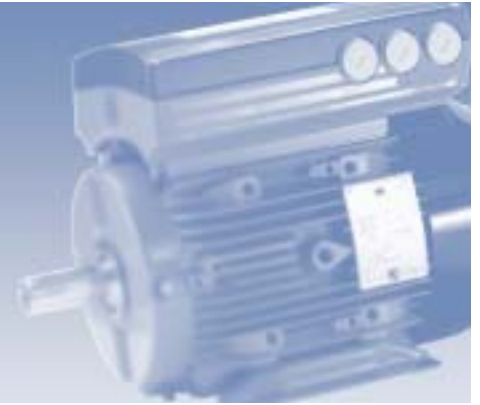


Integrated variable speed 'W' motors



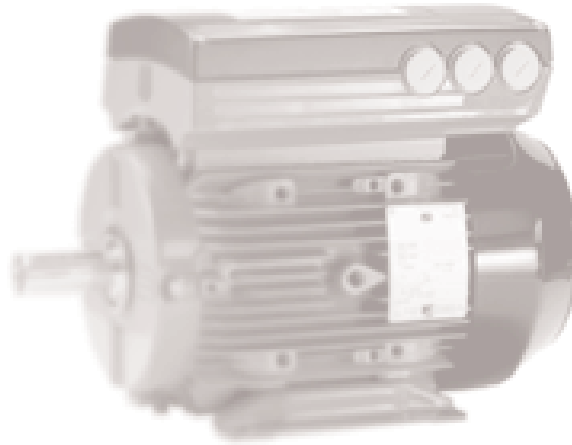
Frames 80 to 132



**BROOK
CROMPTON**

Variable speed motors

0.55kW to 7.5kW



Brook Crompton

Brook Crompton is a leading manufacturer of electric motors for the global industrial market, with motor solutions which benefit a wide range of customers.

Our products are used in almost every industrial activity including water treatment, building services, chemical/petrochemicals, general processing and manufacturing where they drive fans, pumps, compressors and conveyors, amongst other things.

Brook Crompton incorporates many well known names including Brook Motors, Crompton Parkinson, Electrodrives, Newman, Bull Electric and Hawker Siddeley Electric Motors.

We have extensive stocks of motors around the world, backed-up by a network of distributors, ensuring excellent local support wherever needed.

Quality assurance

Stringent quality procedures are observed from first design to finished product in accordance with the ISO9001 documented quality systems.

Variable speed motor range

Brook Crompton's fully integrated variable speed 'W' motor (VSM), offers the reliability, low noise and energy saving characteristics you've come to expect from the 'W' range, but with added technology.

The VSM's perfectly matched motor and inverter has been designed to improve the performance of machinery and mechanical handling systems as well as increase the efficiency and reduce the cost of fan and pump systems.

The VSM package fits within the same envelope as the equivalent 'W' motor, and has the same facility for mounting the terminal box (now the inverter) on the top or the side of the motor. This allows for considerable space-saving and flexibility, for example, in fitting the motor to existing

designs and installations. The close electrical and mechanical coupling of the inverter and motor means there is no need for extra cabling, so you can avoid EMC problems and voltage spikes. It's efficient, robust and economical - in short - everything you'd expect from a motor with the 'W' symbol - and its fast user-friendly programming means that installation is simple and fast.

Whether you need fine speed control, rapid response and acceleration, energy efficiency or low noise operation, you'll find it all in the VSM 'W' package.

Efficiency

Brook Crompton are an approved manufacturer of ac electric motors within the UK Government's Enhanced Capital Allowance (ECA) scheme.

A wide range of single and multi-speed motors are included on the UK Energy Technology List in addition to the VSM. Please check the ECA scheme website: www.eca.gov.uk at time of purchase for current listing.

VSM benefits and options

Cost saving

- ◆ no screened power cable required
- ◆ no cable length limitation, hence no cable chokes required

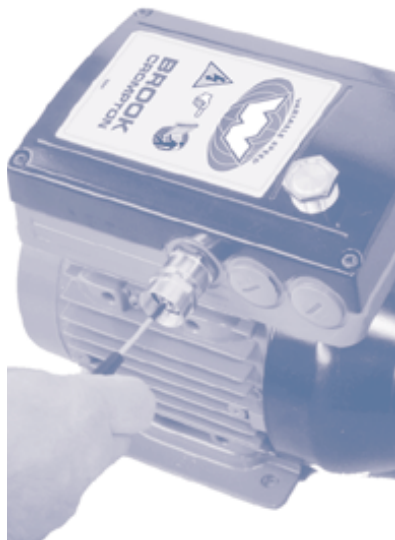
Complete flexibility

- ◆ option available of three inverter positions



Space saving

- ◆ no panel space required
- ◆ VSM is the same size as a standard 'W' motor



Variable speed motor replacing mechanical variator

VSM mounted controls options

A variety of components can be locally mounted and fully wired to a 3-station die cast aluminium enclosure to provide control at the motor itself. Choose from any 3 of the following:

- ◆ stop push button
- ◆ start push button
- ◆ speed control potentiometer
- ◆ forward/reverse selector switch
- ◆ local/remote selector switch
- ◆ indicator lamp
- ◆ low/high speed selector switch
- ◆ manual/automatic selector switch

Mechanical options

The VSM can be fitted with all the normal motor extras. It can also offer customised solutions, for example:

- ◆ quick release shaft system - paint paddle mixers etc
- ◆ specified paint colours and special coatings
- ◆ special shafts

Complete variable speed solutions

We can offer completely engineered variable speed motor systems to provide specific customer solutions from one single source.

Typical applications include:

- ◆ pumps
- ◆ compressors
- ◆ fans
- ◆ mixers
- ◆ conveyors

Typically, a matched package of equipment may consist of:

- ◆ VSMs
- ◆ complete control panel
- ◆ customer interfacing
- ◆ feedback device

Enclosure options

- ◆ IP protection ratings to suit customer requirements
- ◆ cost-effective pressed or sheet steel
- ◆ polycarbonate, polyester, stainless steel etc
- ◆ specially designed and fabricated to specification

Control options

- ◆ open loop - local or remote operation
- ◆ closed loop process PID control - pressure/ flow/temperature
- ◆ closed loop speed control
- ◆ single or multi-motor control - eg duty standby/assist/share
- ◆ energy saving 'sleep' mode at zero demand
- ◆ analogue, digital, RS485 or Profibus control
- ◆ complete switchgear, control and protection equipment
- ◆ simple control components - stop, start, potentiometer, lamps etc
- ◆ PLCs, intelligent HMI and operator interfaces with customised menus
- ◆ sensors and transducers - 0.10V, 4-20mA, pressure, flow, temperature etc
- ◆ remote control stations



Specifications

Technical data

Standards

- ◆ Safety: EN60146, EN61800-2, EN50178, EN60204, UL508
- ◆ EMC: EN61800-3, EN50081, EN50082

Protection

- ◆ In-built thermal overload protection of motor and electronics
- ◆ In-built protection against missing phase, under/overvoltage, overcurrent and voltage transients

Mains supply

- ◆ 380-480 volts, $\pm 10\%$
- ◆ 50-60Hz supply frequency
- ◆ Maximum imbalance $\pm 2\%$ of rated supply voltage
- ◆ Power factor/cos ϕ 0.881/1.0 at rated load
- ◆ 1 time/2 min switches on supply input
- ◆ 4mm² power terminals

Control characteristics

- ◆ 0-132Hz frequency range
- ◆ 0.1% resolution on output frequency
- ◆ Max 40m/sec system response time

Switching frequency

- ◆ Temperature dependant - variable (can be fixed)

Torque characteristics

- ◆ Starting/overload 160% for 1 minute
- ◆ Starting 200% for 5 seconds

Number of programmable inputs/outputs

- ◆ 4 digital inputs
- ◆ 1 pulse input
- ◆ 1 analogue voltage input
- ◆ 1 digital/analogue output
- ◆ 7 preset speeds

External conditions

- ◆ IP55 enclosure
- ◆ 2.5g vibration test (IEC 68)
- ◆ 93% (+2%, -3%) max storage relative humidity
- ◆ Max 40°C (over 24 hours average) ambient temperature without derating
- ◆ Min -10°C ambient temperature
- ◆ -25 +65/70°C during storage
- ◆ Max 1000m above sea level before derating

Standard specification

- ◆ Top mounted aluminium inverter box, black aluminium lid, standard inverter fitted with 3 plastic blind plugs
- ◆ Foot mounted (B3), detachable steel feet
- ◆ Voltage 380-480 volts $\pm 10\%$
- ◆ IP55 protection
- ◆ Ambient temperature 40°C, RFI class 1A, clockwise rotation
- ◆ IEC60034, BS4999 standards, DIN standards, CE marked
- ◆ 35/40 tonne carbon steel shaft, shaft drilled for brake kit
- ◆ Keyway closed profile key - double round end, fitted if standard extension
- ◆ water flinger (frames 100+), bearing location and NDE reduced (R) balance (ISO 2373), plated fasteners, class F insulation

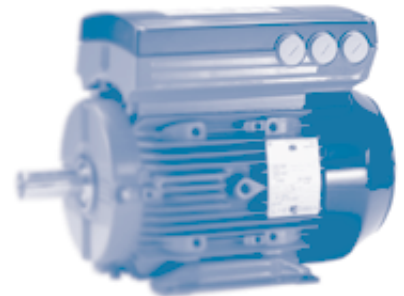
- ◆ Totally enclosed fan ventilated (TEFV) polypropylene fan, black steel fan cover
- ◆ Anodised aluminium riveted nameplate
- ◆ Water-based paint - water blue RAL 5021

Optional Features

- ◆ IP66 enclosure
- ◆ Forced ventilation
- ◆ Special bearings and locations
- ◆ Standard and non-standard mountings
- ◆ Special shafts
- ◆ Profibus version
- ◆ RFI class 1B
- ◆ Customer factory settings of inverter parameters
- ◆ Mechanical brakes

Accessories

- ◆ Potentiometer in gland
- ◆ Local operating pad (LOP)
- ◆ Local control panel (parameter change)
 - remote kit
 - gland plug kit
- ◆ RS485/RS232 converter
- ◆ Dialogue software
- ◆ Encoders



Type	Output kW	Torque (Nm)		Frame size mm	Input current 380 V (A)		Input current 480 V (A)		Power terminals mm ²	Glands
		2 pole	4 pole		2 pole	4 pole	2 pole	4 pole		
VSM 005	0.55	1.8	3.5	80	1.3	1.4	1.0	1.1	4	3 x pg16
VSM 007	0.75	2.4	4.8	80	1.3	1.7	1.1	1.4	4	3 x pg16
VSM 011	1.1	3.5	7	90	2.2	2.5	1.8	2	4	3 x pg16
VSM 015	1.5	4.8	9.6	90	2.8	3.3	2.3	2.6	4	3 x pg16
VSM 022	2.2	7	14	100	4.1	4.7	3.3	3.7	4	3 x pg16
VSM 030	3.0	9.5	19.1	100	5.3	6.4	4.2	5.1	4	3 x pg16
VSM 040	4.0	12.6	25.4	112	7	7.9	5.6	6.4	4	1 x pg21, 2 x pg16
VSM 055	5.5	17.5	35	132	9.3	11.1	7.4	8.8	10	1 x pg21, 2 x pg16
VSM 075	7.5	24	48	132	13	15.3	10.2	11.9	10	1 x pg21, 2 x pg16

For more detailed information including derating, see the Design Guides Manual, ref 9804

Motor selection

From the duty and speed requirements in the top section, find the relevant vertical column under Totally Enclosed Fan Ventilated (TEFV) and look for your torque or kW needs.

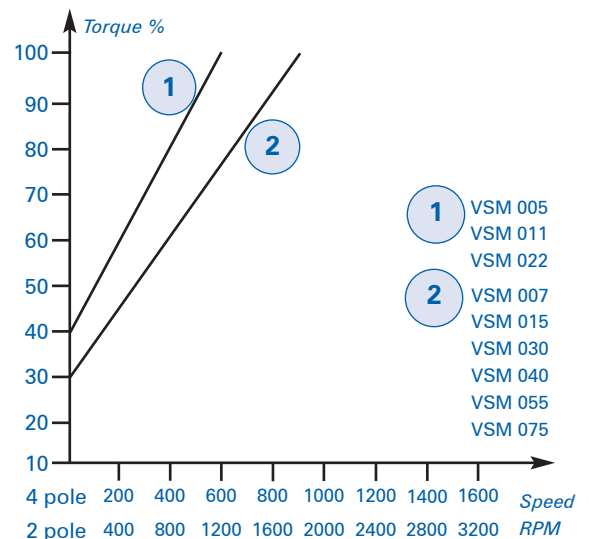
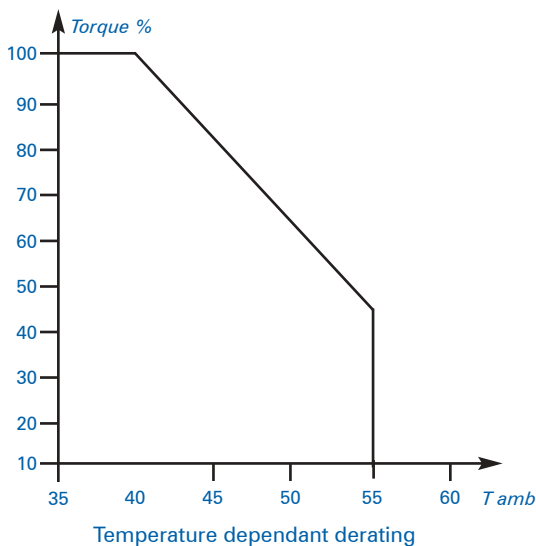
Next, look to the left hand side of the table for the VSM and motor references, noting the current, and thereby the supply protection needed.

If the resulting VSM is physically too large for your drive requirements, and you need constant torque, refer to the force ventilated alternative columns.

50Hz (3000 and 1500 rpm) and 60Hz (3600 and 1800 rpm) 380/480V 3-phase 40°C ambient			Cooling									
			IC411 - Totally Enclosed Fan Ventilated (TEFV)							IEC416 force ventilated		
			Nominal rating	Variable torque	Constant power	Constant torque (derating values)					Variable torque	Constant power
						50	50	50	50	50		
Frequency range Hz	Max	Min	50	50	100	50	50	50	50	50	50	100
			-	2.5	50	25	16.6	10	5	2.5	2.5	50
Type	Frame ref	A										
VSM 005	WF-DA80M	1.5	0.55	0.55	0.55	0.55	0.5	0.44	0.38	0.34	0.55	0.55
VSM 007	WF-DA80M	1.9	0.75	0.75	0.75	0.75	0.68	0.6	0.52	0.47	0.75	0.75
VSM 011	WF-DA90L	2.7	1.1	1.1	1.1	1.1	1	0.88	0.77	0.68	1.1	1.1
VSM 015	WF-DA90L	3.6	1.5	1.5	1.5	1.5	1.35	1.2	1.05	0.93	1.5	1.5
VSM 022	WF-DA100L	5.3	2.2	2.2	2.2	2.2	2	1.75	1.55	1.35	2.2	2.2
VSM 030	WF-DA100L	6.7	3	3	3	3	2.7	2.4	2.1	1.85	3	3
VSM 040	WF-DA112M	9.2	4	4	4	4	3.6	3.2	2.8	2.5	4	4
VSM 055	WF-DA132S	12	5.5	5.5	5.5	5.5	5	4.4	3.8	3.4	5.5	5.5
VSM 075	WF-DA132M	16	7.5	7.5	7.5	7.5	6.8	6	5.2	4.7	7.5	7.5

Notes:
 kW - refers to shaft output
 A - refers to supply current at 400V 50Hz
 For derating at ambient temperatures greater than 40°C, see Design Guides Manual - 9804

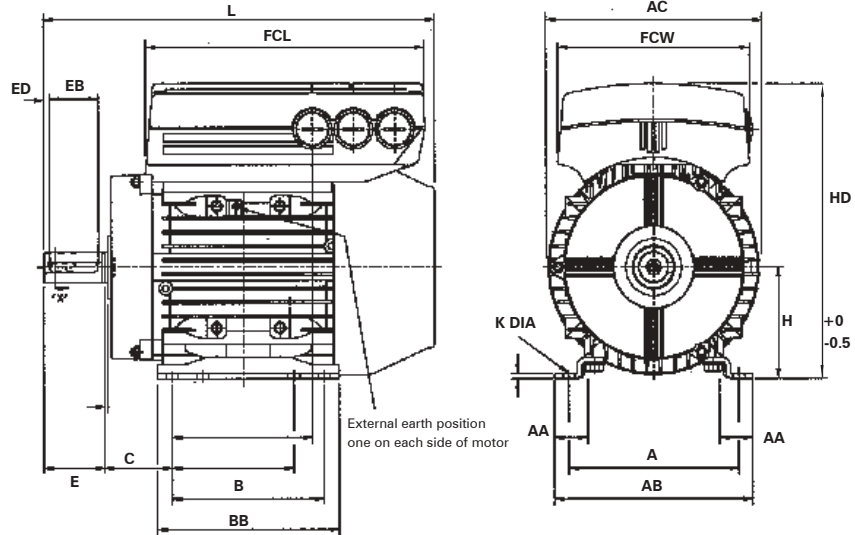
Performance



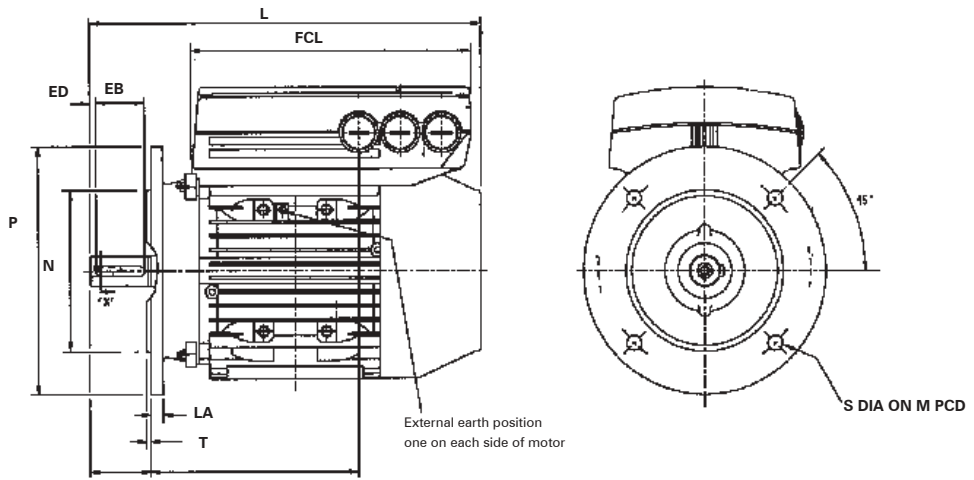
Dimensions - Metric

Foot, flange and face mounting - frames 80 - 132

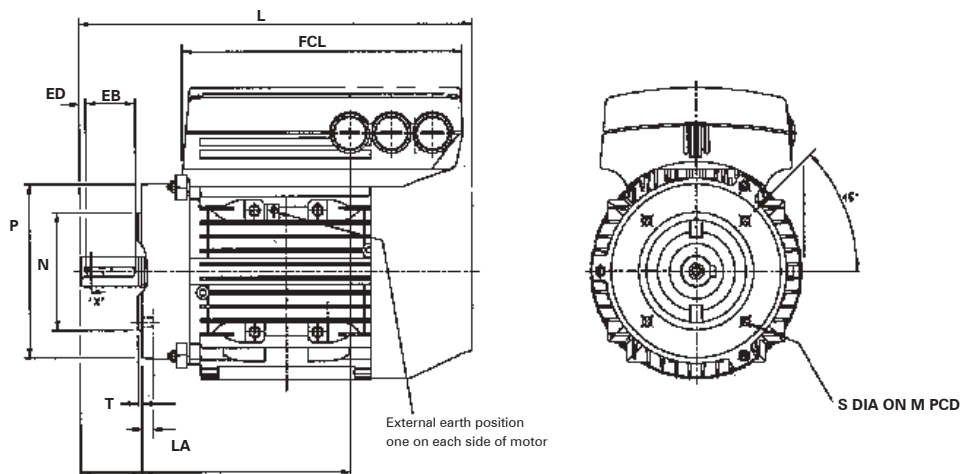
IM B3
IM 1001
Mounting options



IM B5/IM B35
IM 3001/IM 2001
Mounting options



IM B14/IM B34
IM 3601/IM 2101
Mounting options



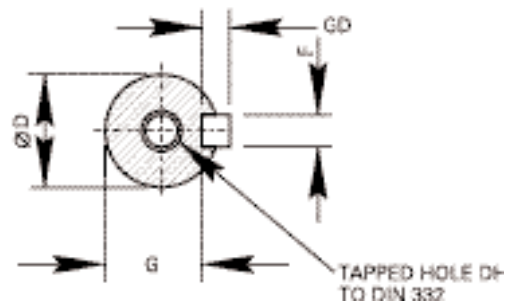
Foot, flange and face mounting - frames 80-132

IM B3 mounting																
Type	Frame size	A	B	C	H	K	AA	AB	BB	BC	L	L2	AC	HD	FCL	FCW
VSM 005	80	125	100	50	80	10	27	157	127	13.5	278	298	158	219.5	206	141
VSM 007	80	125	100	50	80	10	27	157	127	13.5	278	298	158	219.5	206	141
VSM 011	90	140	125	56	90	10	28	165	152	38.5	322	342	178	234	230	158
VSM 015	90	140	125	56	90	10	28	165	152	13.5	322	342	178	234	230	158
VSM 022	100	160	140	63	100	12	28	184	170	15	368	397	199	264	256	176
VSM 030	100	160	140	63	100	12	28	184	170	15	368	397	199	264	256	176
VSM 040	112	190	140	70	112	12	35	218	170	15	382	410	215	291	286	197
VSM 055	132	216	140	89	132	12	38	242	208	53	489	490	255	335	340	235
VSM 075	132	216	178	89	132	12	38	242	208	15	489	490	255	335	340	235

IM B5/IM B35 mounting							
Type	Frame size	M	N	P	S	T	LA
VSM 005	80	165	130	200	12	3.5	12
VSM 007	80	165	130	200	12	3.5	12
VSM 011	90	165	130	200	12	3.5	10
VSM 015	90	165	130	200	12	3.5	10
VSM 022	100	215	180	250	14.5	4	12
VSM 030	100	215	180	250	14.5	4	12
VSM 040	112	215	180	250	14.5	4	12
VSM 055	132	265	230	300	14.5	4	12
VSM 075	132	265	230	300	14.5	4	12

IM B14/IM B34 mounting							
Type	Frame size	M	N	P	S	T	LA
VSM 005	80	100	80	120	M6	3	9
VSM 007	80	100	80	120	M6	3	9
VSM 011	90	115	95	140	M8	3	9
VSM 015	90	115	95	140	M8	3	9
VSM 022	100	130	110	160	M8	3.5	12.5
VSM 030	100	130	110	160	M8	3.5	12.5
VSM 040	112	130	110	164	M8	3.5	13
VSM 055	132	165	130	200	M10	3.5	14
VSM 075	132	165	130	200	M10	3.5	14

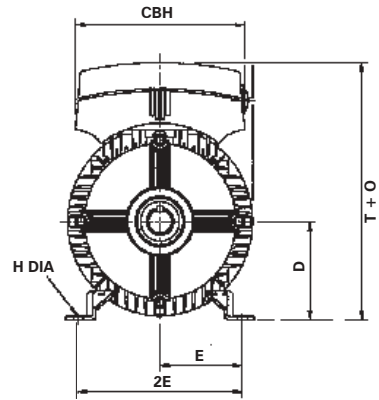
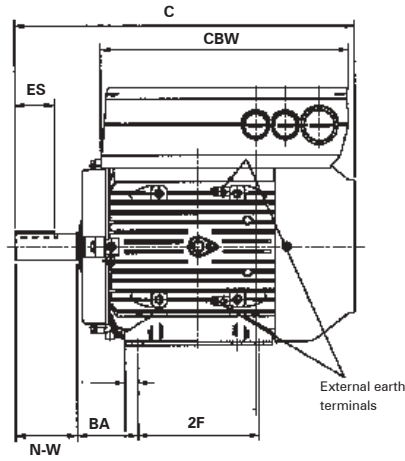
Shaft drive end								
Type	Frame size	D	E	EB	ED	DH	F	G
VSM 005	80	19	40	32	4	M6 x 16	6	15.5
VSM 007	80	19	40	32	4	M6 x 16	66	15.5
VSM 011	90	24	50	40	5	M8 x 19	8	20
VSM 015	90	24	50	40	5	M8 x 19	8	20
VSM 022	100	28	60	50	5	M10 x 22	8	24
VSM 030	100	28	60	50	5	M10 x 22	8	24
VSM 040	112	28	60	50	5	M10 x 22	8	24
VSM 055	132	38	80	70	5	M12 x 28	10	33
VSM 075	132	38	80	70	5	M12 x 28	10	33



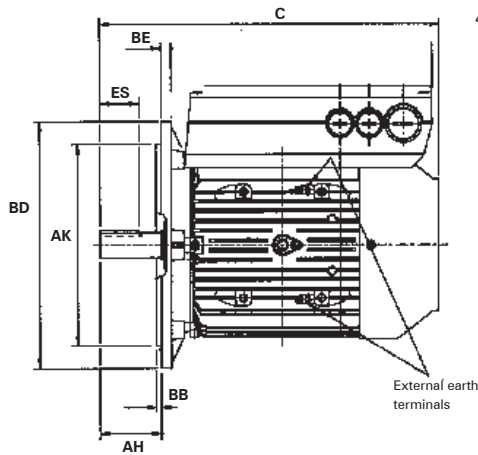
Dimensions - NEMA

Foot, flange and face mounting - frames 56 - 215

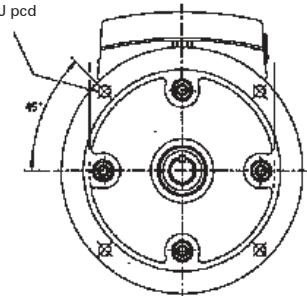
IM B3
IM 1001
Mounting options



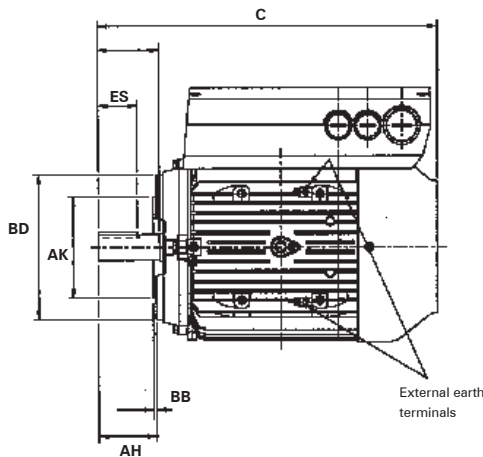
IM B5
IM 3001
Mounting options



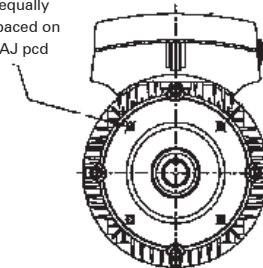
4 holes \varnothing BF
equally
spaced on
AJ pcd



IM B14
IM 3601
Mounting options



4 holes \varnothing BF
equally
spaced on
AJ pcd



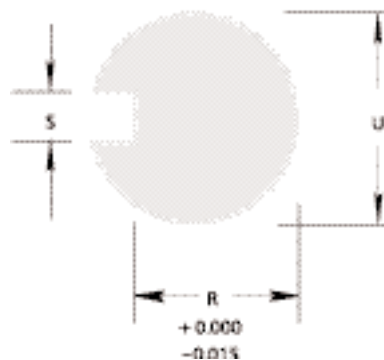
Foot, flange and face mounting - frames 56 - 215

IM B3 mounting											
Type	Frame size	D	E	2E	2F	BA	H	T + O	C	CBH	CBW
VSM 005	56	3 ¹ / ₂	2 ⁷ / ₁₆	4 ⁷ / ₈	3	2 ³ / ₄	1 ¹ / ₃₂	8.98	11 ¹⁷ / ₃₂	5 ⁹ / ₁₆	8 ¹ / ₈
VSM 007	56	3 ¹ / ₂	2 ⁷ / ₁₆	4 ⁷ / ₈	3	2 ³ / ₄	1 ¹ / ₃₂	8.98	11 ¹⁷ / ₃₂	5 ⁹ / ₁₆	8 ¹ / ₈
VSM 011	143	3 ¹ / ₂	2 ³ / ₄	5 ¹ / ₂	4	2 ¹ / ₄	1 ¹ / ₃₂	9.31	13 ¹ / ₁₆	6 ¹ / ₄	9 ¹ / ₁₆
VSM 015	145	3 ¹ / ₂	2 ³ / ₄	5 ¹ / ₂	5	2 ¹ / ₄	1 ¹ / ₃₂	9.31	13 ¹ / ₁₆	6 ¹ / ₄	9 ¹ / ₁₆
VSM 022	-	-	-	-	-	-	-	-	-	-	-
VSM 030	-	-	-	-	-	-	-	-	-	-	-
VSM 040	184	4 ¹ / ₂	3 ³ / ₄	7 ¹ / ₂	5 ¹ / ₂	3 ³ / ₄	1 ¹ / ₂	11.50	15 ²⁵ / ₃₂	7 ³ / ₄	11 ⁵ / ₁₆
VSM 055	213	5 ¹ / ₄	4 ¹ / ₄	8 ¹ / ₂	5 ¹ / ₂	3 ¹ / ₂	1 ¹ / ₂	13.14	19 ¹ / ₂	9 ⁹ / ₁₆	14 ³ / ₃₂
VSM 075	215	5 ¹ / ₄	4 ¹ / ₄	8 ¹ / ₂	7	3 ¹ / ₂	1 ¹ / ₂	13.14	19 ¹ / ₂	9 ⁹ / ₁₆	14 ³ / ₃₂

IM B5/IM B35 mounting								
Type	Frame size	AH	AJ	AK	BB	BD	BE	BF
VSM 005	56	-	-	-	-	-	-	-
VSM 007	56	-	-	-	-	-	-	-
VSM 011	143	2 ¹ / ₄	10	9	1 ¹ / ₄	11	1 ¹ / ₂	17 ¹ / ₃₂
VSM 015	145	2 ¹ / ₄	10	9	1 ¹ / ₄	11	1 ¹ / ₂	17 ¹ / ₃₂
VSM 022	182	2 ³ / ₄	10	9	1 ¹ / ₄	11	15 ¹ / ₃₂	17 ¹ / ₃₂
VSM 030	182	2 ³ / ₄	10	9	1 ¹ / ₄	11	15 ¹ / ₃₂	17 ¹ / ₃₂
VSM 040	184	2 ³ / ₄	10	9	1 ¹ / ₄	11	15 ¹ / ₃₂	17 ¹ / ₃₂
VSM 055	213	3 ³ / ₈	10	9	1 ¹ / ₄	11	9 ¹ / ₁₆	17 ¹ / ₃₂
VSM 075	215	3 ³ / ₈	10	9	1 ¹ / ₄	11	9 ¹ / ₁₆	17 ¹ / ₃₂

IM B14/IM B34 mounting							
Type	Frame size	AH	AJ	AK	BB	BD	BF
VSM 005	56	2 ¹ / ₁₆	5 ⁷ / ₈	4 ¹ / ₂	1 ¹ / ₈	6 ¹ / ₂	3 ³ / ₈
VSM 007	56	2 ¹ / ₁₆	5 ⁷ / ₈	4 ¹ / ₂	1 ¹ / ₈	6 ¹ / ₂	3 ³ / ₈
VSM 011	143	2 ¹ / ₈	5 ⁷ / ₈	4 ¹ / ₂	1 ¹ / ₈	6 ¹ / ₂	3 ³ / ₈
VSM 015	145	2 ¹ / ₈	5 ⁷ / ₈	4 ¹ / ₂	1 ¹ / ₈	6 ¹ / ₂	3 ³ / ₈
VSM 022	182	2 ⁵ / ₈	5 ⁷ / ₈	4 ¹ / ₂	5 ⁵ / ₃₂	6 ¹ / ₂	3 ³ / ₈
VSM 030	182	2 ⁵ / ₈	5 ⁷ / ₈	4 ¹ / ₂	5 ⁵ / ₃₂	6 ¹ / ₂	3 ³ / ₈
VSM 040	184	2 ⁵ / ₈	5 ⁷ / ₈	4 ¹ / ₂	5 ⁵ / ₃₂	6 ¹ / ₂	3 ³ / ₈
VSM 055	213	3 ¹ / ₈	7 ¹ / ₄	8 ¹ / ₂	1 ¹ / ₄	9	1 ¹ / ₂
VSM 075	215	3 ¹ / ₈	7 ¹ / ₄	8 ¹ / ₂	1 ¹ / ₄	9	1 ¹ / ₂

Shaft drive end						
Type	Frame size	ES	N-W	R	S	U
VSM 005	56	1 ³ / ₈	1 ⁷ / ₈	0.517	3 ³ / ₁₆	5 ⁵ / ₈
VSM 007	56	1 ³ / ₈	1 ⁷ / ₈	0.517	3 ³ / ₁₆	5 ⁵ / ₈
VSM 011	143	1 ¹³ / ₃₂	2 ¹ / ₄	0.771	3 ³ / ₁₆	7 ⁷ / ₈
VSM 015	145	1 ¹³ / ₃₂	2 ¹ / ₄	0.771	3 ³ / ₁₆	7 ⁷ / ₈
VSM 022	182	1 ³ / ₄	2 ³ / ₄	0.986	1 ¹ / ₄	1 ¹ / ₈
VSM 030	182	1 ³ / ₄	2 ³ / ₄	0.986	1 ¹ / ₄	1 ¹ / ₈
VSM 040	184	1 ³ / ₄	2 ³ / ₄	0.986	1 ¹ / ₄	1 ¹ / ₈
VSM 055	213	2 ³ / ₈	3 ³ / ₈	1.201	5 ⁵ / ₁₆	1 ³ / ₈
VSM 075	215	2 ³ / ₈	3 ³ / ₈	1.201	5 ⁵ / ₁₆	1 ³ / ₈

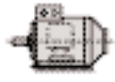


Notes:
 The 'C' dimension sometimes changes with foot and face mounted motors:
 - 56 frame, face with feet - 'C' becomes 2.563"
 - 143/5 frame, face with feet - 'C' becomes 2.391"
 - 184 frame, face with feet - 'C' becomes 2.875"

All dimensions in inches

Mounting options

Horizontal shaft:



**IM B3
IM 1001**
foot mounted



**IM B5
IM 3001**
flange at DE
no feet



**IM B6
IM 1061**
foot wall mounted with
feet on left-hand side
when viewed from DE



**IM B7
IM 1061**
foot wall mounted with
feet on right-hand side
when viewed from DE



**IM B14
IM 3601**
face at DE
no feet

Vertical shaft:



**IM V1
IM 3011**
flange at DE
shaft down
no feet



**IM V3
IM 3031**
flange at DE
shaft up
no feet



**IM V5
IM 1011**
vertical foot
wall mounted
shaft down



**IM V6
IM 1031**
vertical foot
wall mounted
shaft up



**IM V18
IM 3811**
face at DE
shaft down
no feet



**IM V19
IM 3831**
face at DE
shaft down
no feet

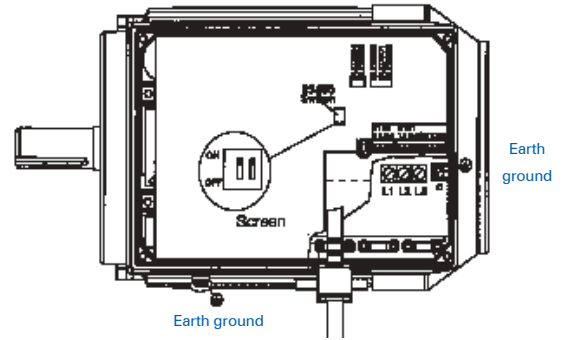
Approximate shipping specifications

Type	Frame size	Net weight (kg)	Gross weight (kg)	Cubage (m ³)
VSM 005	80	11	12	0.02
VSM 007	80	13	14	0.02
VSM 011	90	17	18	0.03
VSM 015	90	20	21	0.03
VSM 022	100	26	29	0.038
VSM 030	100	28	31	0.038
VSM 040	112	37	41	0.05
VSM 055	132	56	61	0.071
VSM 075	132	61	67	0.076

Terminal arrangement

X101 terminal block for analogue/digital control signals

Terminal no	Function	Example
1	Analogue input (0-20mA)	Feedback signal
2	Analogue (0-10V)/digital input 2	Speed reference
3	Digital input (or pulse) 3	Reset
4	Digital input (or precise stop) 4	Start
5	Digital input (other) 5	Jog (fixed speed)
6	24V dc supply for digital inputs (max 150 mA)	
7	10V dc supply for potentiometer (max 15 mA)	
8	0V for terminals 1-7 and 9	
9	Analogue (0-20 mA)/digital output	Fault indication



Terminal arrangement

X100 terminal block for data communication

Terminal no	Function
1	P RS 485 For connection to bus or PC
2	N RS 485 For connection to bus or PC
3	5V dc Supply for RS 485 bus
4	0V dc Supply for RS 485 bus

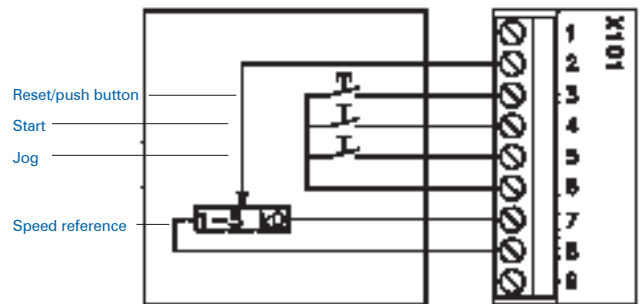
LED 300-304

(For Profibus versions refer to Profibus manual from Brook Crompton)

LED 300	Red	Fault trip
LED 301	Yellow	Warning
LED 302	Green	Power on
LED 303-304		Communication

Connection diagram - factory setting

Reset	To be closed short time for resetting fault trips
Start	To be closed for changing to <i>run</i> mode
Jog	Will run at fixed speed while closed (10Hz)
Speed ref	(0-10V) determines speed while in <i>run</i> mode



Connection diagram

Applications/benefits

Pumps and compressors

- ◆ High starting torque
- ◆ PID regulator
- ◆ Good speed holding
- ◆ 4-20mA feedback
- ◆ 0-10V feedback
- ◆ IP55 - IP66 optional
- ◆ 3 variable torque settings
- ◆ 1 constant torque setting
- ◆ Sleep mode - energy saving
- ◆ Multi-pump



- ◆ Pump application
- ◆ Preset speed control



- ◆ Gearbox/conveyor drive
- ◆ LOP control

Material handling

- ◆ Constant torque setting
- ◆ Compact size
- ◆ Profibus - other protocols on request
- ◆ Step load response good
- ◆ Mechanical brake option available
- ◆ Force ventilated - when required
- ◆ DC and ac braking as standard features

System capability

- ◆ Multiple pump control
- ◆ Sleep mode
 - for energy saving
- ◆ Water booster set system



- ◆ Waste water application
- ◆ Open loop control

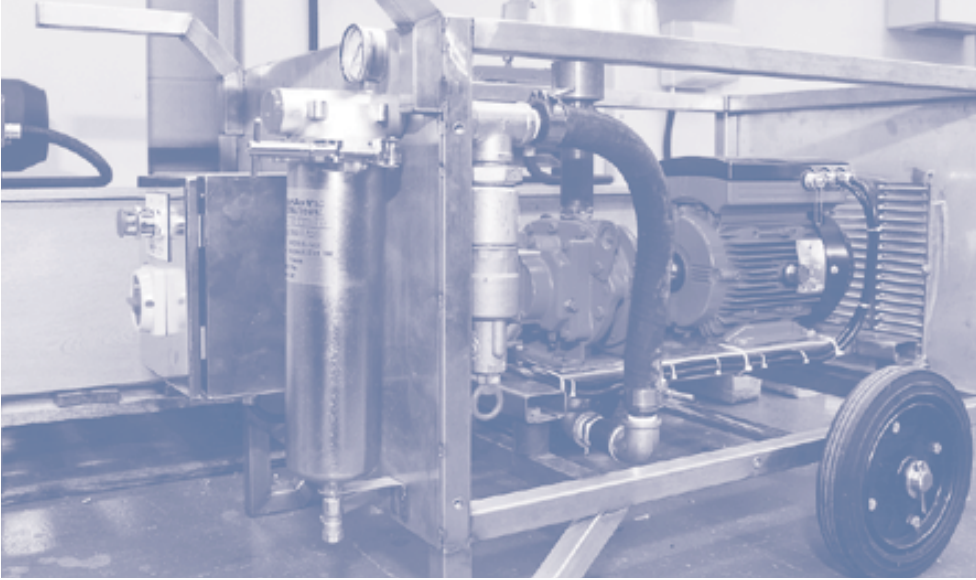


- ◆ Pump application
- ◆ Closed loop control
- ◆ Constant pressure regulation

Applications

Variable torque

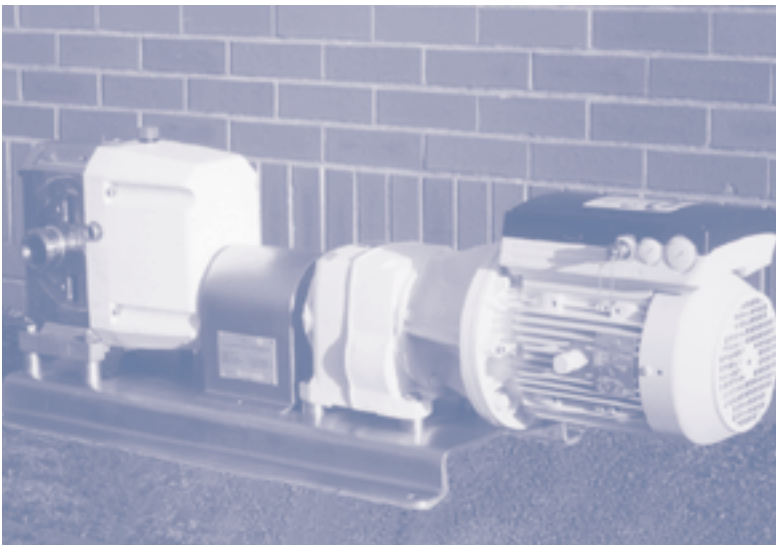
For pumps, fans and mixers, the integrated VSM offers reduced mechanical controls and an energy efficient and low noise motor



Mobile pump unit

Constant torque

For conveyors, centrifuges and compressors, the package offers a wide and accurate range of speeds, combined with a high torque.



Gearbox/pump unit

Accessories

Potentiometer gland

- ◆ speed control
- ◆ IP66
- ◆ order ref 176H9205



LOP

- ◆ start/stop
- ◆ speed control
- ◆ jog or reset
- ◆ order ref: 175NO128

Remote LCP mounting kit

- ◆ allows LCP to be mounted in separate panel
- ◆ Order ref: 175NO160



LCP and direct cable

- ◆ programming tool
- ◆ start, stop
- ◆ speed control
- ◆ connection with open lid
- ◆ order ref: (LCP) 175NO131 (Cable) 175NO165



LCP and plug kit

- ◆ programming tool
- ◆ start/stop
- ◆ speed control
- ◆ connection with lid closed

Control box

- ◆ start/stop
- ◆ speed control
- ◆ forward/reverse
- ◆ switch if required
- ◆ other controls available on request



Rotating Electrical Machines

Every care has been taken to ensure the accuracy of the information contained in this publication, but, due to a policy of continuous development and improvement the right is reserved to supply products which may differ slightly from those illustrated and described in this publication

The logo for Brook Crompton, featuring the company name in a bold, blue, sans-serif font. The word 'BROOK' is on the top line and 'CROMPTON' is on the bottom line, both in all caps. The logo is positioned over a stylized, semi-transparent globe background that shows the outlines of continents and a grid of latitude and longitude lines.

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CROMPTON**

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