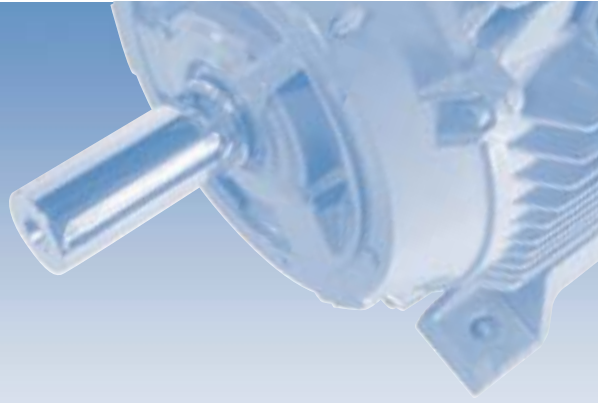


W EEx nA non-sparking motors



Frames 80 - 355L



**BROOK
CROMPTON**

W EEx nA non-sparking motors 80 - 355L



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.

All of our factories have been assessed to meet these requirements, a further assurance that only the highest possible standards of quality are accepted.

W EEx nA motors

Brook Crompton has one of the widest available ranges of electric motors for operation in hazardous atmospheres and hostile environments.

We have over 90 years' technical and design experience in this most specialised market and are able to ensure the correct selection of motors for any application, taking into full account the two most important factors to be considered - safety and economy.

The W EEx nA non-sparking motor range covers products with outputs from as little as 0.18kW to 400kW in frame sizes 80 to 355L. Motors are manufactured in factories that are licensed by a European notified body (eg EECS/BASEEFA, PTB), meeting rigorous quality controls.

Benefits include:

- high efficiency for low running costs
- high reliability for long life
- low noise levels
- cool running for long insulation life
- Eurovoltage: 400V \pm 10%
- dual frequency: 50Hz and 60Hz
- high power factors
- high torque with smooth acceleration and low current
- 2-year warranty
- IP55 protection
- 4-position cable entry

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. Please check the ECA scheme website: www.eca.gov.uk at time of purchase for current listing.

ATEX

Brook Crompton's range of EEx nA motors are fully compliant with the requirements of ATEX Directive (94/9/EC).

Standards and environment

Standards

Standards							
Range	National standard			International	North American		
	UK	European					
Standard	BS	BS	VDE	DIN	NF	IEC	NEMA*
Outputs	BS 5000 part 10, appendix A	BS 5000 part 10	-	DIN 42673, DIN 42677	NF C51-110	-	MG1 part 10
Performance	BS 4999 Part 101	BS 4999 part 101	VDE 0530 part 1	-	NF C51-111	IEC 60034-1	MG1 part 12
Dimensions	BS 4999 part 141	as DIN and NF	-	DIN 42673, DIN 42677	NF C51-105, NF C51-120	IEC 60072-1	MG1 part 4
Mounting	EN 60034-7	EN 60034-7	-	DIN 42950	NF C51-117	IEC 60034-7	MG1 part 4
Degrees of IP protection	EN 60034-5	EN 60034-5	-	DIN 40050	NF C51-115	IEC 60034-5	MG1-1.26B
EEx nA Non-sparking	EN 50014 EN 50021	EN 50014 EN 50021	-	-	-	IEC 60079-15	-

standard motor complies
 optional

*Motors complying with IEC 60034-1 also comply with many of the national standards of other European countries, eg CEI 203 (Italy), NBN7 (Belgium), NEN 3173 (Netherlands), SEN 2601 01 (Sweden) *Motors to NEMA standards have CSA approval and generally comply with Canadian (EEMAC) standards.*

Environment Enclosure

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

European directives

Four European directives apply in varying degrees to ac induction motors. Brook Crompton comply in the following manner:

Motor cooling

Motors are cooled in accordance with EN 60034-6. The normal arrangement is IC411 (Totally Enclosed Fan Ventilated) via a fan mounted at the non-drive end.

Alternative methods of cooling available on request.

Compliance with European directives applying to AC induction motors				
Directives	Low voltage (LV)	Machinery (MD)	Electromagnetic compatibility (EMC)	ATEX
Reference numbers	73/23/EEC 93/68/EEC	89/392/EEC 91/368/EEC 93/44/EEC 93/68/EEC	89/336/EEC 92/31/EEC 93/68/EEC	94/9/EC
Motor CE marked	Yes	No	No	YES
Standards	EN 60034	Not applicable	EN 60034-1	EN 50014 EN 50021
Documentation for customers' technical file	Declaration of conformity	Certificate of incorporation	Statement ⁽¹⁾	Declaration of conformity
Safety instructions with every motor	Yes	Yes	Yes	Yes
Comment	Relevant electrical equipment operating between 50 to 1000 volts AC	Statement ⁽²⁾	Component	Hazardous atmosphere equipment - mandatory after July 2003

⁽¹⁾ 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

⁽²⁾ 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 4(2) and Annex IIB of that Directive (98/37/EEC)

EEx nA and EEx nA EEMUA specification



EEx nA (non-sparking) motors

Frame Sizes W-DF80 to W-DF355
Suitable for use in Group II Zone 2 locations.

General

The construction of EEx nA motors is similar to standard TEFV motors, but with special attention to eliminate production of arcs, sparks or dangerous surface temperatures. Air gap concentricity is rigidly inspected throughout manufacture, and the structure of the motor is impact-tested. All motors comply with the requirements of the ATEX Directive (94/9/EC).

Temperature class

An important feature of the motor design is the limitation imposed on the external or internal surface temperature that can be attained under all conditions except starting. This range of motors is suitable for use in gases with auto ignition temperature not lower than T3, ie 200°C. For temperature classes T4, T5 and T6 - please consult Brook Crompton.

Terminal box

Standard and alternative terminal box positions are available as detailed in the table below (positions detailed are looking on drive end of motor).

Terminal box positions available			
Frame size	Top	LHS	RHS
W-DF80-90	-	Alternative	Standard
W-DF100-180	Alternative	Alternative	Standard
W-DF200-355	Standard	Alternative	Alternative

Impact covers

Designed to prevent the ingress of falling foreign bodies, impact covers are fitted on motors when mounted vertically, shaft down.

Vertically mounted motors fitted with impact cover		
European frame	BS frame	Increase in L Dim
W-DF80M-90L	W-DF80M-90L	29
W-DF100L-112M	W-DF100L-112M	30
W-DF132S-180L	W-DF132S-180L	40
W-UDF200LX	W-DF200LX	45
W-UDF225S/M	W-DF225S/M	45
W-UDF250ME	W-DF250S	45
W-UDF280SE	W-DF250M	48
W-UDF280ME	W-DF280S	48
W-UDF315SE	W-DF280M	48
W-UDF315ME	W-DF315S	48
W-UDF315M/L	W-DF315M/L	53
W-UDF355S/M/L	W-DF355S/M/L	65

Certification

The motors are certified by a European notified body who also grant the licence to manufacture

Certificate Numbers	
Frame size	Certificate No
W-DF80 to W-DF180	BAS00ATEX3119X
W-DF200 to W-DF355L	BAS00ATEX3133X



EEx nA motor certification plate

Dual zones

Some installations may be subjected to more than one type of hazard. The presence of gases and vapours etc may occur with combustible dusts. Under these circumstances, it is possible to supply motors with certification for both hazards. Further details are available from Brook Crompton.

Frame size	Heater rating	
	240V	110V
80	12	12
90	12	12
100	12	12
112	14	14
132	24	24
160	40	40
180	40	40
200	29	29
225	48	42
250	48	42
280	96	84
315	96	84
355	192	169

Terminal pin cable capacity and terminal nut tightening torque					
Frame size	T box size	Cable capacity (mm ²)		Tightening torque (Nm)	
		Mains terminals	Aux terminals	Mains terminals	Aux terminals
80-100	80-100	4 (M4)	4	1.5	0.5-0.8
	112-132	10 (M5)	4	3	0.5-0.8
112-132	112-132	10 (M5)	4	3	0.5-0.8
	160-180	16 (M6)	4	5	0.5-0.8
160-180	160-180	16 (M6)	4	5	0.5-0.8
200L-280S	200-280S	95 (M10)	2.5	26	1
280M-355L	280M-355L	300 (M10)	2.5	26	1

EEx nA EEMUA (non-sparking) motors

Frame sizes W-DF80 to W-DF355
Suitable for use in Group II Zone 2 locations.

General

The Brook Crompton EEx nA EEMUA motor range covers products from 0.18kW to 280kW.

Standards

All motors comply with the requirements of EEMUA (The Engineering Equipment and Materials Users Association) Pub no 132-1988 and with leading petro-chemical industry specifications. They are manufactured in accordance with EN 50021 and are certified for use in Zone 2, hazardous areas.

Performance

In accordance with BS 5000 Part 99 and IEC60034-1. Motors up to and including 40kW rated output have a starting characteristic in accordance with BS 4999 Part 112, design N. Motors above 40kW rated output have a characteristic in accordance with design D. Full performance data is available on request.

Temperature class

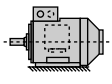
Maximum surface temperatures are limited to T3.

Mechanical features

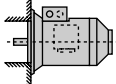
- Ferrous cooling fans
- Sheet steel fan covers
- Collar type eyebolts
- Cast iron stator frames and endshields
- Reduced balance
- IP55 enclosure
- Specially stamped nameplate
- Through greasing frames 160 and above
- Phase barriers, for use with either shell clamps or uninsulated cable lugs, are standard on motors to EEMUA. By fitting a larger terminal box, solid aluminium cables can be catered for.

Mounting options

Horizontal shaft:



IM B3
IM 1001
foot mounted



IM B5
IM 3001
flange at DE
no feet



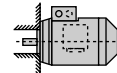
IM B6
IM 1051
foot wall mounted with
feet on left-hand side
when viewed from DE



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

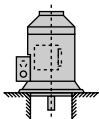


IM B8
IM 1071
ceiling mounted
with feet
above motor

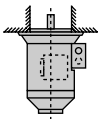


IM B14
IM 3601
face at DE
no feet

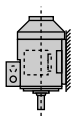
Vertical shaft:



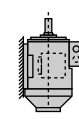
IM V1
IM 3011
flange at DE
shaft down
no feet



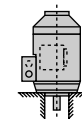
IM V3
IM 3031
flange at DE
shaft up
no feet



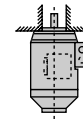
IM V5
IM 1011
vertical foot
wall mounted
shaft down



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 down
no feet

Approximate shipping specifications

Type		Net weight (kg)	Gross weight (kg)	Cubage (m ³)
European	BS			
W-DF80M	W-DF80M	15	16.5	0.02
W-DF90S	W-DF90S	19	20.5	0.03
W-DF90L	W-DF90L	22	23.5	0.03
W-DF100L	W-DF100L	35.5	38	0.03
W-DF112M	W-DF112M	45	48	0.05
W-DF132S	W-DF132S	68	71	0.08
W-DF132M	W-DF132M	72.5	78.5	0.08
W-DF160M	W-DF160M	121	133	0.15
W-DF160L	W-DF160L	133	145	0.15
W-DF180M	W-DF180M	162	178	0.21
W-DF180L	W-DF180L	177.5	193.5	0.21
W-UDF200LX	W-DF200LX	255	270	0.30
W-UDF225S	W-DF225S	320	335	0.37
W-UDF225M	W-DF225M	375	390	0.37
W-UDF250ME	W-DF250S	420	460	0.63
W-UDF280SE	W-DF250M	570	610	0.70
W-UDF280ME	W-DF280S	660	721	1.2
W-UDF315SE	W-DF280M	800	871	1.2
W-UDF315ME	W-DF315S	1000	1095	1.8
W-UDF315M	W-DF315M	1100	1195	1.8
W-UDF315L	W-DF315L	1300	1395	1.8
W-UDF355S	W-DF355S	2000	2120	2.3
W-UDF355M	W-DF355M	2300	2420	2.3
W-UDF355L	W-DF355L	2500	2620	2.3

Performance data

3000 min⁻¹ (2 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio⁽¹⁾
Star delta starting current ratio
Star delta pull up torque
Rotor inertia Mk^2
Mean sound pressure level @ 1m on no load

P_N kW (hp)	n min ⁻¹	Type	I_N			η 1.0 P_N 0.75 P_N 0.5 P_N	Cos ϕ 1.0 P_N 0.75 P_N 0.5 P_N	M_N Nm	$\frac{M_A}{M_N}$	$\frac{I_A}{I_N}$	$\frac{M_K}{M_N}$	$\frac{M_S}{M_N}$	$\frac{M_A}{M_N}$ Y	$\frac{I_A}{I_N}$ Y	$\frac{M_S}{M_N}$ Y	J kgm ²	L_{pA} dB(A)
			380 V A	400 V A	415 V A												
0.75 (1)	2850	W-DF80ME ⁽¹⁾	1.77	1.69	1.69	$\left\{ \begin{matrix} 77.0 & 0.83 \\ 77.0 & 0.77 \\ 73.0 & 0.65 \end{matrix} \right\}$		2.5	2.2	5.5	2.5	2.0	-	-	-	0.0014	64
1.1 (1.5)	2875	W-DF80MJ ⁽¹⁾	2.51	2.39	2.39	$\left\{ \begin{matrix} 81.0 & 0.82 \\ 81.0 & 0.75 \\ 78.0 & 0.63 \end{matrix} \right\}$		3.7	2.7	6.7	2.7	2.4	-	-	-	0.0019	64
1.5 (2)	2850	W-DF90SF ⁽¹⁾	3.4	3.2	3.2	$\left\{ \begin{matrix} 82.0 & 0.82 \\ 83.0 & 0.75 \\ 81.0 & 0.63 \end{matrix} \right\}$		5.0	2.5	6.0	3.0	2.2	-	-	-	0.0023	64
2.2 (3)	2860	W-DF90LM ⁽¹⁾	4.6	4.4	4.4	$\left\{ \begin{matrix} 84.0 & 0.86 \\ 85.0 & 0.81 \\ 83.0 & 0.71 \end{matrix} \right\}$		7.4	2.5	6.3	3.0	2.2	-	-	-	0.0028	64
3 (4)	2880	W-DF100LJ ⁽¹⁾	5.9	5.7	5.7	$\left\{ \begin{matrix} 86.5 & 0.88 \\ 87.0 & 0.83 \\ 86.5 & 0.75 \end{matrix} \right\}$		10.0	3.0	7.8	3.1	2.6	-	-	-	0.006	60
4 (5.5)	2870	W-DF112MM ⁽¹⁾	7.6	7.2	7.2	$\left\{ \begin{matrix} 88.0 & 0.91 \\ 89.0 & 0.89 \\ 89.0 & 0.85 \end{matrix} \right\}$		13.3	3.0	7.8	3.1	2.8	0.85	2.8	0.80	0.008	60
5.5 (7.5)	2910	W-DF132SE ⁽¹⁾	10.5	10.0	10.0	$\left\{ \begin{matrix} 89.5 & 0.89 \\ 89.5 & 0.85 \\ 88.0 & 0.73 \end{matrix} \right\}$		18.1	2.7	8.2	3.1	2.4	0.80	2.4	0.75	0.017	66
7.5 (10)	2900	W-DF132SJ ⁽¹⁾	14.0	13.3	13.3	$\left\{ \begin{matrix} 89.5 & 0.91 \\ 90.0 & 0.89 \\ 89.0 & 0.82 \end{matrix} \right\}$		24.7	2.5	8.2	3.0	2.3	0.75	2.5	0.70	0.02	66
11 (15)	2935	W-DF160MB ⁽¹⁾	20.7	19.7	19.7	$\left\{ \begin{matrix} 90.5 & 0.89 \\ 90.8 & 0.86 \\ 89.7 & 0.79 \end{matrix} \right\}$		35.8	2.2	7.8	3.0	1.8	0.65	2.5	0.60	0.039	68
15 (20)	2935	W-DF160MJ ⁽¹⁾	27.7	26.3	26.3	$\left\{ \begin{matrix} 91.3 & 0.90 \\ 91.5 & 0.88 \\ 91.2 & 0.80 \end{matrix} \right\}$		48.8	2.2	8.0	3.1	1.9	0.65	2.6	0.60	0.045	68
18.5 (25)	2940	W-DF160LR ⁽¹⁾	34	32	32	$\left\{ \begin{matrix} 91.8 & 0.91 \\ 92.1 & 0.89 \\ 91.3 & 0.81 \end{matrix} \right\}$		60.2	2.4	8.7	3.2	1.9	0.78	2.7	0.65	0.056	68
22 (30)	2950	W-DF180ME ⁽¹⁾	39	37	37	$\left\{ \begin{matrix} 92.2 & 0.92 \\ 92.2 & 0.90 \\ 91.0 & 0.84 \end{matrix} \right\}$		71.4	2.2	9.0	3.1	1.9	0.65	2.8	0.60	0.094	68
30 (40)	2940	W-UDF200LGX ⁽²⁾ W-DF200LGX ⁽³⁾	55	52	51	$\left\{ \begin{matrix} 92.9 & 0.89 \\ 93.0 & 0.86 \\ 92.0 & 0.80 \end{matrix} \right\}$		97	2.7	7.8	2.9	2.3	0.75	2.5	0.60	0.15	73
37 (50)	2940	W-UDF200LNX ⁽²⁾ W-DF200LNX ⁽³⁾	67	64	62	$\left\{ \begin{matrix} 93.3 & 0.89 \\ 93.4 & 0.86 \\ 92.5 & 0.80 \end{matrix} \right\}$		120	2.7	7.8	2.9	2.3	0.75	2.5	0.60	0.18	73
45 (60)	2955	W-UDF225MN ⁽²⁾ W-DF225MN ⁽³⁾	81	77	74	$\left\{ \begin{matrix} 93.7 & 0.90 \\ 93.7 & 0.88 \\ 92.5 & 0.83 \end{matrix} \right\}$		145	2.3	7.8	2.8	1.9	0.65	2.5	0.50	0.47	75
55 (75)	2955	W-UDF250MNE ⁽²⁾ W-DF250SN ⁽³⁾	99	94	90	$\left\{ \begin{matrix} 94.0 & 0.90 \\ 94.2 & 0.88 \\ 93.0 & 0.83 \end{matrix} \right\}$		178	2.3	7.8	2.8	1.9	0.65	2.5	0.50	0.56	75

⁽¹⁾ European and BS frame reference
⁽²⁾ European frame reference
⁽³⁾ BS frame reference

Performance data

3000 min⁻¹ (2 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio⁽¹⁾
Star delta starting current ratio
Star delta pull up torque
Rotor inertia Wk^2
Mean sound pressure level @ 1m on no load

P _N kW (hp)	n min ⁻¹	Type	I _N			η 1.0 P _N 0.75 P _N 0.5 P _N	Cos φ 1.0 P _N 0.75 P _N 0.5 P _N	M _N Nm	M _A M _N	I _A I _N	M _K M _N	M _S M _N	M _A M _N Y	I _A I _N Y	M _S M _N Y	J kgm ²	L _{PA} dB(A)
			380 V A	400 V A	415 V A												
75 (100)	2960	W-UDF280SNE ⁽²⁾ W-DF250MN ⁽³⁾	134	127	123	{ 94.6 94.9 93.4 }	{ 0.90 0.88 0.83 }	242	2.2	7.8	3.0	2.0	0.65	2.5	0.50	0.7	77
90 (125)	2960	W-UDF280MNE ⁽²⁾ W-DF280SN ⁽³⁾	160	152	146	{ 95.0 95.0 93.5 }	{ 0.90 0.88 0.83 }	290	2.2	7.8	3.0	2.0	0.65	2.5	0.50	0.8	77
110 (150)	2978	W-UDF315SNE ⁽²⁾ W-DF280MN ⁽³⁾	194	184	177	{ 95.8 95.4 94.0 }	{ 0.90 0.88 0.83 }	353	2.2	7.8	2.9	1.8	0.65	2.5	0.45	1.4	78
132 (175)	2978	W-UDF315MNE ⁽²⁾ W-DF315SN ⁽³⁾	233	221	213	{ 95.8 95.4 94.0 }	{ 0.90 0.88 0.83 }	423	2.2	7.8	2.9	1.8	0.65	2.5	0.45	1.7	78
150 (200)	2980	W-UDF315MN ⁽²⁾ W-DF315MN ⁽³⁾	260	247	238	{ 96.2 95.8 94.3 }	{ 0.91 0.89 0.85 }	481	2.0	7.8	2.75	1.7	0.60	2.5	0.45	2.4	80
160 (215)	2980	W-UDF315MP ⁽²⁾ W-DF315MP ⁽³⁾	277	264	254	{ 96.3 95.9 94.4 }	{ 0.91 0.89 0.85 }	513	2.0	7.8	2.75	1.7	0.60	2.5	0.45	2.6	80
185 (250)	2980	W-UDF315LN ⁽²⁾ W-DF315LN ⁽³⁾	320	304	294	{ 96.4 96.2 94.8 }	{ 0.91 0.89 0.85 }	593	2.0	7.8	2.75	1.7	0.60	2.5	0.45	2.8	80
200 (270)	2978	W-UDF315LN ⁽²⁾ W-DF315LN ⁽³⁾	346	329	317	{ 96.4 96.2 94.8 }	{ 0.91 0.89 0.85 }	641	1.85	7.2	2.5	1.6	0.55	2.3	0.42	2.8	80
225 (300)	2982	W-UDF355SG ⁽²⁾ W-DF355SG ⁽³⁾	398	379	364	{ 96.4 95.9 94.6 }	{ 0.89 0.87 0.85 }	721	2.0	7.5	2.7	1.6	0.65	2.3	0.45	5.0	80
250 (335)	2982	W-UDF355SJ ⁽²⁾ W-DF355SJ ⁽³⁾	445	421	405	{ 96.4 96.0 94.8 }	{ 0.89 0.87 0.85 }	801	2.0	7.5	2.7	1.6	0.65	2.3	0.45	5.3	80
280 (375)	2982	W-UDF355SN ⁽¹⁾ W-DF315SN ⁽³⁾	496	471	454	{ 96.4 96.1 94.9 }	{ 0.89 0.87 0.85 }	897	2.0	7.5	2.7	1.6	0.65	2.3	0.45	5.9	80
315 (420)	2982	W-UDF355MJ ⁽²⁾ W-DF355MJ ⁽³⁾	551	524	505	{ 96.5 96.2 95.2 }	{ 0.90 0.89 0.86 }	1009	2.0	7.5	2.7	1.6	0.65	2.3	0.45	6.3	80
355 (475)	2982	W-UDF355MN ⁽²⁾ W-DF355MN ⁽³⁾	621	590	569	{ 96.5 96.3 95.4 }	{ 0.90 0.89 0.86 }	1137	2.0	7.5	2.7	1.6	0.65	2.3	0.45	7.0	80
400 (535)	2985	W-UDF355LN ⁽²⁾ W-DF355LN ⁽³⁾	691	657	633	{ 96.6 96.4 95.6 }	{ 0.91 0.90 0.87 }	1280	2.0	7.5	2.7	1.6	0.65	2.3	0.45	8.0	80

⁽¹⁾ European and BS frame reference
⁽²⁾ European frame reference
⁽³⁾ BS frame reference

Performance data

1500 min⁻¹ (4 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio (1)
Star delta starting current ratio
Star delta pull up torque
Rotor inertia Jk²
Mean sound pressure level @ 1m, no load

P _N kW (hp)	n min ⁻¹	Type	I _N			η		Cos φ		M _N Nm	M _Δ M _N	I _Δ I _N	M _K M _N	M _S M _N	M _Δ M _N Y	I _Δ I _N Y	M _S M _N Y	J kgm ²	L _{PA} dB(A)
			380 V A	400 V A	415 V A	1.0 P _N 0.75 P _N 0.5 P _N	1.0 P _N 0.75 P _N 0.5 P _N	1.0 P _N 0.75 P _N 0.5 P _N	1.0 P _N 0.75 P _N 0.5 P _N										
0.55 (0.75)	1410	W-DF80ME ⁽¹⁾	1.66	1.58	1.58	75.0 75.0 70.0	0.67 0.57 0.45		3.7	2.0	4.2	2.4	1.8	-	-	-	0.0015	47	
0.75 (1)	1410	W-DF80MG ⁽¹⁾	1.97	1.88	1.88	78.0 79.0 77.0	0.74 0.65 0.50		5.1	1.8	4.4	2.2	1.6	-	-	-	0.0019	47	
1.1 (1.5)	1435	W-DF90SE ⁽¹⁾	2.76	2.63	2.63	79.5 80.0 78.0	0.76 0.66 0.52		7.5	2.2	5.1	2.5	2.0	-	-	-	0.0028	48	
1.5 (2)	1435	W-DF90LK ⁽¹⁾	3.7	3.5	3.5	81.0 82.0 80.0	0.77 0.68 0.55		10.1	2.5	5.6	2.8	2.2	-	-	-	0.0035	48	
2.2 (3)	1440	W-DF100LJ ⁽¹⁾	5.0	4.8	4.8	83.5 83.5 83.0	0.80 0.74 0.61		14.8	2.2	5.5	2.5	1.9	-	-	-	0.008	54	
3 (4)	1445	W-DF100LR ⁽¹⁾	6.7	6.4	6.4	84.5 85.5 85.0	0.80 0.74 0.61		20.2	2.3	5.8	2.5	2.1	-	-	-	0.09	54	
4 (5.5)	1445	W-DF112MS ⁽¹⁾	8.7	8.3	8.3	86.5 87.0 86.0	0.80 0.74 0.60		26.5	2.5	7.0	2.9	2.1	0.75	2.2	0.65	0.015	56	
5.5 (7.5)	1450	W-DF132SJ ⁽¹⁾	11.6	11.0	11.0	88.0 88.5 88.0	0.82 0.76 0.64		36.2	2.4	7.5	2.9	2.1	0.70	2.2	0.60	0.027	59	
7.5 (10)	1460	W-DF132MR ⁽¹⁾	15.4	14.7	14.7	89.0 89.5 89.0	0.83 0.77 0.65		49.4	2.5	7.5	2.9	2.1	0.70	2.2	0.60	0.029	59	
11 (15)	1470	W-DF160MJ ⁽¹⁾	22	21	21	91.0 91.2 90.5	0.83 0.79 0.67		71.5	2.5	7.7	2.9	2.0	0.65	2.3	0.50	0.068	63	
15 (20)	1470	W-DF160LR ⁽¹⁾	29.5	28.1	28.1	91.8 92.3 91.7	0.84 0.79 0.68		97.5	2.5	7.7	2.9	2.0	0.65	2.3	0.50	0.084	63	
18.5 (25)	1470	W-DF180ME ⁽¹⁾	36	34	34	92.2 92.3 91.3	0.84 0.79 0.64		120	2.8	8.4	3.2	2.2	0.80	2.6	0.65	0.16	62	
22 (30)	1470	W-DF180LJ ⁽¹⁾	43	41	41	92.6 92.9 92.5	0.84 0.80 0.69		143	2.5	7.5	2.9	2.0	0.75	2.2	0.60	0.19	62	
30 (40)	1470	W-UDF200LN ⁽²⁾ W-DF200LN ⁽³⁾	57	54	52	93.2 93.2 92.3	0.86 0.84 0.75		195	2.3	7.5	3.2	1.9	0.7	2.4	0.55	0.31	65	
37 (50)	1470	W-UDF225SN ⁽²⁾ W-DF225SN ⁽³⁾	70	66	64	93.6 93.6 92.5	0.86 0.84 0.75		240	2.3	7.3	3.2	1.9	0.7	2.3	0.55	0.45	66	
45 (60)	1475	W-UDF225MN ⁽²⁾ W-DF225MN ⁽³⁾	84	80	77	93.9 94.2 93.0	0.86 0.84 0.75		292	2.7	7.7	3.2	1.9	0.75	2.5	0.55	0.65	67	
55 (75)	1475	W-UDF250MNE ⁽²⁾ W-DF250SN ⁽³⁾	103	98	94	94.2 94.6 93.5	0.86 0.84 0.75		357	2.7	7.7	3.2	1.9	0.75	2.5	0.55	0.75	67	

⁽¹⁾ European and BS frame reference

⁽²⁾ European frame reference

⁽³⁾ BS frame reference

Performance data

1500 min⁻¹ (4 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio (1)
Star delta starting current ratio
Star delta pull up torque
Rotor inertia Wk²
Mean sound pressure level @ 1m on no load

P _N kW (hp)	n min ⁻¹	Type	I _N			η 0.75 P _N 0.5 P _N	Cos Ø 1.0 P _N 0.75 P _N 0.5 P _N	M _N Nm	M _Δ M _N	I _Δ I _N	M _κ M _N	M _S M _N	M _Δ M _N Y	I _Δ I _N Y	M _S M _N Y	J kgm ²	L _{PA} dB(A)
			380 V A	400 V A	415 V A												
75 (100)	1475	W-UDF280SNE ⁽²⁾ W-DF250MN ⁽³⁾	138	131	126	94.7 94.8 93.5	0.87 0.85 0.75	486	2.4	7.4	2.7	1.9	0.72	2.3	0.54	1.4	69
90 (125)	1475	W-UDF280MNE ⁽²⁾ W-DF280SN ⁽³⁾	165	157	151	95.0 95.1 93.8	0.87 0.85 0.75	583	2.5	7.4	2.8	2.0	0.75	2.4	0.55	1.6	69
110 (150)	1480	W-UDF315SNE ⁽²⁾ W-DF280MN ⁽³⁾	201	191	184	95.6 95.5 94.0	0.87 0.85 0.77	710	2.4	7.7	2.6	2.0	0.70	2.5	0.5	3.2	71
132 (175)	1482	W-UDF315MNE ⁽²⁾ W-DF315SN ⁽³⁾	241	229	220	95.8 95.6 94.2	0.87 0.85 0.77	852	2.4	7.7	2.6	2.0	0.70	2.5	0.5	3.7	71
150 (200)	1485	W-UDF315MN ⁽²⁾ W-DF315MN ⁽³⁾	270	257	247	95.9 95.7 94.7	0.88 0.86 0.78	965	2.4	7.8	2.7	2.0	0.70	2.5	0.5	4.4	73
160 (215)	1487	W-UDF315MP ⁽²⁾ W-DF315MP ⁽³⁾	288	274	264	95.9 95.7 94.7	0.88 0.86 0.78	1029	2.4	7.8	2.7	2.0	0.70	2.5	0.5	4.7	73
185 (250)	1487	W-UDF315LN ⁽²⁾ W-DF315LN ⁽³⁾	333	316	305	96.0 95.8 95.0	0.88 0.86 0.78	1190	2.4	7.8	2.7	2.0	0.70	2.5	0.5	5.5	73
200 (270)	1485	W-UDF315LN ⁽²⁾ W-DF315LN ⁽³⁾	360	342	329	96.0 95.8 95.0	0.88 0.86 0.78	1286	2.3	7.6	2.6	1.9	0.65	2.4	0.45	5.5	73
225 (300)	1487	W-UDF355SG ⁽²⁾ W-DF355SG ⁽³⁾	398	379	365	96.4 96.2 95.4	0.89 0.86 0.80	1445	2.1	7.2	2.5	1.7	0.65	2.2	0.5	8.2	76
250 (335)	1487	W-UDF355SJ ⁽²⁾ W-DF355SJ ⁽³⁾	442	420	405	96.6 96.4 95.6	0.89 0.86 0.80	1605	2.1	7.2	2.5	1.7	0.65	2.2	0.5	9.5	76
280 (375)	1487	W-UDF355SN ⁽²⁾ W-DF355SN ⁽³⁾	494	470	453	96.7 96.5 95.8	0.89 0.87 0.81	1798	2.1	7.2	2.5	1.7	0.65	2.2	0.5	10.6	76
315 (420)	1487	W-UDF355MJ ⁽²⁾ W-DF355MJ ⁽³⁾	556	528	509	96.8 96.7 96.0	0.89 0.88 0.83	2023	2.1	7.2	2.5	1.7	0.65	2.2	0.5	11.9	79
355 (475)	1487	W-UDF355MN ⁽²⁾ W-DF355MN ⁽³⁾	619	588	567	96.8 96.7 96.3	0.90 0.89 0.84	2280	2.1	7.2	2.5	1.7	0.65	2.2	0.5	13.2	79
400 (535)	1487	W-UDF355LN ⁽²⁾ W-DF355LN ⁽³⁾	697	662	638	96.9 96.8 96.5	0.90 0.89 0.84	2569	2.1	7.2	2.5	1.7	0.65	2.2	0.5	14.6	79

(1) European and BS frame reference
(2) European frame reference
(3) BS frame reference

Performance data

1000 min⁻¹ (6 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio (1)
Star delta starting current ratio
Star delta pull up torque
Rotor inertia Wkg²
Mean sound pressure level @ 1m on no load

P _N kW (hp)	n min ⁻¹	Type	I _N			η 1.0 P _N 0.75 P _N 0.5 P _N	Cos φ 1.0 P _N 0.75 P _N 0.5 P _N	M _N Nm	M _A M _N	I _A I _N	M _K M _N	M _S M _N	M _A M _N Y	I _A I _N Y	M _S M _N Y	J kgm ²	L _{PA} dB(A)
			380 V A	400 V A	415 V A												
0.37 (0.5)	920	W-DF80MG ⁽¹⁾	1.33	1.27	1.27	{ 69.0 0.61 68.0 0.51 64.0 0.40 }	3.8	2.0	3.7	2.2	1.8	-	-	-	0.0015	49	
0.55 (0.75)	920	W-DF80MM ⁽¹⁾	1.86	1.77	1.77	{ 71.0 0.63 71.0 0.54 68.0 0.41 }	5.7	2.0	3.7	2.3	1.8	-	-	-	0.0021	49	
0.75 (1)	920	W-DF90SG ⁽¹⁾	2.23	2.12	2.12	{ 74.0 0.69 74.0 0.59 72.0 0.45 }	7.8	2.2	4.1	2.4	2.0	-	-	-	0.0028	65	
1.1 (1.5)	940	W-DF90LT ⁽¹⁾	3.4	3.2	3.2	{ 78.0 0.63 77.0 0.52 75.0 0.41 }	11.2	2.8	4.5	3.0	2.5	-	-	-	0.0039	65	
1.5 (2)	930	W-DF100LR ⁽¹⁾	4.5	4.3	4.3	{ 79.0 0.64 79.0 0.54 77.0 0.42 }	15.4	2.0	4.2	2.3	2.0	-	-	-	0.009	58	
2.2 (3)	950	W-DF112MS ⁽¹⁾	5.8	5.5	5.5	{ 82.5 0.70 82.5 0.60 80.5 0.47 }	22.1	2.8	5.8	2.8	2.3	-	-	-	0.014	54	
3 (4)	965	W-DF132SG ⁽¹⁾	7.5	7.1	7.1	{ 86.0 0.71 86.0 0.64 84.0 0.52 }	29.8	2.2	6.5	2.7	1.7	0.65	2.1	0.55	0.023	58	
4 (5.5)	960	W-DF132ML ⁽¹⁾	9.5	9	9	{ 86.5 0.74 86.5 0.67 86.0 0.55 }	39.8	2.1	6.2	2.6	1.6	0.60	2.0	0.50	0.027	58	
5.5 (7.5)	960	W-DF132MM ⁽¹⁾	12.9	12.3	12.3	{ 87.0 0.74 87.0 0.67 86.5 0.54 }	54.7	2.0	5.5	2.5	1.6	0.60	2.0	0.50	0.029	58	
7.5 (10)	975	W-DF160MM ⁽¹⁾	16.8	16	16	{ 90.0 0.75 90.5 0.70 89.0 0.60 }	73.4	1.8	6.5	2.8	1.7	0.55	2.1	0.5	0.10	59	
11 (15)	975	W-DF160LV ⁽¹⁾	23.8	22.7	22.7	{ 91.0 0.77 91.0 0.72 89.5 0.60 }	108	2.0	7.5	2.8	1.9	0.60	2.5	0.50	0.12	59	
15 (20)	975	W-DF180LM ⁽¹⁾	33	31	31	{ 91.0 0.78 91.0 0.73 89.5 0.60 }	147	2.4	6.5	2.8	2.2	0.65	2.2	0.60	0.23	59	
18.5 (25)	975	W-UDF200LGX ⁽²⁾ W-DF200LGX ⁽³⁾	39	37	35	{ 91.2 0.80 91.2 0.76 90.0 0.67 }	181	2.3	7.0	2.0	2.8	0.65	2.3	0.50	0.42	62	
22 (30)	975	W-UDF200LNX ⁽²⁾ W-DF200LNX ⁽³⁾	46	43	42	{ 91.7 0.80 91.7 0.76 90.5 0.67 }	215	2.3	7.0	2.0	2.8	0.65	2.3	0.50	0.48	62	
30 (40)	980	W-UDF225MN ⁽²⁾ W-DF225MN ⁽³⁾	61	58	56	{ 92.7 0.80 92.7 0.76 91.7 0.67 }	292	2.7	6.0	2.1	1.8	0.80	2.0	0.45	1.23	63	
37 (50)	980	W-UDF250MNE ⁽²⁾ W-DF250SN ⁽³⁾	74	70	67	{ 93.2 0.82 93.2 0.78 92.0 0.69 }	361	2.7	6.0	2.1	1.8	0.80	2.0	0.45	1.47	63	
45 (60)	985	W-UDF280SNE ⁽²⁾ W-DF250MN ⁽³⁾	88	84	81	{ 93.4 0.83 93.3 0.79 92.3 0.71 }	436	2.5	6.0	2.0	1.8	0.75	1.9	0.40	2.55	65	

⁽¹⁾ European and BS frame reference
⁽²⁾ European frame reference
⁽³⁾ BS frame reference

Performance data

1000 min⁻¹ (6 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio⁽¹⁾
Star delta starting current ratio
Star delta pull up torque
Rotor inertia WY²
Mean sound pressure level @ 1m on no load

P _N kW (hp)	n min ⁻¹	Type	I _N			η		Cos φ		M _N Nm	M _A M _N	I _A I _N	M _K M _N	M _S M _N	M _A M _N Y	I _A I _N Y	M _S M _N Y	J kgm ²	L _{PA} dB(A)
			380 V A	400 V A	415 V A	1.0 P _N 0.75 P _N	1.0 P _N 0.75 P _N												
55 (75)	985	W-UDF280MNE ⁽²⁾ W-DF280SN ⁽³⁾	107	102	98	{ 93.8 93.6 92.6 }	{ 0.83 0.79 0.71 }		533	2.5	6.1	2.0	1.9	0.75	1.85	0.40	2.9	65	
75 (100)	985	W-UDF315SNE ⁽²⁾ W-DF280MN ⁽³⁾	144	137	132	{ 94.3 94.1 93.0 }	{ 0.84 0.80 0.72 }		727	3.0	7.0	2.6	2.1	0.90	2.1	0.60	5.0	68	
90 (125)	985	W-UDF315MNE ⁽²⁾ W-DF315SN ⁽³⁾	172	164	158	{ 94.5 94.3 93.4 }	{ 0.84 0.80 0.72 }		872	3.0	7.0	2.6	2.1	0.90	2.1	0.60	6.0	68	
110 (150)	985	W-UDF315MN ⁽²⁾ W-DF315MN ⁽³⁾	207	197	190	{ 94.8 94.7 93.8 }	{ 0.85 0.81 0.73 }		1066	2.8	6.7	2.0	1.9	0.80	2.1	0.55	6.1	70	
132 (175)	985	W-UDF315LN ⁽²⁾ W-DF315LN ⁽³⁾	248	236	227	{ 95.0 94.9 94.1 }	{ 0.85 0.81 0.73 }		1280	2.8	6.7	2.0	1.9	0.80	2.1	0.55	7.3	70	
150 (200)	985	W-UDF355SG ⁽²⁾ W-DF355SG ⁽³⁾	281	267	257	{ 95.5 95.4 94.5 }	{ 0.85 0.83 0.76 }		1454	1.7	6.7	2.1	1.4	0.50	2.2	0.35	10	74	
160 (215)	985	W-UDF355SG ⁽²⁾ W-DF355SG ⁽³⁾	298	283	273	{ 95.9 95.7 94.9 }	{ 0.85 0.83 0.76 }		1551	1.7	6.7	2.1	1.4	0.50	2.2	0.35	10	74	
185 (250)	985	W-UDF355SJ ⁽²⁾ W-DF355SJ ⁽³⁾	345	328	316	{ 95.9 95.8 95.1 }	{ 0.85 0.83 0.76 }		1793	1.7	6.7	2.1	1.4	0.45	2.1	0.35	11.1	74	
200 (270)	985	W-UDF355SN ⁽²⁾ W-DF355SN ⁽³⁾	372	354	341	{ 96.0 95.9 95.2 }	{ 0.85 0.83 0.76 }		1939	1.7	6.7	2.1	1.4	0.45	2.1	0.35	12.2	74	
225 (300)	985	W-UDF355MJ ⁽²⁾ W-DF355MJ ⁽³⁾	419	398	384	{ 96.0 96.0 95.4 }	{ 0.85 0.83 0.76 }		2181	1.7	6.7	2.1	1.4	0.45	2.1	0.35	13.6	77	
250 (335)	985	W-UDF355MN ⁽²⁾ W-DF355MN ⁽³⁾	465	442	426	{ 96.1 96.1 95.6 }	{ 0.85 0.83 0.76 }		2424	1.8	7.0	2.2	1.5	0.48	2.2	0.40	15.2	77	
280 (375)	990	W-UDF355LJ ⁽²⁾ W-DF355LJ ⁽³⁾	520	494	476	{ 96.2 96.2 95.7 }	{ 0.85 0.83 0.76 }		2701	1.8	7.0	2.2	1.5	0.48	2.2	0.40	16.9	77	
315 (420)	990	W-UDF355LN ⁽²⁾ W-DF355LN ⁽³⁾	585	555	535	{ 96.3 96.3 95.9 }	{ 0.85 0.83 0.76 }		3038	1.8	7.0	2.1	1.5	0.48	2.1	0.40	18.6	77	

⁽¹⁾ European and BS frame reference
⁽²⁾ European frame reference
⁽³⁾ BS frame reference

Performance data

750 min⁻¹ (8 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio (1)
Star delta starting current ratio
Star delta pull up torque
Rotor inertia MJ²
Mean sound pressure level @ 1m on no load

P _N kW (hp)	n min ⁻¹	Type	I _N			η		Cos φ		M _N Nm	M _A M _N	I _A I _N	M _K M _N	M _S M _N	M _A M _N Y	I _A I _N Y	M _S M _N Y	J kgm ²	L _{PA} dB(A)
			380 V A	400 V A	415 V A	1.0 P _N 0.75 P _N 0.5 P _N	1.0 P _N 0.75 P _N 0.5 P _N												
0.18 (0.25)	695	W-DF80MG ⁽¹⁾	1.01	0.96	0.96	{ 55.0 52.0 44.0 }	{ 0.49 0.42 0.34 }		2.5	2.2	2.7	2.5	2.0	-	-	-	0.0017	46	
0.25 (0.33)	695	W-DF80MM ⁽¹⁾	1.26	1.2	1.2	{ 59.0 56.5 49.0 }	{ 0.51 0.43 0.34 }		3.5	2.2	2.9	2.5	2.0	-	-	-	0.0021	46	
0.37 (0.5)	700	W-DF90SG ⁽¹⁾	1.71	1.63	1.63	{ 62.0 59.0 51.0 }	{ 0.53 0.44 0.34 }		5.1	2.3	3.0	2.5	2.1	-	-	-	0.0028	50	
0.55 (0.75)	680	W-DF90LM ⁽¹⁾	2.4	2.3	2.3	{ 64.0 62.0 55.0 }	{ 0.54 0.44 0.33 }		7.6	2.3	3.3	2.7	2.1	-	-	-	0.0035	50	
0.75 (1)	690	W-DF100LR ⁽¹⁾	2.77	2.64	2.64	{ 69.5 68.0 61.0 }	{ 0.59 0.49 0.40 }		10.4	1.8	3.2	2.1	1.7	-	-	-	0.009	53	
1.1 (1.5)	690	W-DF100LS ⁽¹⁾	3.9	3.7	3.7	{ 71.5 70.5 68.0 }	{ 0.60 0.51 0.39 }		15.2	1.8	3.2	2.1	1.7	-	-	-	0.0095	53	
1.5 (2)	690	W-DF112MS ⁽¹⁾	4.6	4.4	4.4	{ 74.5 74.0 71.0 }	{ 0.66 0.56 0.44 }		20.7	1.9	4.0	2.0	1.7	-	-	-	0.015	57	
2.2 (3)	720	W-DF132SM ⁽¹⁾	6.2	5.9	5.9	{ 82.5 83.0 80.0 }	{ 0.65 0.57 0.45 }		29.2	1.6	5.0	2.4	1.5	-	-	-	0.029	57	
3 (4)	720	W-DF132MR ⁽¹⁾	8.2	7.8	7.8	{ 84.0 84.0 82.0 }	{ 0.66 0.58 0.45 }		39.8	1.6	5.0	2.4	1.4	-	-	-	0.031	57	
4 (5.5)	725	W-DF160ME ⁽¹⁾	10.4	9.9	9.9	{ 86.0 86.0 84.0 }	{ 0.68 0.64 0.51 }		52.7	1.6	5.5	2.5	1.4	0.5	1.7	0.45	0.09	53	
5.5 (7.5)	725	W-DF160MM ⁽¹⁾	13.9	13.2	13.2	{ 87.0 87.0 85.5 }	{ 0.69 0.65 0.52 }		72.4	1.6	5.7	2.5	1.4	0.5	1.7	0.45	0.11	53	
7.5 (10)	725	W-DF160LV ⁽¹⁾	18.2	17.3	17.3	{ 88.0 88.0 86.0 }	{ 0.71 0.65 0.52 }		98.8	1.6	6.0	2.5	1.4	0.5	1.8	0.45	0.14	53	
11 (15)	730	W-DF180LM ⁽¹⁾	27.6	26.3	26.3	{ 90.0 90.0 88.0 }	{ 0.67 0.59 0.48 }		143.9	2.0	4.5	2.5	1.7	0.63	1.4	0.55	0.24	58	
15 (20)	730	W-UDF200LN ⁽²⁾ W-DF200LN ⁽³⁾	35	33	32	{ 90.0 90.0 88.5 }	{ 0.73 0.66 0.54 }		196	1.8	5.8	2.6	1.6	0.45	1.7	0.35	0.48	60	
18.5 (25)	730	W-UDF225SN ⁽²⁾ W-DF225SN ⁽³⁾	43	40	39	{ 90.5 90.5 89.5 }	{ 0.73 0.66 0.54 }		242	2.0	5.5	2.25	1.6	0.5	1.6	0.35	0.75	60	
22 (30)	730	W-UDF225MN ⁽²⁾ W-DF225MN ⁽³⁾	50	47	45	{ 91.5 91.5 89.0 }	{ 0.74 0.66 0.54 }		288	2.0	6.0	2.4	1.6	0.45	1.7	0.35	1.23	62	
30 (40)	735	W-UDF250MNE ⁽²⁾ W-DF250SN ⁽³⁾	67	64	61	{ 92.0 92.0 90.0 }	{ 0.74 0.67 0.55 }		390	1.7	6.0	2.4	1.6	0.4	1.7	0.35	1.47	62	

⁽¹⁾ European and BS frame reference

⁽²⁾ European frame reference

⁽³⁾ BS frame reference

Performance data

750 min⁻¹ (8 pole)

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 starting current ratio
Direct on line pull out torque ratio
Direct on line pull up torque
Star delta starting torque ratio⁽¹⁾
Star delta starting current ratio
Star delta pull up torque
Rotor inertia Wk²
Mean sound pressure level @ 1m on no load

P _N kW (hp)	n min ⁻¹	Type	I _N			η		Cos Ø		M _N Nm	M _A M _N	I _A I _N	M _K M _N	M _S M _N	M _A M _N Y	I _A I _N Y	M _S M _N Y	J kgm ²	L _{PA} dB(A)
			380 V A	400 V A	415 V A	1.0 P _N 0.75 P _N 0.5 P _N	1.0 P _N 0.75 P _N 0.5 P _N												
37 (50)	735	W-UDF280SNE ⁽²⁾ W-DF250MN ⁽³⁾	81	77	74	{ 92.5 92.5 91.5	{ 0.75 0.68 0.56		481	1.7	6.0	2.4	1.6	0.40	1.7	0.35	2.55	63	
45 (60)	735	W-UDF280MNE ⁽²⁾ W-DF280SN ⁽³⁾	98	93	90	{ 93.0 92.8 91.6	{ 0.75 0.69 0.57		585	1.7	6.0	2.4	1.4	0.40	1.7	0.3	2.9	63	
55 (75)	740	W-UDF315SNE ⁽²⁾ W-DF280MN ⁽³⁾	119	113	109	{ 93.5 93.3 92.0	{ 0.75 0.70 0.58		710	2.5	6.0	2.0	1.5	0.60	1.7	0.35	5.0	64	
75 (100)	740	W-UDF315MNE ⁽²⁾ W-DF315SN ⁽³⁾	159	151	146	{ 94.1 93.9 92.2	{ 0.76 0.72 0.60		968	2.5	6.0	2.0	1.5	0.60	1.7	0.35	6.0	64	
90 (125)	740	W-UDF315MN ⁽²⁾ W-DF315MN ⁽³⁾	188	179	172	{ 94.4 94.2 93.4	{ 0.77 0.73 0.64		1161	2.4	6.0	2.0	1.8	0.65	1.7	0.45	6.1	65	
110 (150)	740	W-UDF315LN ⁽²⁾ W-DF315LN ⁽³⁾	227	218	210	{ 94.6 94.4 93.6	{ 0.77 0.73 0.64		1419	2.4	6.0	2.0	1.8	0.65	1.7	0.45	7.3	65	
132 (175)	740	W-UDF355SJ ⁽²⁾ W-DF355SJ ⁽³⁾	274	260	251	{ 95.1 94.8 93.6	{ 0.77 0.73 0.64		1703	1.6	6.1	2.0	1.3	0.40	1.8	0.3	12.2	72	
150 (200)	740	W-UDF355SN ⁽²⁾ W-DF355SN ⁽³⁾	310	294	284	{ 95.5 95.3 94.0	{ 0.77 0.73 0.64		1936	1.6	6.1	2.0	1.3	0.40	1.8	0.3	13.6	72	
160 (215)	740	W-UDF355SN ⁽²⁾ W-DF355SN ⁽³⁾	331	315	303	{ 95.5 95.3 94.0	{ 0.77 0.73 0.64		2065	1.6	6.1	2.0	1.3	0.40	1.8	0.3	13.6	72	
185 (250)	740	W-UDF355MJ ⁽²⁾ W-DF355MJ ⁽³⁾	383	364	350	{ 95.6 95.4 94.1	{ 0.77 0.73 0.64		2387	1.6	6.1	2.0	1.3	0.40	1.8	0.3	15.2	74	
200 (270)	740	W-UDF355MN ⁽²⁾ W-DF355MN ⁽³⁾	413	393	378	{ 95.6 95.4 94.3	{ 0.77 0.73 0.64		2581	1.6	6.1	2.0	1.3	0.40	1.8	0.3	16.9	74	
225 (300)	740	W-UDF355LN ⁽²⁾ W-DF355LN ⁽³⁾	464	441	425	{ 95.6 95.4 94.7	{ 0.77 0.73 0.64		2903	1.6	6.1	2.0	1.3	0.40	1.8	0.3	18.6	74	

⁽¹⁾ European and BS frame reference

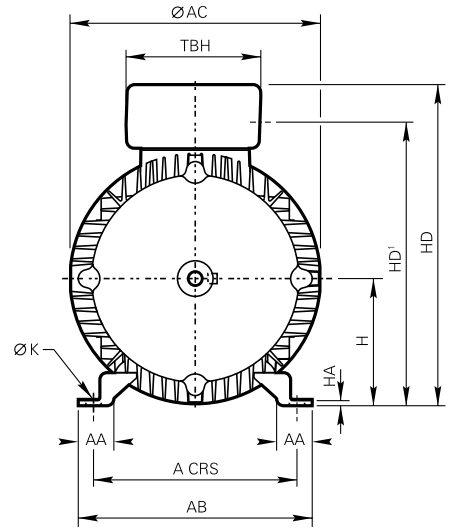
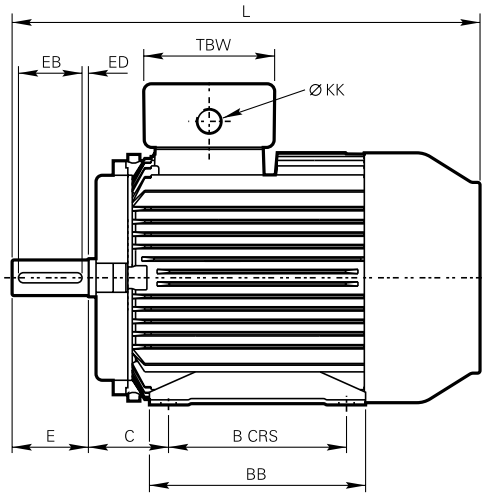
⁽²⁾ European frame reference

⁽³⁾ BS frame reference

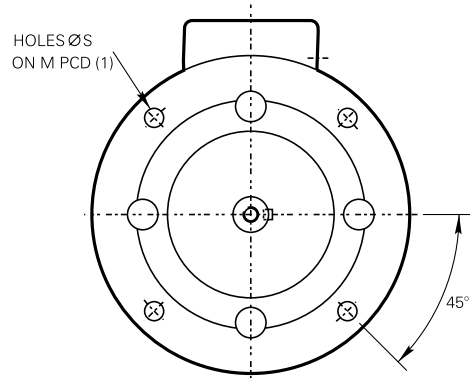
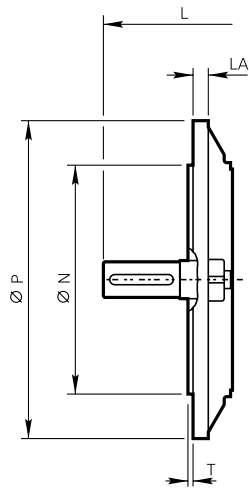
Dimensions- European & BS specifications

Foot, flange and face mounting - frames 80 - 180L

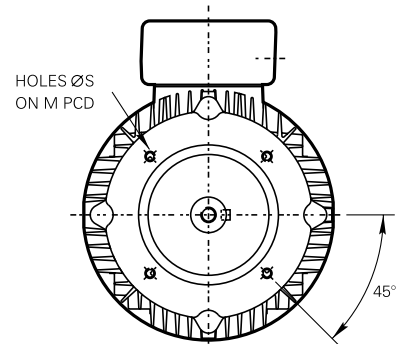
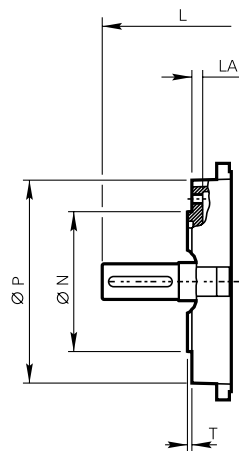
IM B3
IM 1001
Mounting options



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



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

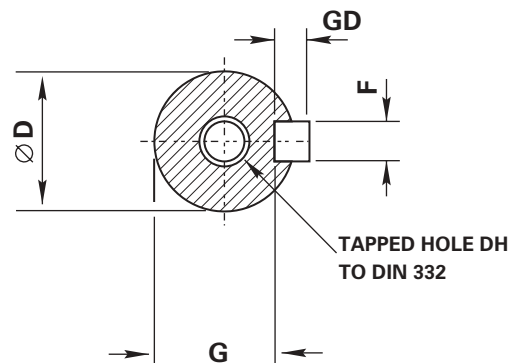


Foot, flange and face mounting - frames 80 - 180L

Type	General													Terminal box		
	A	B	C	H	K	L ⁽¹⁾	AA	AB	AC	BB	HA	HD	HD1	TBW	TBH	KK
W-DF80M	125	100	50	80	10	278	35	157	158	127	10	-	-	116	116	1 X M20
W-DF90S	140	100	56	90	10	322	38	175	175	155	12	-	-	116	116	1 X M20
W-DF90L	140	125	56	90	10	322	38	175	175	155	12	-	-	116	116	1 X M20
W-DF100L	160	140	63	100	12	368	34	195	197	165	14	274	234	116	116	2 X M20
W-DF112M	190	140	70	112	12	382	40	230	220	182	16	305	257	131	131	2 X M25
W-DF132S	216	140	89	132	12	447	47	255	260	220	17	348	300	131	131	2 X M25
W-DF132M	216	178	89	132	12	447	47	255	260	220	17	348	300	131	131	2 X M25
W-DF160M	254	210	108	160	15	604	55	300	315	300	22	428	368	174	174	2 X M32
W-DF160L	254	254	108	160	15	604	55	300	315	300	22	428	368	174	174	2 X M32
W-DF180M	279	241	121	180	15	663	64	344	355	326	22	469	410	174	174	2 X M32
W-DF180L	279	279	121	180	15	663	64	344	355	326	22	469	410	174	174	2 X M32

Type	IM B5 mounting						IM 1B14 mounting					
	M	N	P	S	T	LA	M	N	P	S	T	LA
W-DF80M	165	130	200	12	3.5	12	-	80	120	M6	3	9
W-DF90S/L	165	130	200	12	3.5	12	-	95	120	M8	3	9
W-DF100L	215	180	250	14.5	4	12	130	110	160	M8	3.5	12.5
W-DF112M	215	180	250	14.5	4	12	130	110	164	M8	3.5	13
W-DF132S	265	230	300	14.5	4	12	165	130	200	M10	3.5	13
W-DF132M	265	230	300	14.5	4	12	165	130	200	M10	3.5	13
W-DF160M	300	250	350	18.5	5	13	215	180	250	M12	4	13
W-DF160L	300	250	350	18.5	5	13	215	180	250	M12	4	13
W-DF180M	300	250	350	18.5	5	15	-	-	-	-	-	-
W-DF180L	300	250	350	18.5	5	15	-	-	-	-	-	-

Type	Shaft							
	D	E	F	G	GD	EB	ED	DH
W-DF80M	19	40	6	15.5	6	32	4	M6 x 16
W-DF90S/L	24	50	8	20	7	40	5	M8 x 19
W-DF100L	28	60	8	23.9	7	50	5	M10 x 22
W-DF112M	28	60	8	23.9	7	50	5	M10 x 22
W-DF132S	38	80	10	33	8	70	5	M12 x 28
W-DF132M	38	80	10	33	8	70	5	M12 x 28
W-DF160M	42	110	12	37	8	100	5	M16 x 36
W-DF160L	42	110	12	37	8	100	5	M16 x 36
W-DF180M	48	110	14	42.5	9	100	5	M16 x 36
W-DF180L	48	110	14	42.5	9	100	5	M16 x 36

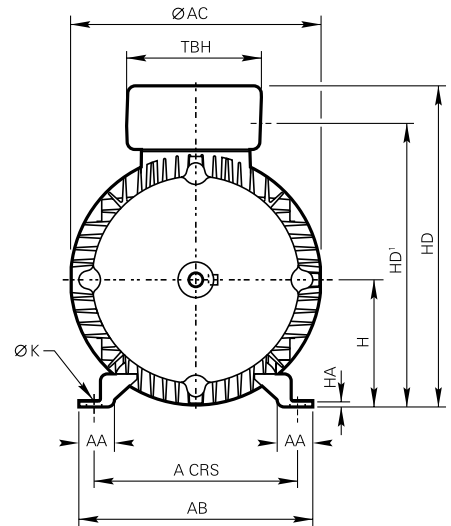
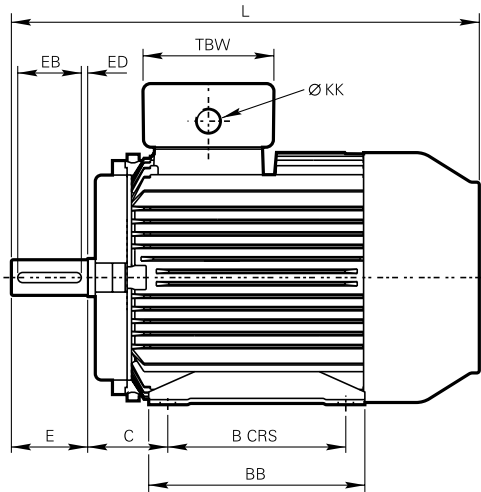


⁽¹⁾ For vertically mounted, shaft down motors see table on page 4 for increase in overall length due to the fitting of an impact cover.

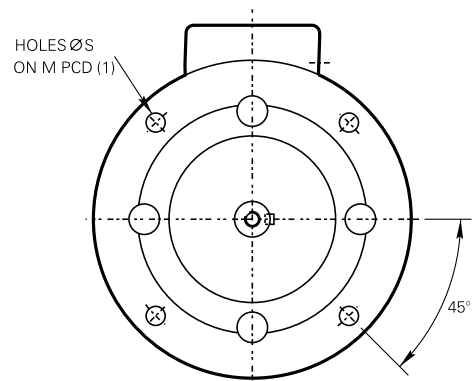
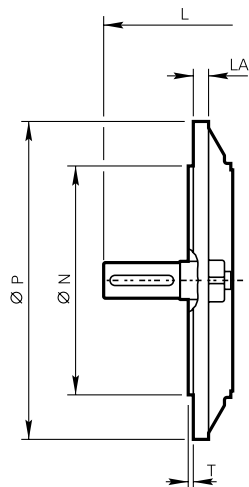
Dimensions - European specification

Foot and flange mounting - frames 200 - 355L

IM B3
IM 1001
Mounting options



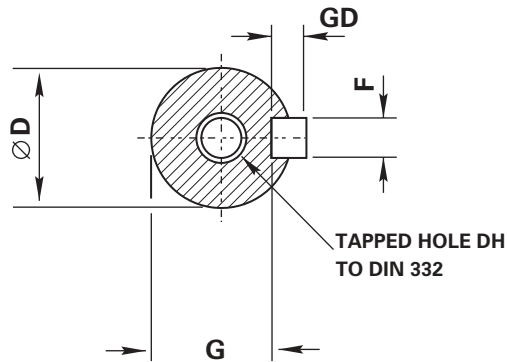
IM B5/IM B35
IM 3001/IM 2001
Mounting options



Foot and flange mounting - frames 200 - 355L

Type	General		C	H	K	4 pole +		2 pole		AA	AB	AC	BB	HA	HD	HD ¹	TBW	Terminal box	
	A	B				L ⁽¹⁾	L ⁽²⁾	TBH	KK										
W-UDF200LX	318	305	133	200	M16	787	787	74	382	381	359	30	501	444	176	220	220	2 x M32 + 1 x M20	
W-UDF225S	356	286	149	225	M16	875	845	70	426	410	349	25	550 ⁽²⁾	488	220	288	288	2 x M40 + 1 x M20	
W-UDF225M	356	311	149	225	M16	915	885	70	426	448	374	25	570	510	220	288	288	2 x M40 + 1 x M20	
W-UDF250ME	406	349	168	250	M20	985	985	79	482	448	419	28	595 ⁽³⁾	535	220	288	288	2 x M50 + 1 x M20	
W-UDF280SE	457	368	190	280	M20	1065	1065	83	540	508	438	35	655 ⁽²⁾	595	220	288	288	2 x M50 + 1 x M20	
W-UDF280ME	457	419	190	280	M20	1070	1070	83	540	508	489	35	655 ⁽²⁾	595	220	288	288	2 x M50 + 1 x M20	
W-UDF315SE	508	406	216	315	M24	1145	1115	89	597	563	482	38	845	744	330	526	526	2 x M63 + 1 x M20	
W-UDF315ME	508	457	216	315	M24	1215	1185	89	597	563	533	38	845	744	330	526	526	2 x M63 + 1 x M20	
W-UDF315M	508	457	216	315	M24	1245	1215	89	597	640	533	38	875	776	330	526	526	2 x M63 + 1 x M20	
W-UDF315L	508	508	216	315	M24	1315	1285	89	597	640	583	38	875	776	330	526	526	2 x M63 + 1 x M20	
W-UDF355S	610	500	254	355	M24	1485	1415	100	710	732	626	27	975	874	330	526	526	2 x M63 + 1 x M20	
W-UDF355M	610	560	254	355	M24	1605	1535	100	710	732	686	27	975	874	330	526	526	2 x M63 + 1 x M20	
W-UDF355L	610	630	254	355	M24	1655	1585	100	710	732	756	27	975	874	330	526	526	2 x M63 + 1 x M20	

Type	IM B5, IM B35 mounting					
	M	N	P	S	T	LA
W-UDF200LX	350	300	400	19	5	19
W-UDF225S	400	350	450	19	5	19
W-UDF225M	400	350	450	19	5	19
W-UDF250ME	500	450	550	19	5	25
W-UDF280SE	500	450	550	19	5	25
W-UDF280ME	500	450	550	19	5	25
W-UDF315SE	600	550	660	24	6	29
W-UDF315ME	600	550	660	24	6	29
W-UDF315M	600	550	660	24	6	29
W-UDF315L	600	550	660	24	6	29
W-UDF355S	740	680	800	24	6	28
W-UDF355M	740	680	800	24	6	28
W-UDF355L	740	680	800	24	6	28



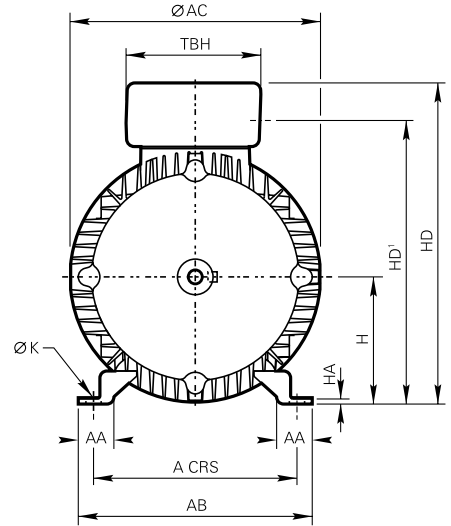
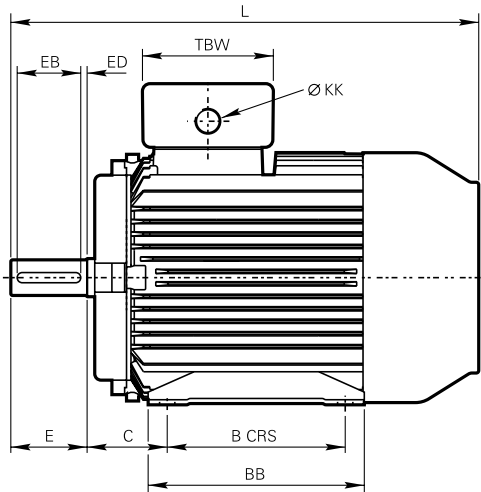
Type	Shaft														
	4 pole +							2 pole							
	D	E	F	G	GD	EB	ED	D	E	F	G	GD	EB	ED	DH
W-UDF200LX	55	110	16	49	10	100	5	55	110	16	49	10	100	5	M20 x 42
W-UDF225S	60	140	18	53	11	125	10	55	110	16	49	10	100	5	M20 x 42
W-UDF225M	60	140	18	53	11	125	10	55	110	16	49	10	100	5	M20 x 42
W-UDF250ME	65	140	18	58	11	125	10	60	140	18	53	11	125	10	M20 x 42
W-UDF280SE	75	140	20	67.5	12	125	10	65	140	18	53	11	125	10	M20 x 42
W-UDF280ME	75	140	20	67.5	12	125	10	65	140	18	58	11	125	10	M20 x 42
W-UDF315SE	80	170	22	71	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-UDF315ME	80	170	22	71	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-UDF315M	80	170	22	71	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-UDF315L	80	170	22	71	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-UDF355S	100	210	28	90	16	200	5	75	140	20	67.5	12	125	10	M24 x 50
W-UDF355M	100	210	28	90	16	200	5	75	140	20	67.5	12	125	10	M24 x 50
W-UDF355L	100	210	28	90	16	200	5	75	140	20	67.5	12	125	10	M24 x 50

(1) For vertically mounted, shaft down motors see table on page 4 for increase in overall length due to the fitting of an impact cover.
 (2) add 25mm when cable entry is facing drive end
 (3) add 50mm when cable entry is facing drive end

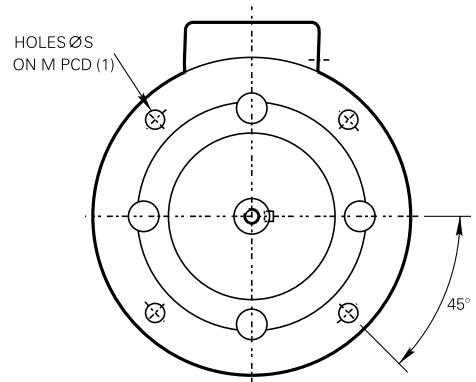
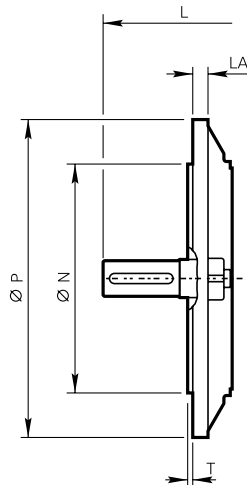
Dimensions - BS specification

Foot and flange mounting - frames 200 - 355L

IM B3
IM 1001
Mounting options



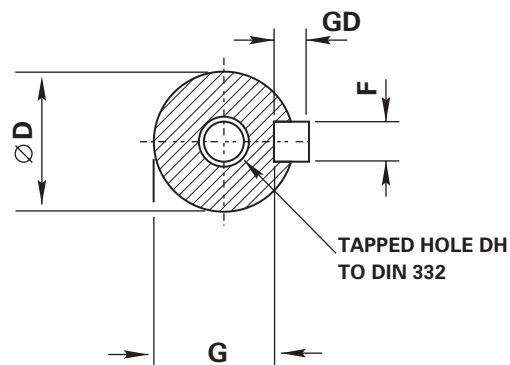
IM B5/IM B35
IM 3001/IM 2001
Mounting options



Foot and flange mounting - frames 200 - 355L

Type	General						4 pole +								Terminal box	
	A	B	C	H	K	L ⁽¹⁾	L ⁽¹⁾	AA	AB	AC	BB	HA	HD	TBW	TBH	
W-DF200LX	318	305	133	200	M16	787	787	74	382	381	359	30	501	176	220	
W-DF225S	356	286	149	225	M16	875	845	70	426	410	349	25	550 ⁽²⁾	220	288	
W-DF225M	356	311	149	225	M16	915	885	70	426	448	374	25	570	220	288	
W-DF250S	406	311	168	250	M20	985	985	79	482	448	381	28	595 ⁽³⁾	220	288	
W-DF250M	406	349	168	250	M20	1030	1030	79	482	508	419	28	625 ⁽²⁾	220	288	
W-DF280S	457	368	190	280	M20	1100	1070	83	540	508	438	35	655 ⁽²⁾	220	288	
W-DF280M	457	419	190	280	M20	1145	1115	83	540	563	487	35	810	330	526	
W-DF315S	508	406	216	315	M24	1215	1185	89	597	563	483	38	845	330	526	
W-DF315M	508	457	216	315	M24	1245	1215	89	597	640	533	38	875	330	526	
W-DF315L	508	508	216	315	M24	1315	1285	89	597	640	583	38	875	330	526	
W-DF355S	610	500	254	355	M24	1485	1415	100	710	732	626	27	970	330	526	
W-DF355M	610	560	254	355	M24	1605	1535	100	710	732	686	27	970	330	526	
W-DF355L	610	630	254	355	M24	1655	1585	100	710	732	756	27	970	330	526	

Type	IM B5, IM B35 mounting					
	M	N	P	S	T	LA
W-DF200LX	350	300	400	19	5	19
W-DF225S	400	350	450	19	5	19
W-DF225M	400	350	450	19	5	19
W-DF250S	500	450	550	19	5	25
W-DF250M	500	450	550	19	5	25
W-DF280S	500	450	550	19	5	25
W-DF280M	500	450	550	19	5	25
W-DF315S	600	550	660	24	6	29
W-DF315M	600	550	660	24	6	29
W-DF315L	600	550	660	24	6	29
W-DF355S	740	680	800	24	6	28
W-DF355M	740	680	800	24	6	28
W-DF355L	740	680	800	24	6	28



Type	Shaft														DH
	4 pole +							2 pole							
	D	E	F	G	GD	EB	ED	D	E	F	G	GD	EB	ED	
W-DF200LX	55	110	16	49	10	100	5	55	110	16	49	10	100	5	M20 x 42
W-DF225S	60	140	18	53	11	125	10	55	110	16	49	10	100	5	M20 x 42
W-DF225M	60	140	18	53	11	125	10	55	110	16	49	10	100	5	M20 x 42
W-DF250S	70	140	20	62.5	12	125	10	60	140	18	53	11	125	10	M20 x 42
W-DF250M	70	140	20	62.5	12	125	10	60	140	18	53	11	125	10	M20 x 42
W-DF280S	80	170	22	71	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-DF280M	80	170	22	71	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-DF315S	85	170	22	76	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-DF315M	85	170	22	76	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-DF315L	85	170	22	76	14	160	5	65	140	18	58	11	125	10	M20 x 42
W-DF355S	100	210	28	90	16	200	5	75	140	20	67.5	12	125	10	M24 x 50
W-DF355M	100	210	28	90	16	200	5	75	140	20	67.5	12	125	10	M24 x 50
W-DF355L	100	210	28	90	16	200	5	75	140	20	67.5	12	125	10	M24 x 50

⁽¹⁾ For vertically mounted, shaft down motors see table on page 4 for increase in overall length due to the fitting of an impact cover.

⁽²⁾ add 25mm when cable entry is facing drive end

⁽³⁾ add 50mm when cable entry is facing drive end

Technical information: Mechanical

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	Re-greasing facility
80 - 180	EA6 Polyurea	Available
200 - 355	Esso Unirex N3	Standard

Bearing references and oil seals for horizontally-mounted motors only						
Type		Polarity	Bearings ⁽¹⁾		Oil seals ⁽²⁾	
European	BS		Drive end	Non-drive end	Drive end	Non-drive end
W-DF80M	W-DF80M	All	62042Z	62022Z	20 x 30 x 7 ⁽³⁾	15 x 24 x 5 ⁽³⁾
W-DF90S/L	W-DF90S/L	All	62052Z	62032Z	25 x 35 x 7 ⁽³⁾	17 x 28 x 6 ⁽³⁾
W-DF100L	W-DF100L	All	62062Z	62052Z	30 x 42 x 7 ⁽³⁾	25 x 37 x 7 ⁽³⁾
W-DF112M	W-DF112M	All	62062Z	62052Z	30 x 42 x 7 ⁽³⁾	25 x 37 x 7 ⁽³⁾
W-DF132S/M	W-DF132S/M	All	62082Z	63052Z	40 x 52 x 7 ⁽³⁾	25 x 37 x 7 ⁽³⁾
W-DF160M/L	W-DF160M/L	All	63092Z	63072Z	45 x 60 x 8 ⁽³⁾	35 x 47 x 7 ⁽³⁾
W-DF180M/L	W-DF180M/L	All	63102Z	63082Z	50 x 65 x 8 ⁽³⁾	40 x 52 x 7 ⁽³⁾
W-UDF200LX	W-DF200LX	All	6312	6312	60 x 80 x 8 ⁽³⁾	60 x 80 x 8 ⁽³⁾
W-UDF225S	W-DF225S	All	6313	6313	65 x 90 x 10 ⁽⁴⁾	65 x 90 x 10 ⁽⁴⁾
W-UDF225M	W-DF225M	All	6314	6314	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
W-UDF250ME	W-DF250S	2	6314	6314	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
		4 up	6316	6316	80 x 110 x 10 ⁽⁴⁾	80 x 110 x 10 ⁽³⁾
W-UDF280SE	W-DF250M	2	6314	6314	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
		4 up	6318	6318	90 x 120 x 12 ⁽³⁾	90 x 120 x 12 ⁽³⁾
W-UDF280ME	W-DF280S	2	6314	6314	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
		4 up	6318	6318	90 x 120 x 12 ⁽³⁾	90 x 120 x 12 ⁽³⁾
W-UDF315SE	W-DF280M	2	6316	6316	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
		4 up	6319	6319	90 x 120 x 12 ⁽³⁾	90 x 120 x 12 ⁽³⁾
W-UDF315ME	W-DF315S	2	6316	6316	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
		4 up	6319	6319	90 x 120 x 12 ⁽³⁾	90 x 120 x 12 ⁽³⁾
W-UDF315M	W-DF315M	2	6316	6316	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
		4 up	6319	6319	90 x 120 x 12 ⁽³⁾	90 x 120 x 12 ⁽³⁾
W-UDF315L	W-DF315L	2	6316	6316	70 x 90 x 10 ⁽⁴⁾	70 x 90 x 10 ⁽⁴⁾
		4 up	6319	6319	90 x 120 x 12 ⁽³⁾	90 x 120 x 12 ⁽³⁾
W-UDF355S/M/L	W-DF355S/M/L	2	N316	6316	75 x 100 x 10 ⁽⁴⁾	75 x 100 x 10 ⁽⁴⁾
		4 up	N324	6324	115 x 145 x 14 ⁽³⁾	115 x 145 x 14 ⁽³⁾

(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

Grease life expected at 80°C bearing temperature x 10 ³ hours									
Type		3000 min ⁻¹		1500 min ⁻¹		1000 min ⁻¹		750 min ⁻¹	
European	BS	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
W-DF80-90	W-DF80-90	22.0	22.0	32.0	32.0	35.0	35.0	35.0	35.0
W-DF100-180L	W-DF100-180L	26.0	26.0	35.0	35.0	35.0	35.0	35.0	35.0
W-UDF200LX	W-DF200LX	12.6	8.2	30.0	20.3	30.0	27.8	30.0	30.0
W-UDF225S	W-DF225S	12.6	8.2	30.0	20.3	30.0	27.8	30.0	30.0
W-UDF225M	W-DF225M	11.3	7.4	29.5	19.2	30.0	26.0	30.0	30.0
W-UDF250ME	W-DF250S	11.3	7.4	26.3	17.1	30.0	23.6	30.0	29.3
W-UDF280SE	W-DF250M	11.3	7.4	23.4	15.2	30.0	21.3	30.0	27.8
W-UDF280ME	W-DF280S	11.3	7.4	23.4	15.2	30.0	21.3	30.0	27.8
W-UDF315SE	W-DF280M	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
W-UDF315ME	W-DF315S	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
W-UDF315M	W-DF315M	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
W-UDF315L	W-DF315L	9.4	6.1	21.3	13.8	30.0	20.3	30.0	26.0
W-UDF355S/M/L ⁽¹⁾	W-DF355S/M/L ⁽¹⁾	5.0	3.3	8.2	5.3	16.2	10.5	24.5	15.9
W-UDF355S/M/L ⁽²⁾	W-DF355S/M/L ⁽²⁾	9.4	6.1	13.5	8.8	22.5	14.6	30.0	19.5

(1) DE = Drive End
 (2) NDE = Non-Drive End

Technical information: Mechanical

Axial and radial loads

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	
W-DF80M	2	339	539	321	562	362	521	774
	4	303	503	283	530	330	483	729
	6	284	484	260	516	316	460	653
	8	296	496	272	528	328	472	662
W-DF90S/L	2	444	684	421	716	476	661	915
	4	398	638	366	682	442	606	854
	6	349	589	309	641	401	549	720
	8	369	609	334	656	416	574	747
W-DF100L	2	781	1101	743	1159	839	1063	1295
	4	710	1030	655	1107	787	975	1215
	6	560	880	506	963	643	826	1145
	8	580	900	521	985	665	841	1018
W-DF112M	2	768	1088	715	1170	850	1035	1295
	4	690	1010	612	1131	811	932	1202
	6	541	861	463	979	659	783	1141
	8	565	885	487	1003	683	807	1009
W-DF132S	2	1355	1707	1266	1838	1486	1618	2114
	4	1269	1621	1168	1779	1427	1520	2095
	6	1186	1538	1074	1711	1359	1426	1997
	8	1002	1354	869	1556	1204	1221	1609
W-DF132M	4	1253	1605	1130	1794	1442	1482	2068
	6	1167	1519	1035	1718	1366	1387	1968
	8	997	1349	858	1561	1209	1210	1600
W-DF160M	2	2168	2663	2932	2002	2437	2497	3650
	4	2153	2648	2659	1960	2464	2160	3785
	6	2022	2517	2905	1777	2410	1977	3626
	8	1509	2004	2389	1250	1894	1450	3316
W-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
W-DF180M	2	2711	3274	3667	2465	3104	2665	4374
	4	2749	3312	3830	2426	3267	2626	4556
W-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

Technical information: Mechanical

Maximum permissible external axial thrust and radial loads in Newtons (N)

Type		Horizontal shaft				Vertical shaft				Maximum permissible radial load at end of shaft			
		Poles	Load towards motor	Load away from motor	Shaft up		Shaft down		Standard ball bearing		Roller bearing		
European frame	BS frame				Load towards motor	Load away from motor	Load towards motor	Load away from motor	European frame	BS frame	European frame	BS frame	
W-UDF200LX	W-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	
W-UDF225S	W-DF225S	8	5781	5121	5183	5941	6601	4523	5252	5252	7541	7541	
		4	6692	6122	5941	7177	7747	5371	5963	5963	8202	8202	
		6	6770	6200	5935	7371	7941	5365	5982	5982	8202	8202	
W-UDF225M	W-DF225M	8	6441	5871	5606	7042	7612	5036	5648	5648	8202	8202	
		2	6729	6197	6084	7082	7614	6213	6602	6602	8745	8745	
		4	7530	6998	6745	8099	8631	6213	6868	6876	8921	8921	
W-UDF250ME	W-DF250S	6	7640	7108	6673	8463	8995	6141	6856	6856	8921	8921	
		8	7293	6761	6326	8116	8648	5794	6501	6501	8921	8921	
		2	6640	6108	5837	7209	7741	5305	6262	6262	8921	8921	
W-UDF280SE	W-DF250M	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	
W-UDF280ME	W-DF280S	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	
W-UDF280ME	W-DF280S	8	10400	9738	8977	11711	12373	8315	9336	9706	17105	14166	
		2	6268	5736	5101	7355	7887	4569	5824	5795	9825	9503	
		4	9774	9112	8014	11534	12196	7352	9136	8842	17423	17348	
W-UDF315SE	W-DF280M	6	10582	9920	8704	12524	13186	8042	9698	9386	17423	17348	
		8	10136	9474	8257	12077	12739	7595	9216	8919	17423	17348	
		2	7443	6849	5921	8957	9551	5327	6804	6804	11342	11342	
W-UDF315ME	W-DF315S	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	
W-UDF315ME	W-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	
W-UDF315M	W-DF315M	8	10347	10007	7798	13510	13850	7458	9312	9312	17414	20887	
		2	7398	6804	5664	9154	9748	5070	6885	6885	11342	11342	
		4	10192	9852	8006	12862	13202	7666	9482	9482	17414	20748	
W-UDF315L	W-DF315L	6	11060	10720	8715	13971	14311	8375	10066	10066	17414	20748	
		8	10667	10327	8322	13578	13918	7982	9640	9640	17414	20748	
		2	7055	6461	5050	9164	9758	4456	6603	6606	11342	11342	
W-UDF355S	W-DF355S	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	
W-UDF355M	W-DF355M	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	
W-UDF355L	W-DF355L	8	14106	12566	9455	19211	20751	7915	-	-	27533	27533	
		2	5779	5185	2326	10050	10644	1732	-	-	12627	12627	
		4	12528	10988	7511	18055	19595	5971	-	-	27533	27533	
W-UDF355L	W-DF355L	6	13148	11608	7523	19533	21073	5983	-	-	27533	27533	
		8	13214	11674	7589	19599	21139	6049	-	-	27533	27533	
		2	5595	5001	1734	10396	10990	1140	-	-	12627	12627	
W-UDF355L	W-DF355L	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	

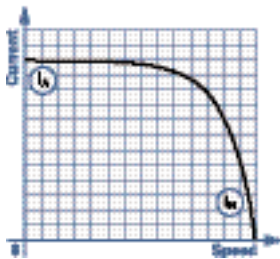
All figures are based on L10aah life of 20,000 hours

Performance data - page notes

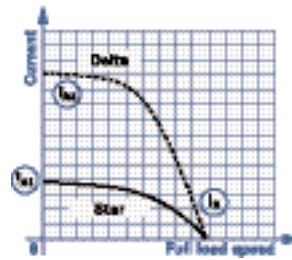
DOL starting
(BS EN 60034-12 Design N)

Star delta starting
(BS EN 60034-12 Design NY)

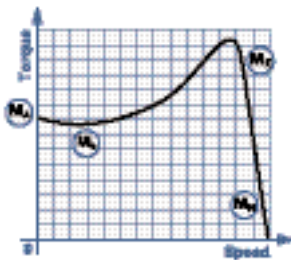
Typical speed/current curve



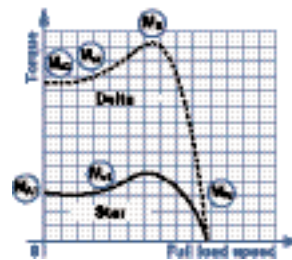
Typical speed/current curve



Typical speed/torque curve



Typical speed/torque curve



- (I_A) Starting current
- (I_N) Full load current
- (M_A) Starting torque or locked rotor torque
- (M_S) Pull up torque or run up torque
- (M_K) Pull out torque or breakdown torque
- (M_N) Full load torque

Torque/speed curves for specific motors can be supplied on request

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.

Performance figures are subject to IEC tolerances. Performance figures are based on a 400 volt winding. To calculate I_N on special voltages, multiply the I_N at 400 volts by the following factors:

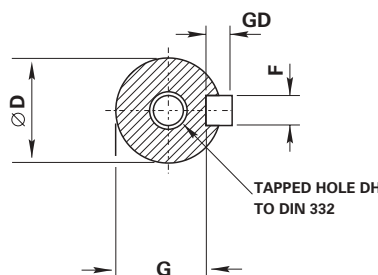
Voltage	220	346	365	420	440	500	550
Factor	1.82	1.16	1.1	0.95	0.91	0.80	0.73

Dimensions – page notes

Flange	IEC 72-1 Annex C.1.7 Option 1	
	Dim N	Tol Limits
130 to 180	j6	+0.014 -0.011
230 to 250	h6	+0.016 -0.013
300	h6	+0.000 -0.032
350	h6	+0.000 -0.036
450	h6	+0.000 -0.040
550	h6	+0.000 -0.044
680	h6	+0.000 -0.050

Shaft	British and European	
	Dim D	Tol Limits
11 to 18	j6	+0.008 -0.003
19 to 28	j6	+0.009 -0.004
32 to 48	k6	+0.018 +0.002
55 to 80	m6	+0.030 +0.011
82 to 120	m6	+0.035 +0.013

Face	IEC 72-1 Annex C.1.7 Option 1	
	Dim N	Tol Limits
60 and 80	j6	+0.012 -0.007
95 and 110	j6	+0.013 -0.009
130 and 180	j6	+0.014 -0.011



All dimensions in millimetres

Drain holes are standard on frames 160-355 and on request for frames 80-132

Please note that 80 frame motors are only available as terminal box right or left.

Cable entry can be arranged in any one of four positions at 90° intervals

No eyebolts on frame sizes 80 (all poles) and 90 (6 and 8 pole)

Dimensions should not be used for installation purposes unless specially endorsed

B5 mounted motors have suffix 'D' in the frame reference, eg W-DF132MVX-D and B35 mounted motors have suffix 'H' in the frame reference, eg W-DF132MVX-H

B14 mounted motors have suffix 'C' in the frame reference, eg W-DF132MVX-C and B3/B14 mounted motors have suffix 'H' in the frame reference, eg W-DF132MVX-H

Rotating Electrical Machines

Worldwide sales and service network

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



**BROOK
CROMPTON**

Brook Crompton
St Thomas' Road, Huddersfield
West Yorkshire HD1 3LJ UK
Tel: +44 (0) 1484 557200
Fax: +44 (0) 1484 557201
E-mail: csc@brookcrompton.com
Internet: www.brookcrompton.com

Printed in England
gh111/08/02 2204E issue 1.2e
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