

# HEATING & HOT WATER SOLUTIONS



-  R32 Low GWP Refrigerant
-  7 Year Warranty
-  Quietest System on the Market
-  Energy class in water heating

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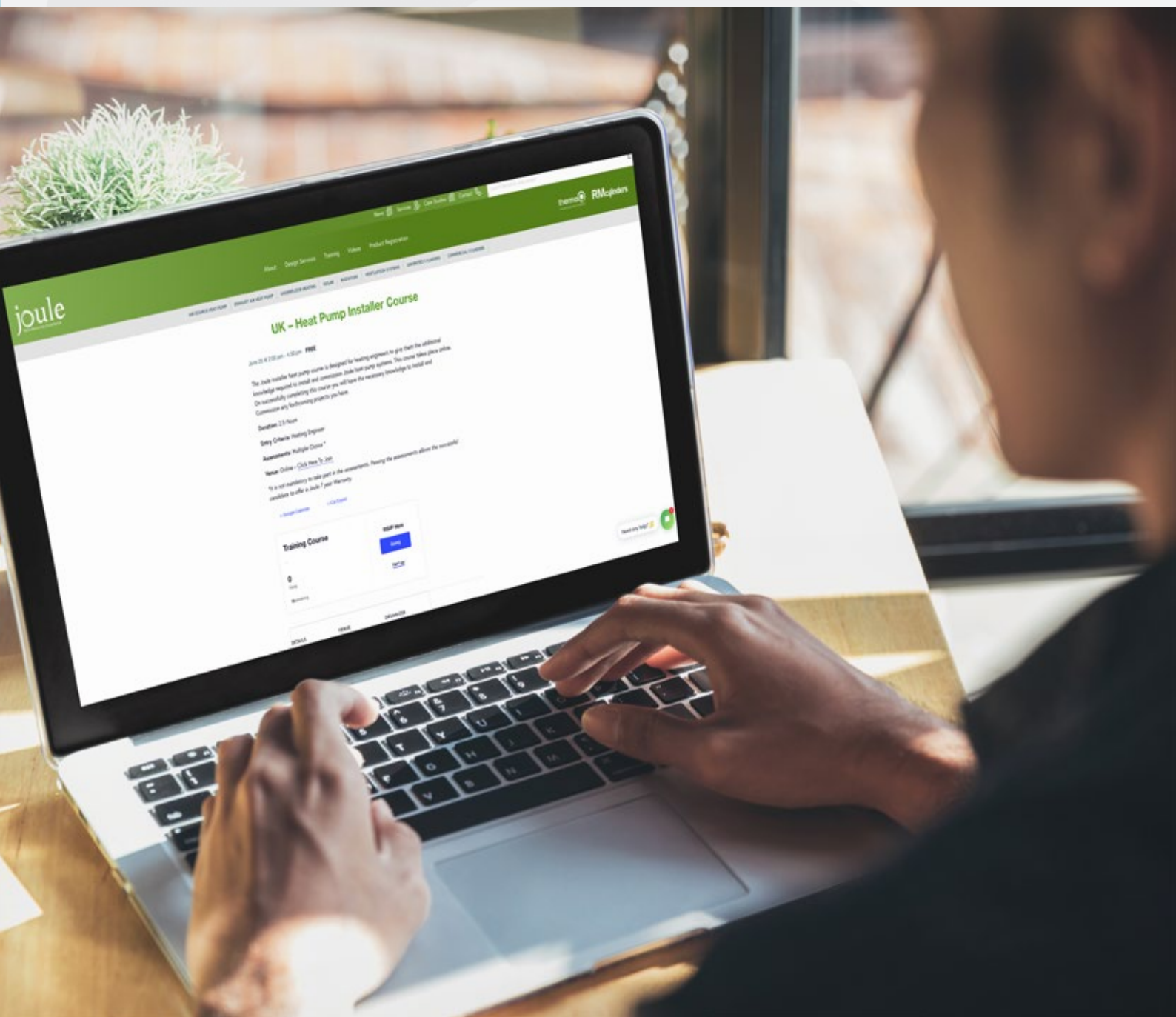


# Heat Pump Installer Course

The Joule installer heat pump course is designed for heating engineers to give them the additional knowledge required to install and commission Joule heat pump systems. This course is completely free and takes place online. On successfully completing this course you will have the necessary knowledge to Install and Commission any forthcoming projects you have.

Passing the assessments allows the successful candidate to offer a Joule 7 year Warranty

Vist <https://jouleuk.co.uk/training/> to register now





# Advantages of KIWA Certificate

## Certification

A certificate will enable you to demonstrate that your organisation works efficiently and safely, that you manage your work and work processes and that you strive to be a sustainable business. It allows you to reduce risks and improve the quality of your company, products and employees. An independent third party such as KIWA will ensure that it is going to stay this way.

### Advantages Of Having A KIWA Certificate

KIWA are one of the top 25 global testing, inspection and certification organisations (TICs). They meet the stringent demands of the ISO/IEC 17065 accreditation standard. All of the Joule unvented cylinders have been tested in KIWA's own test laboratories and have been independently verified as satisfying the requirements of all of the required product legislation, regulation and codes of practice applicable to the UK and the Republic of Ireland.

KIWA regularly audit the internal quality control processes of the production facilities of the organisations whose products they have certified, to ensure that they always meet the set requirements. Joule describe all of the arrangements, procedures, work instructions and inspection moments in an Internal Quality Control Scheme document (IQSC). This IQSC is then linked to the product requirement to produce an Assessment Directive (AD). KIWA will carry out an audit of this AD.

A KIWA certificate will enable you to demonstrate that your organisation is using products that are fully compliant with all Regulations, Legislation and Codes of Practice that are applicable to Unvented Hot Water Cylinders that you install in the UK or Republic of Ireland.





Compliance with Building Regulations, Water Regulations and IEE Regulations is mandatory, so having an independent 3rd party certificate, such as KIWA, to demonstrate conformity, not only satisfies the Building Control officials, but also gives you complete peace of mind.

Certainty for clients – your clients can be sure that you have met the requirements of the mandatory Regulations and Legislation regarding the products you are using

Efficiency – A KIWA certificate confirms that the performance of the products that you are using conform with the requirements of the Building Regulations, Water Regulations and ErP Legislation

Confidence with the Competent Authorities – A KIWA certificate means that you avoid all of the difficult discussions about whether you comply with the latest Regulations and Legislation or not. A certificate will make it much easier to be granted a pass on all aspects of the project.

Market Opportunity – By supporting your tender documents or quotations with a KIWA certificate you have an additional, and very strong selling point. KIWA is a renowned, independent inspection authority that certifies that you are providing quality products that are fit for purpose and fully compliant.

# Cyclone

The new standard in unvented hot water generation.



## Construction

Cylinder manufactured from high grade Duplex stainless steel - specially selected for its high strength and resistance to stress and crevice corrosion.

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Lightweight construction.

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Flat base for additional stability.

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All plumbing connections are clearly identified and accessible at the front of the cylinder.

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Supplied with 22mm compression fittings.

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Primary heating coil for use with indirect systems.

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Solar input coil for use with solar thermal panel systems

## High Performance

Totally insulated with 100% CFC-Free (ODP zero) polyurethane to minimise heat loss (50mm thick).

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Long-life 3kW Incoloy immersion heater with integral thermostat.

## Safety Controls

1/2" temperature and pressure release valve operating a 90°C/7 bar.

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Indirect thermal controls.

# Superior Quality

The Joule range of un-vented cylinders are the UK's fastest growing cylinder brand. Built on quality and performance, with one of the widest ranges of models available you can be sure there is a model to suit. With the introduction of the Energy Related Product certificate scheme under an EU directive, Joule are leading the way by offering a complete range of A, B & C rated cylinders. The same quality you have been accustomed too is now available across all rated cylinders. The Cyclone brand is noted for its attractive grey finish. Noticeably there is no cheap plastic used on the outer casing. Inside only the best materials are used, duplex stainless steel body, 316L grade stainless fittings and coils. Our quality is nowhere better noticed than in the construction of our coils. Unlike most cheaper brands on the market Cyclone range of cylinders use high recovery smooth tube coils for optimal performance. No other coil type on the market today offers the same transfer rate as smooth stainless tube.



Inlet Control Group

TZG-3.0-0.75L  
TZG-3.0-0001L



T&P Valve

TZ9-4.0-0000.5  
TZ9-4.0-000.75



Cylinder Stat

TZC-D-000000Z



Zone Valve

TZM-I-0000



Tundish

TZU-0000



Expansion Vessel

TV-P-000012L TV-P-000019L  
TV-P-000024L TV-P-000035L  
TV-P-000050L



Immersion Heater

TH-L-14-3-1





# Selection Guide

			Kg	Kg		L		nWh%	Mins	W	kWh/ ANNUUM	Kw	Kw
			Weight Empty	Weight Full	Load Profile	Water Volume	ERP Energy Rating	Energy Efficiency	Reheat Time Indirect	Standing Loss	Annual Energy Usage	Primary Coil Rating	Solar Coil Rating

90/ 100	TCEMVD-0090LFD	Direct	39	135	M	99	B	37	52	1.06	2740		
	TCEMVI-0090LFB	Indirect	39	135		96	B		14	1.06		18	
	TCEMVD-0100SFD	Direct Slimline	32	125	M	93	B	34	52	1.34	1513		
	TCEMVI-0100SFC	Indirect Slimline	25	109		84	C		13	1.34		17	
	TCEMVB-0100LFB	Direct Air	36	135	L	99	C	39		44	2650		
	TCEMVA-0100LFB	Indirect Air	32	131		95	B		17	44		20	

120 /125	TCEMVD-0125LFD	Direct	30	155	L	125	B	37	62	1.25	2773		
	TCEMVI-0125LFB	Indirect	35	187		124	B		23	1.25		20	
	TCEMVD-0125SFD	Direct Slimline	30	150	L	120	B	36	62	1.56	2826		
	TCEMVI-0125SFC	Indirect Slimline	30	137		121	C		23	1.56		19	
	TCEMVB-0120LFB	Direct Air	30	155	L	112	C	39		52	2654		
	TCEMVA-0120LFB	Indirect Air	25	158		112	B		22	52		20	

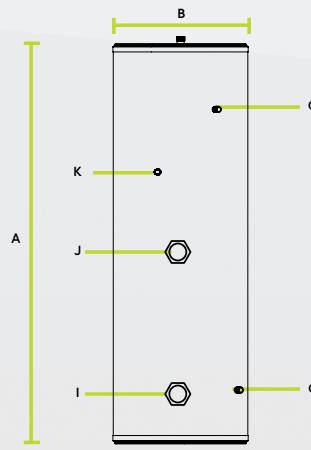
150	TCIMVE-0150LFD	Direct	34	184	L	150	B	37	76	1.32	2785		
	TCEMVI-0150LFB	Indirect	35	210		148	B		26	1.32		20	
	TCEMVD-0150SFD	Direct Slimline	34	184	L	150	B	36	76	1.68	2846		
	TCEMVI-0150SFC	Indirect Slimline	39	187		148	C		26	1.68		19	
	TCIMVE-0150LFD	Direct Solar	39	187		148	C		23	1.32			16
	TCIMVH-0150LFB	High Gain Indirect	46	196		140	C		10	1.32		76	
	TCIMVH-0150SFB	Slim High Gain Ind	35	175		140	C		26	1.68		76	
	TCIMHS-0150LFC	Horizontal Indirect	39	187		141.2	C		26	1.51		20	
	TCEMVB-0150LFB	Direct Air	34	184	L	139	C	39		55	2715		
	TCEMVA-0150LFB	Indirect Air	29	187		139	B		26	55		20	

170 /180	TCIMVE-0170LFD	Direct	39	207	L	170	C	37	96	1.39	2830		
	TCEMVI-0170LFB	Indirect	43	210		168	B		27	1.39		20	
	TCEMVD-0170SFD	Direct Slimline	38	208	L	170	C	37	96	1.90	2883		
	TCEMVI-0170SFC	Indirect Slimline	44	212		168	C		27	1.90		19	
	TCIMVE-0170LFD	Direct Solar	43	210		167	C		24	1.58			16
	TCEMVS-0170LFB	Solar Twin	49	219		170	B		15	1.39		16	16
	TCEMVS-0170SFC	Solar Twin Slimline	49	214		165	C		15	1.90		19	15
	TCIMVH-0170LFB	High Gain Indirect	54	223		160	C		10	1.32		76	
	TCIMVH-0170SFB	Slim High Gain Ind	39	199		160	C		27	1.90		86	
	TCIMHI-0170LFC	Horizontal Indirect	43	210		168	C		27	1.66		20	
	TCEMVB-0180LFB	Direct Air	37	207	L	159	C	38		58	2719		
	TCEMVA-0180LFB	Indirect Air	43	210		159	B		30	58		20	

200 /210	TCEMVD-0200LFC	Direct (Std)	41	241	L	200	C	36	119	1.94	2892		
	TCEMVD-0200NFC	Direct (Srt)	40	240	L	200	C	36	119	1.87	2875		
	TCEMVI-0200LFC	Indirect (Std)	47	244		196	C		31	1.94		21	
	TCEMVI-0200NFC	Indirect (Srt)	46	243		194	C		31	1.87		23	
	TCEMVD-0200SFC	Direct Slimline	40	245	L	205	C	37	119	2.02	2904		
	TCEMVI-0200SFC	Indirect Slimline	46	241		195	C		31	2.02		22	
	TCIMVE-0200LFD	Direct Solar (Std)	47	244		197	C		28	1.94			18
	TCIMVE-0200NFD	Direct Solar (Srt)	46	243		197	C		28	1.87			18
	TCEMVS-0200NFC	Solar Twin (Std)	50	247		197	C		21	1.99		16	18
	TCEMVS-0200LFC	Solar Twin (Srt)	50	246		196	C		21	1.92		16	18
	TCEMVS-0200SFC	Solar Twin Slimline	50	242		192	C		21	2.02		19	15
	TCIMVH-0200NFC	High Gain Ind (Srt)	57	255		187	C		11	1.87		97	
	TCIMVH-0200LFC	High Gain Ind (Sdt)	58	256		189	C		11	1.94		97	
	TCIMVG-0200LFC	High Gain Solar	61	258		186	C		21	1.94		97	18
	TCIMVH-0200SFC	Slim High Gain Ind	43	230		187	C		31	2.02		97	
	TCIMVG-0200SFC	Slim High Gain Solar	45	202		157	C		15	1.90		86	16
	TCIMHI-0200NFC	Horizontal Indirect	46	243		194	C		31	2.14		23	
	TCEMVB-0250LFC	Direct Air	49	299	L	236	C	37		89	2764		
TCEMVA-0250LFC	Indirect Air	56	302		236	C		39	89		23		
TCEMVC-0250LFC	Twin Solar Air	49	299		236	B		39	89		23	23	

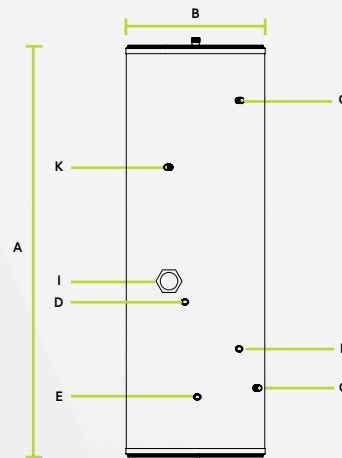
# Selection Guide

			Kg	Kg		L		nWh%	Mins	W	kWh/ ANNUUM	Kw	Kw
			Weight Empty	Weight Full	Load Profile	Water Volume	ERP Energy Rating	Energy Efficiency	Reheat Time Indirect	Standing Loss	Annual Energy Usage	Primary Coil Rating	Solar Rating
250	TCEMVD-0250LFC	Direct (Std)	49	299	L	250	C	35	140	2.14	2908		
	TCEMVD-0250NFC	Direct (Shrt)	49	299	L	250	C	35	140	2.09	2928		
	TCEMVI-0250LFC	Indirect (Std)	57	303		247	C		37	2.09		23	
	TCEMVI-0250NFC	Indirect (Srt)	56	302		196	C		37	2.14		27	
	TCIMVE-0250LFD	Direct Solar (Std)	57	302		246	C		34	0.82			22
	TCIMVE-0250NFD	Direct Solar (Srt)	56	303		296	C		34	0.82			22
	TCEMVS-0250LFC	Solar Twin (Std)	60	308		248	C		27	2.18		18	22
	TCEMVS-0250NFC	Solar Twin (Srt)	59	307		248	C		27	2.30		18	22
	TCIMVH-0250LFC	High Gain Ind (Srt)	66	315		237	C		14	2.09		97	
	TCIMVH-0250NFC	High Gain Ind (Std)	67	316		236	C		14	2.14		110	
	TCIMVG-0250NFC	High Gain Solar (Srt)	46	230		184	C		21	2.02		97	16
	TCIMVG-0250LFC	High Gain Solar (Std)	70	318		240	C		27	2.14		97	22
	TCIMHI-0250NFC	Horizontal Indirect	56	302		247	C		37	2.33		27	
	TCEMVB-0250LFC	Direct Air	49	299	L	236	C	37		89	2764		
TCEMVA-0250LFC	Indirect Air	56	302		236	C		39	89		23		
TCEMVC-0250LFC	Twin Solar Air	49	299		236	B		39	89		23	23	
300	TCEMVD-0300LFC	Direct (Std)	56	356	L	300	C	37	196	2.47	4565		
	TCEMVD-0300NFC	Direct (Shrt)	55	355	L	300	C	36	218	2.21	4610		
	TCEMVI-0300LFC	Indirect (Std)	64	360		289	C		42	2.21		23	
	TCEMVI-0300NFC	Indirect (Srt)	65	361		290	C		42	2.47		27	
	TCEMVS-0300LFC	Twin Solar	67	364		297	C		32	2.30		18	22
	TCIMVE-0300NFD	Direct Solar	64	360		296	C		39	2.21			22
	TCIMVH-0300NFC	High Gain Ind (Srt)	74	372		282	C		17	2.21		110	
	TCIMVH-0300LFC	High Gain Ind (Std)	75	373		378	D		17	2.47		110	
	TCIMVG-0300NFC	High Gain Solar	77	374		277	C		32	2.47		110	22
	TCIMHI-0300NFC	Horizontal Indirect	64	360		297	C		42	2.50		27	
300	TCEMVB-0300LFC	Direct Air	55	355	XL	279	D	37		103	4508		
	TCEMVA-0300LFC	Indirect Air	65	361		279	C		46	103		23	
	TCEMVC-0300LFC	Twin Solar Air	55	355		279	C		46	103		23	23
400	TCEMVI-0400LFC	Indirect	71	471		390	C		52	2.45		25	
	TCEMVS-0400LFC	Solar Twin	74	476		402	C		42	2.45		22	30
	TCIMVE-0400LFD	Direct Solar	71	471		400	C		48	2.45			30
	TCIMVH-0400LFC	High Gain Indirect	81	478		378	C		19	2.45		138	
	TCIMVG-0400LFC	High Gain Solar	84	486		381	C		42	2.45		138	30
	TCIMHI-0400NFC	Horizontal Indirect	71	471		400	C		68	2.69		40	
500	TCEMVI-0500LFC	Indirect	87	589		494	C		54	2.76		26	
	TCEMVS-0500LFC	Solar Twin	87	589		502	C		49	2.76		22	36
	TCIMVE-0500LFD	Direct Solar	87	589		502	C		54	2.45			35
	TCIMVH-0500NFC	High Gain Indirect	107	605		494	C		22	2.76		138	
	TCIMVG-0500NFC	High Gain Solar	107	609		479	C		49	2.76		138	35
	TCIMHI-0500NFC	Horizontal Indirect	87	589		502	C		75	3.00		43	



Direct

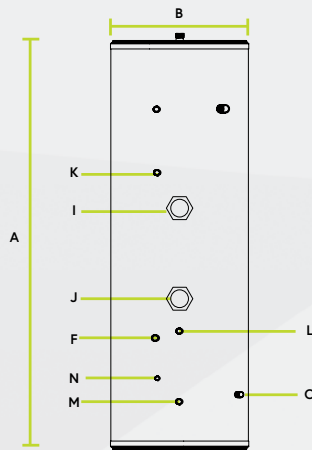
		A	B	C	G	I	J	K
		HEIGHT	DIAMETER	COLD WATER INLET	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	IMMERSION HEATER TOP	SECONDRY RETURN
90	TCEMVD-0090LFD	750	540	188	743	203	468	628
125	TCEMVD-0125LFD	1030	540	196	751	211	511	651
150	TCEMVD-0150LFD	1190	540	196	911	211	561	786
170	TCIMVE-0170LFD	1310	540	196	1031	211	631	881
200	TCEMVD-0200NFC	1150	600	218	883	211	701	981
200	TCEMVD-0200LFC	1490	540	196	1211	233	553	768
250	TCEMVD-0250NFC	1400	600	218	1133	211	861	968
250	TCEMVD-0250LFC	1815	540	196	1531	233	653	1271
300	TCEMVD-0300NFC	1600	600	218	1333	211	1001	1153
300	TCEMVD-0300LFC	2040	540	196	1811	233	733	1551



Indirect

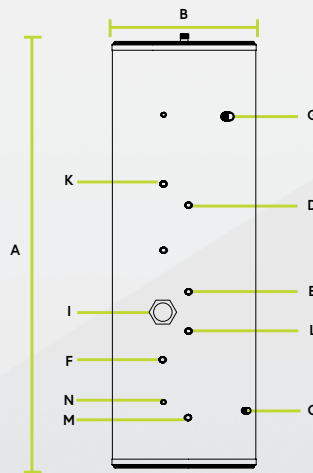
		A	B	C	D	E	F	G	I	K
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	SECONDRY RETURN
90/100	TCEMVI-0090LFB	750 (950)	540 (500)	188	478	188	333	743	543	628
125	TCEMVI-0125LFB	1030	540	196	511	196	211	751	651	751
150	TCEMVI-0150LFB	1190	540	196	486	196	341	911	551	786
170	TCEMVI-0170LFB	1310	540	196	486	486	341	1031	551	881
200	TCEMVI-0200LFC	1490	540	196	516	538	336	1211	581	768
200	TCEMVI-0200NFC	1150	600	218	538	516	423	883	603	981
250	TCEMVI-0250LFC	1815	540	196	586	608	361	1531	651	1271
250	TCEMVI-0250NFC	1400	600	218	608	586	383	1133	673	968
300	TCEMVI-0300LFC	2040	540	196	586	608	361	1811	651	1551
300	TCEMVI-0300NFC	1600	600	218	608	586	383	1333	673	1153
400	TCEMVI-0400LFC	1570	710	225	675	675	405	1280	740	1180
500	TCEMVI-0500LFC	1900	710	225	745	745	455	1640	810	1440





Direct Solar

		A	B	C	F	G	I	J	K	L	M	N
		HEIGHT	DIAMETER	COLD WATER INLET	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	IMMERSION HEATER TOP	SECONDRY RETURN	SOLAR COIL FLOW	SOLAR COIL RETURN	SOLAR SENSOR
150	TCIMVE-0150LFD	1395	540	196	346	911	511	636	762	446	196	246
170	TCIMVE-0170LFD	1555	540	196	346	1031	511	731	882	446	196	246
200	TCIMVE-0200NFD	1150	600	218	368	883	533	668	768	468	218	268
200	TCIMVE-0200LFD	1490	540	196	386	1211	551	821	981	486	196	246
250	TCIMVE-0250NFD	1400	600	218	438	1133	603	833	968	538	218	268
250	TCIMVE-0250LFD	1815	540	196	416	1531	581	931	1271	516	196	246
300	TCIMVE-0300NFD	1600	600	218	438	1333	603	968	1153	615	218	268
400	TCIMVE-0400LFD	1570	710	225	430	1290	680	915	1190	538	225	275
500	TCIMVE-0500LFD	1900	710	225	430	1640	680	1150	1440	615	225	275

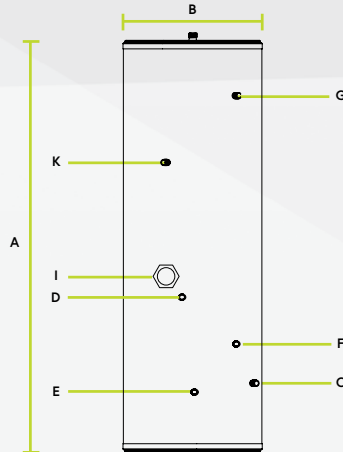
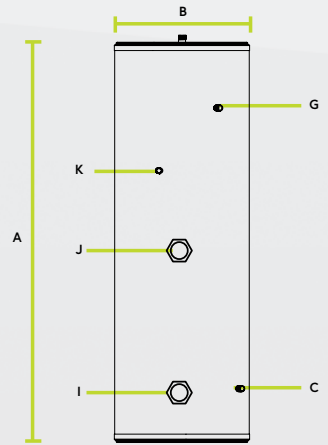


Twin Solar

		A	B	C	D	E	F	G	I	K	L	M	N
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	SECONDRY RETURN	SOLAR COIL FLOW	SOLAR COIL RETURN	SOLAR SENSOR
170	TCEMVS-0170LFB	1310	540	196	826	576	346	1031	511	882	446	196	246
200	TCEMVS-0200LFC	1490	540	218	768	598	368	883	533	848	468	218	268
200	TCEMVS-0200NFC	1150	600	196	906	616	386	1211	551	981	486	196	246
250	TCEMVS-0250NFC	1400	600	218	1053	668	438	1133	603	968	538	218	268
250	TCEMVS-0250LFC	1815	540	196	1031	646	416	1531	581	1271	516	196	246
300	TCEMVS-0300LFC	1600	600	218	1053	668	438	1333	603	1153	538	218	268
400	TCEMVS-0400LFC	1570	710	225	1130	745	430	1280	680	1180	615	225	275
500	TCEMVS-0500LFC	1900	710	225	1130	745	430	1640	680	1440	615	225	275

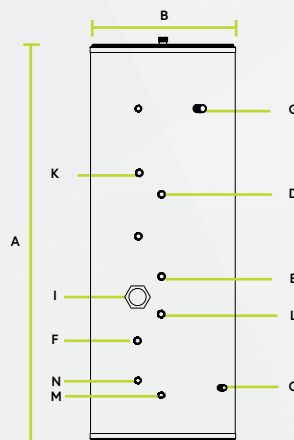
Slimline Direct

		A	B	C	G	I	J	K
		HEIGHT	DIAMETER	COLD WATER INLET	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	IMMERSION HEATER TOP	SECONDARY RETURN
100	TCEMVD-0100SFD	950	475	191	746	206	471	631
125	TCEMVD-0125SFD	1085	475	191	901	206	506	761
150	TCEMVD-0150SFD	1335	475	191	1151	206	576	1001
170	TCEMVD-0170SFD	1535	475	191	1301	206	771	1151
200	TCEMVD-0200SFC	1880	475	191	1601	206	896	1351



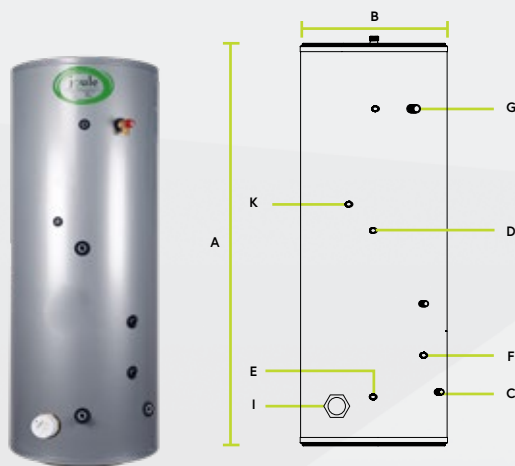
Slimline Indirect

		A	B	C	D	E	F	G	J	K
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	SECONDARY RETURN
100	TCEMVI-0100SFC	950	475	191	481	191	311	746	546	631
125	TCEMVI-0125SFC	1085	475	191	481	191	336	901	546	761
150	TCEMVI-0150SFC	1335	475	191	486	191	336	1151	546	1001
170	TCEMVI-0170SFC	1535	475	191	576	191	384	1301	641	1151
200	TCEMVI-0200SFC	1880	475	191	511	191	351	1601	576	1351



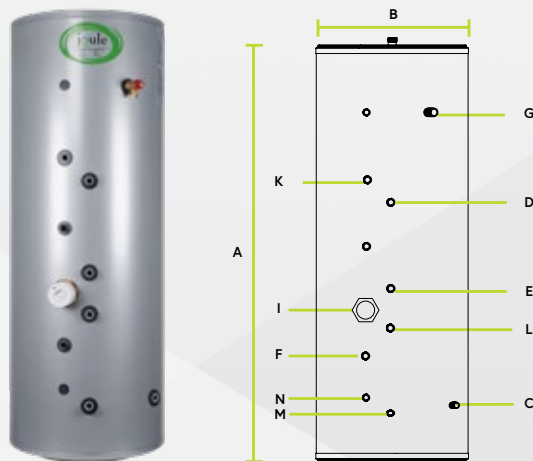
Slim High Gain Solar

		A	B	C	D	E	F	G	I	K	L	M	N
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	SECONDARY RETURN	SOLAR COIL FLOW	SOLAR COIL RETURN	SOLAR SENSOR
170	TCIMVG-0170SFC	1535	475	191	1151	581	381	1301	531	1241	481	225	241
200	TCIMVG-0200SFC	1880	475	191	1351	676	396	1601	626	1476	576	225	241



High Gain Indirect

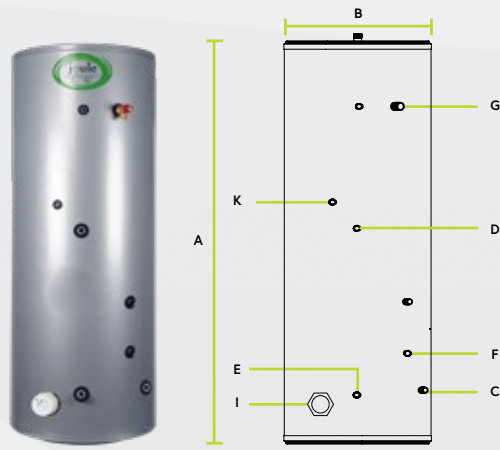
		A	B	C	D	E	F	G	I	K
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSSION HEATER BOTTOM	SECONDRY RETURN
150	TCIMVH-0150LFB	1190	540	196	861	261	376	911	211	786
170	TCIMVH-0170LFB	1310	540	196	861	261	406	1031	211	881
200	TCIMVH-0200NFC	1150	600	218	793	283	433	883	233	763
200	TCIMVH-0200LFC	1490	540	196	911	261	451	1211	211	981
250	TCIMVH-0250NFC	1400	600	218	893	283	483	1133	233	968
250	TCIMVH-0250LFC	1815	540	196	1011	261	561	1531	211	1271
300	TCIMVH-0300NFC	1600	600	218	983	283	508	1333	233	1153
300	TCIMVH-0300LFC	2040	540	196	1112	261	586	1812	211	1552
400	TCIMVH-0400LFC	1570	710	225	1190	290	540	1290	240	1190
500	TCIMHI-0500NFC	1900	710	225	1190	290	540	1640	240	1440



High Gain Solar

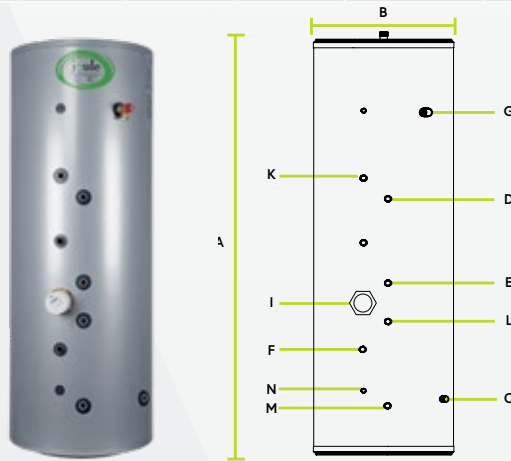
		A	B	C	D	E	F	G	I	K	L	M	N
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSSION HEATER BOTTOM	SECONDRY RETURN	SOLAR COIL FLOW	SOLAR COIL RETURN	SOLAR SENSOR
200	TCIMVG-0200LFC	1490	540	196	981	586	386	1211	536	1136	486	196	246
250	TCIMVG-0250LFC	1815	540	196	1271	576	406	1531	606	1376	516	196	246
250	TCIMVG-0250NFC	1400	600	218	968	568	388	1133	518	1118	468	218	268
300	TCIMVG-0300NFC	1600	600	218	1153	628	438	1333	578	1328	538	218	268
400	TCIMVG-0400LFC	1570	710	225	1190	515	375	1290	465	1285	415	225	275
500	TCIMVG-0500NFC	1900	710	225	1440	735	430	1640	675	1635	615	225	275





Slim High Gain Indirect

		A	B	C	D	E	F	G	I	K
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	SECONDRY RETURN
150	TCIMVH-0150SFB	1335	475	191	976	191	336	1151	206	1001
170	TCIMVH-0170SFB	1535	475	191	1006	191	384	1301	206	1151
200	TCIMVH-0200SFC	1880	475	191	1006	191	351	1601	206	1351

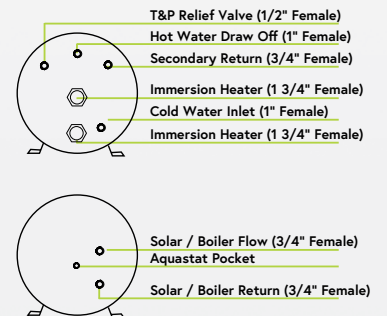


Slim Twin Solar

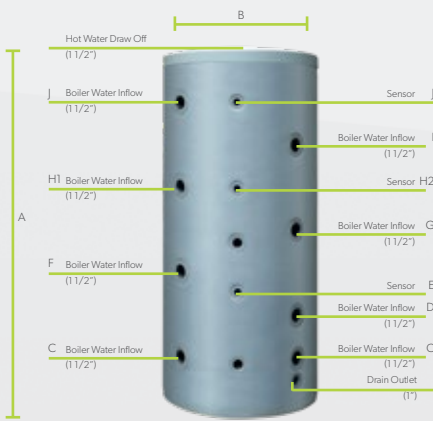
		A	B	C	D	E	F	G	I	K	L	M	N
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	SECONDRY RETURN	SOLAR COIL FLOW	SOLAR COIL RETURN	SOLAR SENSOR
170	TCEMVS-0170SFC	1535	475	191	996	706	476	1301	641	1151	576	191	241
200	TCEMVS-0200SFC	1880	475	191	996	706	476	1601	641	1351	576	191	241

Horizontal Indirect

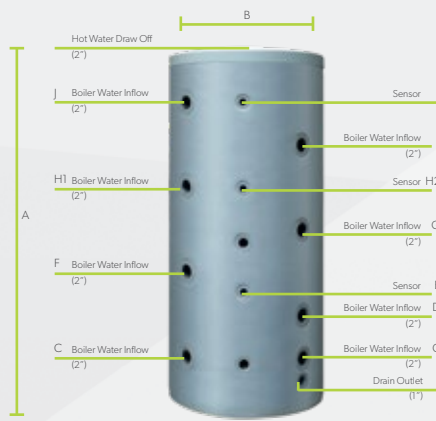
Capacity	150L	170L	200L	250L	300L	400L	500L
Code	TCIM-HI-0150LFB	TCIM-HI-0170LFC	TCIM-HI-0200NFC	TCIM-HI-0250NFC	TCIM-HI-0300NFC	TCIM-HI-0400LFC	TCIM-HI-0500LFC
Length (A)	1140	1205	1085	1335	1535	1535	1880
Diameter (B)	540	540	600	600	600	710	710
Weight (empty)	39	43	46	56	64	71	87
Weight (full)	187	210	243	302	360	471	589
Hot water volume	148	168	194	247	97	400	502
Load profile							
Energy Efficiency Class	C	C	C	C	C	C	C
Heat up Time - coil (Mins)	26	27	31	37	42		
Standing Loss (W)	63	69	89	97	104	112	125



Dimensions (300-2000L)



Dimensions (3000-5000L)



Mild Steel Buffer

Capacity	200L	300L	400L	500L	800L	1000L	1500L	2000L	3000L	4000L	5000L
Code Without Coil	BBMSD-00200NFC	BBMSD-00300NFC	BBMSD-00400NFC	BBMSD-00500NFC	BBMSD-00800NFC	BBMSD-01000NFC	BBMSD-01500NFC	BBMSD-02000NFC	BBMSD-03000NFC	BBMSD-04000NFC	BBMSD-05000NFC
Code With Coil	BBM-SI-00200NFC	BBM-SI-00300NFC	BBM-SI-00400NFC	BBM-SI-00500NFC	BBM-SI-00800NFC	BBM-SI-01000NFC	BBM-SI-01500NFC	BBM-SI-02000NFC	BBM-SI-03000NFC	BBM-SI-04000NFC	BBM-SI-05000NFC
Height - A (mm)	1140	1615	1685	1925	1730	2050	2000	2500	2750	2355	2855
Diameter - B (mm)	670	670	700	600	790	790	1100	1100	1250	1600	1600
Weight Empty (Kg)	60	75	90	105	125	150	210	235	300	380	440
Weight Full (Kg)	283	397	486	572	853	1033	1689	2258	3241	4365	5421
Hot Water Volume (L)	223	322	396	467	728	883	1479	2023	2941	3985	4981
C	220	220	250	250	250	250	385	385	425	445	445
D	-	410	450	485	435	500	660	660	725	675	760
E	315	500	565	565	570	570	485	800	830	970	920
F	485	600	635	715	620	740	740	930	1040	910	1075
G	555	785	825	945	820	980	1152	1205	1360	1140	1390
H1	605	975	1015	1180	1020	1240	960	1480	1680	1365	1705
H2	785	975	1135	1145	1020	1240	1122	1480	1680	1365	1705
I	785	1165	1210	1410	1215	1485	1535	1755	1995	1605	2020
J	885	1355	1400	1640	1410	1730	1435	2025	2250	1840	2335
Energy Efficiency Class	B	B	C	C	C	C	C	C	C	C	C
Max Working Pressure (Bar)	3	3	3	3	3	3	3	3	3	3	3
Max Working Temperature (°C)	95	95	95	95	95	95	95	95	95	95	95

Stainless Steel Buffer Tank

Capacity	125L	150L	170L	200L	250L	300L	400L	500L	600L
	BBSSD-00125NFC	BBSSD-00150NFC	BBSSD-00170NFC	BBSSD-00200NFC	BBSSD-00250NFC	BBSSD-00300NFC	BBSSD-00400NFC	BBSSD-00500NFC	BBSSD-00600NFC
Height (mm)	1030	1190	1310	1490	1815	1600	1570	1900	2250
Diameter (mm)	530	530	530	530	530	600	710	710	710
Weight Empty (kg)	23	26	33	40	42	50	65	77	108
Weight Full (kg)	125	150	170	200	250	300	400	498	600
No. Direct Connections	8	8	8	8	8	8	8	8	8
Diameter of Direct Connections	1" F	1" F	1" F	1" F	1" F	1" F	1" F	1" F	1" F
Drain 1/2"	no	no	no	no	no	no	no	no	no
Insulation Thickness (mm)	40	40	40	40	40	40	50	50	50
Standing Heat Loss (W)	50	55	58	81	87	92	102	115	119
ERP Rating	B	B	B	C	C	C	C	C	C
No of Immersions Fitted	2	2	2	2	2	2	2	2	2
Immersion Size	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4



## Cyclone Air

Next generation of hot water cylinder development.



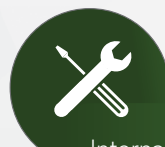
The Cyclone Air Unvented range of cylinders are manufactured with quality and precision to the fore. The internal expansion provides a neat installation. The pre-plumbed cold feed assembly ensure consistency and quality every time. The Cyclone Air brand signifies the next generation of hot water cylinder development.



New design = outstanding aesthetics

High performance coil = faster recovery

Cold feed diffuser = more hot water

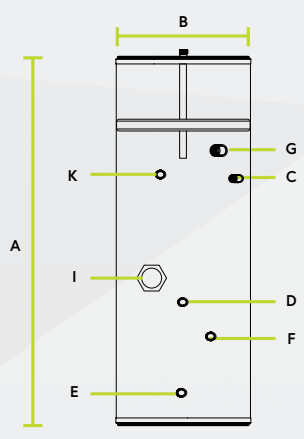


Internal bubble = no more exp. vessel

Pre-blanked drain = easy service

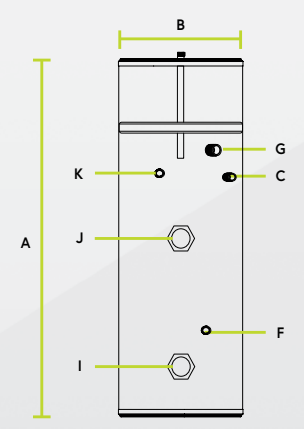
Pre-plumbed = easy to install





Indirect

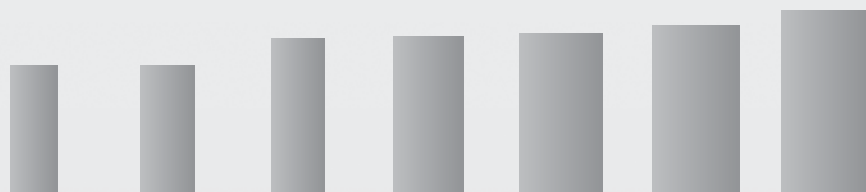
		A	B	C	D	E	F	G	I	K
		HEIGHT	DIAMETER	COLD WATER INLET	PRIMARY COIL FLOW	PRIMARY COIL RETURN	AQUASTAT POCKET BOTTOM	T&P RELIEF VALVE	IMMERSION HEATER BOTTOM	SECONDRY RETURN
100	TCEMVA-0100LFB	950	500	640	445	195	320	1020	500	790
120	TCEMVA-0120LFB	1030	540	640	445	195	320	640	500	580
150	TCEMVA-0150LFB	1190	540	780	485	195	340	780	550	655
180	TCEMVA-0180LFB	1310	540	880	485	195	340	880	550	735
210	TCEMVA-0210LFC	1490	540	1020	515	195	335	1020	580	830
250	TCEMVA-0250LFC	1815	540	1315	585	195	360	1315	650	1080
300	TCEMVA-0300LFC	2060	540	1530	585	195	360	1530	650	1255



Direct

		A	B	G	K
		HEIGHT	DIAMETER	T&P RELIEF VALVE	SECONDRY RETURN
100	TCEMVB-0100LFB	950	540	640	580
120	TCEMVB-0120LFB	1005	540	640	580
150	TCEMVB-0150LFB	1196	540	780	655
180	TCEMVB-0180LFB	1285	540	880	735
210	TCEMVB-0210LFC	1530	540	1020	830
250	TCEMVB-0250LFC	1785	540	1315	1080
300	TCEMVB-0300LFC	2060	540	1530	1255

# Commercial Cylinder Quick Guide



	300L	400L	500L	800L	1000L	1250L	1500L
--	------	------	------	------	-------	-------	-------

## Commercial 3 & 6 bar models

Multi Energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indirect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All Cylinders - 3 & 6bar	300	400	500	800	1000	1250	1500
Diameter (mm)	620	710	710	920	1100	1150	1150
Height (mm)	1670	1670	2030	2050	2170	2200	2400
Hot And Cold Connections BSP F	1.5"	1.5"	1.5"	2.0"	2.0"	2.0"	2.0"
Coil Conn. (+for the solar coil) BSP F	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"
Secondary Return BSP F	1.25"	1.25"	1.25"	1.25"	1.25"	1.5"	1.5"
Max. Op. Pressure - 3/6 bar kit (bar)	6 / 10	6 / 10	6 / 10	6 / 10	6 / 10	6 / 10	6 / 10
T&P Setting 3/6 bar kit (bar)	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10
T&P Size - Multi Energy / Indirect+Solar	1.0" / 0.75"	1.0" / 0.75"	1.0" / 0.75"	1.0" / 0.75"	1.25" / 0.75"	1.25" / 1.25"	1.25" / 1.25"
Cold W. Safety Devices - PRV, ERV, Chk Vlv	1.0" (one piece)		1.25" (multi piece)		1.5" (multi piece)		
Exp. Relief Valve Setting - 3/6 bar kit (bar)	6 / 8	6 / 8	6 / 8	6 / 8	6 / 8	6 / 8	6 / 8
2-port Mot. Valve (Indirect&Solar Only)	28mm	28mm	28mm	28mm	1.25"	1.5"	1.5"
2-port Mot. Valve Conn. (Ind & Sol Only)	Compression nut and olive			Pipe union conn. nut and tail piece			
Expansion Vessel Size - 3/6 bar kit (ltr)	24 / 35	35 / 50	50 / 80	80 / 100	100 / 150	150 / 200	150 / 200
Tundish	1.25"	1.25"	1.25"	1.25"	1.5"	1.5"	1.5"
ErP Energy Efficiency Class	C	C	C	C	C	C	C
Standing Loss (W)	92	102	115	121	124	135	160

Multi Energy Only	300	400	500	800	1000	1250	1500
Titanium Imm. - Fact. Fitted As Std.	3 x 6kW	3 x 6kW	3 x 6kW	3 x 6kW	2 x 6kW	2 x 6kW	2 x 6kW
No. Of Imm Heater Bosses In Total	4x Screw				3x Screw + 1x Flange		
Maximum Energy Input Permitted (kW)	48	48	48	48	78	78	78
Imm. Heaters - Opt. Higher Rated Elements	See page 20 for further details						
Inspection Flange	Optional - CANNOT be used for flanged imm. heaters				Supplied as std - CAN be used for fl. imm.		
Heat Up Time T 50°C	Reheat time in mins = Litres x 3.2 / kW installed						

Indirect Only	300	400	500	800	1000	1250	1500
Titanium Imm. - Fact. Fitted As Std.	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW
Coil Surface Area (m <sup>2</sup> )	1.54	1.97	1.97	2.86	2.86	4.73	4.73
Coil Diameter (mm)	32	32	32	38	38	38	38
Coil Rating @60L/min 80°C (kW)	49	57	57	73	73	98	98
Coil - Maximum Pressure (bar)	6	6	6	6	6	6	6
Inspection Flange	Optional - for inspection only - CANNOT be used with flanged immersion heaters						

Solar Only	300	400	500	800	1000	1250	1500
Titanium Imm. - Fact. Fitted As Std.	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW	2 x 3kW
Primary Couil Surface Area (m <sup>2</sup> )	1.21	1.21	1.21	2.86	2.86	4	4
Prim. Coil Rating @ 60L/m 80°C (kW)	46	46	46	73	73	95	95
Coils (Prim & Solar) - Max. Pressure (bar)	6	6	6	6	6	6	6
Dedicated Solar Volume (ltr)	113.1	153.3	197.9	307.9	460.8	499.0	483.0
Solar Coil Surface Area (m <sup>2</sup> )	1.1	1.1	1.1	2.0	2.0	2.5	2.5
Coil Diameter (Both Coils)	32	32	32	38	38	38	38
Solar Coil Rating @ 60L/m (kW)	43	43	43	57	57	68	68
Inspection Flange	Optional - for inspection only - CANNOT be used with flanged immersion heaters						

# Indirect Commercial

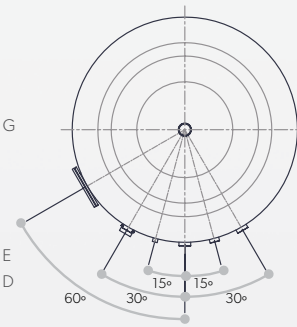
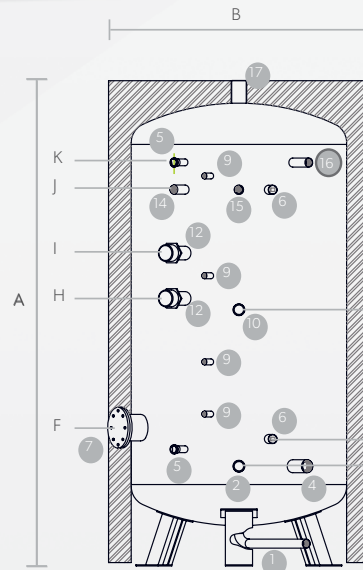
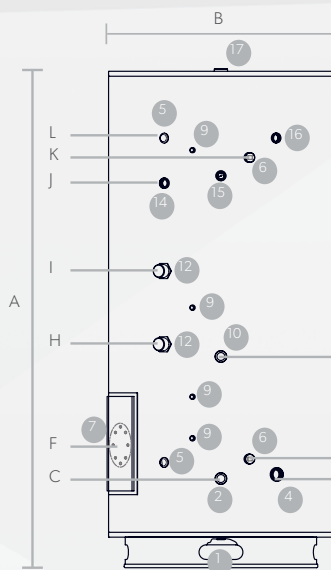


COMMERCIAL

Connection Sizes & Safety	300	400	500	800	1000	1250	1500
Hot & Cold Conn. Ø BSP F (")	1.5	1.5	1.5	2	2	2	2
Coil Connection Ø BSP F (")	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Secondary Return Ø BSP F (")	1.25	1.25	1.25	1.25	1.25	1.5	1.5
T&P Connection Ø BSP F (")	0.75	0.75	0.75	0.75	1	1	1
3 bar T&P Press. Set. (bar)	7	7	7	7	7	7	7
3 bar Exp. Relief Set. (bar)	6	6	6	6	6	6	6
6 bar T&P Press. Set. (bar)	10	10	10	10	10	10	10
6 bar Exp. Relief Set. (bar)	8	8	8	8	8	8	8

300 - 800 Ltr

1000 - 1500 Ltr



- 1 Drain
- 2 Boiler Return
- 4 Cold Water Inlet
- 5 Temperature Gauge (fact. fitted)
- 6 Heat Source F&R / D-strat (28mm)
- 7 Inspection Hatch c/w Plastic Cover (optional)
- 8 Dry Sensor Pocket
- 9 Aquastat Pocket
- 10 Boiler Flow
- 12 Titanium Immersion (fact. fitted)
- 14 Secondary Return
- 15 Pressure Gauge
- 16 T&P Relief Valve
- 17 Hot Water Draw Off

Dimensions	300	400	500	800	1000	1250	1500
Cylinder Height A (mm)	1670	1670	2030	2050	2170	2200	2400
Cylinder Diameter B (mm)	620	710	710	920	1100	1150	1150
Connection Height C (mm)	325	340	340	395	900	950	950
Connection Height D (mm)	335	350	350	415	425	410	360
Connection Height E (mm)	475	440	440	520	525	530	480
Connection Height F (mm)	500	490	490	560	580	580	530
Connection Height G (mm)	765	750	960	890	860	1010	980
Connection Height H (mm)	815	800	1010	955	930	1060	1040
Connection Height I (mm)	995	980	1200	1255	1235	1260	1260
Connection Height J (mm)	1175	1190	1550	1590	1565	1630	1830
Connection Height K (mm)	1285	1300	1660	1695	1700	1755	1950
Connection Height L (mm)	1430	1390	1750	1785	1798	-	-



Inspection port must be ordered separately. Only standard on Multi Energy cylinders 1000L and over capacity.

ErP	300	400	500	800	1000	1250	1500
Storage volume V in ltr	283	379	485	747	1079	1201	1350
Standing Loss (W)	92	102	115	121	124	135	160
Energy Efficiency Class	C	C	C	C	C	C	C

\* Primary flow rates at 30L/m are based on a flow temperature of 80°C ± 2°C. Testing is carried out to BS EN12897:2006



For information on Immersion Heater options see page 87.

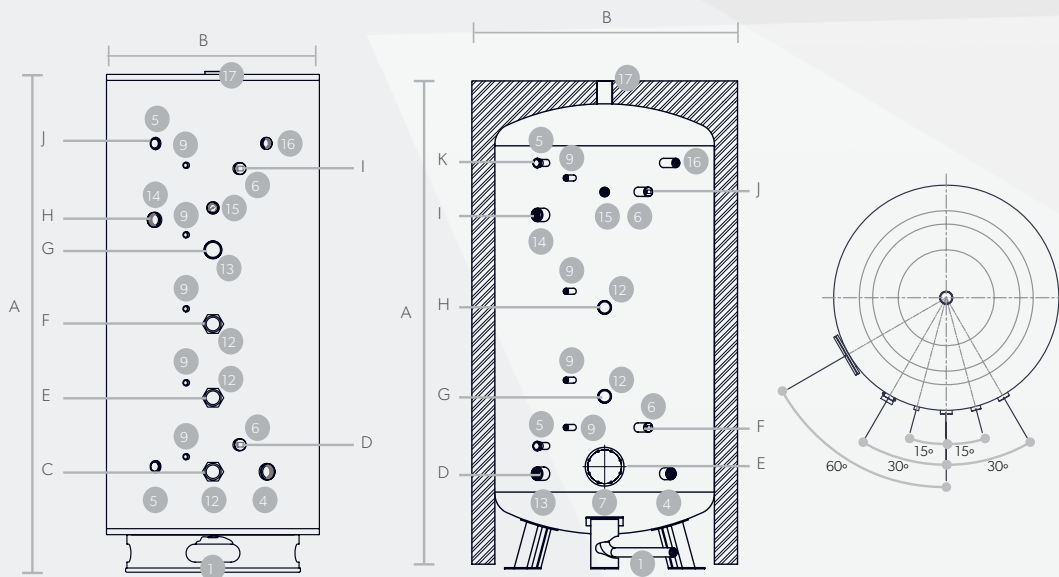
# Multi Energy Commercial



Connection Sizes & Safety		300	400	500	800	1000	1250	1500
Hot & Cold Conn. Ø BSP F (")		1.5	1.5	1.5	2	2	2	2
Coil Connection Ø BSP F (")		1.5	1.5	1.5	1.5	1.5	1.5	1.5
Secondary Return Ø BSP F (")		1.25	1.25	1.25	1.25	1.25	1.5	1.5
T&P Connection Ø BSP F (")		1	1	1	1	1.25	1.25	1.25
3 bar	T&P Press. Set. (bar)	7	7	7	7	7	7	7
	Exp. Relief Set. (bar)	6	6	6	6	6	6	6
6 bar	T&P Press. Set. (bar)	10	10	10	10	10	10	10
	Exp. Relief Set. (bar)	8	8	8	8	8	8	8

300 - 800 Ltr

1000 - 1500 Ltr



- 1 Drain
- 2 Boiler Return
- 4 Cold Water Inlet
- 5 Temperature Gauge (fact. fitted)
- 6 Heat Source F&R / D-strat (28mm)
- 7 Inspection Hatch c/w Plastic Cover
- 8 Dry Sensor Pocket
- 9 Aquastat Pocket
- 10 Boiler Flow
- 12 Titanium Immersion (fact. fitted)
- 13 Immersion Boss (blanked)
- 14 Secondary Return
- 15 Pressure Gauge
- 16 T&P Relief Valve
- 17 Hot Water Draw Off

Dimensions	300	400	500	800	1000	1250	1500
Cylinder Height A (mm)	1670	1670	2030	2050	2170	2200	2400
Cylinder Diameter B (mm)	620	710	710	920	1100	1150	1150
Connection Height C (mm)	335	350	350	445	900	950	950
Connection Height D (mm)	425	440	440	570	515	410	410
Connection Height E (mm)	580	590	665	760	625	440	440
Connection Height F (mm)	830	830	975	1070	845	550	550
Connection Height G (mm)	1075	1090	1290	1385	1215	745	745
Connection Height H (mm)	1175	1190	1550	1640	1615	1130	1255
Connection Height I (mm)	1350	1300	1660	1745	1750	1530	1780
Connection Height J (mm)	1430	1390	1750	1845	1850	1630	1880
Connection Height K (mm)	-	-	-	-	-	1755	2005



Inspection port must be ordered separately. Only standard on Multi Energy cylinders 1000L and over capacity.

ErP	300	400	500	800	1000	1250	1500
Storage volume V in ltr	289.5	391	497	766	1097	1231	1410
Standing Loss (W)	92	102	115	121	124	135	160
Energy Efficiency Class	C	C	C	C	C	C	C

# Solar Commercial

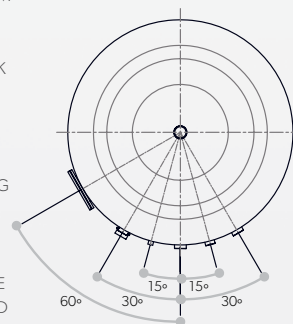
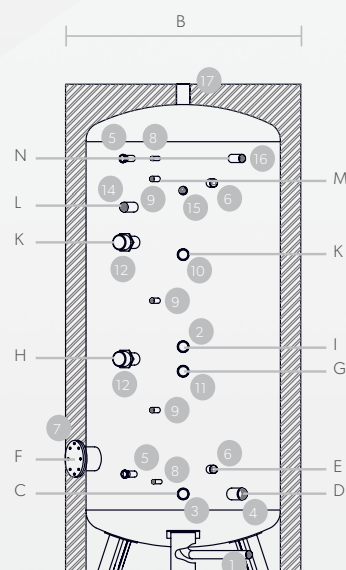
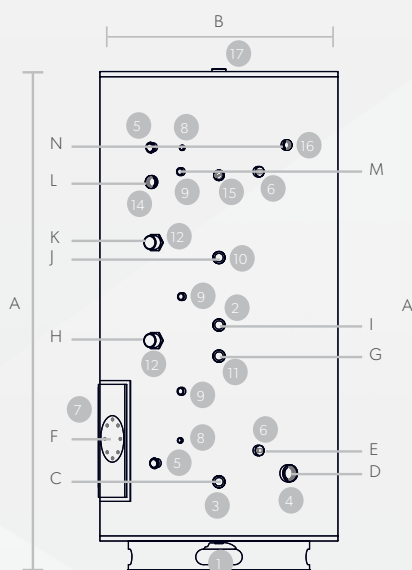
COMMERCIAL



Connection Sizes & Safety	300	400	500	800	1000	1250	1500
Hot & Cold Conn. Ø BSP F (")	1.5	1.5	1.5	2	2	2	2
Prim. Coil Conn. Ø BSP F (")	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Solar Coil Conn. Ø BSP F (")	1	1	1	1	1	1	1
Secondary Return Ø BSP F (")	1.25	1.25	1.25	1.25	1.25	1.5	1.5
T&P Connection Ø BSP F (")	0.75	0.75	0.75	0.75	0.75	1	1
3 bar	T&P Press. Set. (bar)	7	7	7	7	7	7
	Exp. Relief Set. (bar)	6	6	6	6	6	6
6 bar	T&P Press. Set. (bar)	10	10	10	10	10	10
	Exp. Relief Set. (bar)	8	8	8	8	8	8

300 - 800 Ltr

1000 - 1500 Ltr



- 1 Drain
- 2 Boiler Return
- 3 Solar Return
- 4 Cold Water Inlet
- 5 Temperature Gauge (fact. fitted)
- 6 Heat Source F&R / D-strat (28mm)
- 7 Inspection Hatch c/w Plastic Cover (optional)
- 8 Dry Sensor Pocket
- 9 Aquastat Pocket
- 10 Boiler Flow
- 11 Solar Flow
- 12 Titanium Immersion (fact. fitted)
- 14 Secondary Return
- 15 Pressure Gauge
- 16 T&P Relief Valve
- 17 Hot Water Draw Off

Dimensions	300	400	500	800	1000	1250	1500
Cylinder Height A (mm)	1670	1670	2030	2050	2170	2200	2400
Cylinder Diameter B (mm)	620	710	710	920	1100	1150	1150
Connection Height C (mm)	335	350	350	395	900	950	950
Connection Height D (mm)	335	350	350	420	425	410	410
Connection Height E (mm)	425	440	440	515	525	530	530
Connection Height F (mm)	475	490	490	560	580	580	580
Connection Height G (mm)	665	670	800	845	850	820	1050
Connection Height H (mm)	715	720	860	905	910	880	1110
Connection Height I (mm)	765	770	920	965	970	940	1170
Connection Height J (mm)	1145	1095	1300	1345	1350	1320	1550
Connection Height K (mm)	1195	1145	1360	1405	1410	1380	1610
Connection Height L (mm)	1305	1245	1550	1505	1560	1580	1810
Connection Height M (mm)	1340	1300	1660	1550	1700	1630	1890
Connection Height N (mm)	1430	1390	1730	1655	1800	1750	2010



Inspection port must be ordered separately. Only standard on Multi Energy cylinders 1000L and over capacity.

ErP	300	400	500	800	1000	1250	1500
Storage volume V in ltr	278.5	377	483	732	1063	1185	1350
Standing Loss (W)	92	102	115	121	124	135	160
Energy Efficiency Class	C	C	C	C	C	C	C



# Ordering Guide - Commercial

## Commercial Indirect - 3bar

Product	300	400	500	800	1000	1250	1500
Cylinder Height (A, mm)	1670	1670	2030	2050	2090	2200	2400
Cylinder Diameter (B, mm)	620	710	710	920	1100	1150	1150
Weight Empty (kg)	82	87	104	220	230	235	267
Weight Full (kg)	365	466	589	967	1309	1436	1617
ErP Rating	C	C	C	C	C	C	C
Cylinder Ordering Code	TCFM-VI-0300NFC	TCFM-VI-0400LFC	TCFM-VI-0500LFC	TCFM-VI-0800LFC	TCFM-VI-1000LFC	TCFM-VI-1250LFC	TCFM-VI-1500LFC
Unvented Kit Ordering Code	Inc.	Inc.	Inc.	TYN-32-03-080L	TYN-32-03-100L	Inc.	Inc.

## Commercial Indirect - 6bar

Product	300	400	500	800	1000	1250	1500
Cylinder Height (A, mm)	1670	1670	2030	2050	2090	2200	2400
Cylinder Diameter (B, mm)	620	710	710	920	1100	1150	1150
Weight Empty (kg)	82	87	104	220	230	235	267
Weight Full (kg)	365	466	589	967	1309	1436	1617
ErP Rating	C	C	C	C	C	C	C
Cylinder Ordering Code	TCGM-VI-0300NFC	TCGM-VI-0400LFC	TCGM-VI-0500LFC	TCGM-VI-0800LFC	TCGM-VI-1000LFC	TCGM-VI-1250LFC	TCGM-VI-1500LFC
Unvented Kit Ordering Code	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.

## Commercial Multi Energy - 3bar

Product	300	400	500	800	1000	1250	1500
Cylinder Height (A, mm)	1670	1670	2030	2050	2090	2200	2400
Cylinder Diameter (B, mm)	620	710	710	920	1100	1150	1150
Weight Empty (kg)	71.5	72	89	186	188	191	207
Weight Full (kg)	361	463	586	952	1285	1422	1617
ErP Rating	C	C	C	C	C	C	C
Cylinder Ordering Code	TCFM-VD-0300LFD	TCFM-VD-0400LFD	TCFM-VD-0500LFD	TCFM-VD-0800LFD	TCFM-VD-1000LFD	TCFM-VD-1250LFD	TCFM-VD-1500LFD
Unvented Kit Ordering Code	Inc.	Inc.	Inc.	TYD-32-03-080L	TYD-32-03-100L	Inc.	Inc.

## Commercial Multi Energy - 6bar

Product	300	400	500	800	1000	1250	1500
Cylinder Height (A, mm)	1670	1670	2030	2050	2090	2200	2400
Cylinder Diameter (B, mm)	620	710	710	920	1100	1150	1150
Weight Empty (kg)	71.5	72	89	186	188	191	207
Weight Full (kg)	361	463	586	952	1285	1422	1617
ErP Rating	C	C	C	C	C	C	C
Cylinder Ordering Code	TCGM-VD-0300NFD	TCGM-VD-0400LFD	TCGM-VD-0500LFD	TCGM-VD-0800LFD	TCGM-VD-1000LFD	TCGM-VD-1250LFD	TCGM-VD-1500LFD
Unvented Kit Ordering Code	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.

## Commercial Solar - 3bar

Product	300	400	500	800	1000	1250	1500
Cylinder Height (A, mm)	1670	1670	2030	2050	2090	-	-
Cylinder Diameter (B, mm)	620	710	710	920	1020	-	-
Weight Empty (kg)	88	89	105.5	240	250	-	-
Weight Full (kg)	366.5	466	588	972	1313	-	-
ErP Rating	C	C	C	C	C	-	-
Cylinder Ordering Code	TCFM- VS-0300NFC	TCFM- VS-0400LFC	TCFM- VS-0500LFC	TCFM- VS-0800LFC	TCFM- VS-1000LFC	-	-
Unvented Kit Ordering Code	Inc.	Inc.	Inc.	Inc.	Inc.	-	-

## Commercial Solar - 6bar

Product	300	400	500	800	1000	1250	1500
Cylinder Height (A, mm)	1670	1670	2030	2050	2090	-	-
Cylinder Diameter (B, mm)	620	710	710	920	1020	-	-
Weight Empty (kg)	88	89	105.5	240	250	-	-
Weight Full (kg)	366.5	466	588	972	1313	-	-
ErP Rating	C	C	C	C	C	-	-
Cylinder Ordering Code	TCGM- VS-0300NFC	TCGM- VS-0400LFC	TCGM- VS-0500LFC	TCGM- VS-0800LFC	TCGM- VS-1000LFC	-	-
Unvented Kit Ordering Code	Inc.	Inc.	Inc.	Inc.	Inc.	-	-

Option Of Inspection Flange Available on Request - Not Included As Standard  
Custom Specification Models Available

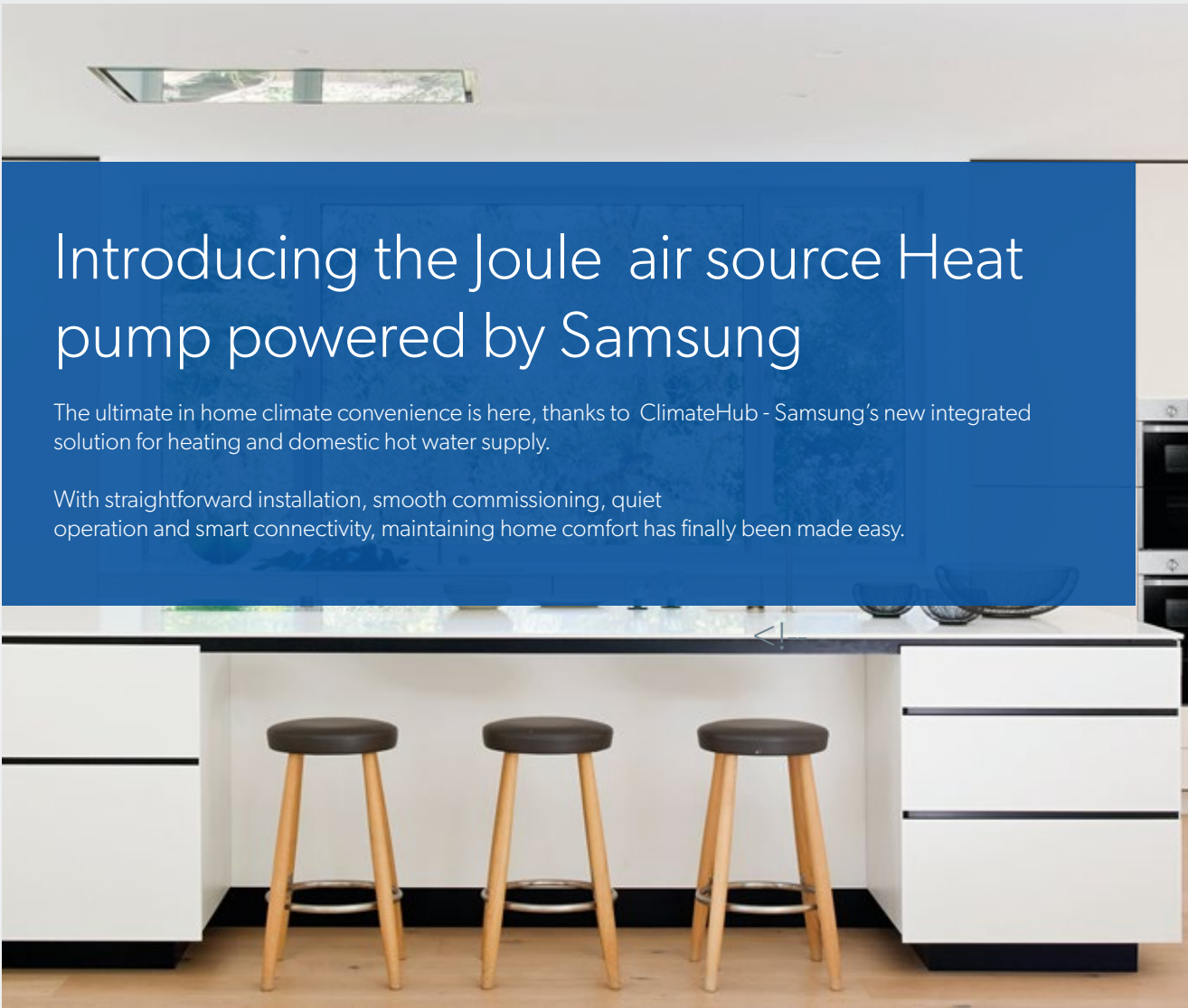
## Immersion Heaters

Description	Ordering Code
3KW 1PH Incoly Imm. Screw Dom	TI-I-L-14-03-1
3KW 1PH Smart Incoly Imm. Screw	TI-I-S-14-03-1
6KW 1PH Incoly Imm. Screw	TI-I-L-14-06-1
6KW 3PH Incoly Imm. Screw	TI-I-L-14-06-3
9KW 1PH Incoly Imm. Screw	TI-I-L-14-09-1
9KW 3PH Incoly Imm. Screw	TI-I-L-16-09-3
12KW 3PH Incoly Imm. Screw	TI-I-L-16-12-3
18KW 3PH Incoly Imm. Flange	TI-I-M-36-18-3
24KW 3PH Incoly Imm. Flange	TI-I-M-36-24-3
30KW 3PH Incoly Imm. Flange	TI-I-M-36-30-3
36KW 3PH Incoly Imm. Flange	TI-I-M-36-36-3
40KW 3PH Incoly Imm. Flange	TI-I-M-36-40-3
45KW 3PH Incoly Imm. Flange	TI-I-M-36-45-3
54KW 3PH Incoly Imm. Flange	TI-I-M-36-54-3
3Kw 1PH Titanium Imm. Screw	TI-T-L-14-03-1
6Kw 1PH Titanium Imm. Screw	TI-T-L-16-06-1
6Kw 3PH Titanium Imm. Screw	TI-T-L-16-06-3
9Kw 3PH Titanium Imm. Screw	TI-T-L-16-09-3
12Kw 3PH Titanium Imm. Screw	TI-T-L-18-12-3

# Introducing the Joule air source Heat pump powered by Samsung

The ultimate in home climate convenience is here, thanks to ClimateHub - Samsung's new integrated solution for heating and domestic hot water supply.

With straightforward installation, smooth commissioning, quiet operation and smart connectivity, maintaining home comfort has finally been made easy.



## The Technology - Air Source Heat Pumps

A heat pump is an energy-efficient system that uses the heat from the ambient air for heating and hot water. By using the ambient air and transferring this heat into the house through a hydronic system, such as underfloor heating, a heat pump requires less power input and offers greater power output than conventional boilers.



**SAMSUNG IN QUIET MODE IS QUIETER THAN MITSUBISHI ULTRA QUIET**

Today's climate systems need to meet increasingly strict sound level requirements and limit aural disturbance around the home. The Samsung ClimateHub system's 4-Step Quiet Mode allows users to reduce noise levels of the heat pump outdoor unit to as low as 35dB(A).



**CONNECTS INTO SMART THINGS CONTROL ENVIRONMENT**

The ClimateHub system can be managed remotely. Using the optional Wi-Fi kit, users can control different aspects of the system through the Samsung SmartThings app turn it on and off, control the functions and schedule its operation, from anywhere

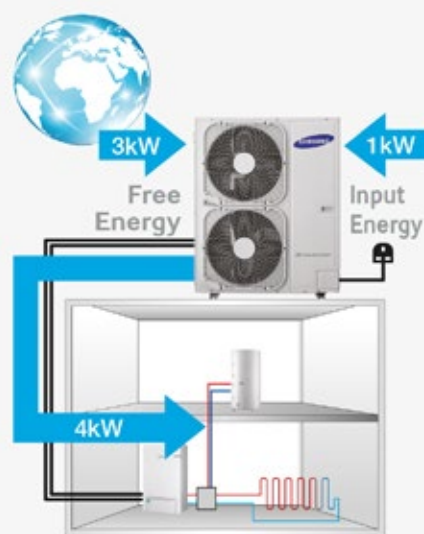
## How it works?

A heat pump is an electrical device that extracts heat from one place and transfers it to another. The heat pump is not a new technology; it has been used around the world for decades. Refrigerators and air conditioners are both common examples of this technology.

Heat pumps transfer heat by circulating refrigerant through a cycle of evaporation and condensation. A compressor pumps the refrigerant between two heat exchanger coils. In one coil, the refrigerant is evaporated at low pressure and absorbs heat from its surroundings.

The refrigerant is then compressed en route to the other coil, where it condenses at high pressure. At this point, it releases the heat it absorbed earlier in the cycle.

Refrigerators and air conditioners are both examples of heat pumps operating only in the cooling mode. A refrigerator is essentially an insulated box with a heat pump system connected to it.



For every 1 kWh of energy input

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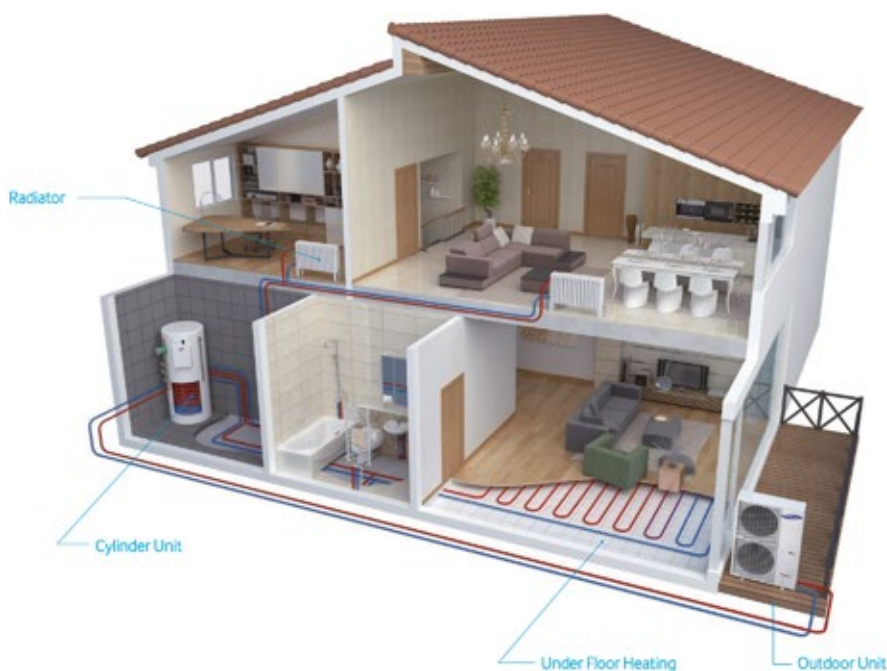
An air source heat pump can deliver up to more than 4 kWh in energy output.

This is an energy efficiency ratio of more than 400%, which is far superior to high energy efficiency boiler systems.

Our heatpump packages have class leading SCOP.

## Air Source Heat Pump Benefits

- Compatible with all low temp. systems
- High seasonal energy efficiency
- Up to 60°C water supply
- Easy to install - Easy to control
- Operation Range down to -20°C
- Higher capacity at low ambient temperature

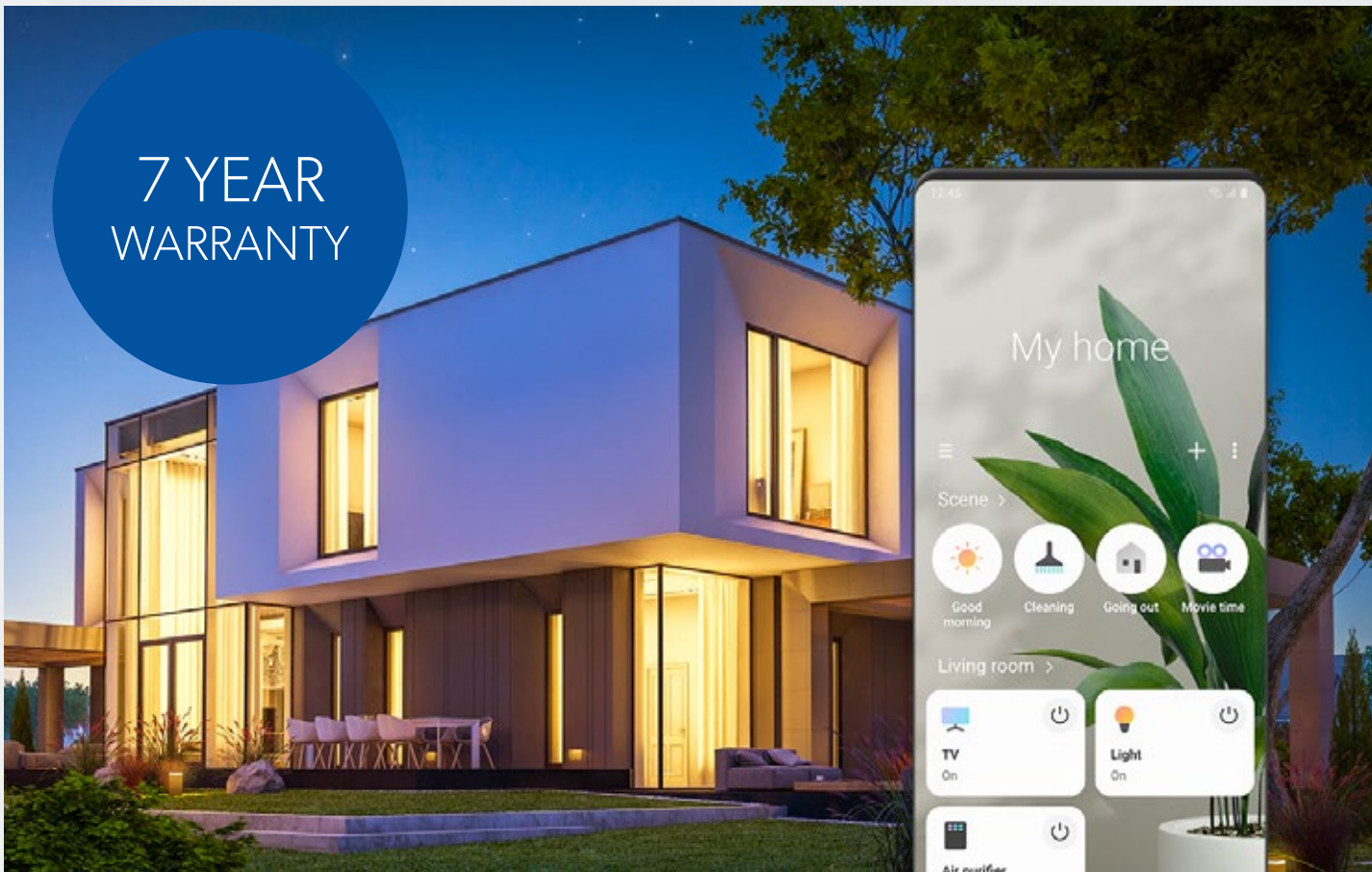




 **SmartThings** in conjunction with

**joule**  
Manufacturing Excellence

7 YEAR  
WARRANTY



## Hands-free control.

Use Bixby on your Galaxy phone to control your smart devices with your voice.



## Smart Applications:



More available at: <https://www.samsung.com/uk/apps/smarthings/>



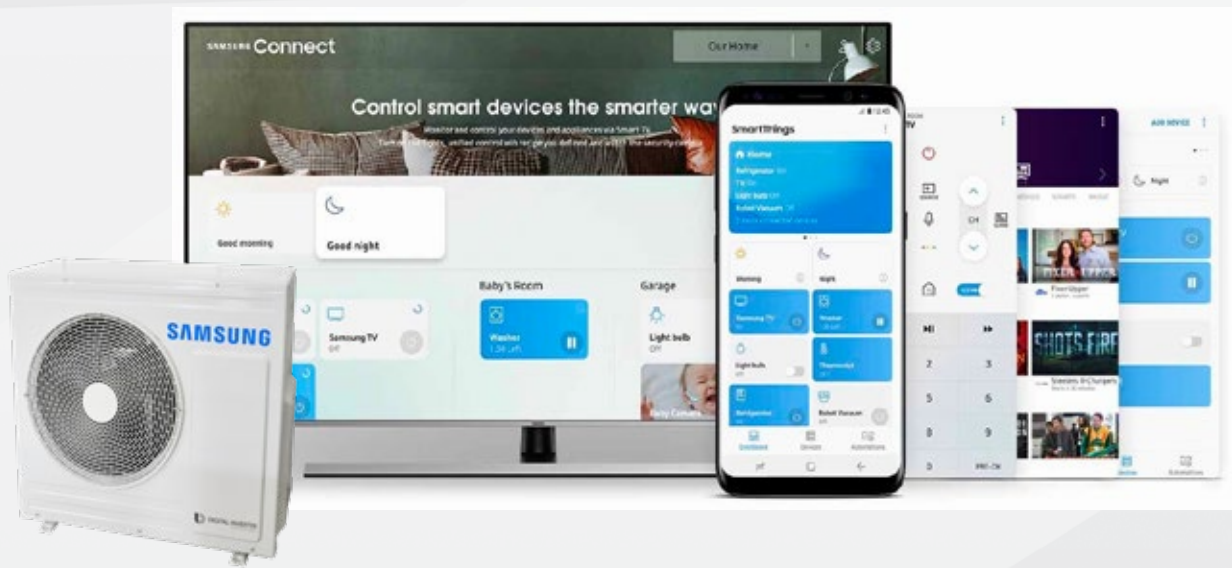
# More smart devices, one smart app.

Connect, automate, and manage all your Samsung and SmartThings-compatible appliances and electronics with a single, easy-to-use app.

Because smart should be simple, however many devices you bring home.

## Connects Into Smart Things Control Environment

Connect to your heatpump and smart cylinder from the comfort of your living room.



## One App, Multiple Screens.

Access SmartThings features across a family of Samsung products, including smart phones, TVs, and fridges.

## Your Home, Your Way.

Make your home smarter with custom automation. Create schedules and scenarios, and let SmartThings do the rest.

It can even suggest new smart ways to automate your day.



# Joule-Samsung

## Air Source Heat Pump Product Range



R32 Outdoor Unit

HHSM-G600005-1	HHSM-G600008-1	HHSM-G600012-1	HHSM-G600016-1	HHSM-G600016-3
----------------	----------------	----------------	----------------	----------------

Capacity		5kW	8kW	12kW	16kW	16kW
Power		1				3
Packaged						
HUGH-180COM-3C	180L COMPACT	●	●	●	●	
HUGH-230COM-3C	230L COMPACT	●	●	●	●	
Pre-Plumbed						
HUGH-G6150-L3C	150L STANDARD	●	●			
HUGH-G6170-L3C	170L STANDARD	●	●	●		
HUGH-G6200-L3C	200L STANDARD	●	●			
HUGH-G6250-N3C	250L STANDARD		●	●	●	●
HUGH-G6300-N3C	300L STANDARD			●	●	●
HUGH-G6150-S3C	150L SLIMLINE	●	●			
HUGH-G6170-S3C	170L SLIMLINE	●	●	●		
HUGS-G6200-L3C	200L SOLAR	●				
HUGS-G6250-N3C	250L SOLAR			●	●	●
HUGS-G6300-N3C	300L SOLAR		●		●	●
Standalone						
	1PH SO SYS	●	●	●	●	
	3PH SO SYS				●	●
Buffer						
HUGH-G61860-3C	MONO 180/60L	●	●	●		
HUGH-G62060-3C	MONO 200/60L	●	●	●	●	●
HUGH-G62590-3C	MONO 250/90L		●	●	●	●
HUGH-G63090-3C	MONO 300/90L		●	●	●	●
HUGH-G63013-3C	MONO 300/130L		●	●	●	●
HUGH-G64013-3C	MONO 400/130L			●	●	●



Tank Integrated Hydro Unit & Smart Plumb Cylinder

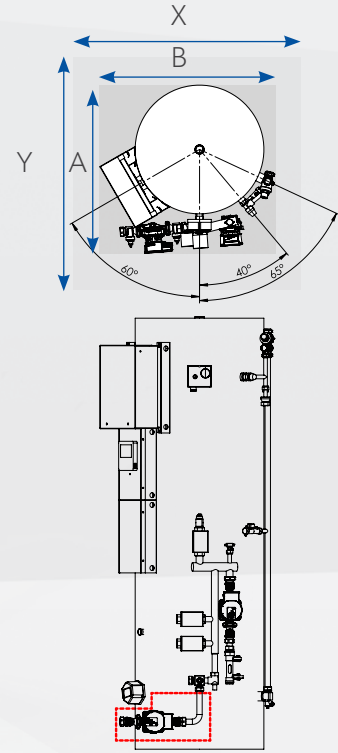
# Joule-Samsung MonoSpecification



				Outdoor Unit		HHSM-G600005-1		HHSM-G600008-1		HHSM-G600012-1		HHSM-G600016-1	
				Controller		HZSMC-G6000000		HZSMC-G6000000		HZSMC-G6000000		HZSMC-G6000000	
System	Operation	Nominal Capacity	Heating A7/W35 <sup>1</sup> /A7/W55 <sup>2</sup>	W	5.000/4.300	8.000/7.100	12.000/11.300	16.000/15.000					
			Cooling A35/W18 <sup>1</sup>	W	5.000	7.500	12.000	14.000					
	Power Input (Nominal)		Heating A7/W35 <sup>1</sup> /A7/W55 <sup>2</sup>	W	1.030/1.520	1.770/2.530	2.650/3.730	3.620/5.180					
			Cooling A35/W18 <sup>1</sup>	W	1.140	1.900	2.770	3.280					
			COP (Nominal Heating) A7/W35 <sup>1</sup> /A7/W55 <sup>2</sup>	W/W	4,85/2,83	4,52/2,81	4,53/3,03	4,42/2,90					
			EER (Nominal Cooling) A35/W18 <sup>1</sup>	W/W	4,39	3,95	4,33	4,27					
			SCOP LWT 350°/550°	W/W	4,46/3,2	4,44/3,23	4,69/3,51	4,48/3,53					
			Average Seasonal Space Heating Eff.Class*	-	A+++/A++	A+++/A++	A+++/A++	A+++/A++					
		Current	MCA	A	16,00	22,00	28,00	32,00					
	A			20,00	27,50	35,00	40,00						
		Water Flow Rate	Min	l/min	7,00	7,00	12,00	12,00					
				Max	l/min	48,00	48,00	58,00	58,00				
		Leaving Water Temp	Heating	OC	15-65	15-65	15-65	15-65					
				Cooling	OC	5-25	5-25	5-25	5-25				
		Function	Smart Grid Ready	-	●	●	●	●					
	PV Enabled		-	●	●	●	●						
	2-Zone Control		-	●	●	●	●						
Indoor Compact Unit	Power Supply			0,#,V,Hz	220-240V, 50Hz, 1	220-240V, 50Hz, 1	220-240V, 50Hz, 1	220-240V, 50Hz, 1					
	Water Tank Volume			Litres	180/230	180/230	180/230	180/230					
	Declared Load Profile			L/XL									
	Energy Efficiency Class			-	A	A	A	A					
	Sound	Sound Pressure	Heating/ Cooling Std		dB(A)								
		Sound Power	Heating Std		dB(A)								
	Dimensions	Net Weight			kg	58.5	76.0	110.0	110.0				
Net Dimensions (WxHxD)				mm	798x 880 x 310	998 x 940 x 330	1420 x 940 x 330	1420 x 940 x 330					
Outdoor Unit	Power Supply			0,#,V,Hz	10,220-240V,50Hz	10,220-240V,50Hz	10,220-240V,50Hz	10,220-240V,50Hz					
	Compressor	Type		-	BLDC Twin Rotary	BLDC Twin Rotary	BLDC Twin Rotary	BLDC Twin Rotary					
	Base Heater			-	-	●	●	●					
	Sound	Sound	Heating Std		dB(A)	45	48	50	52				
		Pressure	Cooling Std		dB(A)	45	48	50	54				
		Sound	Heating Std		dB(A)	61	63	64	66				
		Power	Cooling Std		dB(A)	62	64	65	68				
	Dimensions	Net Weight			Kg	58.5	76	110	110				
		Net Dimensions (WxHxD)			mm	880 x 798 x 310	940 x 998 x 330	940 x 1420 x 330	940 x 1420 x 330				
	Refrigerant	Type			-	R32	R32	R32	R32				
		Factory Charging			tCO2e	0,68	0,78	1,49	1,49				
					kg	1,00	1,15	2,20	2,20				
	Piping	Water Pipe	Inlet/Outlet		0,mm	28/28	28/28	28/28	28/28				
Water Pipe (DHW)		Inlet/Outlet		0,mm	22/22	22/22	22/22	22/22					
Operation	Ambient Temperature	Heating		OC	-25-35	-25-35	-25-35	-25-35					
		Cooling		OC	10-46	10-46	10-46	10-46					

## Standard Pre-Plumbed Cylinder For Joule Samsung Monobloc Units

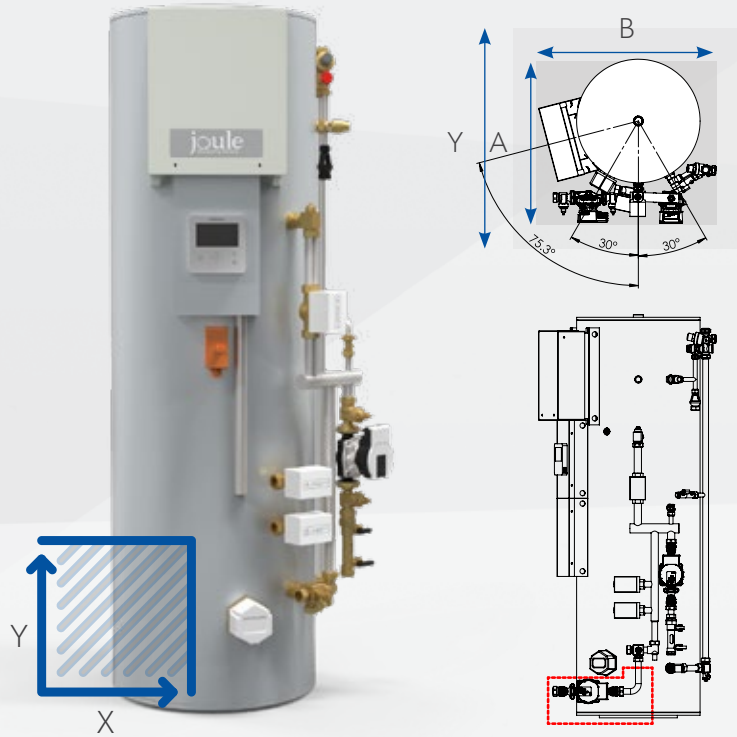
Joule hot water cylinders are next generation in pre-plumbed hot water solutions. With its sleek design and pre-plumbed architecture the space requirements for the pre-plumbed hot water cylinder have been reduced dramatically.



CYLINDER		HUGH-G6150-L3C	HUGH-G6170-L3C	HUGH-G6200-L3C	HUGH-G6250-N3C	HUGH-G6300-N3C	
NOMINAL HOT WATER VOLUME (LITRES)		150	170	200	250	300	
ErP RATING		C	C	C	C	C	
STANDING LOSS (W)		55	66	81	89	92	
HEAT UP TIME (MINS)		10	10	11	14	17	
WATER		Primary Circuit Pump	Wilo- Yonos PARA RS 15/7.0 iPWM1 130 12				
		Heating Circuit Pump					
		Connection Size (mm) Heating / DHW					22 / 22
WATER SAFETY	Water Circuit	Control Thermistor (°C)	80				
		DHW Expansion Vessel (Litres)	18	18	18	18	24
	DHW Cylinder	Control Thermistor (°C)	75	75	75	75	75
		Over Temperature Cut-Out (°C)	80 ± 5				
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))	90 / 1.0 (10)				
Expansion Relief Valve (Cold) (MPa (Bar))	0.6 (6)						
DIMENSIONS (mm)		Height	1190	1310	1490	1815	1600
		Width	540	540	540	540	600
FOOTPRINT (mm)		Length (A)	740			800	
		Width (B)	740			800	
FREE FLOOR SPACE (mm)		Length (X)	1290			1350	
		Width (Y)	840			900	
WEIGHT EMPTY / FULL (kg)		46/196	54/223	58/256	67/316	74/372	
CYLINDER MATERIAL		Cylinder	Stainless Steel Duplex LDX 2101				
		Insulation	Insulation Type	Polyurethane foam CFC-Free and HCFC Free			
			Insulation Thickness (mm)	50			
			GWP of Insulation	3.1			
			ODP of Insulation	0			
ELECTRICAL DATA		Electrical Supply MIM	220-240v, 50Hz				
		Phase	Single				
		Fuse Rating - MCB Sizes (A)*1	16				
		Imersion Capacity (kW)	3				
		Max Running Current (A)	13				
		Fuse Rating - MCB Sizes (A)*1	16				

## Slimline Pre-Plumbed Cylinder For Joule Samsung Monobloc Units

Joule Cyclone Slimline cylinders have been designed for the use in tight areas where there is more height than width available.



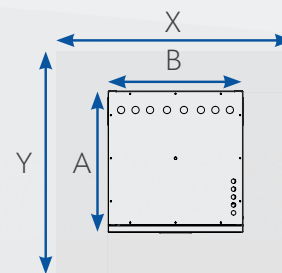
CYLINDER			HUGH-G6150-S3C	HUGH-G6170-S3C	HUGH-G6205-S3C
NOMINAL HOT WATER VOLUME (LITRES)			150	170	205
ErP RATING			C	C	C
Standing Loss (W)			70	79	84
Heat Up Time (mins)			26	27	31
WATER		Primary Circuit Pump	Wilo- Yonos PARA RS 15/7.0 iPWM1 130 12		
		Heating Circuit Pump			
		Connection Size (mm) Heating / DHW			
WATER SAFETY	Water Circuit	Control Thermistor (°C)	80		
		DHW Expansion Vessel (Litres)	18		
		Control Thermistor (°C)	75		
		Over Temperature Cut-Out (°C)	80 ± 5		
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))	90 / 1.0 (10)		
		Expansion Relief Valve (Cold) (MPa (Bar))	0.6 (6)		
DIMENSIONS (mm)		Height	1335	1535	1880
		Width	475		
FOOTPRINT (mm)		Length (A)	675		
		Width (B)	675		
FREE FLOOR SPACE (mm)		Length (X)	1225		
		Width (Y)	775		
WEIGHT EMPTY / FULL (kg)			35 / 175	39 / 199	43 / 230
CYLINDER MATERIAL	Cylinder	Cylinder Material	Stainless Steel Duplex LDX 2101		
	Insulation	Insulation Type	Polyurethane foam CFC-Free and HCFC Free		
		Insulation Thickness (mm)	50		
		GWP of Insulation	3.1		
		ODP of Insulation	0		
ELECTRICAL DATA		Electrical Supply	220-240v, 50Hz		
		Phase	Single		
		Fuse Rating - MCB Sizes (A)*1	16		
		Capacity (kW)	3		
		Max Running Current (A)	13		
		Fuse Rating - MCB Sizes (A)*1	16		



## Compact Pre-Plumbed Cylinder For Joule Samsung Monobloc Units

The new and innovative Smart Plumb Compact has been designed to not only look modern and minimise footprint for homeowners, but it also has been designed to benefit installers.

Having all main components easily accessible proves maintenance simple, as well as strategically assigning all valves to be part of one unit concludes everything being in a single place logically makes the job at hand simple, less time consuming and cost effective.

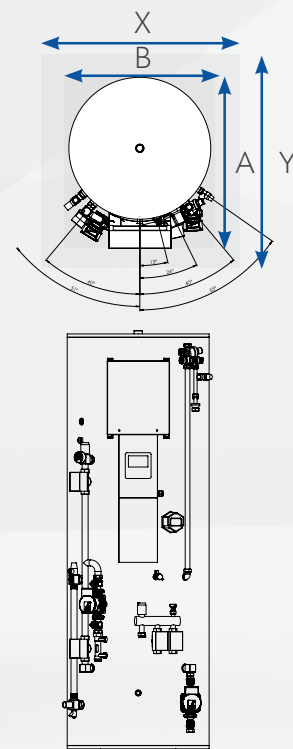


CYLINDER			HUGH-180COM-3C	HUGH-230COM-3C
NOMINAL HOT WATER VOLUME (LITRES)			180L	230L
HEAT PUMP COMBINATION HEATER - Large Profile (Average Climate) ErP Rating			C	
OPERATING AMBIENT TEMPERATURE (°C DB)			0 ~ +35°C (RH<80%)	0 ~ +35°C (RH<80%)
SOUND PRESSURE LEVEL AT 1M (dBA)			28	28
WATER		Primary Circuit Pump	willo- Yonos PARA RS 15	
		Sanitary Hot Water Pump		
		Connection Size (mm) Heating / DHW		
WATER SAFETY DEVICES	Water Circuit	Control Thermistor (°C)	1 - 80	1 - 80
		Flow Sensor (minimum flow 7L/min)	Supplied	Supplied
	DHW Cylinder	Control Thermistor (°C)	75	75
		Temp and Pressure Relief Valve (°C)/ (MPa (Bar))	90 / 0.7 (7)	
DIMENSIONS (mm)		Width	595	
		Height	1900	
FOOTPRINT (mm)		Length (A)	620	
		Width (B)	595	
FREE FLOOR SPACE (mm)		Length (X)	595	
		Width (Y)	1020	
WEIGHT EMPTY / FULL (kg)			85/ 265	90/ 320
ELECTRICAL DATA		Electrical Supply	220-240v, 50Hz	
		Phase	Single	
		Fuse Rating - MCB Sizes (A)*1	20	
		Immersion Capacity (kW)	3	
		Max Running Current (A)	16	
		Fuse Rating - MCB Sizes (A)*1	20	

## Smart Plumb Pre-Plumbed Cylinder For Joule Samsung Monobloc Units

The Smart Plumb by Joule is the most innovative pre-plumbed solution for heat pump systems. The cylinder / buffer combo is pre-plumbed, wired and commissioned before it leaves the factory.

The buffer acts as an intermediary vessel for the heating system which helps system flow rate and defrost cycling. With the cylinder sitting over the buffer tank the foot print has been greatly reduced. The control wires are all hidden behind the cable cover.



CYLINDER		HUGH-G61860-3C	HUGH-G62060-3C	HUGH-G62590-3C	HUGH-G63090-3C	HUGH-G63013-3C	HUGH-G64013-3C		
NOMINAL HOT WATER VOLUME (LITRES)		180L/60L	200L/60L	250L/90L	300L/90L	300L/130L	400L/130L		
ErP RATING		B/B	C/B	C/B	C/B	C/B	C/B		
STANDING LOSS (W)		68	83	90	94	94	102		
WATER	Primary Circuit Pump	Wilo - Yonos PARA RS 15							
	Heating Circuit Pump								
	Connection Size (mm) Heating / DHW							22mm	
WATER SAFETY	Water Circuit	Control Thermistor (°C)						80	
	DHW Cylinder	DHW Expansion Vessel (Litres)						18	
		Control Thermistor (°C)						75	
		Over Temperature Cut-Out (°C)						80 ± 5	
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))						90/0.7(7)	
		Expansion Relief Valve (Cold) (MPa (Bar))						0.6 (6)	
DIMENSIONS (mm)	Width	560		660		710			
	Height	1870	1980	1950		1850	2160		
FOOTPRINT (mm)	Length (A)	740		800		910			
	Width (B)	740		800		910			
FREE FLOOR SPACE (mm)	Length (X)	1290		1350		1460			
	Width (Y)	840		900		1010			
WEIGHT EMPTY / FULL (kg)		78/ 318	83/ 343	92/ 432	96/ 451	101/ 491	113/ 643		
CYLINDER MATERIAL	Cylinder	Cylinder Material						Stainless Steel Duplex LDX 2101	
	Insulation	Insulation Type						Polyurethane foam CFC-Free and HCFC Free	
		Insulation Thickness (mm)						50	
		GWP of Insulation						3.1	
		ODP of Insulation						0	
ELECTRICAL DATA	Electrical Supply						220-240v, 50Hz		
	Phase						Single		
	Fuse Rating - MCB Sizes (A)*1						20		
	Immersion Capacity (kW)						3		
	Max Running Current (A)						16		

# Joule-Samsung 5kW Monobloc Air Source Heat Pump

## HHSM-G600005-1

### Solution Key Features

- 7 year Warranty
- SCOP: Best on MCS Database – 4.85
- 65°C Hot Water
- <45dB(A) - Quietest System on the Market
- 5Kw Outputs
- Low GWP Refrigerant – R32



SYSTEM PRICE			INDOOR UNIT		
Ref Code	Ref Code Description		Dimensions (H x W x D)	Breaker (A) <sup>2</sup>	Pipe Size (mm) <sup>3</sup>
Packaged					
HXSM-G6-011*	(HXSM-G6-016)*	SAMSUNG MONO 5 - 4.35KW 1PH 180L COMPACT	1900 x 595 x 620	20 & 20	28 / 22
HXSM-G6-131*	(HXSM-G6-136)*	SAMSUNG MONO 5 - 4.35KW 1PH 230L COMPACT	1900 x 595 x 620	20 & 20	28 / 22
Pre-Plumbed					
HXSM-G6-031*	(HXSM-G6-048)*	SAMSUNG MONO 5 - 4.35KW 1PH 150L STANDARD	1190 x 740 x 740	20 & 20	28 / 22
HXSM-G6-032*	(HXSM-G6-049)*	SAMSUNG MONO 5 - 4.35KW 1PH 170L STANDARD	1310 x 740 x 740	20 & 20	28 / 22
HXSM-G6-033*	(HXSM-G6-050)*	SAMSUNG MONO 5 - 4.35KW 1PH 200L STANDARD	1490 x 740 x 740	20 & 20	28 / 22
HXSM-G6-021*	(HXSM-G6-026)*	SAMSUNG MONO 5 - 4.35KW 1PH 150L SLIMLINE	1335 x 675 x 675	20 & 20	28 / 22
HXSM-G6-022*	(HXSM-G6-027)*	SAMSUNG MONO 5 - 4.35KW 1PH 170L SLIMLINE	1535 x 675 x 675	20 & 20	28 / 22
HXSM-G6-065*	(HXSM-G6-079)*	SAMSUNG MONO 5 - 4.35KW 1PH 200L SOLAR	1513 x 683 x 730	20 & 20	28 / 22
HXSM-G6-066*	(HXSM-G6-080)*	SAMSUNG MONO 5 - 4.35KW 1PH 250L SOLAR	1760 x 545	20 & 20	28 / 22
Standalone					
HXSM-G6-001**	(HXSM-G6-006)**	SAMSUNG MONO 5 - 4.35KW 1PH SO SYS	798x 880 x 310	Via ODU or 20	28 / 22-
Buffer					
HXSM-G6-093*	(HXSM-G6-108)*	SAMSUNG MONO 5 - 4.35KW 1PH HP MONO 180/60	1600 x 650 x 730	20 & 20	28 / 22
HXSM-G6-094*	(HXSM-G6-109)*	SAMSUNG MONO 5 - 4.35KW 1PH HP MONO 200/60	1800 x 650 x 730	20 & 20	28 / 22

Included Components \*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Pre Plumbed Cylinder  
 Included Components \*\*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Mono Control Center

# Joule-Samsung 8kW Monobloc Air Source Heat Pump

## HHSM-G600008-1

### Solution Key Features

- 7 year Warranty
- SCOP: Best on MCS Database – 4.52
- 65°C Hot Water
- <48dbdB - Quietest System on the Market
- 8Kw Outputs
- Low GWP Refrigerant – R32



SYSTEM PRICE			INDOOR UNIT		
Ref Code	Ref Code Description		Dimensions (H x W x D)	Breaker (A) <sup>2</sup>	Pipe Size (mm) <sup>3</sup>
Packaged					
HXSM-G6-012*	(HXSM-G6-017)*	SAMSUNG MONO 8 - 6.37KW 1PH 180L COMPACT	1900 x 595 x 620	20 & 20	28 / 22
HXSM-G6-132*	(HXSM-G6-137)*	SAMSUNG MONO 8 - 6.37KW 1PH 230L COMPACT	1900 x 595 x 620	20 & 20	28 / 22
Pre-Plumbed					
HXSM-G6-034*	(HXSM-G6-051)*	SAMSUNG MONO 8 - 6.37KW 1PH 150L STANDARD	1190 x 740 x 740	20 & 20	28 / 22
HXSM-G6-035*	(HXSM-G6-052)*	SAMSUNG MONO 8 - 6.37KW 1PH 170L STANDARD	1310 x 740 x 740	20 & 20	28 / 22
HXSM-G6-036*	(HXSM-G6-053)*	SAMSUNG MONO 8 - 6.37KW 1PH 200L STANDARD	1490 x 740 x 740	20 & 20	28 / 22
HXSM-G6-037*	(HXSM-G6-054)*	SAMSUNG MONO 8 - 6.37KW 1PH 250L STANDARD	1815 x 740 x 740	20 & 20	28 / 22
HXSM-G6-023*	(HXSM-G6-028)*	SAMSUNG MONO 8 - 6.37KW 1PH 150L SLIMLINE	1335 x 675 x 675	20 & 20	28 / 22
HXSM-G6-024*	(HXSM-G6-029)*	SAMSUNG MONO 8 - 6.37KW 1PH 170L SLIMLINE	1535 x 675 x 675	20 & 20	28 / 22
HXSM-G6-067*	(HXSM-G6-081)*	SAMSUNG MONO 8 - 6.37KW 1PH 210L SOLAR	1510 x 545	20 & 20	28 / 22
HXSM-G6-068*	(HXSM-G6-082)*	SAMSUNG MONO 8 - 6.37KW 1PH 250L SOLAR	1760 x 545	20 & 20	28 / 22
HXSM-G6-069*	(HXSM-G6-083)*	SAMSUNG MONO 8 - 6.37KW 1PH 300L SOLAR	1980 x 545	20 & 20	28 / 22
Standalone					
HXSM-G6-002**	(HXSM-G6-007)**	SAMSUNG MONO 8 - 6.37KW 1PH SO SYS	998 x 940 x 330	Via ODU or 16	28 / 22
Buffer					
HXSM-G6-095*	(HXSM-G6-110)*	SAMSUNG MONO 8 - 6.37KW 1PH JOULE HP MONO 180/60L	1870 x 540	20 & 20	28 / 22
HXSM-G6-096*	(HXSM-G6-111)*	SAMSUNG MONO 8 - 6.37KW 1PH JOULE HP MONO 200/60L	1980 x 540	20 & 20	28 / 22
HXSM-G6-097*	(HXSM-G6-112)*	SAMSUNG MONO 8 - 6.37KW 1PH JOULE HP MONO 250/90L	1670 x 600	20 & 20	28 / 22
HXSM-G6-123*	(HXSM-G6-127)*	SAMSUNG MONO 8 - 6.37KW 1PH JOULE HP MONO 300/130L	1850 x 710	20 & 20	28 / 22

Included Components \*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Pre Plumbed Cylinder  
 Included Components \*\*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Mono Control Center  
 Recommended Components: 20l Concentrate Hp Fluid and Anti-Vibration Fix-It Foot 600mm Kit

# Joule-Samsung 12kW Monobloc Air Source Heat Pump

## HHSM-G600012-1

### Solution Key Features

- 7 year Warranty
- SCOP: Best on MCS Database – 4.53
- 65°C Hot Water
- <50DbdB - Quietest System on the Market
- 12Kw Outputs
- Low GWP Refrigerant – R32



SYSTEM PRICE			INDOOR UNIT		
Ref Code	Ref Code Description	Dimensions (H x W x D)	Breaker (A) <sup>2</sup>	Pipe Size (mm) <sup>3</sup>	
Packaged					
HXSM-G6-013*	(HXSM-G6-018)*	SAMSUNG MONO 12 - 10.43KW 1PH 180L COMPACT	1900 x 595 x 620	32 & 32	28 / 22
HXSM-G6-133*	(HXSM-G6-138)*	SAMSUNG MONO 12 - 10.43KW 1PH 230L COMPACT	1900 x 595 x 620	32 & 32	28 / 22
Pre-Plumbed					
HXSM-G6-038*	(HXSM-G6-055)*	SAMSUNG MONO 12 - 10.43KW 1PH 170L STANDARD	1310 x 740 x 740	32 & 32	22 / 22
HXSM-G6-039*	(HXSM-G6-056)*	SAMSUNG MONO 12 - 10.43KW 1PH 200L STANDARD	1490 x 740 x 740	32 & 32	22 / 22
HXSM-G6-040*	(HXSM-G6-057)*	SAMSUNG MONO 12 - 10.43KW 1PH 250L STANDARD	1815 x 740 x 740	32 & 32	22 / 22
HXSM-G6-041*	(HXSM-G6-058)*	SAMSUNG MONO 12 - 10.43KW 1PH 300L STANDARD	1600 x 800 x 800	32 & 32	22 / 22
HXSM-G6-025*	(HXSM-G6-030)*	SAMSUNG MONO 12 - 10.43KW 1PH 170L SLIMLINE	1535 x 675 x 675	32 & 32	22 / 22
HXSM-G6-070*	(HXSM-G6-084)*	SAMSUNG MONO 12 - 10.43KW 1PH 200L SOLAR	1510 x 545	32 & 32	22 / 22
HXSM-G6-071**	(HXSM-G6-085)*	SAMSUNG MONO 12 - 10.43KW 1PH 250L SOLAR	1760 x 545	32 & 32	22 / 22
HXSM-G6-072*	(HXSM-G6-086)*	SAMSUNG MONO 12 - 10.43KW 1PH 300L SOLAR	1980 x 545	32 & 32	22 / 22
Standalone					
HXSM-G6-003**	(HXSM-G6-008)**	SAMSUNG MONO 12 - 10.43KW 1PH SO SYS	1420 x 940 x 330	Via ODU or 16	22 / 22
Buffer					
HXSM-G6-098*	(HXSM-G6-113)*	SAMSUNG MONO 12 - 10.43KW 1PH JOULE HP MONO 180/60	1870 x 540	32 & 32	22 / 22
HXSM-G6-099*	(HXSM-G6-114)*	SAMSUNG MONO 12 - 10.43KW 1PH JOULE HP MONO 200/60	1980 x 540	32 & 32	22 / 22
HXSM-G6-100*	(HXSM-G6-115)*	SAMSUNG MONO 12 - 10.43KW 1PH JOULE HP MONO 250/90	1670 x 600	32 & 32	22 / 22
HXSM-G6-101*	(HXSM-G6-116)*	SAMSUNG MONO 12 - 10.43KW 1PH JOULE HP MONO 300/13	1850 x 710	32 & 32	22 / 22
HXSM-G6-124*		SAMSUNG MONO 12 - 10.43KW 1PH JOULE HP MONO 400/13	2160 x 710	32 & 32	22 / 22

Included Components \*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Pre Plumbed Cylinder  
 Included Components \*\*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Mono Control Center  
 Recommended Components: 20l Concentrate Hp Fluid and Anti-Vibration Fix-It Foot 600mm Kit



# Joule-Samsung 16kW Monobloc Air Source Heat Pump

## HHSM-G600016-1

### Solution Key Features

- 7 year Warranty
- SCOP: Best on MCS Database – 4.42
- 65°C Hot Water
- <52dbdB - Quietest System on the Market
- 16Kw Outputs
- Low GWP Refrigerant – R32



SYSTEM PRICE			INDOOR UNIT		
Ref Code	Ref Code Description		Dimensions (H x W x D)	Breaker (A) <sup>2</sup>	Pipe Size (mm) <sup>3</sup>
Packaged					
HXSM-G6-014*	(HXSM-G6-019)*	SAMSUNG MONO 16 - 12.28KW 1PH 180L COMPACT	1900 x 595 x 620	32 & 32	28 / 22
HXSM-G6-134*	(HXSM-G6-139)*	SAMSUNG MONO 16 - 12.28KW 1PH 230L COMPACT	1900 x 595 x 620	32 & 32	28 / 22
Pre-Plumbed					
HXSM-G6-042*	(HXSM-G6-059)*	SAMSUNG MONO 16 - 12.28KW 1PH 200L STANDARD	1490x 740 x 740	32 & 32	28 / 22
HXSM-G6-043*	(HXSM-G6-060)*	SAMSUNG MONO 16 - 12.28KW 1PH 250L STANDARD	1815 x 740 x 740	32 & 32	28 / 22
HXSM-G6-044*	(HXSM-G6-061)*	SAMSUNG MONO 16 - 12.28KW 1PH 300L STANDARD	1600 x 800 x 800	32 & 32	28 / 22
HXSM-G6-073*	(HXSM-G6-087)*	SAMSUNG MONO 16 - 12.28KW 1PH 200L SOLAR	1510 x 545	32 & 32	28 / 22
HXSM-G6-074*	((HXSM-G6-088)*	SAMSUNG MONO 16 - 12.28KW 1PH 250L SOLAR	1760 x 545	32 & 32	28 / 22
HXSM-G6-075*	(HXSM-G6-089)*	SAMSUNG MONO 16 - 12.28KW 1PH 300L SOLAR	1980 x 545	32 & 32	28 / 22
Standalone					
HXSM-G6-004**	(HXSM-G6-009)**	SAMSUNG MONO 16 - 12.28KW 1PH SO SYS	1420 x 940 x 330	Via ODU or 16	28 / 22
HXSM-G6-005**	(HXSM-G6-010)**	SAMSUNG MONO 16 - 12.28KW 3PH SO SYS	1420 x 940 x 330	32 & 32	28 / 22
Buffer					
HXSM-G6-102*	(HXSM-G6-117)*	SAMSUNG MONO 16 - 12.28KW 1PH JOULE HP MONO 200/60	1980 x 540	32 & 32	28 / 22
HXSM-G6-103*	(HXSM-G6-118)*	SAMSUNG MONO 16 - 12.28KW 1PH JOULE HP MONO 250/90	1670 x 600	32 & 32	28 / 22
HXSM-G6-104*	(HXSM-G6-119)*	SAMSUNG MONO 16 - 12.28KW 1PH JOULE HP MONO 300/13	1850 x 710	32 & 32	28 / 22
HXSM-G6-125*		SAMSUNG MONO 16 - 12.28KW 1PH JOULE HP MONO 400/13	2160 x 710	32 & 32	28 / 22

Included Components\*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Pre Plumbed Cylinder

Included Components\*\*: Outdoor Unit, Insulated Flexible Connection Pipes, 1" Y Pattern Strainer With Isolation and Mono Control Center

Recommended Components: 20l Concentrate Hp Fluid and Anti-Vibration Fix-It Foot 600mm Kit

## Outdoor Unit

Ref Code	Description
HHSM-G600005-1	Mono 5 - 4.35kw R32 Ashp Outdoor Unit Std
HHSM-G600008-1	Mono 8 - 6.37kw R32 Ashp Outdoor Unit Std
HHSM-G600012-1	Mono 12 - 10.43kw R32 Ashp Outdoor Unit Std
HHSM-G600016-1	Mono 16 - 12.28kw R32 Ashp Outdoor Unit Std
HHSM-G600016-3	Mono 16 - 12.28kw R32 Ashp Outdoor Unit 3ph
HHSA-G60005-01	Mono 5 - 4.35kw R32 Ashp Outdoor Unit Coastal
HHSA-G60009-01	Mono 8 - 6.37kw R32 Ashp Outdoor Unit Coastal
HHSA-G60012-01	Mono 12 - 10.43kw R32 Ashp Outdoor Unit Coastal
HHSA-G60016-01	Mono 16 - 12.28kw R32 Ashp Outdoor Unit Coastal
HHSA-G60016-03	Mono 16 - 12.28kw R32 Ashp Outdoor 3ph Coastal

## Indoor Unit

Ref Code	Description
Packaged	
HUGH-180COM-3C	180l R32 Mon Packaged Cylinder +3kw Imm
HUGH-230COM-3C	230l R32 Mon Packaged Cylinder +3kw Imm
Slimline	
HUGH-G6150-S3C	150l R32 1ph Hp Pre-Plumbed Slimline
HUGH-G6170-S3C	170l R32 1ph Hp Pre-Plumbed Slimline
Standard	
HUGH-G6150-L3C	150l R32 1ph Hp Pre-Plumbed Standard
HUGH-G6170-L3C	170l R32 1ph Hp Pre-Plumbed Standard
HUGH-G6200-L3C	200l R32 1ph Hp Pre-Plumbed Standard
HUGH-G6250-N3C	250l R32 1ph Hp Pre-Plumbed Standard
HUGH-G6300-N3C	300l R32 1ph Hp Pre-Plumbed Standard
Solar	
HUGS-G6200-L3C	200l R32 1ph Hp Pre-Plumbed Solar
HUGS-G6250-N3C	250l R32 1ph Hp Pre-Plumbed Solar
HUGS-G6300-N3C	300l R32 1ph Hp Pre-Plumbed Solar
Buffer	
HUGH-G61860-3C	180/60 R32 1ph Hp Pre-Plumbed Cyl Buff
HUGH-G62060-3C	200/60 R32 1ph Hp Pre-Plumbed Cyl Buff
HUGH-G62090-3C	200/90 R32 1ph Hp Pre-Plumbed Cyl Buff
HUGH-G62590-3C	250/90 R32 1ph Hp Pre-Plumbed Cyl Buff
HUGH-G63013-3C	300/130 R32 1ph Hp Pre-Plumbed Cyl Buff
HUGH-G64013-3C	400/130 R32 1ph Hp Pre-Plumbed Cyl Buff
HUGH-G61860-4C	180/60 R32 1ph Hp Pre-Plumbed Cyl Buff 3z
HUGH-G62060-4C	200/60 R32 1ph Hp Pre-Plumbed Cyl Buff 3z
HUGH-G62090-4C	200/90 R32 1ph Hp Pre-Plumbed Cyl Buff 3z
HUGH-G62590-4C	250/90 R32 1ph Hp Pre-Plumbed Cyl Buff 3z
HUGH-G63013-4C	300/130 R32 1ph Hp Pre-Plumbed Cyl Buff 3z
HUGH-G64013-4C	400/130 R32 1ph Hp Pre-Plumbed Cyl Buff 3z

## Electrical

Ref Code	Description
PZI-A-00000000	Pv Ac Isolator
HZSMC-MIMH04EN	Samsung Wi-Fi Receiver 2.0 (Ehs) (Mim-H04en)
HZU-ELEC-MET	Emlite A100c Single Phase Kwh Meter - Mcs

## Mechanical

Ref Code	Description
HZK-0C-0000020	20l Concentrate Hp Fluid
HZK-0H28-0.075	Insulated Flex Conn Pipes (28mm X 300mm) Elbow
HZK-0K-0000000	Anti-Vibration Fix-It Foot 600mm Kit
HZK-0Y-000001F	1" Y Pattern Strainer With Isolation
HZK-0P-0000000	Combined Fill Flush + Flow Met
HMPYK-00000012	12l Robokit Sealed System Kit + Br
HMPYK-00000018	18l Robokit Sealed System Kit + Br
HMPYK-00000024	24l Robokit Sealed System Kit + Br
HZK-0D-0000000	Heat Pump Wall Drip Tray (1100x400)
HZK-0J-0000000	Heat Pump Wall Bracket (Pair)
HZK-0V-0000028	28mm Iso Valve Red

## Controller

Ref Code	Description
HZSMC-G6000000	MONO CONTROL CENTRE (MIM-E03CN) - GEN 6

# UFH System Options

Joule provides state of the art underfloor heating with our Invaheat system. These simple to install and easy to use systems are accompanied with full UFH pipe installation layouts, upon request your chosen MEP installer can also be provided with "Underfloor Heating Installation & Maintenance Manual" demonstrating everything you need to know from Pre-installation Notes right through to system filling and testing.



## Enjoy More Space

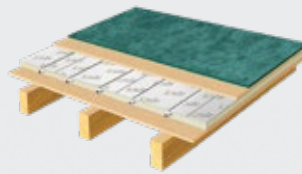
Since your heating system is underfoot, you have more space to make your own. No radiators makes way for cleaner lines, minimal clutter and a more contemporary ambience providing that open plan appeal.



## Create Your Comfort Zone

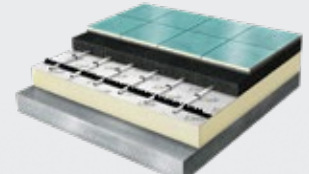
Having precise control of the temperature throughout your home lets you create your perfect comfort zone, every day.

Choose from simple, standard and smart solutions to settle on the level of control that's ideal for you.



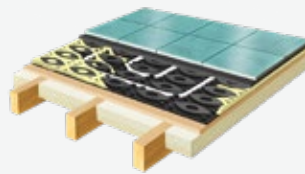
### Inva Lite

Application	Floating Floor System
Thermal Output	65w/m <sup>2</sup>
Floor Build-Up	25mm (On Hard Base) 43mm (On Joists)
Maximum Circuit Length	100m
Pipe Diameter/Material	16mm Pert/AL/Pert
Pipe Centres (mm)	100mm, 200mm
Drying Time	No Drying Time



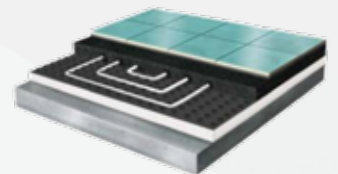
### Inva Clip & Rail

Application	Solid Floor System
Thermal Output	90 w/m <sup>2</sup>
Floor Build-Up	45-70mm
Maximum Circuit Length	100m
Pipe Diameter/Material	16mm Pert/AL/Pert
Pipe Centres (mm)	100mm, 150mm, 200mm
Drying Time	1 day/mm



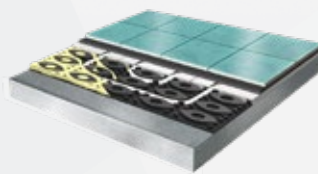
### Inva Screenshot

Application	Overlay Floor System
Thermal Output	95w/m <sup>2</sup>
Floor Build-Up	15mm (On Hard Base) 33mm (On Joists)
Maximum Circuit Length	75m
Pipe Diameter/Material	12mm Pert
Pipe Centres (mm)	100mm, 150mm, 200mm
Drying Time	8hr Foot Traffic 72hr Floor Covering



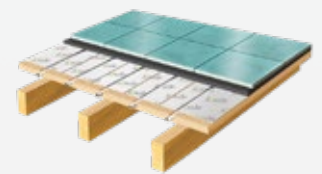
### Inva Matt

Application	Solid Floor System
Thermal Output	90 w/m <sup>2</sup>
Floor Build-Up	45-70mm
Maximum Circuit Length	100m
Pipe Diameter/Material	16mm Pert/AL/Pert
Pipe Centres (mm)	100mm, 150mm, 200mm
Drying Time	1 day/mm



### Inva Board

Application	Overlay Floor System
Thermal Output	65w/m <sup>2</sup>
Floor Build-Up	18mm (On Hard Base) 36mm (On Joists)
Maximum Circuit Length	75m
Pipe Diameter/Material	12mm Pert
Pipe Centres (mm)	150mm,
Drying Time	8hr Foot Traffic 72hr Floor Covering



### Inva Struct

Application	Suspended Floor System
Thermal Output	55w/m <sup>2</sup>
Floor Build-Up	22mm
Maximum Circuit Length	75m
Pipe Diameter/Material	12mm Pert
Pipe Centres (mm)	100mm, 150mm, 200mm
Drying Time	No Drying Time

# UFH System Primary Component Specifications



## Save On Running Costs

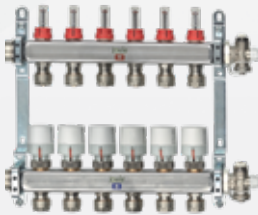
Underfloor heating provides an efficient alternative to traditional heating methods.

By helping to distribute heat more evenly throughout your home it can help to reduce energy costs.



## Electro-Thermal Acuator

Supply Voltage	230VAC, 50Hz
Output Voltage	230VAC, 50Hz
Max Load	70
No. Of Zone Outputs	42
Potential-Free Outputs	52
Dimensions (mm)	46



## UFH Manifold

Field of Application	Heating/Floor Heating
Temperature Range	0°C to 70°C
Max Operating Pressure	6bar
Outlet Connection Sizes	3/4" Eurokonus
Material	Stainless Steel
No of Ports	3 - 13 Port



## E.91 Touch Screen Heating Thermostat

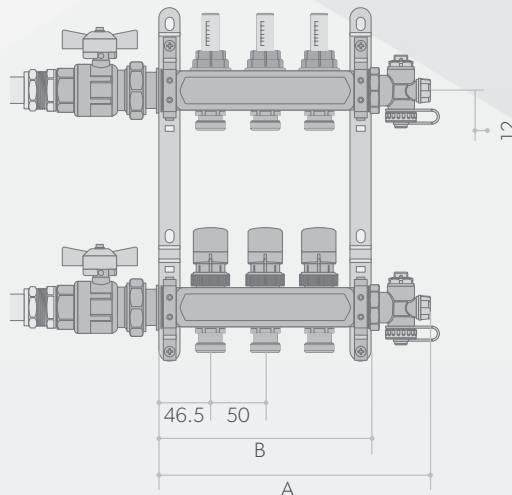
Supply Voltage	220V/230V
Power Consumption	2W
Setting Range	70
Limitation Setting	42
Switch Differential	52
Ambient Temperature	46
IP Rating	IP20
Housing Material	Anti-Flammable PC



## Mixing Valve & Controller

Temp. Range	5-95°C
Encloser Rating	IP41
Output Voltage	230VAC
Weight	0.40
Connection	1/2" Inch
A	36
B	72
C	32
D	50
E	36

PortNo.	A (mm)	B (mm)
3	249	193
4	299	243
5	349	293
6	399	343
7	449	393
8	499	443
9	549	493
10	599	543
11	649	593
12	699	543
13	749	693



## Wiring Centre

Supply Voltage	220V/230V
Output Voltage	2W
Max Load	70
No. Of Zone Outputs	42
Potential-Free Outputs	52
Dimensions (mm)	46



## Aluminium Radiators

With its compact design and its attractive linear shape, RIVA provides a high thermal emission with a low water content and a reduced inertia.

The performance of this radiator perfectly combines with modern heating systems and is an effective response to the need for reduction of energy costs.

- Available in modular sections
- Ideal for use with Heat Pumps
- 15 years guarantee

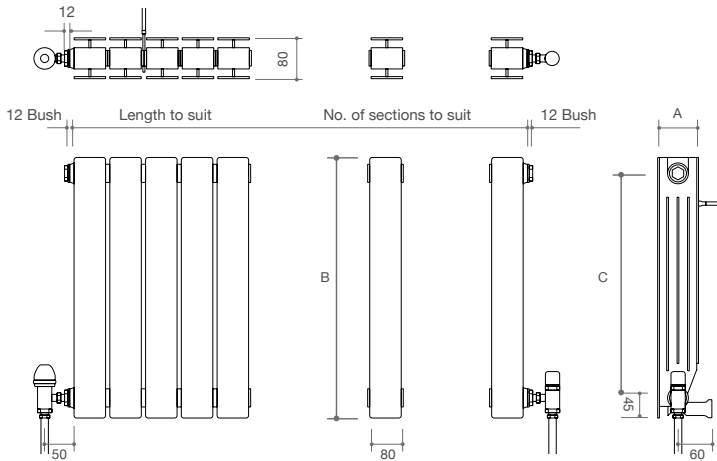
## Steel Radiators

Our competitive steel range has compact design paired with its high efficiency/ thermal emission making it the perfect choice for any heating systems.

- With or without hanger
- High efficiency,
- Suitable for low temperature
- Perfect corrosion resistance with nano-ceramic surface coating
- 10 year guarantee

# Radiator Specs

## Aluminium Radiators



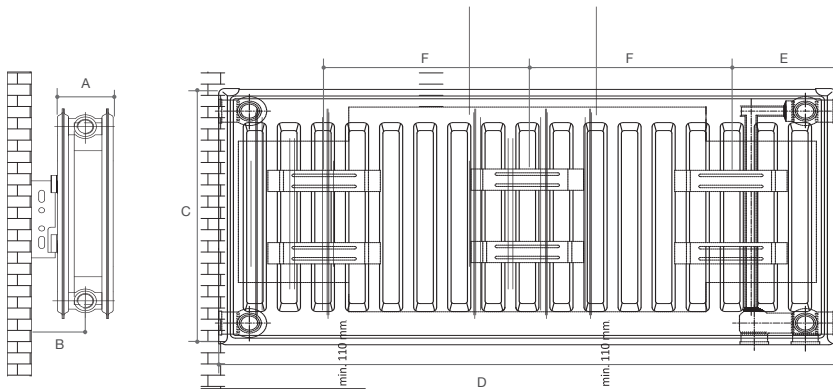
### Dimensions

	430	580	680	780
(A)	80mm	80mm	80mm	80mm
(B)	430mm	580mm	680mm	780mm
(C)	350mm	500mm	600mm	700mm

### Aluminium

Release of Dangerous Substances	None									
	A1									
Maximum Operating Pressure	16 bar									
Test Pressure	27 bar									
	Aluminium Horizontal				Aluminium Vertical					
Height (mm):	430	580	680	780	1080	1280	1480	1680	1880	2080
Km (Coefficient)	0.5667	0.62828	0.7582	0.7996	1.063	1.159	1.3	1.434	1.562	1.685
n (Exponent)	1.2845	1.3262	1.3043	1.3332	1.312	1.326	1.327	1.329	1.33	1.331
"Q t20 (Thermal effect) Watts per Section (80mm)"	26.58	33.39	37.73	43.39	54.14	61.55	69.25	76.85	83.96	90.84
"Q t50 (Thermal effect) Watts per Section (80mm)"	86.23	112.55	124.67	147.21	180.13	207.45	233.60	259.70	284.00	307.56

## Steel Radiators



### Dimensions

	600	500
(A)	104 mm	104mm
(B)	83mm	83mm
(C)	600 mm	500mm
(D)	0.4 m - 2 m	0.4m - 2m
(E)	101 mm	101mm
(F)	(C-2D)/2	(C-2D)/2

### Steel

Release of Dangerous Substances	None			
	A1			
Maximum Operating Pressure	6 bar			
Test Pressure	10 bar			
	Steel Type 11		Steel Type 22	
Height (mm):	500	600	500	600
Km (Coefficient)	6.35134	7.33984	10.3724	11.4097
n (Exponent)	1.25304	1.25649	1.282	1.295
"Q t20 (Thermal effect) Watts per Section (80mm)"	271.09	316.53	482.84	552.21
"Q t50 (Thermal effect) Watts per Section (80mm)"	854.56	1000.98	1563.00	1809.01

### Radiator Thermal Output Calculation

$$Q = Km * (\Delta T)^n$$

$\Delta T$  = see table 2  
 Km = see table below  
 n = see table below

### Table 2

$\Delta T$  = Mean Water Temp (°C) - Design Room Temp (°C).

Example:  $\Delta T = 40 - 18$

Mean Water Temp °C = Heat Source Flow Temp (°C) - (System Temp Drop °C/2).

Example: MWT = 45 - (10/2)

# Joule High efficiency solar Thermal systems



## Spot In The Sun

Just like solar PV panels, a solar thermal system needs the sun as the main energy source. Therefore, the optimal position to be situated is somewhere with direct sunlight for the most part of the day.

However, they don't necessarily need to be placed on a roof. Other possible places could be on a flat roof or hang from a wall, as long as it gets direct sunlight.

## Low Maintenance

Solar thermal panels require little maintenance and only occasional planned servicing. You only have to keep them relatively clean.

## Renewable Energy Source



The most important benefit is that solar energy is a 100% renewable energy source. We will always have solar energy.

## What Is a Solar Thermal Panel?

While solar PV panels use the energy from the sun to generate electricity, solar thermal panels use the sun to heat up water. As such, solar PV panels and solar thermals are two very different technologies.

Solar thermal uses free renewable energy from the sun which, just like the solar PV panels, will help you save money and reduce your carbon footprint.

# Acapella Evacuated Tube System

TECHNICAL DATA	10 Tube	20 Tube	30 Tube
Certification Number	INT ST21013/2	INT ST21013/3	INT ST21013/5
Gross Area	1.72m <sup>2</sup>	3.38m <sup>2</sup>	4.901m <sup>2</sup>
Aperature area	0.93m <sup>2</sup>	1.86m <sup>2</sup>	2.791m <sup>2</sup>
Absorber Area	0.8m <sup>2</sup>	1.61m <sup>2</sup>	2.411m <sup>2</sup>
Length of Tube	1.8m	1.8m	1.8m
Dist. Between Tubes/Panels	0.078m	0.078m	0.078m
Weight	52kg	85kg	106kg
Max Operating Pressure	6bar	6bar	6bar
Recommended Operating Pressure	2-3bar	2-3bar	2-3bar
Recommended Flow Rate	0.5l/min/m <sup>2</sup>	0.5l/min/m <sup>2</sup>	0.5l/min/m <sup>2</sup>
Fluid Volume in Collector	0.8l	1.65l	2.3l
Rated Heat Output	0.60kW	1.21kW	1.81kW
Absorber	Aluminium		
Coating	Aluminium Nitrate		
Absorbance	> 94%		
Emissivity	< 7%		
Mounting Frame	Aluminium Nitrate		
Glass	Borosilicate Glass		
Mounting Inclination	15°-75°		
Inlet Outlet Dimensions	3 ¼ bracket male		
Stagnation Temperature	200.3°C		
Insulation Material	Mineral Wool + Polyurethane		
Heat Transfer Fluid	Glycol Mix		
Dimensions L X W X D (M)	2.01m x 0.854m x 0.189m	2.01m x 1.68m x 0.189m	2.01m x 2.42m x 0.189m



## SYSTEM PRICE

Item Number	Item Description	Roof Dimensions	Recommended Cylinder Size
W x L x H (mm)			
SX-E-000000020-T	20 TUBE SOLAR SYSTEM - TILE	1680 x 2010 x 189	200L
SX-E-000000020-S	20 TUBE SOLAR SYSTEM - SLATE	1680 x 2010 x 189	200L
SX-E-000000020-B	20 TUBE SOLAR SYSTEM - BOLT	1680 x 2010 x 189	200L
SX-E-000000030-T	30 TUBE SOLAR SYSTEM - TILE	2420 x 2010 x 189	250L
SX-E-000000030-S	30 TUBE SOLAR SYSTEM - SLATE	2420 x 2010 x 189	250L
SX-E-000000030-B	30 TUBE SOLAR SYSTEM - BOLT	2420 x 2010 x 189	250L
SX-E-000000040-T	40 TUBE SOLAR SYSTEM - TILE	3460 x 2010 x 189	300L
SX-E-000000040-S	40 TUBE SOLAR SYSTEM - SLATE	3460 x 2010 x 189	300L
SX-E-000000040-B	40 TUBE SOLAR SYSTEM - BOLT	3460 x 2010 x 189	300L

## COMPONENTS INCLUDED

Item Number	Item Description	Quantity
SZ-L-OD-OERP5B	SOLAR PUMP	1
SVE-000000024	24L SOLAR EXPANSION VESSEL	1
SKU-000000020	20L SOLAR FLUID	1
OZM-00000.75HP	MIXING VALVE	1
SKT-0000000000	1M PIPE TAILS AND FITTINGS	2
SKN-C-00000ERP	SOLAR CONTROLLER	1
SZ-OG-000004	SOLAR PIPE ENTRY GASKET SET 4"	1
	ROOF MOUNTING KIT	1

## OPTIONAL EXTRAS

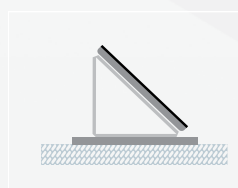
Item Number	Item Description
SVB-000000000P	SOLAR DISCHARGE - PLASTIC
SVS-0000000000	SOLAR EXP VESSEL CONNECT SET
SPD-16-50-0000	DN16 50M SOL SS PIPE DUO INS
SZ-J-0000DN-16	SOLAR FITTING JOINER PACK DN16



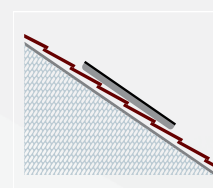
# Navitas 2m/2.5m On Roof System

## TECHNICAL DATA

	2M	2.5M
Certification Number	BBA 0192	
Collector type	Roof-mounted collector	
Overall area [m <sup>2</sup> ]	2.02	2.34
Absorber area [m <sup>2</sup> ]	1.85	2.15
Aperture area [m <sup>2</sup> ]	1.93	2.23
L x W x H [mm]	1.730 x 1.170 x 73	2.000 X . 1.170 X 73
Weight [kg]	31	32
Absorber capacity [l]	1.56	1.7
Housing	Al-frame	
Surface	Al, natural or anodized (improved corrosion resistance)	
Back plate	Al-sheet	
Absorber sheet	Al, high selectiv coated	
Absorption* [%]	95	
Emission* [%]	5	
Ø manifold [mm]	18 or 22 (¾ or 1")	
Ø risers [mm]	8	
Connections	blank (compression joint), coupling nut with flat seal	
Glass	3.2 mm tempered solar safety glass	
Transmittance of glass [%]	90	
Insulation	40 mm mineral wool plate	
Max. stagnation temperature	184 °C under test conditions	
Max. operating pressure	10 bar	
Proper heat transfer medium	Polypropylene glycol / water mixture	
Approved installation angle	min. 15°, max. 75°	
Packaging	Customer specific	



Fiat-Roof 45°



Pitched-Roof, Paralleli

## SYSTEM PRICE

Item Number	Item Description	Roof Dimensions	Recommended Cylinder Size
		W x L x H (mm)	
SX-OR-2.0-0-02-S	2 PANEL 2M ON-ROOF SOLAR KIT - SLATE	2240 x 1730 x 83	250L
SX-OR-2.0-0-02-T	2 PANEL 2M ON-ROOF SOLAR KIT - TILE	2240 x 1730 x 83	250L
SX-OR-2.0-0-02-B	2 PANEL 2M ON-ROOF SOLAR KIT - BOLT	2240 x 1730 x 83	250L
SX-OR-2.5-0-02-S	2 PANEL 2.5M ON-ROOF SOLAR KIT - SLATE	2240 x 1730 x 83	250L
SX-OR-2.5-0-02-T	2 PANEL 2.5M ON-ROOF SOLAR KIT - TILE	2240 x 1730 x 83	250L
SX-OR-2.0-0-03-S	3 PANEL 2M ON-ROOF SOLAR KIT - SLATE	3710 x 1730 x 83	300L
SX-OR-2.0-0-03-T	3 PANEL 2M ON-ROOF SOLAR KIT - TILE	3710 x 1730 x 83	300L
SX-OR-2.0-0-03-B	3 PANEL 2M ON-ROOF SOLAR KIT - BOLT	3710 x 1730 x 83	300L
SX-OR-2.5-0-03-S	3 PANEL 2.5M ON-ROOF SOLAR KIT - SLATE	3710 x 1730 x 83	300L
SX-OR-2.5-0-03-T	3 PANEL 2.5M ON-ROOF SOLAR KIT - TILE	3710 x 1730 x 83	300L

## COMPONENTS INCLUDED

Item Number	Item Description	Quantity
SZ-L-OD-OERP5B	SOLAR PUMP	1
SVE-000000024	24L SOLAR EXPANSION VESSEL	1
SKU-000000020	20L SOLAR FLUID	1
OZM-00000.75HP	MIXING VALVE	1
SKT-000000000	1M PIPE TAILS AND FITTINGS	2
SKN-C-00000ERP	SOLAR CONTROLER	1
SZ-OG-000004	SOLAR PIPE ENTRY GASKET SET 4"	1
	ROOF MOUNTING KIT	1

## OPTIONAL EXTRAS

Item Number	Item Description
SVB-000000000P	SOLAR DISCHARGE - PLASTIC
SVS-0000000000	SOLAR EXP VESSEL CONNECT SET
SPD-16-50-0000	DN16 50M SOL SS PIPE DUO INS
SZ-J-0000DN-16	SOLAR FITTING JOINER PACK DN16



# Navitas In Roof System

## TECHNICAL DATA

Certification Number	BBA 0192
Collector type	Roof-mounted collector
Overall area [m2]	2.02
Absorber area [m2]	1.85
Aperture area [m2]	1.93
L x W x H [mm]	1.730 x 1.170 x 83
Weight [kg]	31
Absorber capacity [l]	1.56
Housing	Al-frame
Surface	Al, natural or anodized (improved corrosion resistance)
Back plate	Al-sheet
Absorber sheet	Al, high selectiv coated
Absorption* [%]	95
Emission* [%]	5
Ø manifold [mm]	18 or 22 (¾ or 1")
Ø risers [mm]	8
Connections	blank (compression joint), coupling nut with flat seal
Glass	3.2 mm tempered solar safety glass
Transmittance of glass [%]	90
Insulation	40 mm mineral wool plate
Max. stagnation temperature	184 °C under test conditions
Max. operating pressure	10 bar
Proper heat transfer medium	Polypropylene glycol / water mixture
Approved installation angle	min. 15°, max. 75°
Packaging	Customer specific



CERTIFIED

## SYSTEM PRICE

Item Number	Item Description	Roof Dimensions	Recommended Cylinder Size
W x L x H (mm)			
SX-IR02.N-0001	1 PANEL 2M IN-ROOF SOLAR KIT		
SX-IR02.N-0002	2 PANEL 2M IN-ROOF SOLAR KIT	2840 x 2230 x 83	250L
SX-IR02.N-0003	3 PANEL 2M IN-ROOF SOLAR KIT	4310 x 2230 x 83	300L
SX-IR02.N-0004	4 PANEL 2M IN-ROOF SOLAR KIT		
SX-IR02.N-0005	5 PANEL 2M IN-ROOF SOLAR KIT		
SX-IR02.N-0006	6 PANEL 2M IN-ROOF SOLAR KIT		

## COMPONENTS INCLUDED

Item Number	Item Description	Quantity
SZ-L-OD-OERP5B	SOLAR PUMP	1
SVE-000000024	24L SOLAR EXPANSION VESSEL	1
SKU-000000020	20L SOLAR FLUID	1
OZM-00000.75HP	MIXING VALVE	1
SKT-0000000000	1M PIPE TAILS AND FITTINGS	2
SKN-C-00000ERP	SOLAR CONTROLER	1
	ROOF MOUNTING KIT	1

## OPTIONAL EXTRAS

Item Number	Item Description
SVB-000000000P	SOLAR DISCHARGE - PLASTIC
SVS-0000000000	SOLAR EXP VESSEL CONNECT SET
SPD-16-50-0000	DN16 50M SOL SS PIPE DUO INS
SZ-J-0000DN-16	SOLAR FITTING JOINER PACK DN16

# What is a Victorium exhaust air heat pump?

A Victorium EAHP system Combines the aspects of both a conventional air source heat pump and a mechanical extract ventilation system (MEV) to provide 100% of the space heating requirements and DHW demand of a well insulated apartment unit. Ensuring compliance with domestic ventilation regulations and when working efficiently, it can reduce your home's energy consumption for heating by up to 50% when compared to conventional heating systems.

The system functions whereby latent heat from "wet rooms" i.e. kitchen, bathrooms and utility's is extracted via a system of ventilation ductwork to the unit. At the first stage of the process the extracted air passes through a heat exchanger into the sealed refrigerant circuit. The units compression cycle beings to raises the temperature of the refrigerant. The heat is then transferred into a water circuit and finally into either a DHW cylinder or space heating emitters like radiators or UFH systems. The cooled air is then discharged from the unit and exhausted outside.

## Benefits Of The Victorium

The Victorium's control produces a very high and economical heat output. The Victorium gives you control over energy consumption and will be a key part of your connected lifestyle. The smart control system automatically adjusts to the indoor climate efficiently for maximum comfort.



- Stand alone heating, hot water & ventilation system
- Satisfies 100% of heating and hot water demand
- Whole house mechanical extract ventilation (MEV)
- Energy recycled from the apartment
- Full compliance with Part L and SAP using an all electric solution
- Lower running costs
- Heat pump COP of up to 490% (A20/W35)
- Lower capex and opex cost versus district heating
- No occupier standing charges or scheme management fees
- No gas connection, plantroom maintenance, metering or billing
- Maintenance via central BMS system which can be accessed remotely





## Touchscreen Control Panel

Our Victorium EAHF system controller is responsible for controlling a variety of functions and features for your home including setting the time and temperature for your domestic hot water cylinder and central heating zones.

For information on all of the functionality of the touchscreen controller consult the homeowners operation and maintenance manual which is available upon request



## Product History & Development



# Option 1:

## Victorum EAHP & Pre-Plumbed Cyclone Cylinder

### Victorum EAHP Specification

Item Number	HHH-2-0000-VHP	
Total Heating Capacity	5 Kw	
Total Compressor Output	2 Kw	
Max Circuit Amps (MCA)	28A	
Max Fuse Amps (MFA)	32A	
COP (A20, W35)	4.9	
Refrigerant	R134a	
Max Flow Temperature	60°C	
Max Vent Flow Rate Heating:	100-250m3/h	
Ventilation Rate Speed 1, 2, 3	50-350 m3/h	
Height:	570mm	
Width:	500mm	
Depth:	500mm	
Weight:	45kg	
Unit Connections:	15mm	
Air Inlet/ Outlet Connections:	150mm	
Certifications:		
For Space Heating	I.S. EN 14825	
For Hot Water	I.S. EN 16147	

### Cyclone Cylinder Specification

Capacity	200L	250L
Item Number	TUVI-3-200-L2C	TUVI-2-250-L2C
	TUVI-3-200-L3C	TUVI-2-250-L3C

Cylinder Material	Stainless Steel Duplex LDX 2101	
Thermal Insulation	Polyurethane foam CFC-Free & HCFC Free	
Casing	Painted Galvanised Carbon Steel DX51D	
Coil Material	Stainless Steel Tube AISI 316L	
Weight (empty) kg	59 kg	69 kg
Weight (full) kg	256kg	315 kg
Max. Operating Pressure	5 (bar)	
Test Pressure	10 (bar)	
Max. Working Temperature	90°C	
Heating Elements	1. No. Incoloy Immersion	
Heat Loss	78 W	87 W
Heat up Time (mins)	31	37
Energy Efficiency Class C	C	

### SAP Appendix Q

Kitchen + 1 Wet Room	0.32
Kitchen + 2 Wet Room	0.29
Kitchen + 3 Wet Room	0.29
Kitchen + 4 Wet Room	0.33
Kitchen + 5 Wet Room	0.39

## EAHP Operation



- 1.1 Stand Alone heating, hot water & ventilation system
- 1.2 EAHP Unit to have the following built in components: Heat exchanger, Pump, Flow switch, Unit controls.
- 1.3 Hot water to be provided via manufacturers pre plumbed cylinder.
- 1.4 The EAHP will kick into operation to heat the cylinder as soon as a 5° dead band is reached to increase the operational efficiency of the system.
- 1.5 The system will provide central heating priority.
- 1.6 The System will incorporate an In-Line 3Kw back up emersion heater.
- 1.7 Accessories: Strainer, Fill & Flush, Isolation Valve, Remote Controller.
- 1.8 Optional Accessories: Victorum EAHP Unit is capable of integration with a district heating system with the inclusion of the "DM-MOD-EAHP District Heating Module – Victorum"

## DHW Cylinder Operation



- 1.1 Joule Cyclone pre-plumbed / pre-wired Indirect DHW cylinder c.w Victorum system wiring centre.
- 1.2 1 bar working head c/w 3 port control valve.

## Compact EAHP Operation

- 1.1 Stand Alone heating, hot water & ventilation system
- 1.2 EAHP Unit to have the following built in components: Heat exchanger, Pump, Flow switch, Unit controls.
- 1.3 Hot water to be provided via manufacturers pre plumbed cylinder.
- 1.4 The EAHP will kick into operation to heat the cylinder as soon as a 5° dead band is reached to increase the operational efficiency of the system.
- 1.5 The system will provide central heating priority.
- 1.6 The System will incorporate an In-Line 3Kw back up emersion heater.
- 1.7 Optional Accessories: Victorium EAHP Unit is capable of integration with a district heating system with the inclusion of the "DM-MOD-EAHP District Heating Module – Victorium"



## Option 2:

### Victorium EAHP Compact

## Victorium EAHP Specification

Item Number	HHH-3-0000-VHP
Total Heating Capacity	5 Kw
Total Compressor Output	2 Kw
Max Circuit Amps (MCA)	28A
Max Fuse Amps (MFA)	32A
COP (A20, W35)	4.9
Refrigerant	R 134a
Max Flow Temperature	60°C
Max Vent Flow Rate Heating:	100-250m3/h
Ventilation Rate Speed	50-350 m3/h
Height:	2100mm
Width:	592mm
Depth:	672mm
Weight:	45kg
Air Inlet/ Outlet Connections:	150mm
Certifications:	
For Space Heating	I.S. EN 14825
For Hot Water	I.S. EN 16147
Test Conditions	I.S. EN 14511

## Cyclone Cylinder Specification

Capacity	180L
Item Number	TUVI2C-180-L2C TUVI2C-180-L3C
Cylinder Material	Stainless Steel Duplex LDX 2101
Thermal Insulation	Polyurethane foam CFC-Free & HCFC Free
Coil Material	Stainless Steel Tube AISI 316L
Weight (empty) kg	47 kg
Weight (full) kg	244 kg
Max. Operating Pressure	5 (bar)
Test Pressure	10 (bar)
Max. Working Temperature	90°c
Heating Elements	1. No. Incoloy Immersion
Heat Loss	81 W
Energy Efficiency Class C	C

## SAP Appendix Q

Kitchen + 1 Wet Room	0.32
Kitchen + 2 Wet Room	0.29
Kitchen + 3 Wet Room	0.29
Kitchen + 4 Wet Room	0.33
Kitchen + 5 Wet Room	0.39
Kitchen + 6 Wet Room	0.45



**7**  
**YEAR**  
WARRANTY



The innovative Smartplumb by Joule is a cylinder and buffer combined fully pre-plumbed, wired and programmed. The cylinder has the smallest footprint of any product of its type and built of industry leading components only.

Samsung's new generation heat pumps are smartphone compatible and benefit from remote monitoring for better service.



LOW NOISE  
LEVEL



BEST IN CLASS  
EFFICIENCY



ECO DESIGN  
CERTIFIED



COMPATIBLE WITH OTHER HEAT  
SOURCES

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