The Climate Change Levy (CCL) and Enhanced Capital Allowance (ECA) scheme

Brook Crompton and CCL/ECA

2018E

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The climate change levy - what is it?

At the Kyoto summit conference held in Japan in 1997, the world leaders agreed that drastic measures were required to reduce greenhouse gas emissions in an attempt to stop the progression of global warming. A global commitment to an 8% reduction in greenhouse gas emissions by 2010 was given by all. The UK made its commitment of 12.5% by 2008-12 (29 MtC pa on 1990) and the UK Government have set a domestic goal of 20% reduction in carbon dioxide (CO_2) emissions by 2010 (40MtC on 1990).

As a means of encouraging UK industry to help towards meeting these targets, the Government officially introduced the climate change levy on 1 April 2001. This is a new tax on business use of energy and applies to the whole of the non-domestic sector in industry, commerce, agriculture and the public sector. It is intended to promote energy efficiency, encourage employment opportunities and stimulate investment in new technologies.

The UK Government estimates that its climate change levy will cut CO_2 emissions by 2.5m tonnes a year by 2010, and estimates an annual revenue of around £1,000m. The Government has taken into account Lord Marshall's recommendation that the levy must be designed in a way that protects the competitiveness of UK firms. Therefore, the Government will fully recycle the revenues from the levy. Businesses will benefit from schemes promoting energy efficiency and stimulating the take up of renewable sources of energy. A cut in the rate of employers' National Insurance Contributions of 0.3% has also been implemented.

Exemptions:

- Electricity from new renewable energy sources will be exempt
- Good quality CHP will be exempt
- Gas in Northern Ireland will be exempt for up to 5 years

Discounts:

- The horticulture sector will receive a 50% discount on the levy for 5 years
- 80% rebate for energy intensive sectors that agree on energy efficiency targets
  - 2-yearly milestone targets
  - 4-yearly review of targets
  - revert to full levy if milestone targets not achieved

The levy will be calculated using the following rates:

- Electricity - 0.43p/kWh
- Gas - 0.15p/kWh
- Coal - 0.15p/kWh (1.17p/kg)
- LPG - 0.07p/kWh (0.96p/kg)

One reason for imposing the levy is to move the burden of taxation from 'good' things such as jobs, to 'bad' things such as pollution.

Energy intensive sectors:

- *Steel*
- *Aluminium*
- *Foundries*
- *Chemicals*
- *Ceramics*
- *Glass*
- *Cement*
- *Paper*
- *Food & drink*
- *Non-ferrous metals*
- *Lime*
- *Brewing*

The ECA scheme for energy efficiency products - how will it work?

What are capital allowances?

Throughout business, investments are made in fixed capital assets for use in the business. Over a period of time the assets generally fall in value. This reducing value is used in arriving at the commercial profits of the business. However, capital costs are not tax deductible and so instead, a relief is given by way of capital allowances, which are deducted from the taxable profit of the business. In all cases the balance of unrelieved expenditure is carried forward and continues to be written off at the appropriate rate, known as Written Down Allowance (WDA), on a reducing balance basis, over a period of time.

The enhanced capital allowance (ECA) scheme for energy efficient products

As the government have stated that the climate change levy is to be revenue neutral and encourage the use of energy efficient products in all new installations, £100m from the climate change revenues will be recycled back into businesses in the form of enhanced capital allowances. The enhanced capital allowance scheme has a tax-free allowance of 100% of the cost of the asset in the period in which the asset was acquired. This accelerates the relief significantly resulting in considerable cash flow benefits. The scheme commenced on 1 April 2001 alongside the climate change levy, and is policed by the 'carbon trust' which is a company limited by guarantee. The carbon trust will be business led and will serve as a focus for strategic action to ensure businesses adapt successfully to the challenges presented by climate change.

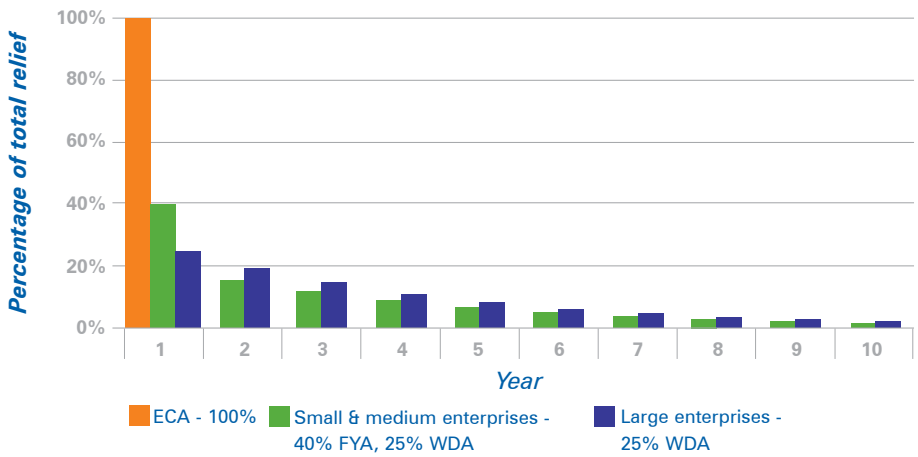
There are a variety of rates at which the cost of the asset is written off:

- Small and medium sized enterprises - 40% first year allowance (FYA) and then 25% pa
- Large enterprises - 25% pa

The 8 technologies identified as being energy saving to be included in the scheme are:

- CHP (combined heat & power)
- Lighting
- Boilers
- AC electric motors
- Electronic variable speed drives
- Pipe insulation
- Refrigeration
- Thermal screens

Comparison of rates of relief



News from Budget 2002

The Government as announced 5 further energy saving technology groups that will qualify for ECA. The new technology groups are:

- heat pumps
- radiant and warm air heaters
- solar heaters - specifically thermal systems
- energy efficient refrigeration equipment, including display cabinets and compressor equipment
- air compressors - specifically electronic drain taps and condition monitoring control systems

Subject to State Aid approval, a new list of qualifying technologies will be published in the summer of 2002, after which, spending on the new technologies will qualify for ECAs.

Expenditure on designated energy saving technology for leasing

From 17 April 2002, expenditure incurred on designated energy-saving equipment for leasing within the ECA scheme, will qualify for an enhanced capital allowance. This change is subject to the passage of the 2002 Finance Bill.

The ECA scheme for high effficiency motors - will it help you?

The enhanced capital allowance scheme for ac electric motors

The range of motors included in the scheme is:

- Cage induction, totally enclosed single speed motors
  - 1.1 to 400kW
  - 2, 4, 6, and 8 pole
  - standard, Ex N, EEx e, & EEx d
  - 200 to 750V @ 50Hz
- All multi-speed motors for use on liquid or gaseous movement applications

All qualifying products will be entered onto the 'UK Energy Technology List', which has been published by DEFRA and can be found on: www.eca.gov.uk Only products entered onto the list are eligible for an enhanced capital allowance. In order for ac single speed motors to qualify for entry onto the 'UK Energy Technology List', they must meet the specified minimum efficiency levels as stated in the table which can also be found on the above website.

Cast iron 'W' motor

Cast iron 'WP' motor

Making your claim

If a motor is purchased as an individual stand alone product, and is listed on the 'UK Energy Technology List', then the value that can be claimed for an enhanced capital allowance is the capital cost of the motor plus any direct installation costs. However, if the motor was purchased as part of a larger item of plant or machinery, then the value that can be claimed for an enhanced capital allowance is a fixed value determined by DEFRA and are listed by kW rating and speed. The full table of fixed values can be found on: www.brookcrompton.com

As you can see from the tables on pages 6 and 7, the fixed value is higher than the capital cost of the motor as it also takes into account any direct installation costs and other miscellaneous modifications and extras that may have been incurred. The result of which is a considerable increase in the amount of cashflow available. Additional savings are automatically achieved due to the lower running costs of the energy efficient motors.

Enhanced capital allowances are claimed on the corporation tax return form for companies and the income tax return form for individuals or partnerships.

Aluminium 'W' motor

Variable speed 'W' motor

ECAs in action

Consider the scenario where a 575 diameter centrifugal direct drive fan set fitted with a standard 30kW 4 pole motor is being installed on site at a multi-national company. The cost of the fan prior to fitting the electric motor is £1,060.

What would the financial difference be between fitting a motor with a standard efficiency level to that of a high efficiency level?

Fan set fitted with standard efficiency motor

The cost of the fan set, when purchased with a standard efficiency motor, will be around £1,850 and could incur an additional £430 in direct installation costs. The total cost of the capital expenditure is therefore £2,280. As the motor does not qualify for an enhanced capital allowance, the only tax relief provided is that of a capital allowance claimed on the total cost of the fan set. The electricity consumed in order to run the fan set continually on full load, based on a unit cost of electricity of 4p/kWh, is £10,549 per annum.

Year	Reducing allowance	CA value @ 25%	30% tax saving	Net present value*
1	£2,280	£570.00	£171	£171
2	£1,710	£427.50	£128	£118
3	£1,283	£320.63	£96	£81
4	£962	£240.47	£72	£56
5	£721	£180.35	£54	£38
6	£541	£135.26	£41	£26
7	£406	£101.45	£30	£18
8	£304	£76.09	£23	£12
9	£228	£57.06	£17	£9
10	£171	£42.80	£13	£6
		£2,152	£645	£535

** Cost of capital discounted at 9%*

Fan set fitted with a high efficiency motor

The cost of the fan set, when purchased with a high efficiency motor, may increase slightly to around £1,980 but will only incur the same amount of direct installation costs. The total cost of the capital expenditure is therefore £2,410. In this instance, the motor is an ECA qualifying motor and that portion of the expenditure is eligible to receive an enhanced capital allowance. The value against which the ECA is claimed is that stated in the table of fixed values for a 30kW 4 pole motor - £2,395. The remaining amount of unrelieved expenditure on the fan set is subject to a standard capital allowance on a reducing balance basis. The electricity consumed by the high efficiency motor in order to run the fan set continually on full load is considerably reduced to £10,300 per annum.

Year	100% allowance	ECA value	30% tax saving	Run cost savings	Tax savings & run cost	Net present value*
1	£2,395	£2,395	£719	£249	£968	£968
2	£0	£0	£0	£249	£249	£228
3	£0	£0	£0	£249	£249	£210
4	£0	£0	£0	£249	£249	£192
5	£0	£0	£0	£249	£249	£176
6	£0	£0	£0	£249	£249	£162
7	£0	£0	£0	£249	£249	£148
8	£0	£0	£0	£249	£249	£136
9	£0	£0	£0	£249	£249	£125
10	£0	£0	£0	£249	£249	£115
			£719	£2,490	£3,209	£2,460

** Cost of capital discounted at 9%*

The true financial benefit to the end user is the difference between the savings obtained by installing a fan set with a high efficiency motor (one that qualifies for an enhanced capital allowance), above a fan set fitted with a standard efficiency motor.

As you can see, the savings obtained within the first year are £968 - £171 = £797. This means that whilst specifying an ECA qualifying motor may increase the initial cost of the fan set, the payback period of the additional cost will be achieved within the first full financial year. In the example shown, the additional cost of £130 is retrieved within 2 months. Over the 10 year period, the total cumulative cashflow generated is £1,925 - almost paying for the complete fan set.

Cast iron, aluminium and EEx nA construction - qualifying products

Standard motors

	2 pole (3000min-1)				
kW	Cast iron		Aluminium	EEx nA	ECA claim fixed value
1.1	-	WP-DF80MM	-	-	£283
1.5	-	WP-DF90LMX	-	-	£316
2.2	-	WP-DF90LSX	-	-	£376
3	-	WP-DF100LMF	-	-	£456
4	W(U)-DF112MM	WP-DF112MMX	W(U)-DA112MM	WA(U)-DF112MM	£543
5.5	W(U)-DF132SE	WP-DF132SEX	W(U)-DA132SE	WA(U)-DF132SE	£704
7.5	W(U)-DF132SJ	WP-DF132SJX	W(U)-DA132SJ	WA(U)-DF132SJ	£842
11	W(U)-DF160MB	WP-DF160MB	W(U)-DA160MB	WA(U)-DF160MB	£1,260
15	W(U)-DF160MJ	WP-DF160MJ	W(U)-DA160MJ	WA(U)-DF160MJ	£1,498
18.5	W(U)-DF160LR	WP-DF160LR	W(U)-DA160LR	WA(U)-DF160LR	£1,744
22	W(U)-DF180ME	WP-DF180ME	W(U)-DA180ME	WA(U)-DF180ME	£2,112
30	W(U)-DF200LGX	WP-UDF200LGX	-	W(U)-DF200LGX	£2,683
37	W(U)-DF200LNX	WP-UDF200LNX	-	W(U)-DF200LNX	£3,114
45	W(U)-DF225MN	WP-UDF225MN	-	W(U)-DF225MN	£4,321
55	W-DF250SN	WP-DF250SN	-	W-DF250SN	£4,933
55	WU-DF250MNE	WP-UDF250MNE	-	WU-DF250MNE	£4,933
75	W-DF250MN	WP-DF250MN	-	W-DF250MN	£6,089
75	WU-DF280SNE	WP-UDF280SNE	-	WU-DF280SNE	£6,089
90	W-DF280SN	WP-DF280SN	-	W-DF280SN	£7,476
90	WU-DF280MNE	WP-UDF280MNE	-	WU-DF280MNE	£7,476
110	W-DF280MN	WP-DF280MN	-	W-DF280MN	£9,008
110	WU-DF315SNE	WP-UDF315SNE	-	WU-DF315SNE	£9,008
132	W-DF315SN	WP-DF315SN	-	W-DF315SN	£9,910
132	WU-DF315MNE	WP-UDF315MNE	-	WU-DF315MNE	£9,910
150	W(U)-DF315MN	WP-UDF315MN	-	W(U)-DF315MN	£10,044
160	W(U)-DF315MP	WP-UDF315MP	-	W(U)-DF315MP	£11,988
185	W(U)-DF315LN	WP-UDF315LN	-	W(U)-DF315LN	£13,428
200	W(U)-DF315LN	WP-UDF315LN	-	W(U)-DF315LN	£14,359
225	W(U)-DF355SG	WP-UDF355SG	-	W(U)-DF355SG	£18,118
250	W(U)-DF355SJ	WP-UDF355SJ	-	W(U)-DF355SJ	£18,118
280	W(U)-DF355SN	WP-UDF355SN	-	W(U)-DF355SN	£20,081
315	W(U)-DF355MJ	WP-UDF355MJ	-	W(U)-DF355MJ	£21,803
355	W(U)-DF355MN	WP-UDF355MN	-	W(U)-DF355MN	£24,255
400	W(U)-DF355LN	WP-UDF355LN	-	W(U)-DF355LN	£28,852

	4 pole (3000min-1)				
kW	Cast iron		Aluminium	EEx nA	ECA claim fixed value
1.1	-	WP-DF90LRX	-	-	£256
1.5	-	WP-DF90LWX	-	-	£298
2.2	-	WP-DF100LRF	-	-	£353
3	-	WP-DF100LTF	-	-	£422
4	-	WP-DF112MWX	-	-	£486
5.5	-	WP-DF132STX	-	-	£615
7.5	-	WP-DF132MVX	-	-	£823
11	W(U)-DF160MJ	WP-DF160MJ	W(U)-DA160MJ	WA(U)-DF160MJ	£1,197
15	W(U)-DF160LR	WP-DF160LR	W(U)-DA160LR	WA(U)-DF160LR	£1,424
18.5	W(U)-DF180ME	WP-DF180ME	W(U)-DA180ME	WA(U)-DF180ME	£1,719
22	W(U)-DF180LJ	WP-DF180LJ	W(U)-DA180LJ	WA(U)-DF180LJ	£1,953
30	W(U)-DF200LNX	WP-UDF200LNX	-	W(U)-DF200LNX	£2,395
37	W(U)-DF225SN	WP-UDF225SN	-	W(U)-DF225SN	£3,379
45	W(U)-DF225MN	WP-UDF225MN	-	W(U)-DF225MN	£3,936
55	W-DF250SN	WP-DF250SN	-	W-DF250SN	£4,518
55	WU-DF250MNE	WP-UDF250MNE	-	WU-DF250MNE	£4,518
75	W-DF250MN	WP-DF250MN	-	W-DF250MN	£5,578
75	WU-DF280SNE	WP-UDF280SNE	-	WU-DF280SNE	£5,578
90	W-DF280SN	WP-DF280SN	-	W-DF280SN	£6,862
90	WU-DF280MNE	WP-UDF280MNE	-	WU-DF280MNE	£6,862
110	W-DF280MN	WP-DF280MN	-	W-DF280MN	£8,177
110	WU-DF315SNE	WP-UDF315SNE	-	WU-DF315SNE	£8,177
132	W-DF315SN	WP-DF315SN	-	W-DF315SN	£9,007
132	WU-DF315MNE	WP-UDF315MNE	-	WU-DF315MNE	£9,007
150	W(U)-DF315MN	WP-UDF315MN	-	W(U)-DF315MN	£9,152
160	W(U)-DF315MP	WP-UDF315MP	-	W(U)-DF315MP	£10,316
185	W(U)-DF315LN	WP-UDF315LN	-	W(U)-DF315LN	£11,538
200	W(U)-DF315LN	WP-UDF315LN	-	W(U)-DF315LN	£12,802
225	W(U)-DF355SG	WP-UDF355SG	-	W(U)-DF355SG	£14,553
250	W(U)-DF355SJ	WP-UDF355SJ	-	W(U)-DF355SJ	£14,553
280	W(U)-DF355SN	WP-UDF355SN	-	W(U)-DF355SN	£16,303
315	W(U)-DF355MJ	WP-UDF355MJ	-	W(U)-DF355MJ	£18,408
355	W(U)-DF355MN	WP-UDF355MN	-	W(U)-DF355MN	£19,048
400	W(U)-DF355LN	WP-UDF355LN	-	W(U)-DF355LN	£20,334

	6 pole (1000min-1)				
kW	Cast iron		Aluminium	EEx nA	ECA claim fixed value
5.5	W(U)-DF132MM	WP-DF132MM	W(U)-DA132MM	WA(U)-DF132MM	£1,042
7.5	W(U)-DF160MM	WP-DF160MM	W(U)-DA160MM	WA(U)-DF160MM	£1,585
11	W(U)-DF160LV	WP-DF160LV	W(U)-DA160LV	WA(U)-DF160LV	£2,075
15	W(U)-DF180LM	WP-DF180LM	W(U)-DA180LM	WA(U)-DF180LM	£2,748
18.5	W(U)-DF200LGX	WP-UDF200LGX	-	W(U)-DF200LGX	£3,044
22	W(U)-DF200LNX	WP-UDF200LNX	-	W(U)-DF200LNX	£3,380
30	W(U)-DF225MN	WP-UDF225MN	-	W(U)-DF225MN	£4,758
37	W-DF250SN	WP-DF250SN	-	W-DF250SN	£5,527
37	WU-DF250MNE	WP-UDF250MNE	-	WU-DF250MNE	£5,527
45	W-DF250MN	WP-DF250MN	-	W-DF250MN	£5,946
45	WU-DF280SNE	WP-UDF280SNE	-	WU-DF280SNE	£5,946
55	W-DF280SN	WP-DF280SN	-	W-DF280SN	£7,353
55	WU-DF280MNE	WP-UDF280MNE	-	WU-DF280MNE	£7,353
75	W-DF280MN	WP-DF280MN	-	W-DF280MN	£8,958
75	WU-DF315SNE	WP-UDF315SNE	-	WU-DF315SNE	£8,958
90	W-DF315SN	WP-DF315SN	-	W-DF315SN	£10,052
90	WU-DF315MNE	WP-UDF315MNE	-	WU-DF315MNE	£10,052
110	W(U)-DF315MN	WP-UDF315MN	-	W(U)-DF315MN	£11,328
132	W(U)-DF315LN	WP-UDF315LN	-	W(U)-DF315LN	£13,473
150	W(U)-DF355SG	WP-UDF355SG	-	W(U)-DF355SG	£13,719
160	W(U)-DF355SG	WP-UDF355SG	-	W(U)-DF355SG	£14,040
185	W(U)-DF355SJ	WP-UDF355SJ	-	W(U)-DF355SJ	£15,590
200	W(U)-DF355SN	WP-UDF355SN	-	W(U)-DF355SN	£16,404
225	W(U)-DF355MJ	WP-UDF355MJ	-	W(U)-DF355MJ	£19,963
250	W(U)-DF355SMN	WP-UDF355SMN	-	W(U)-DF355MN	£19,963
280	W(U)-DF355LJ	WP-UDF355LJ	-	W(U)-DF355LJ	£20,613
315	W(U)-DF355LN	WP-UDF355LN	-	W(U)DF355LN	£22,415

	8 pole (750min-1)				
kW	Cast iron		Aluminium	EEx nA	ECA claim fixed value
5.5	W(U)-DF160MM	WP-DF160MM	W(U)-DA160MM	WA(U)-DF160MM	£1,575
11	W(U)-DF180LM	WP-DF180LM	W(U)-DF180LM	WA(U)-DF180LM	£3,244
15	W(U)-DF200LNX	WP-UDF200LNX	-	W(U)-DF200LNX	£3,570
18.5	W(U)-DF225SN	WP-UDF225SN	-	W(U)-DF225SN	£4,174
22	-	WP-UDF225MN	-	-	£4,706
30	-	WP-DF250SN	-	-	£5,830
30	-	WP-UDF250MNE	-	-	£5,830
132	W(U)-DF355SJ	WP-UDF355SJ	-	W(U)-DF355SJ	£16,985
150	-	WP-UDF355SN	-	-	£16,214
185	-	WP-UDF355MJ	-	-	£20,780
200	W(U)-DF355MN	WP-UDF355MN	-	W(U)-DF355MN	£23,525

EEx d flameproof, multi-speed and variable speed - qualifying products

EEx d flameproof motors

	2 pole (3000min-1)		4 pole (1500min-1)		6 pole (1000min-1)		8 pole (750min-1)	
kW	Frame size	ECA claim fixed value	Frame size	ECA claim fixed value	Frame size	ECA claim fixed value	Frame size	ECA claim fixed value
15	-	-	-	-	-	-	W(U)-EF200LN	£6,195
18.5	-	-	-	-	W(U)-EF200LN	£5,376	W(U)-EF225SN	£7,121
22	-	-	-	-	W(U)-EF200LN	£5,759	W(U)-EF225MN	£9,162
30	W(U)-EF200LN	£4,705	W(U)-EF200LN	£4,734	W(U)-EF225MN	£7,610	W-EF250SN	£10,090
37	W-EF200LN	£6,049	W-EF225SN	£5,969	W-EF250SN	£9,067	WU-EF250MNE	£10,090
37	WU-EF200LN	£6,049	WU-EF225SN	£5,969	WU-EF250MNE	£9,067	-	-
45	W-EF225MN	£7,776	W-EF225MN	£7,511	W-EF250MN	£10,785	-	-
45	WU-EF225MN	£7,776	WU-EF225MN	£7,511	WU-EF280SNE	£10,785	-	-
55	W-EF250SN	£9,748	W-EF250SN	£8,973	W-EF280SN	£13,756	-	-
55	WU-EF250MNE	£9,748	WU-EF250MNE	£8,973	WU-EF280MNE	£13,756	-	-
75	W-EF250MN	£12,550	W-EF250MN	£10,025	W-EF280MN	£15,551	-	-
75	WU-EF280SNE	£12,550	WU-EF280SNE	£10.025	WU-EF315SNE	£15,551	-	-
90	W-EF280SN	£15,770	W-EF280SN	£12,825	W-EF315SN	£17,971	-	-
90	WU-EF280MNE	£15,770	WU-EF280MNE	£12,825	WU-EF315MNE	£17,971	-	-
110	W-EF280MN	£18,453	W-EF280MN	£14,382	W-EF315MN	£19,085	-	-
110	WU-EF315SNE	£18,453	WU-EF315SNE	£14,382	WU-EF315MN	£19,085	-	-
132	W-EF315SN	£21,153	W-EF315SN	£16,652	W-EF315LN	£22,222	-	-
132	WU-EF315MNE	£21,153	WU-EF315MNE	£16,652	WU-EF315LN	£22,222	-	-
150	W(U)-EF135MN	£21,861	W(U)-EF135MN	£16,913	-	-	-	-
160	W(U)-EF315MP	£22,918	W(U)-EF315MP	£17,363	-	-	-	-
185	W(U)-EF315LN	£25,771	W(U)-EF315LN	£19,993	-	-	-	-
200	W(U)-EF315LN	£27,804	W(U)-EF315LN	£21,990	-	-	-	-

Integrated variable speed W motors (VSMs)

2 pole (3000min-1) and 4 pole (1500min-1)			
kW	Reference	Frame	ECA claim fixed value
0.55	VSM005	80	£474
0.75	VSM007	80	£474
1.1	VSM011	90	£547
1.5	VSM015	90	£547
2.2	VSM022	100	£672
3	VSM030	100	£767
4	VSM040	112	£900
5.5	VSM055	132	£1,211
7.5	VSM075	132	£1,628

Multi-speed W motors

Also qualifying for an enhanced capital allowance, are Brook Crompton's full range of multi-speed motors that are for use on liquid or gaseous movement applications. These can be supplied to customer requirements covering a multitude of combinations of speeds and outputs in various constructions such as cast iron, aluminium, non-sparking EEx nA and flameproof EEx d.

The UK Technology List will be regularly reviewed by the government. The technologies will be updated on an annual basis and the products updated on a monthly basis. The listings given are current for Brook Crompton at the time of printing.

Due to a policy of continuous product development, these listings may change. Check current listing at time of purchase on: www.brookcrompton.com

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