0.048	18	33

Copper Straight Tube to EN 12735-1 R250/R290

O.D. (inches)	Wall (inches)	Gauge (SWG)	Max Working Pressure bar up to 65°C	Max Working Pressure in annealed condition
3/8	0.032	21	103	68
1/2	0.036	20	86	57
1/2	0.048	18	113	75
5/8	0.036	20	68	78
5/8	0.048	18	89	59
3/4	0.048	18	71	50
3/4	0.064	16	99	64
7/8	0.048	18	61	42
7/8	0.064	16	82	54
7/8	0.104	12	139	92
1 1/8	0.048	18	47	33
1 1/8	0.064	16	63	45
1 1/8	0.080	14	80	53
1 3/8	0.048	18	38	27
1 3/8	0.064	16	51	36
1 3/8	0.080	14	64	45
1 3/8	0.104	12	85	56
1 5/8	0.048	18	32	22
1 5/8	0.064	16	43	30
1 5/8	0.080	14	54	38
1 5/8	0.104	12	71	50
1 5/8	0.116	11	80	53
2 1/8	0.048	18	24	17
2 1/8	0.064	16	32	23
2 1/8	0.080	14	41	29
2 1/8	0.104	12	54	35
2 5/8	0.048	18	22	14
2 5/8	0.064	16	30	19
2 5/8	0.080	14	37	23
2 5/8	0.104	12	49	30
3 1/8	0.064	16	25	15
3 1/8	0.080	14	31	19
3 1/8	0.104	12	41	25
3 5/8	0.064	16	21	13
3 5/8	0.080	14	27	17
4 1/8	0.064	16	19	12
4 1/8	0.080	14	23	15
4 1/8	0.104	12	31	19

Working pressures are to BS 2871:part1:1971

AF/Armaflex®

Class 0

THE FLEXIBLE INSULATION SYSTEM TO
PREVENT CONDENSATION AND ENERGY
LOSSES



- Reliable condensation control with closed-cell Armaflex structure
- Effective reduction of thermal losses
- Built-in Microban® antimicrobial protection reduces mould and bacteria growth
- Class 0 Fire Performance
- NEW! Improved thermal conductivity value $\lambda_0 \text{ °C} \leq 0.033 \text{ W/(m} \cdot \text{K)}$
- NEW! Improved water vapour resistance value $\mu \geq 10,000$
- Made in the UK



AF/Armaflex Class 0

TRIPLE SECURITY

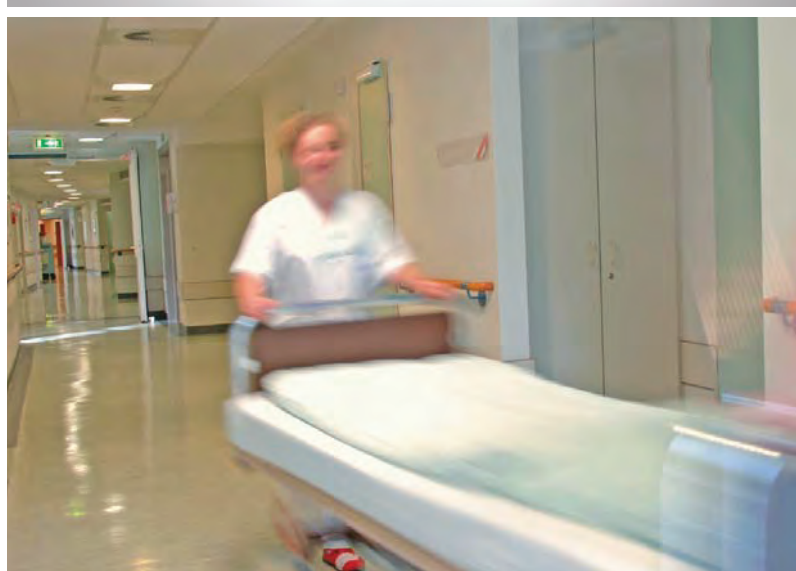
AF/Armaflex Class 0 is the professional flexible insulation for reliable condensation control. The combination of a low thermal conductivity value of $0.033 \text{ W/(m} \cdot \text{K)}$ and extremely high resistance to water vapour transmission ($\mu \geq 10,000$) prevents long-term energy losses, water vapour ingress and reduces the risk of corrosion under insulation.

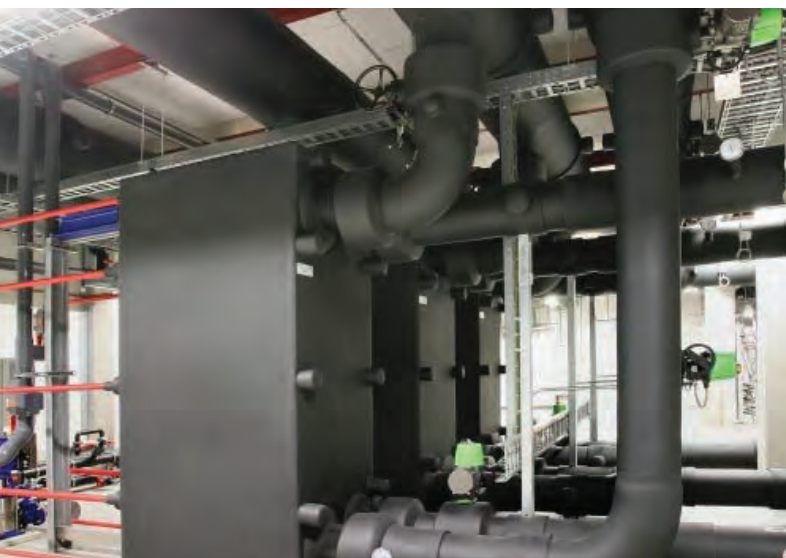


AF/ARMAFLEX CLASS 0 WITH ACTIVE MICROBAN® ANTIMICROBIAL PROTECTION

Conditioned systems can be problematic for the development of microbes and contamination, with indoor air up to 10 times more polluted than outdoor air. Microbes found in and on HVAC systems include stain and odour causing bacteria and mould and mildew. These microbes subsequently emit spores, cells, fragments and volatile organic compounds (VOC) into indoor air which contributes to sick building syndrome. Mould and mildew can additionally cause degradation of insulation materials.

AF/Armaflex Class 0 is the first flexible insulation material equipped with MICROBAN® technology. When microbes come into contact with the insulation surface, MICROBAN® protection penetrates the cell wall of the microorganism, disabling its ability to function, grow and reproduce. Because the protection is built in during the manufacturing process, it will not wash off or wear away. This gives AF/Armaflex Class 0 products an added level of protection against mould and mildew and is therefore the ideal solution for insulating ventilation or air-conditioning equipment in schools, hospitals, elderly homes, offices and airports, as well as mechanical systems in the pharmaceutical and food industries.





TRUSTED FOR 40 YEARS

With a combination of internal and externally monitored technical values we offer consistently high-quality products. This is the result of 40 years experience and continual research and development of the product properties.

AF/Armaflex Class 0 is manufactured in the UK to meet local standards, is compliant with CE marking legislation requirements and is tested to the new Euro-class fire standards.



COMPLETE SYSTEM

Armacell offers a complete and carefully considered system solution to meet professional insulation requirements: AF/Armaflex Class 0 standard, self-adhesive and endless tubes, sheet, tape and accessories.



Ready made **specification texts** are available to download and use from the ArmaPlus section of the UK website (www.armacell.com).

ArmWin is the technical calculation program from Armacell that allows the correct insulation thickness to be determined for preventing condensation and to minimize energy losses.

Application training: Accredited training for insulation contractors is available and upon successful completion, certification is provided for attendees.

Technical Data - AF/Armaflex Class 0

Brief description	Flexible, closed-cell insulation material with built-in Microban® antimicrobial protection		
Material type	Elastomeric foam based on synthetic rubber. Factory made flexible elastomeric foam (FEF) according to EN 14304.		
Colour	Black		
Material Special Information	Self-adhesive coating: pressure-sensitive adhesive coating on modified acrylate basis with mesh structure. Covered with polyethylene film. Traces of silicon can be found on the protective film used on self-adhesive closures.		
Applications	Insulation / protection to control condensation, reduce energy losses and protect against frost on pipes, air ducts, vessels (incl. elbows, fittings, flanges etc.) Suitable for hot and cold water services, chilled water lines, heating systems, air conditioning ductwork and refrigerated pipework.		
Special Features	MCCP-free		
Assembly	Light weight and flexible. Closed cell structure means no additional vapour barrier is required.		
Remarks	EC Certificate of Conformity no. 0550 and 0551 of Güteschutzgemeinschaft Hartschaum e.V. , Celle		

Property	Value/Assessment				Test ¹	Special Remarks		
Temperature Range								
Temperature Range	Max. service temperature		+ 110 °C		(+ 85 °C if sheet or tape is glued to the object with its whole surface.)	EU 5411 EU 5490	Tested acc. to EN 14706, EN 14707 and EN 14304	
	Min. service temperature ¹		-50 °C					
Thermal Conductivity								
Thermal Conductivity	ϑ_m		+/-0		°C	λ =	EU 5411 EU 5490	Declared acc. to EN ISO 13787 Tested acc. to EN 12667 EN ISO 8497
	Tubes 6-19 mm	λ	$\leq$	0.033	W/(m · K)	$[33 + 0,1 \cdot \vartheta_m + 0,0008 \cdot \vartheta_m^2]/1000$		
	Tubes 25-32 mm	λ	$\leq$	0.036	W/(m · K)	$[36 + 0,1 \cdot \vartheta_m + 0,0008 \cdot \vartheta_m^2]/1000$		
	Sheets, tape 3-32 mm	λ	$\leq$	0.033	W/(m · K)	$[33 + 0,1 \cdot \vartheta_m + 0,0008 \cdot \vartheta_m^2]/1000$		
Water vapour diffusion resistance								
Water vapour diffusion resistance	Tubes 6-19 mm ; Sheets 6-32 mm	μ			$\geq$	10,000	EU 5411 EU 5490	Tested acc. to EN 12086 EN 13469
	Tubes 25-32 mm	μ			$\geq$	7,000		
Fire performance								
Reaction to fire ²	tubes				B _L -s3, d0	EU 5411 EU 5490	Classified acc. to EN 13501-1 Tested acc. to EN 13823 EN ISO 11925-2	
	sheets & tape				B-s3,d0			
	Surface Spread of Flames				Class 1	GB 5151 & GB 5153	Surface Spread of Flame: tested according to BS 476 Part 7:1997	
	Fire Propagation				Total Index Performance (I) $\leq$ 12 Sub Index (i ₁) $\leq$ 6			
	Fire Performance acc. to Building Regulations				Class 0	GB 5150 & GB 5152	Fire Propagation: tested according to BS 476 Part 6:1989	
Other fire class	FM-approved					FM: D 5551	Tested according to UBC26-3, Class No.4924	
Practical fire behaviour	Self-extinguishing, does not drip, does not spread flames							
Other technical features								
Dimensions and tolerances	In accordance with EN 14304, table 1					EU 5411 EU 5490	Tested acc. to EN 822, EN 823, EN 13467	
Health aspects	ODP & GWP ratings of zero							
Storage & Shelf life	Self-adhesive tapes, self-adhesive sheets, self-adhesive tubes: 1 year						Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0 °C – 35 °C).	
Antimicrobial behaviour	In-built Microban® active antimicrobial protection: No fungal growth observed							

1. For temperatures below -50 °C please contact our Technical Department to request the corresponding technical information.

2. The building materials classification is valid on metal or solid, mineral surfaces.

*1 Further documents such as test certificates and approvals can be requested using the registration number given.

All statements and technical information are based on results obtained under typical conditions. It is the responsibility of the recipient to verify with us that the information is appropriate for the specific use intended. Installation instructions are given in our Armaflex installation manual. Not suitable for outside use. Armaflex should be protected within 3 days of installation with Armafinish Paint or Arma-Chek covering. With some refrigerants the discharge temperature may exceed +110 °C, please consult our Technical Department for further information.

Lagging Tape

PRODUCT CODE(S)

GMEU30

STÖRNCH Lagging Tape is a closed cell Nitrile butadiene rubber blend with a high-strength acrylic adhesive on one side, reinforced with a scrim backing - excellent for applications in taping joints on Class '0' pipe insulation, along with the surfaces of seaming parts for tubes and rolls to reinforce the insulation systems. STÖRNCH Lagging Tape provides a fast, and easy insulating method which can be conveniently applied in both irregular surfaces and narrow working spaces.

Details	Code	Colour	Width	Length	Thickness	Rolls/carton
	GMEU30	Black	50.0 mm	15 m	3 mm	12

Typical Properties - Specification	Values	Test Method
Thermal Conductivity Btu · in./h · ft ² · °F (W/mK) 75°F Mean Temperature (24° c) 90°F Mean Temperature (32°C)	0.25 (0.036) 0.256 (0.037)	ASTM C518
Water Vapour Permeability Perm-in. [Kg/(s · m · Pa)]	0.05 (0.725 x 10 ⁻¹³)	ASTM E96
Flame Spread and Smoke Developed Index	25/50 rated	ASTM E84
Mold Growth Fungi Resistance Bacterials Resistance	UL181 ASTM G21/C1338 ASTM G22	UL181 ASTM G21/C1338 ASTM G22
Upper Use Limit²	Up to 180°F (82°C)	ASTM C534
Lower Use Limit²	-297°F (-183°C) ³	ASTM C534



MATERIAL TYPE

Nitrile butadiene rubber blend. Closed-cell.

PERFORMANCE

- Reliable condensation control with closed-cell structure
- Effective reduction of thermal losses

APPROVALS, CERTIFICATIONS, COMPLIANCES

Manufactured without CFCs, HFCs, HCFCs, PBDEs or Formaldehyde. FM approval.

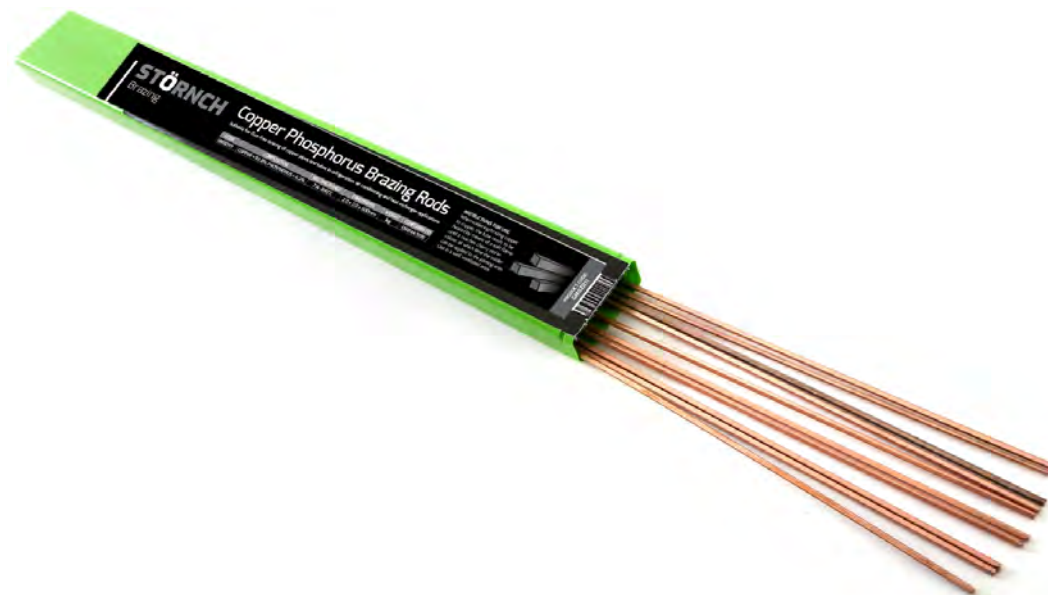
Brazing Rods

PRODUCT CODE(S)

GMBZR11

Copper phosphorous brazing rods.

The copper-phosphorous alloy is self-fluxing (the phosphorous within the alloy imparts a metallurgical based self-fluxing capacity) and is used for a fast and easy method to join copper. With copper alloys (i.e. brass and bronze) additional flux is required to achieve a successful join.



Code	GMBZR11
Pack Size	1 kg
Dimensions	2.0 x 2.0 x 500mm
Composition	Copper - 93.8%
	Phosphorous - 6.2%
Melting Range	714 - 890C
BS Standard	BS EN1044:1999

USES

- For joining metal, primarily copper pipe in this context

MATERIAL

- Copper & Phosphorous

FEATURES

- High Performance
- Easy to use
- Fast joining of copper
- Suitable for flux-free brazing



TECHNICAL SUBMISSION

Hale Spa, Manchester



Client	FG Mechanical
Document Title:	Condensate
Document ref no	ACTS07
Zircon Ref No:	4135_ACTS07_Condensate
Date:	20/04/21
Revision no:	0

Amendments

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).



Location	Type	Description	Size
All Units	Plastic Drain	Plastic Drain	$\frac{3}{4}$
Main Run	Plastic Drain	Plastic Drain	$1\frac{1}{4}$
Riser	HepvO	Dry Trap	$1\frac{1}{4}$
All areas	RPC Clip	Rapid Positioning Clip for Stud	$1\frac{1}{4}$ & $\frac{3}{4}$

Zircon Air Conditioning

Unit P Orchard Business Park, St Barnabas Close, Maidstone, Kent, ME16 0JZ.
Email: info@zirconac.com, web: www.zirconac.com, Tel: [01622 757925](tel:01622757925).

Hep_vO

System Data Sheet



System description

Hep_vO® is a unique self-sealing waste valve that prevents the escape of foul sewer air from waste discharge systems, and actively maintains the pressure equilibrium in soil and waste installations.

As a dry sealing valve, Hep_vO utilises a purpose designed membrane to create an airtight seal between the living space and the drainage system. The self-sealing valve opens under the water pressure of an appliance emptying, and closed to form a tight seal after the appliance has discharged under normal atmospheric

conditions. It performs the same function as a traditional water seal trap but unlike a trap it continues to provide a reliable seal under all conditions and is not affected by evaporation, syphonage or freezing conditions.

System benefits

- **Maintains seal under all conditions**
Reliable permanent protection against foul odours.
- **Resistance to back pressure**
Provides protection against sewer gas back pressure up to 10 times the level possible with a trap system.
- **Vertical or horizontal installation**

Can achieve significant and valuable space-saving opportunities.

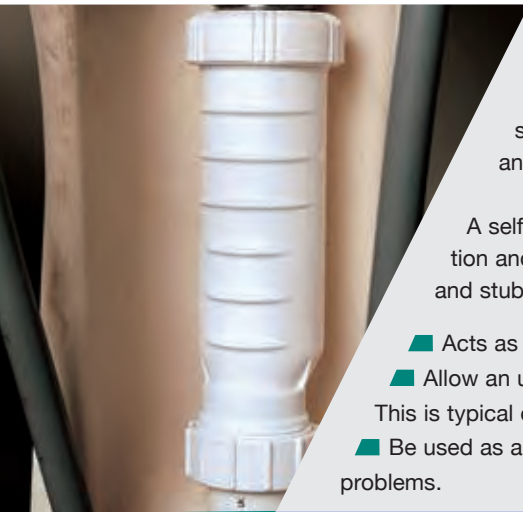
- **No Air Admittance Valves required**
The venting of the waste system for negative pressure conditions is no longer necessary.
- **Higher flow rate of discharge water**
Faster drainage of fixtures.
- **Not affected by syphonage**
Hep_vO retains seal performance and allows the placement of a greater number of appliances together on fewer discharge pipes.
- **Low Noise**
Hep_vO operates quietly and is not subject to "gurgling" noises.
- **Not influenced by solid or greasy waste materials**
Can be used in all residential and commercial applications.

Documentation

The following documentation on the Hep_vO system is available:

- Hep_vO Product and Installation Guide (2008)

HYGIENIC SELF SEALING WASTE VALVES



Applications

Hep_VO can be used more effectively than a conventional trap in domestic and commercial situations. This includes marine and mobile home installations, where space is at a premium and where fixtures remain unused for a long period of time.

A self-sealing waste valve is a suitable alternative for traditional waste traps on any waste application and on all types of sanitary systems such as primary and secondary ventilated systems (single and stub stacks). In addition, Hep_VO can:

- Acts as an air admittance valve, allowing air into the drainage system when negative pressure occurs.
- Allow an unvented hot water storage system to connect a tundish outlet pipe to a drainage stack. This is typical of an intermittent flow application where a trap could not usually be used.
- Be used as a problem solver in existing installations where traps are failing and causing smell or noise problems.

Range

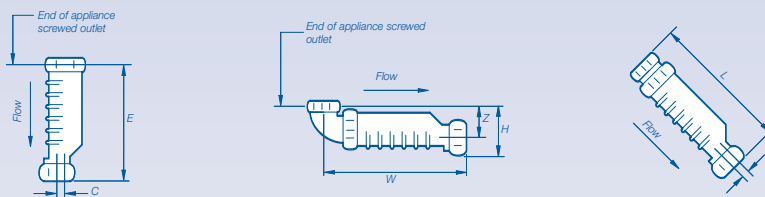
The Hep_VO valve and adaptors are available in sizes 32mm (1 ¼") and 40mm (1 ½") in all the systems DN Metric, UK Metric and US Tubular. A 87.5° knuckle adaptor should be used with the Hep_VO valve for horizontal applications, and a running adaptor when installed the Hep_VO in a pipe run. There is also a Hep_VO tundish adaptor kit comprising a 32mm Hep_VO valve and tundish adaptor

All items are manufactured from white polypropylene (PP) and are covered by the British BRE certificate no 042/97.

Dimensional data for the Hep_VO is shown in the figures below.

Hep_VO dimensional data

SIZE	C	E	L	W	Z	H
32mm	8	171	208	211	40	70
40mm	5	171	208	213	40	73



For information on System Design and Installation we refer to the Hep_VO Installation Manual.

Quality requirements

Hep_VO is manufactured under a quality management system which is approved to ISO 9001 and ISO 14001 (Environmental Management Systems). The correct use of Hep_VO will ensure that installations comply with the requirements of EN 12056 (Part 2), EN 274 and EN 15749-1 2004 (Ships and Marine Technology). Approvals include BRE 042/97 (UK), ATS 5200 (Australia), CSA TIL 55 (Canada, for Recreational Vehicles and ASME ANSI A112.18.8 (USA).



Contact details

Wavin Overseas B.V.
Stationsplein 3, 8011 CW
P.O. Box 173, 8000 AD
Zwolle, The Netherlands
Phone +31(0)38 - 4294 951
Fax +31(0)38 - 4294 950
E-mail: wavin.overseas@wavin.com

www.wavinoverseas.com

RPC Rapid Positioning Clips



RPC

by **DIVERSiTECH**



Studding
Clips

The studding clips from RPC have a unique way of attaching themselves to the threaded rod. Simply insert the clip and snap to secure in place. The ratchet design locks the pipework in place. It will overcome the problems of using cable ties for piping, electrical, optical and network cabling.

Features

- Available to fit M8 and M10 threaded rod
- Secures to the studding quickly
- Simple to install, adjust and relocate
- Available in 11 sizes from 5/8" to 2-1/8"

Related Products

RPC Rapid Positioning Clips
RPC Cable Tie Channel Clips
RPC InsulClips

The Package

- Supplied in Packs of 10

Part Code	Stud Size	Tube OD	Pack Quantity
SC08-15	M8	5/8"	10
SC08-20	M8	3/4"	10
SC08-22	M8	7/8"	10
SC08-25	M8	1"	10
SC08-28	M8	1-1/8"	10
SC08-32	M8	1-1/4"	10
SC08-35	M8	1-3/8"	10
SC08-40	M8	1-1/2"	10
SC08-42	M8	1-5/8"	10
SC08-50	M8	2"	10
SC08-54	M8	2-1/8"	10

Part Code	Stud Size	Tube OD	Pack Quantity
SC10-15	M10	5/8"	10
SC10-20	M10	3/4"	10
SC10-22	M10	7/8"	10
SC10-25	M10	1"	10
SC10-28	M10	1-1/8"	10
SC10-32	M10	1-1/4"	10
SC10-35	M10	1-3/8"	10
SC10-40	M10	1-1/2"	10
SC10-42	M10	1-5/8"	10
SC10-50	M10	2"	10
SC10-54	M10	2-1/8"	10

The Pump House sales team are available to answer your questions or queries on this product. Our experts are waiting for your call **+44 (0)115 900 5858** or if you prefer send an email to **sales@pumph.co.uk** or visit **www.pumph.co.uk**



Condensate Removal Pipe

PRODUCT CODE(S)

GMDP10W/10B/20

Lightweight, yet strong and cost effective, the ABS Waste Pipe is ideal for condensate removal. Manufactured from Acrylonitrile-butadiene-styrene (ABS), the solvent weld system is suitable for use in both low and high temperature environments.

The 1-1/4" (32mm) pipe is available in White and Black, with the 1-1/2" (40mm) available in white only. A range of fittings is available to compliment this pipe and meet most installation requirements.



Code	GMDP10W	GMDP10B	GMDP20
Size	1-1/4" (32mm)	1-1/4" (32mm)	1-1/2" (40mm)
Length	3m	3m	3m
Colour	White	Black	White
Flashpoint	>350°C	>350°C	>350°C
Decomposition Temp.	>250°C	>250°C	>250°C
Relative Density:	Approx. 1.0	Approx. 1.0	Approx. 1.0

USES

Condensate removal

MATERIAL

Acrylonitrile-butadiene-styrene (ABS).

FEATURES

- Lightweight and strong
- Available in 32mm and 40mm, White; and Black (32mm only)
- No expansion gap required
- Solvent weld connection
- Use GMDP35 Solvent Cement

Overflow Pipe

PRODUCT CODE(S)

GMDP1W/1B

Lightweight, yet strong and cost effective, the STÖRNCH PVC-U Solvent Weld Overflow Pipe is ideal for condensate removal. Manufactured from PVC-U, the solvent weld system is suitable for use in both low and high temperature environments.

With a significantly thicker wall than standard overflow pipe, this product is far less prone to bowing and easier to cut with secateur-style cutters.

The 3/4" (21.5mm) pipe is available in White and Black, and a range of fittings is available to compliment the pipe and meet most installation requirements.



Code	GMDP1W	GMDP1B
Size	3/4" (21.5mm)	3/4" (21.5mm)
Length	3m	3m
Colour	White	Black
Flashpoint	>350°C	>350°C
Decomposition Temp.	>250°C	>250°C
Relative Density:	Approx. 1.0	Approx. 1.0

USES

Condensate removal

MATERIAL

Polyvinyl chloride unplasticized (PVC-U)

FEATURES

- Lightweight and strong
- NOT PRONE TO BOWING!
- Available in 21.5mm, White or Black
- No expansion gap required
- Solvent weld connection
- Use GMDP35 Solvent Cement