



# Keeping Industry Turning

## W Cast Iron AC motors

Frame sizes 80 to 355



# Introduction

2

## W cast iron specification

Specification		
	Standard product	Option
Frame sizes	80 - 355	-
Enclosure	IP55	IP56, IP65, IP66
Mounting option	Foot (B3), Flange (B5), Face (B14) or Pad (B30)	Foot & Flange (B35), Foot & Face (B34)
Terminal box position	Top, (80 frame right hand side)	Right hand side, left hand side
Voltage	3 kW and below: 230 / 400 4 kW and above: 400 / 690	-
Frequency	50 Hz	60 Hz
Cooling	IC411	IC410, IC416 & IC418
Bearing location	Drive end	Non drive end
Lubrication	80 - 180 double-shielded bearings 200 - 355 regreasing facility	Regreasing facility -
Insulation	class F	class H
Temperature rise	class B	class F
Paint colour	water blue (RAL 5021)	on request
Fan cover	Steel	Plastic (80 - 180)
Thermal protection	200 - 355 (by thermistors)	80 - 180
Anti condensation heaters	-	80 - 355
Drain holes	160 - 355	80 - 132
Inverter Duty (with derate)	Variable Torque: 10:1 Constant Torque: 2:1	- Alternative speed range
Ambient temperature	-20°C to + 40°C	-50°C to +100°C
AC & DC brake option	-	80 - 355

The above specification and options give a brief summary of features available for the W cast iron range. For a full listing of optional features, please contact Brook Crompton sales.

### Brook Crompton Keeping Industry Turning

Brook Crompton, the original innovator in electric motor development, is a leading provider of energy efficient electric motors.

With over 110 years' technical & design expertise, UK-based Brook Crompton delivers consistently reliable electric motors to a global market.

Trusted to power limitless industrial activities across diverse market sectors, the robust design of Brook Crompton's electric motors drives fans, pumps, compressors, conveyors and more, every second, of every day, of every year.

Renowned for their adaptability, Brook Crompton's extensive motor stock can be modified to suit the needs of different market sectors, with technical support from the company's knowledgeable team readily available to ensure the correct selection of motors for any application.

For bespoke situations and complete flexibility, Brook Crompton will design and manufacture to meet individual customer specifications.

Brook Crompton has a long-standing reputation for efficient customer service, supporting customers worldwide through its global network. Specialist Brook Crompton Motor Centres operate alongside approved product distributors throughout the UK, mainland Europe, Middle East, Canada, USA, and Asia Pacific.

Shaping the future of electric motors, Brook Crompton is focused on the development of new products that improve energy efficiency, offer lower cost of ownership throughout the motor lifetime and reduce environmental impact.

**Brook Crompton, the original innovator in electric motors.**

#### Quality assurance

Stringent quality procedures are observed from first design to finished product in accordance with the ISO 9001 documented quality systems.

All factories have been assessed to meet these requirements.

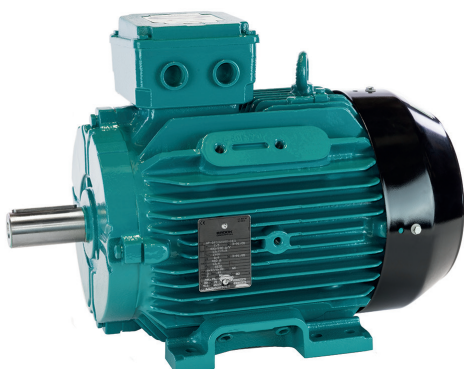
### W cast iron range

The Brook Crompton W motor range covers products with outputs from 0.55kW up to 375kW in frame sizes 80 to 355.

They are suitable for use in a diverse range of applications. Many applications often have adverse operating conditions including repeated starting and occasional overloading, the W range is well suited to these situations. A virtual 'go anywhere' motor, this cast iron range has a full 3-year guarantee.

#### Benefits include:

- high efficiency for low running costs
- high reliability for long life
- low noise levels
- cool running for long insulation life
- Eurovoltage: 400V ±10%
- high torque with smooth acceleration
- ease of maintenance
- IP55 protection
- 4-position cable entry
- multi-mount for adaptability
- also available for Ex ec (Zone 2), Ex tb (Zone 21) & Ex tc (Zone 22)



W cast iron 132 frame, Foot mounted (B3)

## Standards, environment & efficiency

### Standards

The W range of motors are manufactured to the international standards listed below:

Standards			
Motors of cast iron construction can be manufactured to the following international standards listed below:			
Standard	IEC	EN	BS
Outputs	IEC 60072-1	EN 60072-1	BS EN 500347
Performance	IEC 60034-1	EN 60034-1	BS EN 60034-1
Dimensions	IEC 60072-1	EN 60072-1	BS EN 500347 / BS 4999-141
Mounting	IEC 60034-7	EN 60034-7	BS EN 60034-7
Degrees of protection	IEC 60034-5	EN 60034-5	BS EN 60034-5
Starting	IEC 60034-12	EN 60034-12	BS EN 60034-12
Noise	IEC 60034-9	EN 60034-9	BS EN 60034-9
Efficiency	IEC 60034-30	EN 60034-30	BS EN 60034-30

Motors complying with IEC 60034-1 also comply with many of the national standards of other European countries.

### Environment Enclosure

All motors have degrees of IP protection as defined in EN 60034-5.

The standard arrangement is IP55.

See Specification on page 2 for alternatives.

### Motor cooling

Motors are cooled in accordance with EN 60034-6.

The standard arrangement is IC411 (Totally Enclosed Fan Ventilated) via a fan mounted at the non-drive end.

See Specification on page 2 for alternatives.

## European directives and regulations

Compliance with European Directives & Regulations applying to AC induction motors				
Directives / Regulation	Low voltage (LV)	Machinery (MD)	Electromagnetic compatibility (EMC)	Ecodesign regulation (ErP)
Reference numbers	2014/35/EU	2006/42/EC <sup>(3)</sup>	2014/30/EU	2019/1781 <sup>(4)</sup>
Motor CE / UKCA* marked	Yes	No	No	Yes
Standards	EN 60034	Not applicable	EN 60034-1	EN 60034-30
Documentation for customers technical file	Declaration of conformity	Declaration of incorporation	Statement <sup>(1)</sup>	Declaration of conformity
Safety instructions with every motor	Yes	Yes	Yes	-
Comment	Relevant electrical equipment operating between 50 to 1000 volts AC	Statement <sup>(2)</sup>	Component	Minimum efficiency levels (see Ecodesign requirements AC induction motors below)

\* UKCA marked in accordance to the relevant Statutory Instruments and Designated Standards, with equivalence to the EU regulations quoted above.

<sup>(1)</sup> Motors operating from a correctly applied, sinusoidal (AC) supply meet the requirements of the EMC directive and are within the limits specified in standard EN 60034-1

<sup>(2)</sup> When installed in accordance with our customer safety and installation and maintenance instructions, they can be put into service only when the machinery into which they are being incorporated, has been declared to be in conformity with the machinery directive in accordance with Article 6 (2) and Annex II, Part 1, Section B.

<sup>(3)</sup> Machinery Directive 2006/42/EC to be repealed in January 2027, replaced by Regulation (EU) 2023/1230.

<sup>(4)</sup> And amending Regulation (EU) 2021/341.

## Ecodesign requirements AC induction motors

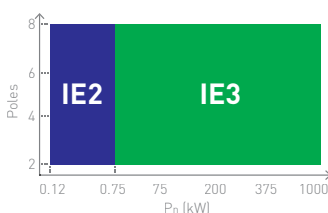
Ecodesign regulation [EU] 2019/1781, was introduced in two stages, stage one came into effect on the 1st July 2021, the second stage two years later 1st July 2023.

### Stage one:

Stage one - 1st July 2021.

This stage introduces efficiency requirements for motors 0.12 to 0.74kW, which must now meet IE2 efficiency levels. Previously the IE3 efficiency requirement stopped at 375kW, this has now been increased to 1000kW.

In addition to the efficiency level changes above, the following motor types are to be introduced in stage one: 8 pole speeds, Brake motors, Hazardous area motors: Ex ec, Ex tb, Ex tc & Ex db. Totally Enclosed Air Overmmotors (IC418) and motors with duty cycles: S1, S3 ≥ 80%, S6 ≥ 80%.

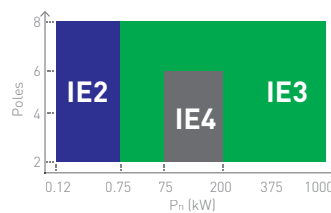


Introduction of IE2 0.12 to 0.74kW  
IE3 from 0.75kW to 1000kW

### Stage two:

Stage two - 1st July 2023.

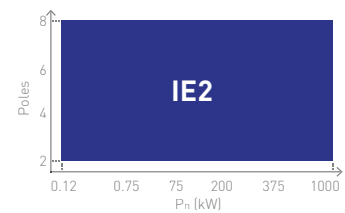
IE4 is introduced, this will be mandatory for motor outputs 75kW to 200kW in 2, 4 & 6 poles, but excludes ATEX motors according to 2014/34/EU and brake motors.



Introduction of IE4 75kW to 200kW

Stage two also introduces a minimum efficiency value of IE2 for single phase motors and Ex eb (increased safety) motors.

As in stage one, the following motors are exempt: High voltage motors, Mining motors and Totally Enclosed Non-Ventilated (IC410) motors.



Introduction of Single phase & Ex eb 0.12kW to 1000kW

**Please note: IE2 + VSD = IE3 is no longer applicable.**

Motors exempt from the new regulation:  
High voltage motors, Mining motors and Totally Enclosed Non-Ventilated (IC410) motors.

# Performance data

IE3

4 2 pole (3000min<sup>-1</sup>)

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE3	I <sub>N</sub>			η		Cos φ		M <sub>N</sub> Nm	M <sub>Δ</sub> M <sub>N</sub>	M <sub>S</sub> M <sub>N</sub>	M <sub>R</sub> M <sub>N</sub>	I <sub>A</sub> I <sub>N</sub>	M <sub>Δ</sub> M <sub>N</sub> Y	M <sub>S</sub> M <sub>N</sub> Y	I <sub>A</sub> I <sub>N</sub> Y	J kgm <sup>2</sup>	L <sub>PA</sub> dB(A)
				230V A	400V A	690V A	1.0 P <sub>N</sub> 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>												
0.75 (1.0)	2890	WP-DF80MM	IE3	2.70	1.55	-	80.7 81.0 77.0	0.86 0.80 0.68		2.5	3.3	2.2	2.3	7.7	-	-	-	0.0013	64	
1.1 (1.5)	2885	WP-DF80MS	IE3	3.95	2.30	-	82.7 83.4 81.5	0.84 0.78 0.66		3.6	3.6	3.0	3.1	7.7	-	-	-	0.0012	64	
1.5 (2.0)	2880	WP-DF90LMX	IE3	5.25	3.0	-	84.2 84.6 83.2	0.86 0.81 0.70		5.0	3.4	2.7	3.8	8.2	-	-	-	0.0014	64	
2.2 (3.0)	2885	WP-DF90LSX	IE3	7.9	4.6	-	85.9 86.2 84.5	0.81 0.73 0.59		7.3	3.8	3.5	3.6	8.6	-	-	-	0.0016	64	
3.0 (4.0)	2880	WP-DF100LMF	IE3	9.3	5.3	-	87.1 88.0 87.8	0.93 0.90 0.84		10.0	3.0	2.7	3.3	8.2	-	-	-	0.0058	60	
4.0 (5.5)	2895	WP-DF112MR	IE3	-	7.4	4.3	88.1 88.3 87.0	0.89 0.83 0.73		13.2	3.9	2.9	3.0	10	1.2	0.9	3.1	0.0064	60	
5.5 (7.5)	2930	WP-DF132SG	IE3	-	10.7	6.2	89.2 88.6 86.8	0.83 0.76 0.63		17.9	3.9	4.0	3.6	10	1.2	1.1	3.1	0.015	66	
7.5 (10)	2930	WP-DF132SMX	IE3	-	13.8	8.0	90.1 89.9 88.4	0.87 0.81 0.70		24.4	3.6	3.3	3.8	9.6	1.1	1.0	3.0	0.018	66	
11 (15)	2945	WP-DF160MJ	IE3	-	19.8	11.5	91.2 91.0 89.7	0.88 0.85 0.77		35.7	2.5	2.2	2.9	8.3	0.8	0.7	2.6	0.045	68	
15 (20)	2940	WP-DF160MR	IE3	-	26.2	15.2	91.9 91.7 90.0	0.90 0.87 0.79		48.7	2.4	2.1	2.5	8.2	0.8	0.7	2.6	0.056	68	
18.5 (25)	2955	WP-DF160LT	IE3	-	32.8	19.0	92.4 92.4 91.0	0.88 0.84 0.75		59.8	2.6	2.3	3.1	9.1	0.8	0.7	2.8	0.063	68	
22 (30)	2950	WP-DF180MF	IE3	-	38.5	22.3	92.7 93.0 92.7	0.89 0.85 0.77		71.2	2.3	2.0	3.1	9.0	0.7	0.6	2.8	0.089	68	
30 (40)	2950	WP-UDF200LN <sup>(2)</sup> WP-DF200LN <sup>(3)</sup>	IE3	-	53.0	30.5	93.3 93.2 92.2	0.88 0.85 0.78		97.1	3.1	2.8	3.4	8.5	1.0	0.9	2.7	0.15	73	
37 (50)	2950	WP-UDF200LPX <sup>(2)</sup> WP-DF200LPX <sup>(3)</sup>	IE3	-	65.0	37.5	93.7 93.5 93.0	0.88 0.85 0.77		120	3.6	3.3	3.9	8.2	1.1	1.0	2.6	0.2	73	
45 (60)	2960	WP-UDF225MN <sup>(2)</sup> WP-DF225MN <sup>(3)</sup>	IE3	-	77.0	44.5	94.0 94.0 93.0	0.90 0.89 0.84		145	2.8	2.5	3.1	7.8	0.9	0.8	2.4	0.38	75	
55 (75)	2955	WP-UDF250MNE <sup>(2)</sup> WP-DF250SN <sup>(3)</sup>	IE3	-	92	53	94.3 94.6 94.3	0.92 0.90 0.85		178	2.8	2.5	3.1	7.8	0.9	0.8	2.4	0.56	75	
75 (100)	2960	WP-UDF280SNE <sup>(2)</sup> WP-DF250MN <sup>(3)</sup>	IE3	-	127	74	94.7 94.8 94.2	0.90 0.88 0.81		242	2.5	2.2	2.8	8.7	0.8	0.7	2.7	0.7	77	
90 (125)	2960	WP-UDF280MNE <sup>(2)</sup> WP-DF280SN <sup>(3)</sup>	IE3	-	150	87	95.0 95.0 94.6	0.91 0.88 0.82		290	2.2	1.9	2.5	7.8	0.7	0.6	2.4	0.8	77	
110 (150)	2980	WP-UDF315SNE <sup>(2)</sup> WP-DF280MN <sup>(3)</sup>	IE3	-	183	106	95.2 94.9 93.6	0.91 0.90 0.85		353	2.2	1.9	2.5	7.8	0.7	0.6	2.4	1.4	78	
132 (175)	2975	WP-UDF315MNE <sup>(2)</sup> WP-DF315SN <sup>(3)</sup>	IE3	-	222	129	95.4 95.5 94.8	0.90 0.89 0.85		424	2.2	1.9	2.5	7.8	0.7	0.6	2.4	1.7	78	

<sup>(1)</sup> European & BS frame reference. <sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

# Performance data

# IE3 & IE4

5

2 pole (3000min<sup>-1</sup>)

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE3	I <sub>N</sub>			η		Cos φ		M <sub>N</sub> Nm	M <sub>A</sub> M <sub>N</sub>	M <sub>S</sub> M <sub>N</sub>	M <sub>K</sub> M <sub>N</sub>	I <sub>A</sub> I <sub>N</sub>	M <sub>A</sub> M <sub>N</sub> Y	M <sub>S</sub> M <sub>N</sub> Y	I <sub>A</sub> I <sub>N</sub> Y	J kgm <sup>2</sup>	L <sub>PA</sub> dB(A)
				230V A	400V A	690V A	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>										
150 (200)	2980	WP-UDF315MN <sup>(2)</sup> WP-DF315MN <sup>(3)</sup>	IE3	-	249	144	{ 95.5 95.2 94.1 }	{ 0.91 0.89 0.83 }		481	2.5	2.2	2.8	8.4	0.8	0.7	2.6	2.4	80	
160 (215)	2980	WP-UDF315MP <sup>(2)</sup> WP-DF315MP <sup>(3)</sup>	IE3	-	265	154	{ 95.6 95.3 94.3 }	{ 0.91 0.89 0.83 }		513	2.7	2.4	3.0	8.8	0.8	0.8	2.8	2.6	80	
185 (250)	2975	WP-UDF315LN <sup>(2)</sup> WP-DF315LN <sup>(3)</sup>	IE3	-	304	176	{ 95.7 95.5 94.4 }	{ 0.92 0.90 0.85 }		594	2.6	2.3	2.9	7.8	0.8	0.7	2.4	2.8	80	
200 (270)	2980	WP-UDF315LP <sup>(2)</sup> WP-DF315LP <sup>(3)</sup>	IE3	-	328	190	{ 95.8 95.8 95.3 }	{ 0.92 0.90 0.86 }		641	2.8	2.5	3.1	8.6	0.9	0.8	2.7	2.23	80	
225 (300)	2985	WP-UDF355SG <sup>(2)</sup> WP-DF355SG <sup>(3)</sup>	IE3	-	381	221	{ 95.8 95.4 94.1 }	{ 0.89 0.87 0.79 }		720	2.0	1.7	2.3	7.5	0.6	0.5	2.3	5.0	80	
250 (335)	2980	WP-UDF355SJ <sup>(2)</sup> WP-DF355SJ <sup>(3)</sup>	IE3	-	423	245	{ 95.8 95.2 93.8 }	{ 0.89 0.86 0.81 }		801	2.0	1.7	2.3	7.5	0.6	0.5	2.3	5.3	80	
280 (375)	2980	WP-UDF355SN <sup>(2)</sup> WP-DF355SN <sup>(3)</sup>	IE3	-	474	275	{ 95.8 95.4 94.2 }	{ 0.89 0.85 0.79 }		897	2.0	1.7	2.3	7.5	0.6	0.5	2.3	5.9	80	
315 (420)	2985	WP-UDF355MJ <sup>(2)</sup> WP-DF355MJ <sup>(3)</sup>	IE3	-	533	309	{ 95.8 95.8 95.0 }	{ 0.89 0.88 0.85 }		1008	2.0	1.7	2.3	7.5	0.6	0.5	2.3	6.3	80	
355 (475)	2985	WP-UDF355MN <sup>(2)</sup> WP-DF355MN <sup>(3)</sup>	IE3	-	600	348	{ 95.8 95.5 94.2 }	{ 0.89 0.88 0.83 }		1136	2.0	1.7	2.3	7.5	0.6	0.5	2.3	7.0	80	
375 (503)	2985	WP-UDF355LN <sup>(2)</sup> WP-DF355LN <sup>(3)</sup>	IE3	-	621	360	{ 95.8 95.8 95.3 }	{ 0.91 0.90 0.85 }		1202	2.0	1.7	2.3	7.3	0.6	0.5	2.3	8.0	80	

<sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE4	I <sub>N</sub>			η		Cos φ		M <sub>N</sub> Nm	M <sub>A</sub> M <sub>N</sub>	M <sub>S</sub> M <sub>N</sub>	M <sub>K</sub> M <sub>N</sub>	I <sub>A</sub> I <sub>N</sub>	M <sub>A</sub> M <sub>N</sub> Y	M <sub>S</sub> M <sub>N</sub> Y	I <sub>A</sub> I <sub>N</sub> Y	J kgm <sup>2</sup>	L <sub>PA</sub> dB(A)
				230V A	400V A	690V A	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>										
75 (100)	2985	WSPU-DF280SMF <sup>(2)</sup>	IE4	-	127	73.8	{ 95.6 95.1 93.6 }	{ 0.89 0.86 0.79 }		240	2.9	2.1	3.1	9.6	-	-	-	1.4	76	
90 (125)	2985	WSP-UDF280MP <sup>(2)</sup> WSP-DF280SPF <sup>(3)</sup>	IE4	-	151	87.3	{ 95.8 95.4 94.1 }	{ 0.90 0.88 0.81 }		288	2.9	2.4	3.4	9.4	-	-	-	1.7	77	
110 (150)	2990	WSP-UDF315SNF <sup>(2)</sup>	IE4	-	186	108	{ 96.0 95.5 94.2 }	{ 0.89 0.85 0.77 }		351	2.2	1.8	2.9	9.2	-	-	-	2.4	78	
132 (175)	2990	WSP-UDF315MNF <sup>(2)</sup> WSP-DF315SNF <sup>(3)</sup>	IE4	-	220	128	{ 96.2 95.8 94.6 }	{ 0.90 0.86 0.79 }		422	2.4	1.8	2.9	9.4	-	-	-	2.8	78	
160 (215)	2990	WSP-UDF315MPF <sup>(2)(*)</sup> WSP-DF315MPF <sup>(3)</sup>	IE4	-	264	153	{ 96.3 96.0 95.0 }	{ 0.91 0.88 0.80 }		511	2.5	1.9	2.8	9.5	-	-	-	2.8	80	
200 (270)	2990	WSP-UDF315LR <sup>(2)</sup> WSP-DF315LR <sup>(3)</sup>	IE4	-	332	193	{ 96.5 96.2 95.2 }	{ 0.90 0.86 0.78 }		639	2.7	1.8	2.9	10.7	-	-	-	3.2	80	

<sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference. <sup>(\*)</sup> Deep endshield at NDE.

# Performance data

IE3

6 4 pole (1500min<sup>-1</sup>)

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE3	Full load current at rated voltage			η 1.0 P <sub>N</sub> 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>	Cos φ 1.0 P <sub>N</sub> 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>	Power factor	Full load torque M <sub>N</sub> Nm	Direct on line starting torque ratio M <sub>A</sub> M <sub>N</sub>	Direct on line pull up torque ratio M <sub>S</sub> M <sub>N</sub>	Direct on line pull out torque ratio M <sub>R</sub> M <sub>N</sub>	Direct on line starting current ratio I <sub>A</sub> I <sub>N</sub>	Star delta starting torque ratio M <sub>A</sub> M <sub>N</sub> Y	Star delta pull up torque ratio M <sub>S</sub> M <sub>N</sub> Y	Star delta pull out torque ratio I <sub>A</sub> I <sub>N</sub> Y	Rotor inertia Wk <sup>2</sup> J kgm <sup>2</sup>	Mean sound pressure level (d 1m on no load) L <sub>PA</sub> dB(A)
				230V A	400V A	690V A													
0.75 (1.0)	1420	WP-DF80MS <sup>(1)</sup>	IE3	3.20	1.85	-	{ 82.5 0.71 82.0 0.62 79.5 0.47 }		5.04	3.2	2.9	3.2	6.2	-	-	-	0.0028	47	
1.1 (1.5)	1430	WP-DF90LTX <sup>(1)</sup>	IE3	4.3	2.5	-	{ 84.1 0.77 84.4 0.70 84.0 0.57 }		7.3	2.1	1.8	2.2	6.2	-	-	-	0.0037	48	
1.5 (2.0)	1440	WP-DF90LWX <sup>(1)</sup>	IE3	6.3	3.6	-	{ 85.3 0.70 85.1 0.60 83.5 0.48 }		10.0	3.6	3.3	3.6	7.4	-	-	-	0.0042	48	
2.2 (3.0)	1450	WP-DF100LRF <sup>(1)</sup>	IE3	8.1	4.6	-	{ 86.7 0.79 87.0 0.70 86.0 0.57 }		14.5	3.2	2.9	3.3	7.3	-	-	-	0.0106	54	
3.0 (4.0)	1460	WP-DF100LTF <sup>(1)</sup>	IE3	11.6	6.7	-	{ 87.7 0.74 87.3 0.63 85.4 0.50 }		19.6	3.7	3.4	3.8	8.1	-	-	-	0.0121	54	
4.0 (5.5)	1450	WP-DF112MWX <sup>(1)</sup>	IE3	-	8.4	4.8	{ 88.6 0.78 88.6 0.70 88.0 0.56 }		26.3	3.5	3.2	3.5	8.0	1.1	1.0	2.5	0.0151	54	
5.5 (7.5)	1460	WP-DF132STX <sup>(1)</sup>	IE3	-	10.9	6.3	{ 89.6 0.81 90.0 0.73 88.7 0.60 }		36.0	3.3	3.0	3.9	8.7	1.0	0.9	2.7	0.03	59	
7.5 (10)	1450	WP-DF132MVX <sup>(1)</sup>	IE3	-	14.6	8.5	{ 90.4 0.82 90.4 0.76 90.2 0.67 }		49.4	2.8	2.5	3.0	7.6	0.9	0.8	2.4	0.033	59	
11 (15)	1475	WP-DF160MR <sup>(1)</sup>	IE3	-	21.2	12.3	{ 91.4 0.82 91.4 0.76 90.6 0.67 }		71.2	2.5	2.2	2.7	9.0	0.8	0.7	2.8	0.084	63	
15 (20)	1475	WP-DF160LU <sup>(1)</sup>	IE3	-	28.3	16.4	{ 92.1 0.83 92.0 0.76 91.0 0.67 }		97.1	2.5	2.2	2.8	8.2	0.8	0.7	2.6	0.098	63	
18.5 (25)	1475	WP-DF180MJ <sup>(1)</sup>	IE3	-	34.3	19.9	{ 92.6 0.84 92.8 0.79 92.0 0.69 }		120	2.4	2.1	2.6	7.5	0.8	0.7	2.3	0.19	62	
22 (30)	1470	WP-DF180LM <sup>(1)</sup>	IE3	-	41.1	23.8	{ 93.0 0.83 93.0 0.78 91.5 0.67 }		143	2.4	2.1	2.6	8.8	0.8	0.7	2.8	0.22	62	
30 (40)	1475	WP-UDF200LPX <sup>(2)</sup> WP-DF200LPX <sup>(3)</sup>	IE3	-	54.4	31.6	{ 93.6 0.85 93.6 0.81 93.5 0.69 }		194	2.8	2.5	3.0	8.9	0.9	0.8	2.8	0.31	65	
37 (50)	1475	WP-UDF225SR <sup>(2)</sup> WP-DF225SR <sup>(3)</sup>	IE3	-	64.5	37.5	{ 93.9 0.88 93.9 0.87 93.0 0.80 }		240	2.7	2.4	2.9	8.4	0.8	0.8	2.6	0.53	66	
45 (60)	1480	WP-UDF225MN <sup>(2)</sup> WP-DF225MN <sup>(3)</sup>	IE3	-	80.0	46.0	{ 94.2 0.86 94.4 0.83 94.2 0.75 }		290	2.7	2.4	2.9	7.7	0.8	0.8	2.4	0.65	67	
55 (75)	1480	WP-UDF250MPE <sup>(2)</sup> WP-DF250SP <sup>(3)</sup>	IE3	-	95.5	55.4	{ 94.6 0.88 94.7 0.86 94.1 0.79 }		355	2.7	2.4	2.9	8.3	0.8	0.8	2.6	0.84	67	
75 (100)	1480	WP-UDF280SNE <sup>(2)</sup> WP-DF250MN <sup>(3)</sup>	IE3	-	134	78	{ 95.0 0.85 95.1 0.82 94.8 0.74 }		484	2.4	2.1	2.6	7.4	0.8	0.7	2.3	1.4	69	
90 (125)	1480	WP-UDF280MNE <sup>(2)</sup> WP-DF280SN <sup>(3)</sup>	IE3	-	158	92	{ 95.2 0.86 95.2 0.83 94.7 0.75 }		581	2.5	2.2	2.7	7.4	0.8	0.7	2.3	1.6	69	
110 (150)	1485	WP-UDF315SNE <sup>(2)</sup> WP-DF280MN <sup>(3)</sup>	IE3	-	191	111	{ 95.4 0.87 95.5 0.83 95.1 0.76 }		707	3.0	2.7	3.2	7.5	0.9	0.8	2.3	3.2	71	
132 (175)	1485	WP-UDF315MNE <sup>(2)</sup> WP-DF315SN <sup>(3)</sup>	IE3	-	229	133	{ 95.6 0.87 95.6 0.85 95.5 0.77 }		849	2.4	2.1	2.6	7.7	0.8	0.7	2.4	3.7	71	

<sup>(1)</sup> European & BS frame reference. <sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

# Performance data

# IE3 & IE4

4 pole (1500min<sup>-1</sup>)

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE3	I <sub>N</sub>			η		Cos φ		M <sub>N</sub> Nm	M <sub>A</sub> M <sub>N</sub>	M <sub>S</sub> M <sub>N</sub>	M <sub>R</sub> M <sub>N</sub>	I <sub>A</sub> I <sub>N</sub>	M <sub>A</sub> M <sub>N</sub> Y	M <sub>S</sub> M <sub>N</sub> Y	I <sub>A</sub> I <sub>N</sub> Y	J kgm <sup>2</sup>	L <sub>PA</sub> dB(A)
				230V A	400V A	690V A	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>										
150 (200)	1490	WP-UDF315MN <sup>(2)</sup> WP-DF315MN <sup>(3)</sup>	IE3	-	254	147	{ 95.8 95.8 95.3 }	{ 0.89 0.86 0.80 }		961	2.4	2.1	2.6	7.8	0.8	0.7	2.4	4.4	73	
160 (215)	1490	WP-UDF315MP <sup>(2)</sup> WP-DF315MP <sup>(3)</sup>	IE3	-	268	155	{ 95.8 95.9 95.5 }	{ 0.90 0.88 0.83 }		1026	2.4	2.1	2.6	7.8	0.8	0.7	2.4	4.7	73	
185 (250)	1490	WP-UDF315LN <sup>(2)</sup> WP-DF315LN <sup>(3)</sup>	IE3	-	309	179	{ 95.9 95.9 95.7 }	{ 0.90 0.86 0.79 }		1186	2.4	2.1	2.6	7.8	0.8	0.7	2.4	5.5	73	
200 (270)	1490	WP-UDF315LN <sup>(2)</sup> WP-DF315LN <sup>(3)</sup>	IE3	-	334	194	{ 96.0 96.1 95.6 }	{ 0.90 0.89 0.85 }		1282	2.3	2.0	2.5	7.6	0.7	0.6	2.4	5.5	73	
225 (300)	1490	WP-UDF355SG <sup>(2)</sup> WP-DF355SG <sup>(3)</sup>	IE3	-	384	223	{ 96.0 96.0 95.9 }	{ 0.88 0.86 0.80 }		1442	2.0	1.7	2.2	6.6	0.6	0.5	2.1	8.2	76	
250 (335)	1485	WP-UDF355SJ <sup>(2)</sup> WP-DF355SJ <sup>(3)</sup>	IE3	-	427	248	{ 96.0 96.0 95.4 }	{ 0.88 0.86 0.80 }		1608	2.0	1.7	2.2	5.7	0.6	0.5	1.8	9.5	76	
280 (375)	1490	WP-UDF355SN <sup>(2)</sup> WP-DF355SN <sup>(3)</sup>	IE3	-	478	277	{ 96.0 96.0 95.8 }	{ 0.88 0.85 0.78 }		1795	2.1	1.8	2.3	7.2	0.7	0.6	2.3	10.6	76	
315 (420)	1490	WP-UDF355MJ <sup>(2)</sup> WP-DF355MJ <sup>(3)</sup>	IE3	-	538	312	{ 96.0 96.1 95.8 }	{ 0.88 0.86 0.80 }		2019	2.1	1.8	2.3	7.2	0.7	0.6	2.3	11.9	79	
355 (475)	1490	WP-UDF355MN <sup>(2)</sup> WP-DF355MN <sup>(3)</sup>	IE3	-	600	348	{ 96.0 96.3 96.2 }	{ 0.89 0.88 0.83 }		2275	2.2	1.9	2.4	6.8	0.7	0.6	2.1	13.2	79	
375 (503)	1490	WP-UDF355LN <sup>(2)</sup> WP-DF355LN <sup>(3)</sup>	IE3	-	634	367	{ 96.0 95.2 96.1 }	{ 0.89 0.88 0.83 }		2404	2.4	2.1	2.6	7.4	0.8	0.7	2.3	14.6	79	

<sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE4	I <sub>N</sub>			η		Cos φ		M <sub>N</sub> Nm	M <sub>A</sub> M <sub>N</sub>	M <sub>S</sub> M <sub>N</sub>	M <sub>R</sub> M <sub>N</sub>	I <sub>A</sub> I <sub>N</sub>	M <sub>A</sub> M <sub>N</sub> Y	M <sub>S</sub> M <sub>N</sub> Y	I <sub>A</sub> I <sub>N</sub> Y	J kgm <sup>2</sup>	L <sub>PA</sub> dB(A)
				230V A	400V A	690V A	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub>										
75 (100)	1485	WSP-UDF280SNF <sup>(2)</sup>	IE4	-	127	73.5	{ 96.0 96.0 95.7 }	{ 0.89 0.86 0.79 }		481	2.6	2.6	3.4	8.4	-	-	-	3.2	69	
90 (125)	1490	WSP-UDF280MP <sup>(2)</sup> WSP-DF280SPF <sup>(3)</sup>	IE4	-	152	88	{ 96.7 96.1 95.4 }	{ 0.86 0.86 0.80 }		577	2.7	2.1	3.5	8.6	-	-	-	3.7	69	
110 (150)	1495	WSP-UDF315SNF <sup>(2)</sup>	IE4	-	192	111	{ 96.3 96.1 95.2 }	{ 0.86 0.81 0.71 }		703	2.2	2.1	3.8	8.9	-	-	-	4.4	71	
132 (175)	1490	WSP-UDF315MP <sup>(2)</sup> WSP-DF315SPF <sup>(3)</sup>	IE4	-	225	130	{ 96.4 96.4 95.5 }	{ 0.90 0.88 0.82 }		846	2.0	2.0	3.4	8.2	-	-	-	5.5	71	
160 (215)	1490	WSP-UDF315MPF <sup>(2)</sup> WSP-DF315MPF <sup>(3)</sup>	IE4	-	272	158	{ 96.6 96.5 96.0 }	{ 0.88 0.85 0.76 }		1036	2.1	2.1	3.4	8.3	-	-	-	5.5	73	
200 (270)	1490	WSP-UDF315LR <sup>(2)</sup> WSP-DF315LR <sup>(3)</sup>	IE4	-	339	197	{ 96.7 96.6 96.0 }	{ 0.88 0.84 0.75 }		1282	2.3	1.9	3.6	8.8	-	-	-	6.3	73	

<sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

Rated power  
Full load speed in  
revolutions per minute  
Frame reference  
and size

Full load current at  
rated voltage

Efficiency  
Power factor

Full load torque  
Direct on line  
starting torque ratio  
Direct on line  
pull up torque ratio  
Direct on line  
pull out torque ratio  
Direct on line  
starting current ratio  
Star delta  
starting torque ratio  
Star delta  
pull up torque ratio  
Star delta  
starting current ratio

Rotor inertia Wkg<sup>2</sup>  
Mean sound pressure  
level (d 1m on no load)

Rated power  
Full load speed in  
revolutions per minute  
Frame reference  
and size

Full load current at  
rated voltage

Efficiency  
Power factor

Full load torque  
Direct on line  
starting torque ratio  
Direct on line  
pull up torque ratio  
Direct on line  
pull out torque ratio  
Direct on line  
starting current ratio  
Star delta  
starting torque ratio  
Star delta  
pull up torque ratio  
Star delta  
starting current ratio

Rotor inertia Wkg<sup>2</sup>  
Mean sound pressure  
level (d 1m on no load)

# Performance data

IE3

8 6 pole (1000min<sup>-1</sup>)

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE3	I <sub>N</sub>			η		Cos φ		M <sub>N</sub> Nm	M <sub>Δ</sub> M <sub>N</sub>	M <sub>S</sub> M <sub>N</sub>	M <sub>R</sub> M <sub>N</sub>	I <sub>A</sub> I <sub>N</sub>	M <sub>Δ</sub> M <sub>N</sub> Y	M <sub>S</sub> M <sub>N</sub> Y	I <sub>A</sub> I <sub>N</sub> Y	J kgm <sup>2</sup>	L <sub>PA</sub> dB(A)
				230V A	400V A	690V A	1.0 P <sub>N</sub> 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>	1.0 P <sub>N</sub> 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>												
0.75 (1.0)	935	WP-DF90LWX <sup>(1)</sup>	IE3	3.7	2.1	-	78.9 78.5 76.0	0.64 0.56 0.44		7.7	2.9	2.6	3.1	4.6	-	-	-	0.0042	65	
1.5 (2.0)	970	WP-DF100LTF <sup>(1)</sup>	IE3	7.6	4.4	-	82.5 82.1 78.9	0.60 0.51 0.40		14.8	3.5	3.2	4.1	6.2	-	-	-	0.012	58	
2.2 (3.0)	960	WP-DF112MWX <sup>(1)</sup>	IE3	10.1	5.8	-	84.3 84.4 81.8	0.65 0.58 0.43		21.9	2.8	2.5	3.0	5.6	-	-	-	0.015	54	
3.0 (4.0)	970	WP-DF132SMX <sup>(1)</sup>	IE3	12.7	7.3	-	85.6 85.7 82.0	0.69 0.62 0.43		29.5	2.3	2.0	2.5	6.1	-	-	-	0.032	58	
4.0 (5.5)	960	WP-DF132MTX <sup>(1)</sup>	IE3	-	9.8	5.8	86.8 86.5 83.3	0.68 0.59 0.49		39.8	2.3	2.0	2.5	5.5	0.7	0.6	1.7	0.038	58	
5.5 (7.5)	965	WP-DF132MVX <sup>(1)</sup>	IE3	-	13.3	7.7	88.0 87.0 84.0	0.68 0.53 0.42		54.5	2.6	2.3	3.0	6.5	0.8	0.7	2.0	0.041	58	
7.5 (10)	975	WP-DF160MM <sup>(1)</sup>	IE3	-	16.6	9.6	89.1 89.3 88.9	0.73 0.65 0.56		73.5	1.7	1.5	1.6	5.1	0.5	0.5	1.6	0.10	59	
11 (15)	980	WP-DF160LV <sup>(1)</sup>	IE3	-	23.4	13.6	90.3 90.3 88.5	0.75 0.67 0.56		107	2.0	1.7	2.5	5.7	0.6	0.5	1.8	0.12	59	
15 (20)	980	WP-DF180LM <sup>(1)</sup>	IE3	-	30.4	17.6	91.2 91.5 89.9	0.78 0.72 0.61		146	2.0	1.7	2.4	6.0	0.6	0.5	1.9	0.24	59	
18.5 (25)	980	WP-UDF200LN <sup>(2)</sup> WP-DF200LN <sup>(3)</sup>	IE3	-	36.4	21.0	91.7 91.5 90.6	0.80 0.73 0.62		180	2.7	2.4	2.9	7.9	0.8	0.8	2.5	0.37	62	
22 (30)	980	WP-UDF200LN <sup>(2)</sup> WP-DF200LN <sup>(3)</sup>	IE3	-	43.6	25.3	92.2 92.0 91.8	0.79 0.75 0.65		214	3.2	2.9	3.4	6.8	1.0	0.9	2.1	0.9	62	
30 (40)	985	WP-UDF225MN <sup>(2)</sup> WP-DF225MN <sup>(3)</sup>	IE3	-	57.5	33.4	92.9 92.8 92.6	0.81 0.79 0.71		291	2.1	1.8	2.3	6.0	0.7	0.6	1.9	1.23	63	
37 (50)	985	WP-UDF250MNE <sup>(2)</sup> WP-DF250SN <sup>(3)</sup>	IE3	-	71	41	93.3 93.4 93.2	0.81 0.79 0.72		359	2.2	1.9	2.4	6.0	0.7	0.6	1.9	1.47	63	
45 (60)	990	WP-UDF280SNE <sup>(2)</sup> WP-DF250MN <sup>(3)</sup>	IE3	-	85.5	50.0	93.7 93.8 92.9	0.81 0.77 0.69		434	2.5	2.2	2.7	6.0	0.8	0.7	1.9	2.55	65	
55 (75)	990	WP-UDF280MNE <sup>(2)</sup> WP-DF280SN <sup>(3)</sup>	IE3	-	104	60	94.1 94.0 93.2	0.81 0.77 0.68		531	2.5	2.2	2.7	6.1	0.8	0.7	1.9	2.9	65	
75 (100)	990	WP-UDF315SNE <sup>(2)</sup> WP-DF280MN <sup>(3)</sup>	IE3	-	138	80	94.6 94.6 93.5	0.83 0.80 0.70		723	3.0	2.7	3.2	7.0	0.9	0.8	2.2	5.0	68	
90 (125)	990	WP-UDF315MNE <sup>(2)</sup> WP-DF315SN <sup>(3)</sup>	IE3	-	165	95	94.9 94.9 93.3	0.83 0.78 0.69		868	3.0	2.7	3.2	7.0	0.9	0.8	2.2	6.0	68	
110 (150)	988	WP-UDF315MN <sup>(2)</sup> WP-DF315MN <sup>(3)</sup>	IE3	-	196	114	95.1 95.3 94.8	0.85 0.83 0.77		1063	2.8	2.5	3.0	6.7	0.9	0.8	2.1	6.1	70	
132 (175)	990	WP-UDF315LN <sup>(2)</sup> WP-DF315LN <sup>(3)</sup>	IE3	-	238	138	95.4 95.7 95.5	0.84 0.81 0.73		1273	2.8	2.5	3.0	7.2	0.9	0.8	2.3	7.3	70	

<sup>(1)</sup> European & BS frame reference. <sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.



# Performance data

# IE3 & IE4

9

6 pole (1000min<sup>-1</sup>)

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE3	Full load current at rated voltage			η 1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	Cos φ 1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	Power factor	Full load torque M <sub>N</sub> Nm	Direct on line starting torque ratio M <sub>A</sub> M <sub>N</sub>	Direct on line pull up torque ratio M <sub>S</sub> M <sub>N</sub>	Direct on line pull out torque ratio M <sub>R</sub> M <sub>N</sub>	Direct on line starting current ratio I <sub>A</sub> I <sub>N</sub>	Star delta starting torque ratio M <sub>A</sub> M <sub>N</sub> Y	Star delta pull up torque ratio M <sub>S</sub> M <sub>N</sub> Y	Star delta starting current ratio I <sub>A</sub> I <sub>N</sub> Y	Rotor inertia Wkg <sup>2</sup> J kgm <sup>2</sup>	Mean sound pressure level (d 1m on no load) L <sub>PA</sub> dB(A)
				230V A	400V A	690V A													
150 (200)	987	WP-UDF355SG <sup>(2)</sup> WP-DF355SG <sup>(3)</sup>	IE3	-	273	158	{ 95.4 0.84 95.4 0.82 94.7 0.74 }		1451	1.6	1.4	1.8	6.5	0.5	0.4	2.0	10	74	
160 (215)	990	WP-UDF355SG <sup>(2)</sup> WP-DF355SG <sup>(3)</sup>	IE3	-	295	171	{ 95.6 0.82 95.6 0.77 94.9 0.69 }		1543	1.7	1.5	1.9	6.7	0.5	0.5	2.1	10	74	
185 (250)	990	WP-UDF355SJ <sup>(2)</sup> WP-DF355SJ <sup>(3)</sup>	IE3	-	328	190	{ 95.7 0.85 95.3 0.84 95.0 0.77 }		1785	1.7	1.5	1.9	6.7	0.5	0.5	2.1	11.1	74	
200 (270)	990	WP-UDF355SP <sup>(2)</sup> WP-DF355SP <sup>(3)</sup>	IE3	-	355	206	{ 95.8 0.85 95.8 0.83 95.3 0.76 }		1929	1.7	1.5	1.9	6.5	0.5	0.5	2.0	13.7	74	
225 (300)	990	WP-UDF355MJ <sup>(2)</sup> WP-DF355MJ <sup>(3)</sup>	IE3	-	394	229	{ 95.8 0.86 95.7 0.82 95.5 0.74 }		2170	1.7	1.5	1.9	6.7	0.5	0.5	2.1	13.7	77	
250 (335)	990	WP-UDF355MN <sup>(2)</sup> WP-DF355MN <sup>(3)</sup>	IE3	-	448	260	{ 95.8 0.84 95.9 0.81 95.4 0.74 }		2412	1.8	1.6	2.0	7.0	0.6	0.5	2.2	15.2	77	
280 (375)	990	WP-UDF355LJ <sup>(2)</sup> WP-DF355LJ <sup>(3)</sup>	IE3	-	491	284	{ 95.8 0.86 95.9 0.81 95.4 0.71 }		2701	1.8	1.6	2.0	7.0	0.6	0.5	2.2	16.9	77	
315 (420)	990	WP-UDF355LN <sup>(2)</sup> WP-DF355LN <sup>(3)</sup>	IE3	-	552	320	{ 95.8 0.86 95.9 0.84 95.5 0.77 }		3039	1.8	1.6	2.0	7.0	0.6	0.5	2.2	18.6	77	

<sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE4	Full load current at rated voltage			η 1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	Cos φ 1.0 P <sub>N</sub> 0.75 P <sub>N</sub>	Power factor	Full load torque M <sub>N</sub> Nm	Direct on line starting torque ratio M <sub>A</sub> M <sub>N</sub>	Direct on line pull up torque ratio M <sub>S</sub> M <sub>N</sub>	Direct on line pull out torque ratio M <sub>R</sub> M <sub>N</sub>	Direct on line starting current ratio I <sub>A</sub> I <sub>N</sub>	Star delta starting torque ratio M <sub>A</sub> M <sub>N</sub> Y	Star delta pull up torque ratio M <sub>S</sub> M <sub>N</sub> Y	Star delta starting current ratio I <sub>A</sub> I <sub>N</sub> Y	Rotor inertia Wkg <sup>2</sup> J kgm <sup>2</sup>	Mean sound pressure level (d 1m on no load) L <sub>PA</sub> dB(A)
				230V A	400V A	690V A													
75 (100)	990	WSPU-DF315SJF <sup>(2)</sup>	IE4	-	140	81.2	{ 95.4 0.81 95.2 0.75 94.4 0.63 }		723	2.4	2.6	3.2	9.2	-	-	-	3.6	69	
90 (125)	990	WSP-UDF315MP <sup>(2)</sup> WSP-DF315SPF <sup>(3)</sup>	IE4	-	166	96.1	{ 95.6 0.82 95.5 0.76 94.7 0.65 }		868	2.6	2.1	2.9	9.1	-	-	-	4.2	69	
110 (150)	990	WSP-UDF315MNF <sup>(2)</sup> WSP-DF315MNF <sup>(3)</sup>	IE4	-	202	117	{ 95.8 0.82 95.6 0.78 94.8 0.68 }		1061	2.8	2.1	2.9	9.4	-	-	-	5.2	71	
132 (175)	990	WSP-UDF315LR <sup>(2)</sup> WSP-DF315LR <sup>(3)</sup>	IE4	-	240	139	{ 96.0 0.83 96.0 0.78 95.5 0.67 }		1273	2.6	2.0	2.6	8.8	-	-	-	6.2	71	

<sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

# Performance data

IE3

10 8 pole (750min<sup>-1</sup>)

P <sub>N</sub> kW (hp)	n min <sup>-1</sup>	Type	IE3	Full load current at rated voltage			η 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>	Cos φ 1.0 P <sub>N</sub> 0.75 P <sub>N</sub> 0.5 P <sub>N</sub>	Power factor	Full load torque M <sub>N</sub> Nm	Direct on line starting torque ratio M <sub>A</sub> M <sub>N</sub>	Direct on line pull up torque ratio M <sub>S</sub> M <sub>N</sub>	Direct on line pull out torque ratio M <sub>R</sub> M <sub>N</sub>	Direct on line starting current ratio I <sub>A</sub> I <sub>N</sub>	Star delta starting torque ratio M <sub>A</sub> M <sub>N</sub> Y	Star delta pull up torque ratio M <sub>S</sub> M <sub>N</sub> Y	Star delta pull out torque ratio I <sub>A</sub> I <sub>N</sub> Y	Rotor inertia Wkg <sup>2</sup> J kgm <sup>2</sup>	Mean sound pressure level @ 1m on no load L <sub>PA</sub> dB(A)
				230V A	400V A	690V A													
2.2 (3.0)	725	WP-DF132STX <sup>(1)</sup>	IE3	11.6	6.7	-	<b>81.9</b> 81.0 77.7	<b>0.58</b> 0.49 0.37		29	2.2	1.9	2.5	4.8	-	-	-	0.035	57
3.0 (4.0)	715	WP-DF132MVX <sup>(1)</sup>	IE3	14.3	8.2	-	<b>83.5</b> 83.6 81.4	<b>0.63</b> 0.54 0.42		40.1	1.8	1.6	2.0	4.6	-	-	-	0.041	57
4.0 (5.5)	725	WP-DF160MM <sup>(1)</sup>	IE3	-	9.9	5.7	<b>84.8</b> 84.9 83.3	<b>0.69</b> 0.61 0.49		52.7	1.5	1.3	1.7	4.8	-	-	-	0.11	53
5.5 (7.5)	730	WP-DF160MV <sup>(1)</sup>	IE3	-	13.7	8.0	<b>86.2</b> 85.9 83.9	<b>0.67</b> 0.59 0.46		72	1.9	1.7	2.4	5.3	-	-	-	0.14	53
7.5 (10)	730	WP-DF160LX <sup>(1)</sup>	IE3	-	18.2	10.6	<b>87.3</b> 87.2 85.5	<b>0.68</b> 0.60 0.47		98.1	1.9	1.7	2.3	5.3	0.6	0.5	1.7	0.186	53
11 (15)	730	WP-DF180LR <sup>(1)</sup>	IE3	-	27.2	15.7	<b>88.6</b> 88.4 86.9	<b>0.66</b> 0.58 0.46		144	1.9	1.7	2.3	5.1	0.6	0.5	1.6	0.247	58
15 (20)	735	WP-UDF200LN <sup>(2)</sup> WP-DF200LN <sup>(3)</sup>	IE3	-	34.0	19.7	<b>89.6</b> 89.6 88.2	<b>0.71</b> 0.64 0.51		195	1.9	1.7	2.1	5.5	0.6	0.5	1.7	0.65	60
18.5 (25)	730	WP-UDF225SN <sup>(2)</sup> WP-DF225SN <sup>(3)</sup>	IE3	-	40.6	23.5	<b>90.1</b> 90.3 89.4	<b>0.73</b> 0.66 0.54		242	2.0	1.7	2.2	5.5	0.6	0.5	1.7	0.75	60
22 (30)	730	WP-UDF225MN <sup>(2)</sup> WP-DF225MN <sup>(3)</sup>	IE3	-	47.4	27.5	<b>90.6</b> 90.4 88.9	<b>0.74</b> 0.68 0.55		288	2.2	1.9	2.4	6.0	0.7	0.6	1.9	1.23	62
30 (40)	735	WP-UDF250MNE <sup>(2)</sup> WP-DF250SN <sup>(3)</sup>	IE3	-	64.1	37.2	<b>91.3</b> 91.2 89.9	<b>0.74</b> 0.68 0.56		390	1.7	1.5	1.9	6.0	0.5	0.5	1.9	1.47	62
37 (50)	735	WP-UDF280SNE <sup>(2)</sup> WP-DF250MN <sup>(3)</sup>	IE3	-	77.6	45.0	<b>91.8</b> 91.8 90.8	<b>0.75</b> 0.70 0.59		481	1.7	1.5	1.9	6.0	0.5	0.5	1.9	2.55	63
45 (60)	735	WP-UDF280MNE <sup>(2)</sup> WP-DF280SN <sup>(3)</sup>	IE3	-	94.0	54.5	<b>92.2</b> 92.3 91.5	<b>0.75</b> 0.70 0.60		585	1.9	1.7	2.1	5.0	0.6	0.5	1.6	2.8	63
55 (75)	735	WP-UDF315SNE <sup>(2)</sup> WP-DF280MN <sup>(3)</sup>	IE3	-	114	66.3	<b>92.5</b> 92.4 91.3	<b>0.75</b> 0.71 0.60		715	2.6	2.3	2.8	5.0	0.8	0.7	1.6	5.0	63

<sup>(1)</sup> European & BS frame reference. <sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

# Performance data

IE3

11

8 pole (750min<sup>-1</sup>)

P <sub>N</sub>	n	Type	IE3	Full load current at rated voltage			η	Cos φ	Power factor	Full load torque	Direct on line starting torque ratio	Direct on line pull up torque ratio	Direct on line pull out torque ratio	Direct on line starting current ratio	Star delta starting torque ratio	Star delta pull up torque ratio	Star delta starting current ratio	Rotor inertia Wkg <sup>2</sup>	Mean sound pressure level (d 1m on no load)
				230V A	400V A	690V A													
75 (100)	740	WP-UDF315MNE <sup>(2)</sup> WP-DF315SN <sup>(3)</sup>	IE3	-	159	92	{ 93.1 0.73 92.9 0.68 91.7 0.57 }			968	2.8	2.5	3.0	4.9	0.9	0.8	1.5	6	63
90 (125)	735	WP-UDF315MN <sup>(2)</sup> WP-DF315MN <sup>(3)</sup>	IE3	-	181	105	{ 93.4 0.77 93.6 0.74 92.9 0.66 }			1169	2.7	2.4	2.9	5.7	0.8	0.8	1.8	6.1	63
110 (150)	735	WP-UDF315LN <sup>(2)</sup> WP-DF315LN <sup>(3)</sup>	IE3	-	217	126	{ 93.7 0.78 94.0 0.75 93.6 0.67 }			1429	2.0	1.7	2.2	5.0	0.6	0.5	1.6	7.3	65
132 (175)	740	WP-UDF355SJ <sup>(2)</sup> WP-DF355SJ <sup>(3)</sup>	IE3	-	263	152	{ 94.0 0.77 93.9 0.73 93.0 0.63 }			1704	1.4	1.2	1.6	5.3	0.4	0.4	1.7	12.2	72
150 (200)	745	WP-UDF355SN <sup>(2)</sup> WP-DF355SN <sup>(3)</sup>	IE3	-	302	175	{ 94.2 0.76 94.1 0.72 93.2 0.61 }			1923	1.4	1.2	1.6	5.4	0.4	0.4	1.7	13.6	72
160 (215)	740	WP-UDF355SN <sup>(2)</sup> WP-DF355SN <sup>(3)</sup>	IE3	-	322	189	{ 94.3 0.76 94.1 0.71 93.1 0.59 }			2065	1.5	1.3	1.7	5.6	0.5	0.4	1.8	13.6	72
185 (250)	740	WP-UDF355MJ <sup>(2)</sup> WP-DF355MJ <sup>(3)</sup>	IE3	-	367	213	{ 94.5 0.77 94.5 0.73 93.7 0.63 }			2388	1.5	1.3	1.7	5.4	0.5	0.4	1.7	15.2	74
200 (270)	740	WP-UDF355MN <sup>(2)</sup> WP-DF355MN <sup>(3)</sup>	IE3	-	418	242	{ 94.6 0.73 94.4 0.68 93.4 0.56 }			2581	1.9	1.7	2.1	6.3	0.6	0.5	2.0	16.9	74
225 (300)	740	WP-UDF355LN <sup>(2)</sup> WP-DF355LN <sup>(3)</sup>	IE3	-	512	297	{ 94.6 0.67 94.1 0.60 92.8 0.48 }			2904	1.8	1.6	2.0	5.9	0.6	0.5	1.8	18.6	74

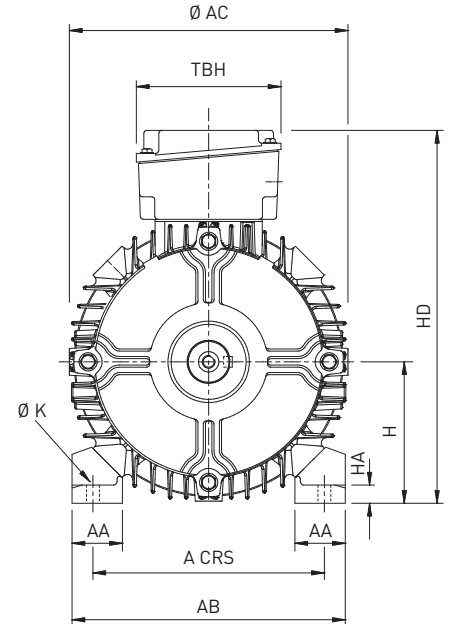
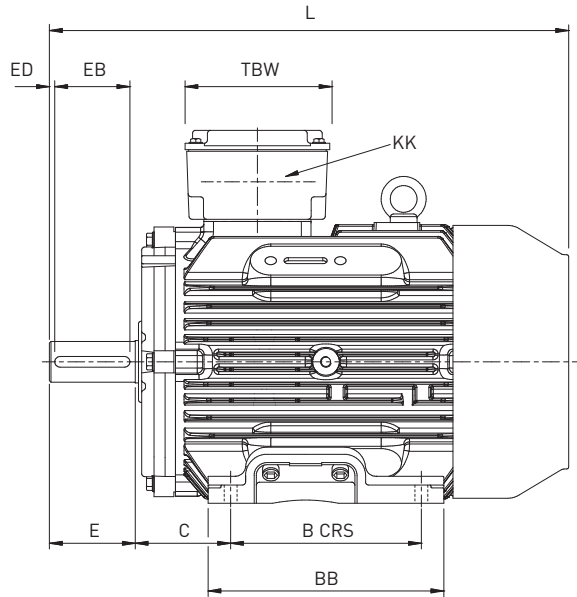
<sup>(2)</sup> European frame reference. <sup>(3)</sup> BS frame reference.

# Dimensions - IEC & BS specifications

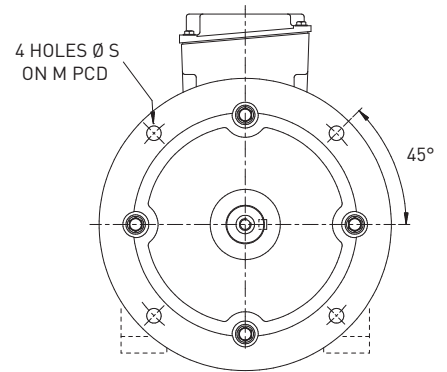
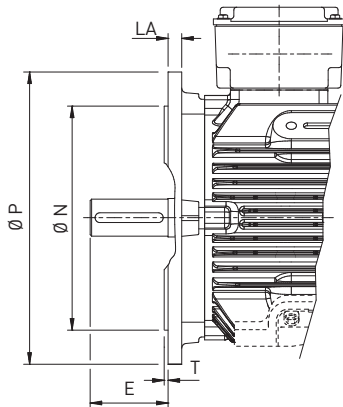
12

Foot, flange and face mounting  
Frame sizes 80 to 180 cast iron

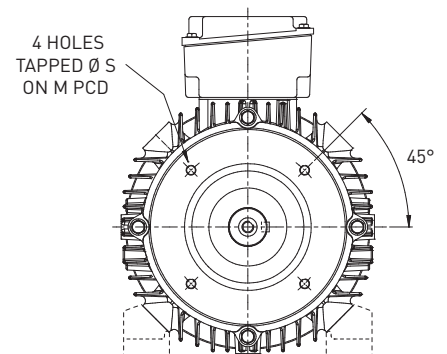
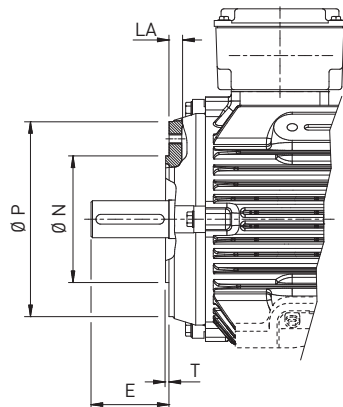
IM B3  
IM 1001  
Mounting options



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



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



# Dimensions - IEC & BS specifications

Foot, flange and face mounting  
Frame sizes 80 to 180 cast iron

## General Dimensions

Type	A	B	C	H	K	4 Pole *		2 Pole		AA	AB	Ø AC	BB	HA	HD	TBW	TBH	KK
						L	L	L	L									
WP-DF80M *	125	100	50	80	10	278	278	35	157	158	127	10	159	120	120			1 x CM20
WP-DF90S	140	100	56	90	10	322	322	38	175	175	155	12	254	120	120			1 x CM20
WP-DF90LX	140	100	56	90	10	364	364	38	175	175	195	12	254	120	120			1 x CM20
WP-DF100LF ^	160	140	63	100	12	409	409	34	195	214	206	14	283	120	120			2 x CM20
WP-DF112M	190	140	70	112	12	382	382	40	230	220	182	16	145	135	135			2 x CM25
WP-DF132SX	216	140	89	132	12	485	485	47	255	256	220	16	348	135	135			2 x CM25
WP-DF132MX	216	178	89	132	12	485	485	47	255	256	220	16	348	135	135			2 x CM25
WP-DF160M	254	210	108	160	15	604	604	55	300	315	300	22	428	174	174			2 x CM32
WP-DF160L	254	254	108	160	15	604	604	55	300	315	300	22	428	174	174			2 x CM32
WP-DF180M	279	241	121	180	15	663	663	64	344	355	326	22	469	174	174			2 x CM32
WP-DF180L	279	279	121	180	15	663	663	64	344	355	326	22	469	174	174			2 x CM32

\* 80 frame motors are terminal box right, viewed from the drive end.

^ 100LF frames are terminal box top only, t.box right or left is not available on this frame.

## D Flange

Type	IM B5 flange mounting					
	M	N	P	S	T	LA
WP-DF80	165	130	200	12	3.5	12
WP-DF90	165	130	200	12	3.5	12
WP-DF100	215	180	250	15	4	12
WP-DF112	215	180	250	15	4	12
WP-DF132	265	230	300	15	4	12
WP-DF160	300	250	350	19	5	13
WP-DF180	300	250	350	19	5	15

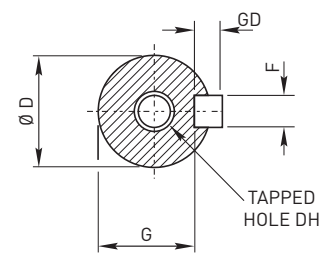
## C Face

Type	IM B14 flange mounting					
	M	N	P	S	T	LA
WP-DF80	100	80	120	M6	3	9
WP-DF90	115	95	140	M8	3	9
WP-DF100	130	110	160	M8	3.5	12.5
WP-DF112	130	110	164	M8	3.5	13
WP-DF132	165	130	200	M10	3.5	14
WP-DF160	215	180	250	M12	4	13
WP-DF180	-	-	-	-	-	-

Note, care must be taken to ensure mounting bolts do not protrude beyond the 'C' face casting thickness 'LA'

## Shaft

Type	All poles							
	Ø D	E	F	G	GD	EB	ED	DH
WP-DF80	19	40	6	15.5	6	32	4	M6 x 16
WP-DF90	24	50	8	20	7	40	5	M8 x 19
WP-DF100	28	60	8	24	7	50	5	M10 x 22
WP-DF112	28	60	8	24	7	50	5	M10 x 22
WP-DF132	38	80	10	33	8	70	5	M12 x 28
WP-DF160	42	110	12	37	8	100	5	M16 x 36
WP-DF180	48	110	14	42.5	9	100	5	M16 x 36



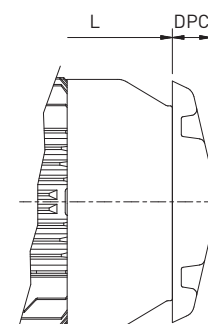
Shaft dimensions

## Drip proof canopy (impact canopy)

A drip proof canopy (impact canopy) can be fitted to the W cast iron range.

To find the overall length of a motor fitted with a drip proof canopy, please add dimension 'DPC' to dimension 'L'.

Type	L + DPC
80 to 90	'L' + 29mm
100 to 112	'L' + 30mm
132 to 180	'L' + 40mm

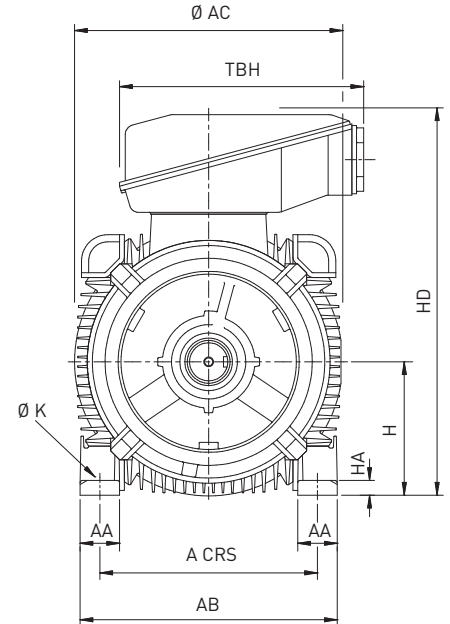
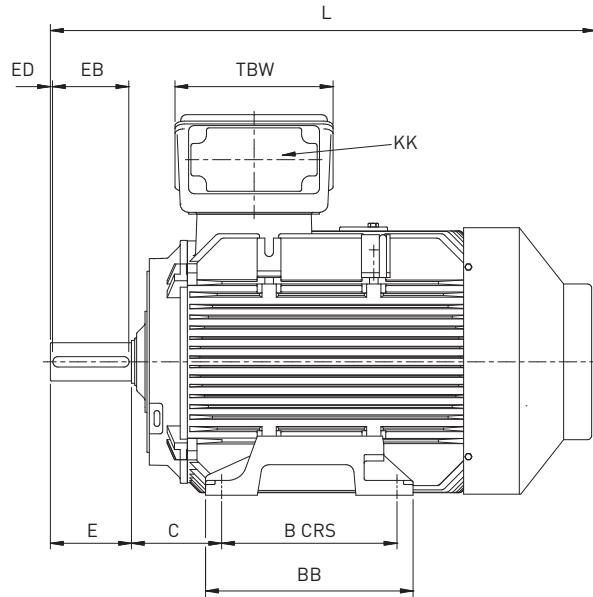


# Dimensions - IEC specification

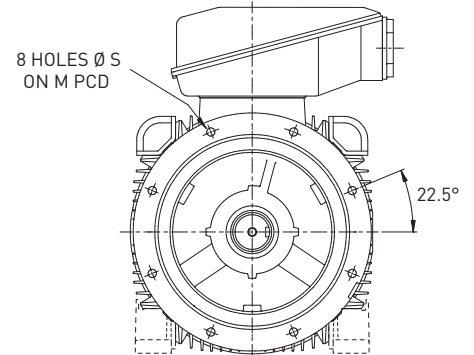
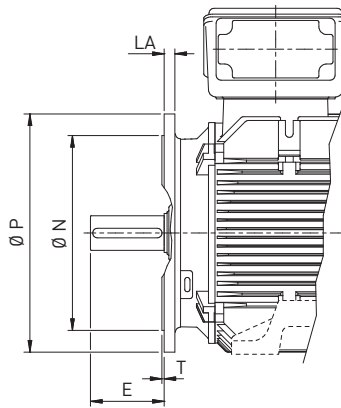
14

Foot and Flange mounting  
Frame sizes 200 to 355 cast iron

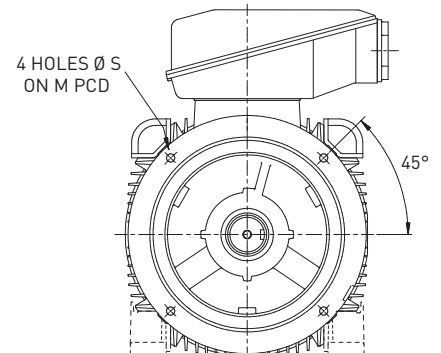
IM B3  
IM 1001  
Mounting options



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



8 holes at 22.5° for flanges to suit 225 frames and above to IEC specification



4 holes at 45° on the flange to suit 200 frame IEC specification

# Dimensions - IEC specification

Foot, and Flange mounting  
Frame sizes 200 to 355 cast iron

## General Dimensions - IE3

Type	A	B	C	H	K	4 Pole +		2 Pole		AA	AB	Ø AC	BB	HA	HD	TBW	TBH	KK
						L	L	L	L									
WP-UDF200LX	318	305	133	200	M16	787	787	74	382	381	359	30	501	176	220	2 x CM32 & 1 x CM20		
WP-UDF200L	318	305	133	200	M16	810	810	63	386	410	355	27	525	220	288	2 x CM32 & 1 x CM20		
WP-UDF225S	356	286	149	225	M16	875	845	70	426	410	349	25	550 <sup>(1)</sup>	220	288	2 x CM40 & 1 x CM20		
WP-UDF225M	356	311	149	225	M16	915	885	70	426	448	374	25	570	220	288	2 x CM40 & 1 x CM20		
WP-UDF250ME	406	349	168	250	M20	985	985	79	482	448	419	28	595 <sup>(2)</sup>	220	288	2 x CM50 & 1 x CM20		
WP-UDF280SE	457	368	190	280	M20	1065	1065	83	540	508	438	35	655 <sup>(1)</sup>	220	288	2 x CM50 & 1 x CM20		
WP-UDF280ME	457	419	190	280	M20	1070	1070	83	540	508	489	35	655 <sup>(1)</sup>	220	288	2 x CM50 & 1 x CM20		
WP-UDF315SE	508	406	216	315	M24	1145	1115	89	597	563	482	38	845	342	522	2 x CM63 & 1 x CM20		
WP-UDF315ME	508	457	216	315	M24	1215	1185	89	597	563	533	38	845	342	522	2 x CM63 & 1 x CM20		
WP-UDF315M	508	457	216	315	M24	1245	1215	89	597	640	533	38	875	342	522	2 x CM63 & 1 x CM20		
WP-UDF315L	508	508	216	315	M24	1315	1285	89	597	640	583	38	875	342	522	2 x CM63 & 1 x CM20		
WP-UDF355S	610	500	254	355	M24	1485	1415	100	710	732	626	27	975	342	522	2 x CM63 & 1 x CM20		
WP-UDF355M	610	560	254	355	M24	1605	1535	100	710	732	686	27	975	342	522	2 x CM63 & 1 x CM20		
WP-UDF355L	610	630	254	355	M24	1655	1585	100	710	732	756	27	975	342	522	2 x CM63 & 1 x CM20		

<sup>(1)</sup> Add 25mm when cable entry is facing drive end

<sup>(2)</sup> Add 50mm when cable entry is facing drive end

See page 22 for overall length when fitted with a Drip proof canopy (impact canopy)

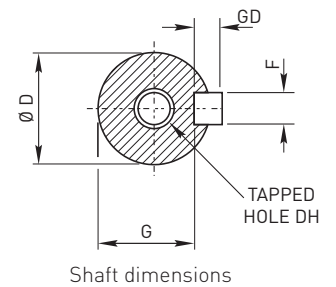
## General Dimensions - IE4

Type	A	B	C	H	K	4 Pole +		2 Pole		AA	AB	Ø AC	BB	HA	HD	TBW	TBH	KK
						L	L	L	L									
WSP-UDF280SF	457	368	190	280	M20	1115	1115	83	541	563	436	30	815	342	522	2 x CM50 & 1 x CM20		
WSP-UDF280M	457	419	190	280	M20	1115	1115	83	541	563	489	30	815	342	522	2 x CM50 & 1 x CM20		
WSP-UDF315SF	508	406	216	315	M24	1245	1215	105	603	640	482	35	880	342	522	2 x CM63 & 1 x CM20		
WSP-UDF315M	508	457	216	315	M24	1245	1215	89	603	640	533	35	880	342	522	2 x CM63 & 1 x CM20		
WSP-UDF315MNF	508	457	216	315	M24	1315	1285	105	603	640	533	35	880	342	522	2 x CM63 & 1 x CM20		
WSP-UDF315MPF	508	457	216	315	M24	1315	1355 <sup>^</sup>	105	603	640	533	35	880	342	522	2 x CM63 & 1 x CM20		
WSP-UDF315L	508	508	216	315	M24	1385 <sup>^</sup>	1355 <sup>^</sup>	89	597	640	583	38	880	342	522	2 x CM63 & 1 x CM20		

<sup>^</sup> Deep NDE endshield

## Flange

Type	IM B5 flange mounting					
	M	N	P	S	T	LA
WP-UDF200	350	300	400	19	5	19
WP-UDF225	400	350	450	19	5	19
WP-UDF250	500	450	550	19	5	25
WSP/WP-UDF280	500	450	550	19	5	25
WSP/WP-UDF315	600	550	660	24	6	29
WP-UDF355	740	680	800	24	6	28



## Shaft

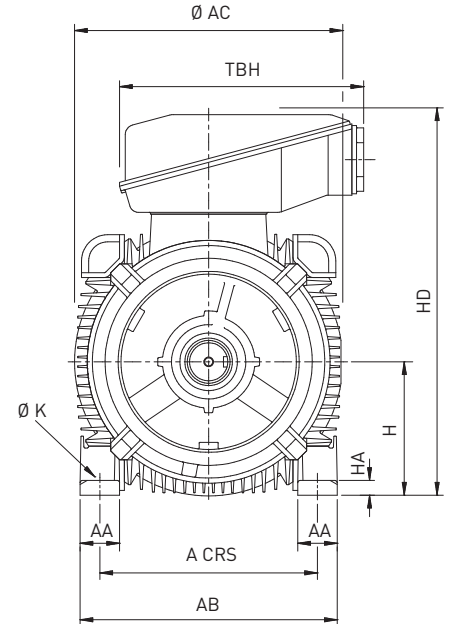
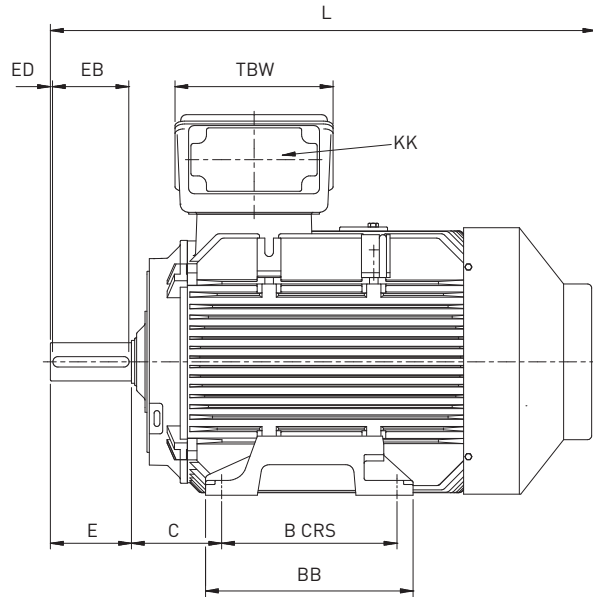
Type	4 pole +								2 pole							
	Ø D	E	F	G	GD	EB	ED	DH	Ø D	E	F	G	GD	EB	ED	DH
WP-UDF200	55	110	16	49	10	100	5	M20 x 42	55	110	16	49	10	100	5	M20 x 42
WP-UDF225	60	140	18	53	11	125	10	M20 x 42	55	110	16	49	10	100	5	M20 x 42
WP-UDF250	65	140	18	58	11	125	10	M20 x 42	60	140	18	53	11	125	10	M20 x 42
WSP/WP-UDF280	75	140	20	67.5	12	125	10	M20 x 42	65	140	18	58	11	125	10	M20 x 42
WSP/WP-UDF315	80	170	22	71	14	160	5	M20 x 42	65	140	18	58	11	125	10	M20 x 42
WP-UDF355	100	210	28	90	16	200	5	M24 x 50	75	140	20	67.5	12	125	10	M24 x 50

# Dimensions - BS specification

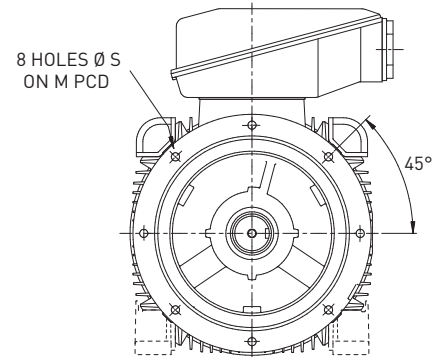
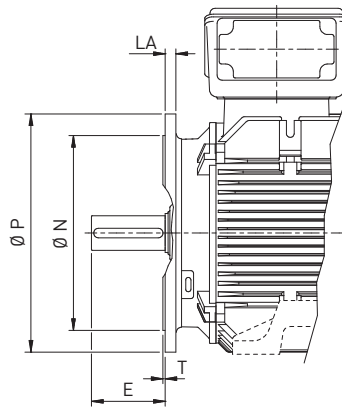
16

Foot and Flange mounting  
Frame sizes 280 to 315 cast iron

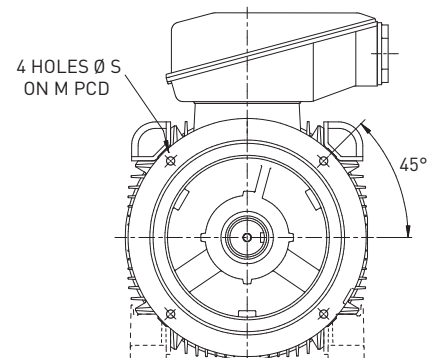
IM B3  
IM 1001  
Mounting options



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



8 holes at 45° for flanges to suit 225 frames and above to BS specification



4 holes at 45° on the flange to suit 200 frame BS specification



# Dimensions - BS specification

Foot, and Flange mounting  
Frame sizes 200 to 355 cast iron

## General Dimensions - IE3

Type	A	B	C	H	K	4 Pole +		2 Pole		AA	AB	Ø AC	BB	HA	HD	TBW	TBH	KK
						L	L	L	L									
WP-DF200LX	318	305	133	200	M16	787	787	74	382	381	359	30	501	176	220	undrilled		
WP-DF200L	318	305	133	200	M16	810	810	63	386	410	355	27	525	220	288	undrilled		
WP-DF225S	356	286	149	225	M16	875	845	70	426	410	349	25	550 <sup>(1)</sup>	220	288	undrilled		
WP-DF225M	356	311	149	225	M16	915	885	70	426	448	374	25	570	220	288	undrilled		
WP-DF250S	406	311	168	250	M20	985	985	79	482	448	381	28	595 <sup>(2)</sup>	220	288	undrilled		
WP-DF250M	406	349	168	250	M20	1030	1030	79	482	508	419	28	625 <sup>(1)</sup>	220	288	undrilled		
WP-DF280S	457	368	190	280	M20	1100	1070	83	540	508	438	35	655 <sup>(1)</sup>	220	288	undrilled		
WP-DF280M	457	419	190	280	M20	1145	1115	83	540	563	487	35	810	342	522	undrilled		
WP-DF315S	508	406	216	315	M24	1215	1185	89	597	563	483	38	845	342	522	undrilled		
WP-DF315M	508	457	216	315	M24	1245	1215	89	597	640	533	38	875	342	522	undrilled		
WP-DF315L	508	508	216	315	M24	1315	1285	89	597	640	583	38	875	342	522	undrilled		
WP-DF355S	610	500	254	355	M24	1485	1415	100	710	732	626	27	970	342	522	undrilled		
WP-DF355M	610	560	254	355	M24	1605	1535	100	710	732	686	27	970	342	522	undrilled		
WP-DF355L	610	630	254	355	M24	1655	1585	100	710	732	756	27	970	342	522	undrilled		

<sup>(1)</sup> Add 25mm when cable entry is facing drive end

<sup>(2)</sup> Add 50mm when cable entry is facing drive end

See page 22 for overall length when fitted with a Drip proof canopy (impact canopy)

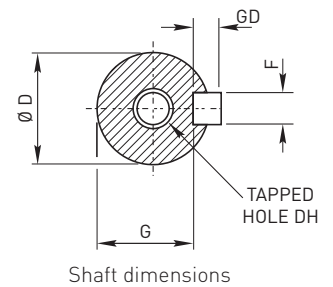
## General Dimensions - IE4

Type	A	B	C	H	K	4 Pole +		2 Pole		AA	AB	Ø AC	BB	HA	HD	TBW	TBH	KK
						L	L	L	L									
WSP-DF280SF	457	368	190	280	M20	1145	1115	83	541	563	436	30	815	342	522	undrilled		
WSP-DF315SF	508	406	216	315	M24	1245	1285 <sup>^</sup>	105	603	640	482	33	880	342	522	undrilled		
WSP-DF315MNF	508	457	216	315	M24	1315	1285	105	603	640	533	38	880	342	522	undrilled		
WSP-DF315MPF	508	457	216	315	M24	1315	1355 <sup>^</sup>	105	603	640	533	33	880	342	522	undrilled		
WSP-DF315L	508	508	216	315	M24	1385 <sup>^</sup>	1355 <sup>^</sup>	89	597	640	583	38	880	342	522	undrilled		

<sup>^</sup> Deep NDE endshield

## Flange

Type	IM B5 flange mounting					
	M	N	P	S	T	LA
WP-DF200	350	300	400	19	5	19
WP-DF225	400	350	450	19	5	19
WP-DF250	500	450	550	19	5	25
WSP/WP-DF280	500	450	550	19	5	25
WSP/WP-DF315	600	550	660	24	6	29
WP-DF355	740	680	800	24	6	28



## Shaft

Type	4 pole +								2 pole							
	Ø D	E	F	G	GD	EB	ED	DH	Ø D	E	F	G	GD	EB	ED	DH
WP-DF200	55	110	16	49	10	100	5	M20 x 42	55	110	16	49	10	100	5	M20 x 42
WP-DF225	60	140	18	53	11	125	10	M20 x 42	55	110	16	49	10	100	5	M20 x 42
WP-DF250	70	140	20	62.5	12	125	10	M20 x 42	60	140	18	53	11	125	10	M20 x 42
WSP/WP-DF280	80	170	22	71	14	160	5	M20 x 42	65	140	18	58	11	125	10	M20 x 42
WSP/WP-DF315	85	170	22	76	14	160	5	M20 x 42	65	140	18	58	11	125	10	M20 x 42
WP-DF355	100	210	28	90	16	200	5	M24 x 50	75	140	20	67.5	12	125	10	M24 x 50

#### Bearings and greasing arrangements

Bearings are pre-packed with a grease type dependant on frame size and re-greasing facility as detailed in table opposite:

Standard and re-greasing facilities		
Type	Standard grease	Regreasing facility
80 - 180	EA6 Polyurea	Available
200 - 355	Esso Unirex N3	Standard

#### IE3 - Bearing references and oil seals for horizontally-mounted motors only

Type		Poles	Bearings <sup>(1)</sup>		Oil seals <sup>(2)</sup>	
European	British Standard		Drive end	Non drive end	Drive end	Non drive end
WP-DF80M	WP-DF80M	All	62042Z	60032Z	20 x 30 x 7 <sup>(3)</sup>	17 x 28 x 6 <sup>(3)</sup>
WP-DF90S/L	WP-DF90S/L	All	62052Z	62032Z	25 x 35 x 7 <sup>(3)</sup>	17 x 28 x 6 <sup>(3)</sup>
WP-DF100L	WP-DF100L	All	62062Z	62052Z	30 x 42 x 7 <sup>(3)</sup>	25 x 37 x 7 <sup>(3)</sup>
WP-DF112M	WP-DF112M	All	62062Z	62052Z	30 x 42 x 7 <sup>(3)</sup>	25 x 37 x 7 <sup>(3)</sup>
WP-DF132S/M	WP-DF132S/M	All	62082Z	63052Z	40 x 52 x 7 <sup>(3)</sup>	25 x 37 x 7 <sup>(3)</sup>
WP-DF160M/L	WP-DF160M/L	All	63092Z	63072Z	45 x 60 x 8 <sup>(3)</sup>	35 x 47 x 7 <sup>(3)</sup>
WP-DF180M/L	WP-DF180M/L	All	63102Z	63082Z	50 x 65 x 8 <sup>(3)</sup>	40 x 52 x 7 <sup>(3)</sup>
WP-DF200LX	WP-DF200LX	All	6312	6312	60 x 80 x 8 <sup>(3)</sup>	60 x 80 x 8 <sup>(3)</sup>
WP-DF225S	WP-DF225S	All	6313	6313	65 x 90 x 10 <sup>(4)</sup>	65 x 90 x 10 <sup>(4)</sup>
WP-DF225M	WP-DF225M	All	6314	6314	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
WP-UDF250ME	WP-DF250S	2	6314	6314	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6316	6316	80 x 110 x 10 <sup>(3)</sup>	80 x 110 x 10 <sup>(3)</sup>
WP-UDF280SE	WP-DF250M	2	6314	6314	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6318	6318	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WP-UDF280ME	WP-DF280S	2	6314	6314	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6318	6318	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WP-UDF315SE	WP-DF280M	2	6316	6316	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WP-UDF315ME	WP-DF315S	2	6316	6316	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WP-UDF315M	WP-DF315M	2	6316	6316	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WP-UDF315L	WP-DF315L	2	6316	6316	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WP-UDF355S/M/L	WP-DF355S/M/L	2	N316	6316	75 x 100 x 10 <sup>(4)</sup>	75 x 100 x 10 <sup>(4)</sup>
		4 up	N324	6324	115 x 145 x 14 <sup>(3)</sup>	115 x 145 x 14 <sup>(3)</sup>

(1) Frame sizes 80 and 90 have bearings with CN clearances, frame sizes 100 to 355 have bearings with C3 clearance 'medium' series

(2) Sizes given are in mm, and represent bore x outside diameter x width

Material: (3) Nitrile rubber (4) Silicon rubber

#### IE4 - Bearing references and oil seals for horizontally-mounted motors only

Type		Poles	Bearings <sup>(1)</sup>		Oil seals <sup>(2)</sup>	
European	British Standard		Drive end	Non drive end	Drive end	Non drive end
WSP-UDF280SF	WSP-DF280SF	2	6316	6316	80 x 110 x 10 <sup>(4)</sup>	80 x 110 x 10 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WSP-UDF280M	WSP-UDF280M	2	6316	6316	80 x 110 x 10 <sup>(4)</sup>	80 x 110 x 10 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
-	WSP-DF315SF (132kW)	2	6316	6319 ^	70 x 90 x 10 <sup>(4)</sup>	90 x 120 x 12 <sup>(4)</sup>
WSP-UDF315SF	WSP-DF315SF	2	6316	6316	70 x 90 x 10 <sup>(4)</sup>	70 x 90 x 10 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WSP-UDF315MPF	WSP-DF315MPF (160kW)	2	6316	6319	70 x 90 x 10 <sup>(4)</sup>	90 x 120 x 12 <sup>(4)</sup>
		-	-	-	-	-
WSP-UDF315MF	WSP-DF315MF	2	6316	6319	70 x 90 x 10 <sup>(4)</sup>	90 x 120 x 12 <sup>(4)</sup>
		4 up	6319	6319	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>
WSP-UDF315L	WSP-DF315L	2	6316	6319 ^	70 x 90 x 10 <sup>(4)</sup>	90 x 120 x 12 <sup>(4)</sup>
		4 up	6319	6319 ^	90 x 120 x 12 <sup>(3)</sup>	90 x 120 x 12 <sup>(3)</sup>

(1) Frame sizes 280 to 315 have bearings with C3 clearance 'medium' series.

(2) Sizes given are in mm, and represent bore x outside diameter x width.

Material: (3) Nitrile rubber (4) Silicon rubber.

(^ ) Indicates deep NDE endshield.

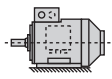
## Mechanical: Grease & Mounting options

Grease life expected at 80°C bearing temperature x 10 <sup>3</sup> hours									
Type		3000 min <sup>-1</sup>		1500 min <sup>-1</sup>		1000 min <sup>-1</sup>		750 min <sup>-1</sup>	
European (IEC)	British Standard (BS)	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
WP-UDF80-112	WP-DF80-112	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
WP-UDF132	WP-DF132	30.0	25.0	30.0	30.0	30.0	30.0	30.0	30.0
WP-UDF160	WP-DF160	29.0	19.0	30.0	30.0	30.0	30.0	30.0	30.0
WP-UDF180	WP-DF180	24.0	16.0	30.0	30.0	30.0	30.0	30.0	30.0
WP-UDF200LX	WP-DF200LX	12.6	8.2	30.0	20.3	30.0	27.8	30.0	30.0
WP-UDF225S	WP-DF225S	12.6	8.2	30.0	20.3	30.0	27.8	30.0	30.0
WP-UDF225M	WP-DF225M	11.3	7.4	29.5	19.2	30.0	26.0	30.0	30.0
WP-UDF250ME	WP-DF250S	11.3	7.4	26.3	17.1	30.0	23.6	30.0	29.3
WP-UDF280SE	WP-DF250M	11.3	7.4	23.4	15.2	30.0	21.3	30.0	27.8
WP-UDF280ME	WP-DF280S	11.3	7.4	23.4	15.2	30.0	21.3	30.0	27.8
WP-UDF315SE	WP-DF280M	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
WP-UDF315ME	WP-DF315S	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
WP-UDF315M	WP-DF315M	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
WP-UDF315L	WP-DF315L	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
WP-UDF355S/M/L <sup>(1)</sup>	WP-DF355S/M/L <sup>(1)</sup>	5.0	3.3	8.2	5.3	16.2	10.5	24.5	15.9
WP-UDF355S/M/L <sup>(2)</sup>	WP-DF355S/M/L <sup>(2)</sup>	9.4	6.1	13.5	8.8	22.5	14.6	30.0	19.5

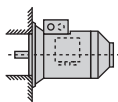
<sup>(1)</sup> DE = Drive End <sup>(2)</sup> NDE = Non-Drive End

## Mounting options

### Horizontal shaft:



IM B3  
IM 1001  
foot mounted



IM B5  
IM 3001  
flange at DE  
no feet



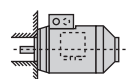
IM B6  
IM 1051  
foot wall mounted with  
feet on left-hand side  
when viewed from DE



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

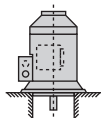


IM B8  
IM 1071  
ceiling mounted  
with feet  
above motor

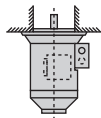


IM B14  
IM 3601  
face at DE  
no feet

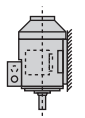
### Vertical shaft:



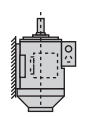
IM V1  
IM 3011  
flange at DE  
shaft down  
no feet



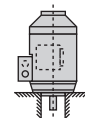
IM V3  
IM 3031  
flange at DE  
shaft up  
no feet



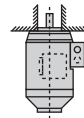
IM V5  
IM 1011  
vertical foot  
wall mounted  
shaft down



IM V6  
IM 1031  
vertical foot  
wall mounted  
shaft up



IM V18  
IM 3611  
face at DE  
shaft down  
no feet



IM V19  
IM 3631  
face at DE  
shaft up  
no feet

Combinations of the above are possible. e.g. B3/B5 or B35 (IM2001), B3/B14 or B34 (IM2101).  
B14, V18 & V19 available upto and including the 160 frame.  
B30 pad / rod mounting option available (not shown above).

# Technical information

20

Mechanical: Axial and radial loads frames 80 to 180

Maximum permissible external axial thrust and radial loads in Newtons (N)								
Type	Poles	Horizontal shaft		Vertical shaft				Maximum permissible radial load at end of shaft (standard mounting)
		Load towards motor	Load away from motor	Shaft up		Shaft down		
				Load towards motor	Load away from motor	Load towards motor	Load away from motor	
WP-DF80M	2	912	712	746	897	946	697	775
	4	868	668	701	852	901	652	742
	6	754	554	594	734	794	534	648
	8	773	573	613	753	813	553	664
WP-DF90S	6	854	614	660	828	900	588	741
	8	874	634	680	848	920	608	757
WP-DF90L	2	1070	830	870	1041	1110	801	957
	4	1005	765	832	957	1072	717	893
	6	843	603	667	807	907	567	722
	8	870	630	686	839	926	599	749
WP-DF100L	2	1563	1243	1311	1522	1631	1202	1290
	4	1466	1146	1273	1387	1593	1067	1248
	6	1412	1092	1176	1359	1496	1039	1171
	8	1225	905	994	1167	1314	847	1022
WP-DF112M	2	1551	1231	1320	1497	1640	1177	1370
	4	1452	1132	1286	1356	1606	1036	1259
	6	1403	1083	1203	1327	1523	1007	1236
	8	1210	890	1009	1133	1329	813	1072
WP-DF132S	2	2481	2129	2283	2386	2635	2034	2184
	4	2459	2107	2330	2321	2682	1969	2133
	6	2393	2041	2217	2284	2569	1932	2032
	8	1878	1526	1728	1745	2080	1393	1614
WP-DF132M	4	2449	2097	2339	2301	2691	1949	2117
	6	2372	2020	2227	2244	2579	1892	2002
	8	1874	1522	1733	1734	2085	1382	1605
WP-DF160M	2	2168	2663	2932	2002	2437	2202	3650
	4	2153	2648	2959	1960	2464	2160	3785
	6	2022	2517	2905	1777	2410	1977	3626
	8	1509	2004	2389	1250	1894	1450	3316
WP-DF160L	2	2144	2639	2950	1951	2455	2151	3613
	4	2123	2618	2982	1895	2487	2095	3738
	6	1973	2468	2946	1669	2451	1869	3544
	8	1464	1959	2435	1144	1940	1344	3233
WP-DF180M	2	2711	3274	3667	2465	3104	2665	4374
	4	2749	3312	3830	2426	3267	2626	4556
WP-DF180L	6	2575	3138	3785	2166	3222	2366	4334
	8	2266	2829	3469	1850	2906	2050	3979

All figures are based on L10aah life of 20,000 hours

## Mechanical: Axial and radial loads frames 200 to 355

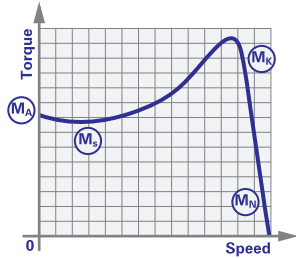
Maximum permissible external axial thrust and radial loads in Newtons (N)													
Type		Poles	Horizontal shaft		Vertical shaft				Maximum permissible radial load at end of shaft				
			Load towards motor	Load away from motor	Shaft up		Shaft down		standard ball bearing		roller bearing		
European (IEC)	British Std (BS)					Load towards motor	Load away from motor	Load towards motor	Load away from motor	European frame (IEC)	British Std frame (BS)	European frame (IEC)	British Std frame (BS)
WP-UDF200LX	WP-DF200LX	2	5435	4775	5005	5361	6021	4345	5125	5125	7541	7541	
		4	6058	5398	5531	6121	6781	4871	5588	5588	7541	7541	
		6	6055	5395	5457	6215	6875	4797	5536	5536	7541	7541	
		8	5781	5121	5183	5941	6601	4523	5252	5252	7541	7541	
WP-UDF225S	WP-DF225S	4	6692	6122	5941	7177	7747	5371	5963	5963	8202	8202	
		6	6770	6200	5935	7371	7941	5365	5982	5982	8202	8202	
		8	6441	5871	5606	7042	7612	5036	5648	5648	8202	8202	
WP-UDF225M	WP-DF225M	2	6729	6197	6084	7082	7614	6213	6602	6602	8745	8745	
		4	7530	6998	6745	8099	8631	6213	6868	6876	8921	8921	
		6	7640	7108	6673	8463	8995	6141	6856	6856	8921	8921	
		8	7293	6761	6326	8116	8648	5794	6501	6501	8921	8921	
WP-UDF250ME	WP-DF250S	2	6640	6108	5837	7209	7741	5305	6262	6262	8921	8921	
		4	9012	8418	8030	9794	10388	7436	8163	8163	11342	14166	
		6	9391	8797	8311	10311	10905	7717	8477	8477	11342	14166	
		8	9007	8413	7927	9927	10521	7333	8087	8087	11342	14166	
WP-UDF280SE	WP-DF250M	2	6505	5911	5472	7352	7946	4878	5692	5897	8242	8921	
		4	10241	9579	8943	11377	12039	8281	9260	9627	17105	14166	
		6	10846	10184	9423	12157	12819	8761	9336	10182	17105	14166	
		8	10400	9738	8977	11711	12373	8315	9336	9706	17105	14166	
WP-UDF280ME	WP-DF280S	2	6268	5736	5101	7355	7887	4569	5824	5795	9825	9503	
		4	9774	9112	8014	11534	12196	7352	9136	8842	17423	17348	
		6	10582	9920	8704	12524	13186	8042	9698	9386	17423	17348	
		8	10136	9474	8257	12077	12739	7595	9216	8919	17423	17348	
WP-UDF315SE	WP-DF280M	2	7443	6849	5921	8957	9551	5327	6804	6804	11342	11342	
		4	10305	9965	8299	12719	13059	7959	9443	9443	17414	17414	
		6	11190	10850	9050	13810	14150	8710	10042	10042	17414	17414	
		8	10797	10457	8657	13417	13757	8317	9630	9630	17414	17414	
WP-UDF315ME	WP-DF315S	2	7337	6743	5654	9082	9676	5060	6680	6680	11342	11342	
		4	10077	9737	7672	13044	13384	7332	9121	9121	17414	20887	
		6	10958	10618	8419	14131	14471	8079	9734	9734	17414	20887	
		8	10347	10007	7798	13510	13850	7458	9312	9312	17414	20887	
WP-UDF315M	WP-DF315M	2	7398	6804	5664	9154	9748	5070	6885	6885	11342	11342	
		4	10192	9852	8006	12862	13202	7666	9482	9482	17414	20748	
		6	11060	10720	8715	13971	14311	8375	10066	10066	17414	20748	
		8	10667	10327	8322	13578	13918	7982	9640	9640	17414	20748	
WP-UDF315L	WP-DF315L	2	7055	6461	5050	9164	9758	4456	6603	6606	11342	11342	
		4	10008	9668	7501	13123	13463	7161	9207	9207	17414	20748	
		6	10872	10532	8207	14229	14569	7867	9801	9801	17414	20748	
		8	10263	9923	7587	13609	13949	7247	9367	9367	17414	20748	
WP-UDF355S	WP-DF355S	2	6118	5524	3136	9692	10286	2542	-	-	12627	12627	
		4	12994	11454	8799	17389	18929	7259	-	-	27533	27533	
		6	14038	12498	9387	19143	20683	7847	-	-	27533	27533	
		8	14106	12566	9455	19211	20751	7915	-	-	27533	27533	
WP-UDF355M	WP-DF355M	2	5779	5185	2326	10050	10644	1732	-	-	12627	12627	
		4	12528	10988	7511	18055	19595	5971	-	-	27533	27533	
		6	13148	11608	7523	19533	21073	5983	-	-	27533	27533	
		8	13214	11674	7589	19599	21139	6049	-	-	27533	27533	
WP-UDF355L	WP-DF355L	2	5595	5001	1734	10396	10990	1140	-	-	12627	12627	
		4	12343	10803	7038	18282	19822	5498	-	-	27533	27533	
		6	12936	11396	6980	19794	21334	5440	-	-	27533	27533	
		8	13002	11462	7046	19860	21400	5506	-	-	27533	27533	

All figures are based on L10aah life of 20,000 hours

# Technical information

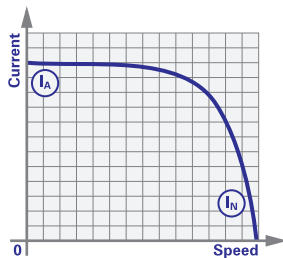
## Performance page notes, Environmental conditions Drip proof canopy

### Typical speed / torque curve



$(M_A)$  - Starting torque or locked rotor torque  
 $(M_B)$  - Pull up torque or run up torque  
 $(M_C)$  - Pull out torque or breakdown torque  
 $(M_N)$  - Full load torque

### Typical speed / current curve



$(I_A)$  - Starting current  
 $(I_N)$  - Full load current

### Notes

During the run up period in Star, there must be an adequate excess of motor torque over the load torque. The change to Delta must not occur until the motor is near the operating speed.

Refer to Brook Crompton for running up against a load in excess of 70% full load during Star Delta starting.

Motors are wound for either 230 / 400 volts or 400 / 690 volts

Performance figures are subject to EN tolerances.

Performance figures are based on a 400 volt winding.

Performance data within this catalogue, is from motor testing in accordance with EN 60034-2-1: 2007.

### J Rotor Inertia

$$J \text{ (WK}^2 \text{ or WR}^2) = \frac{GD^2}{4}$$

$$J \text{ in lb ft}^2 : \frac{\text{kgm}^2}{0.042}$$

## Environmental conditions

### High ambient temperatures and High Altitudes

The kW ratings listed in this catalogue apply to standard motors operating in ambient temperatures not exceeding 40°C and altitudes up to 1000m above sea level.

When operating a standard motor in higher ambient temperatures or at higher altitudes, derating may be necessary in order to maintain its operating temperature limit.

The listed factors in the table to the right should be used for derating.

### Eup Efficiency Levels

Motors working from -30°C to +60°C and up to 4000m above sea level, efficiencies must be in-line with the legislated ErP efficiency levels.

Where a de-rate is applied for ambient +40°C to +60°C or altitude 1000m a.s.l. to 4000m a.s.l. the efficiency at the de-rate must meet IE2 / IE3 / IE4 levels.

### Derating factor for high ambient temperatures

	Ambient temperature			
	45°C	50°C	55°C	60°C
<b>Class B temperature limits</b>	0.96	0.93	0.87	0.83
<b>Class F temperature limits</b>	1.0	1.0	1.0	0.95

### Derating factor for altitude

	Altitude			
	1000m	2000m	3000m	4000m
<b>Class B temperature limits</b>	1.0	0.94	0.85	0.75
<b>Class F temperature limits</b>	1.0	1.0	1.0	0.95

## Drip proof canopy (impact canopy)

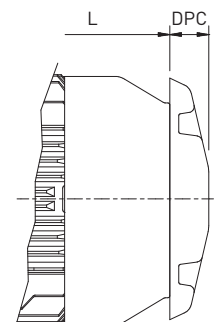
A drip proof canopy (impact canopy) can be fitted to the W cast iron range.

To find the overall length of a motor fitted with a drip proof canopy, please add dimension 'DPC' to dimension 'L'.

### Overall length + DPC

Type	L + DPC
80 to 90	'L' + 29mm
100 to 112	'L' + 30mm
132 to 180	'L' + 40mm
200LX to 250S	'L' + 45mm
250M to 315L	'L' + 50mm
355S to 355L	'L' + 65mm

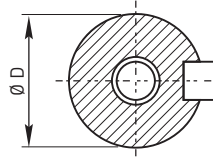
For dimension 'L' see the 'General Dimensions' tables on pages 12 to 17.



## Dimension page notes

### Shaft and Flange spigot tolerances

Shaft		
Dim $\varnothing$ D	Tol.	Limits
11 to 14	j6	+0.008 -0.003
19 to 28	j6	+0.009 -0.004
38 to 48	k6	+0.018 +0.002
55 to 80	k6	+0.030 +0.011
85 to 110	k6	+0.035 +0.013



All dimensions shown are in millimetres

**Dimensions should not be used for installation purposes unless specially endorsed**

B5 D Flange mounted motors have suffix '-D' in the frame reference, eg WP-DF112MVX-D.

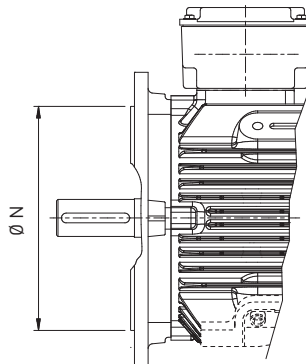
B35 Foot & D Flange mounted motors have suffix '-H' in the frame reference, eg WP-DF112MVX-H

B14 C face mounted motors have suffix 'C' in the frame reference, eg WP-DF112MVX-C and

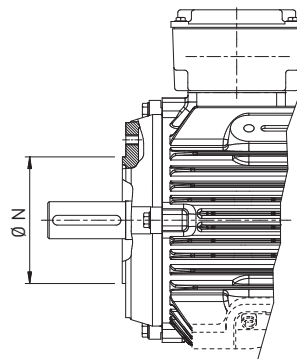
B34 Foot & C Face mounted motors have suffix '-H' in the frame reference, eg WP-DF112MVX-H

^ - Indicates deep endshield at NDE.

D Flange		
Dim $\varnothing$ N	Tol.	Limits
110	j6	+0.013 -0.009
130	j6	+0.014 -0.011
230 to 250	j6	+0.016 -0.013
300	j6	+0.016 -0.016
350	j6	+0.018 -0.018
450	j6	+0.020 -0.020
550	j6	+0.022 -0.022
680	js6	+0.025 -0.025



C Face		
Dim $\varnothing$ N	Tol.	Limits
70 & 80	j6	+0.012 -0.007
95 & 110	j6	+0.013 -0.009
130	j6	+0.014 -0.011
230	j6	+0.016 -0.013



## Europe

### **Brook Crompton UK Ltd**

St Thomas' Road Huddersfield  
West Yorkshire HD1 3LJ UK  
T: +44 (0) 1484 557200  
F: +44 (0) 1484 557201  
E: sales@brookcrompton.com  
www.brookcrompton.com

### **Brook Crompton UK LTD - Sede secondaria in Italia**

Via De Chirico, 9/11  
42124 - Reggio Emilia (RE)  
T: +39 0522 345055  
E: italy@brookcrompton.com  
www.brookcrompton.com

## Asia

### **Brook Crompton Asia Pacific Pte Ltd**

19 Keppel Road #08-01, Jit Poh Building  
Singapore 089058  
T: +65 6227 0308  
F: +65 6227 0605  
E: marketing@brookcrompton-ap.com  
www.brookcrompton.com

### **Brook Crompton Australia Pty Ltd**

5/220 New Cleveland Road,  
Tingalpa, Queensland  
Australia  
T: +61 413 431 978  
E: australia@brookcrompton.com  
www.brookcrompton.com

## Americas

### **Brook Crompton Inc**

1100 E. 222nd Street  
Euclid, Ohio 44117, USA  
T: +1 800 668 6779  
T: +1 - 800 463 8917  
E: sales@brookcromptonna.com  
www.brookcromptonna.com

### **Brook Crompton Ltd**

264 Attwell Drive  
Toronto, Ontario, M9W 5B2, Canada  
T: + 416 675 3844 (Toronto)  
T: +1 888 668 9843 (Quebec)  
E: sales@brookcromptonna.com  
www.brookcromptonna.com

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