



## ***End Suction Volute Pump***

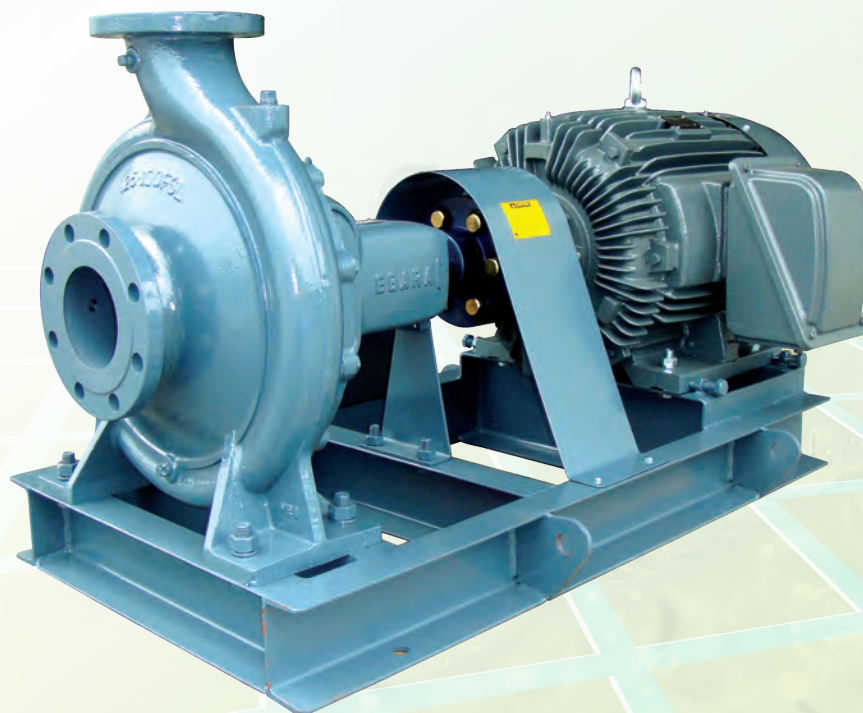
Type FSA

### APPLICATIONS

- Industrial use
- Water supply
- Hot and cold water circulation
- For swimming pool
- Sprinkling
- Air-conditioning
- Fire-fighting application

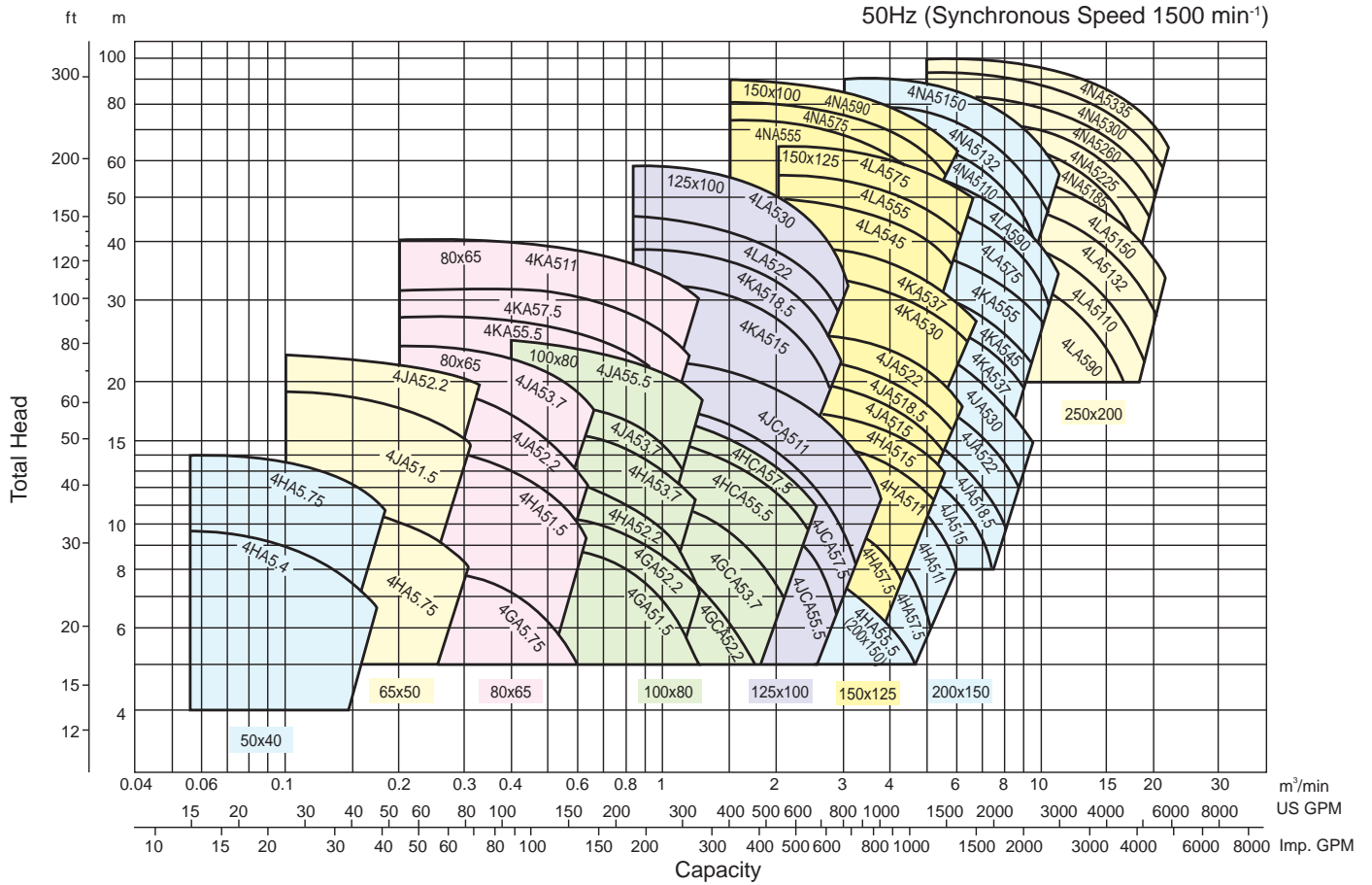
### FEATURES

- Easy maintenance B.P.O (Back Pull Out) feature allows all rotating element to be removed without disconnecting the suction and discharge pipe work.
- Higher operating efficiency over a wider range of capacities, lowers operational cost.
- Non-overload design to ensure stable performance for all applications.
- Wide range application with flow capacity up to 22 m<sup>3</sup>/min.
- Higher working pressure up to 16 Bar.

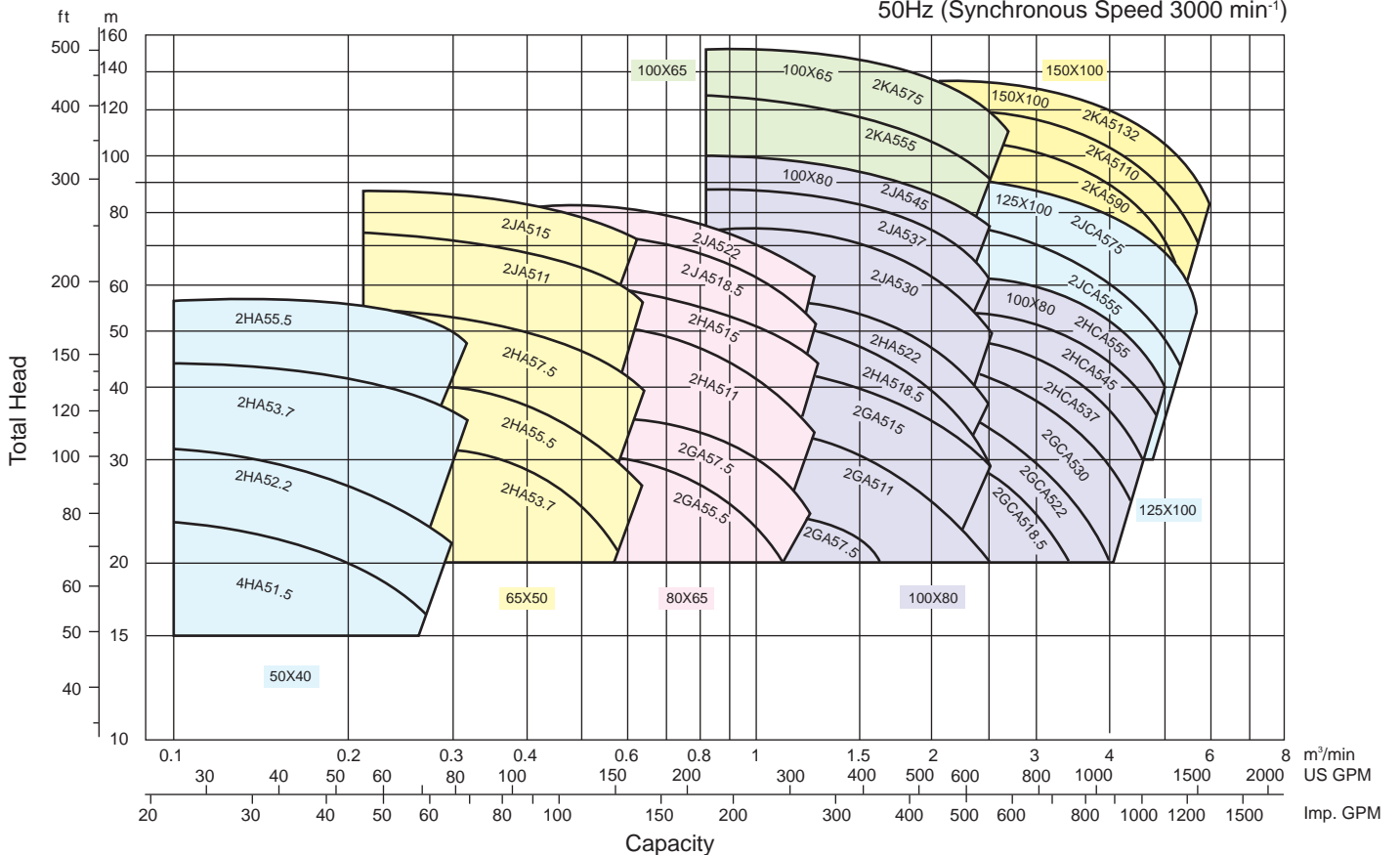


## PERFORMANCE CHART

50Hz (Synchronous Speed 1500 min<sup>-1</sup>)



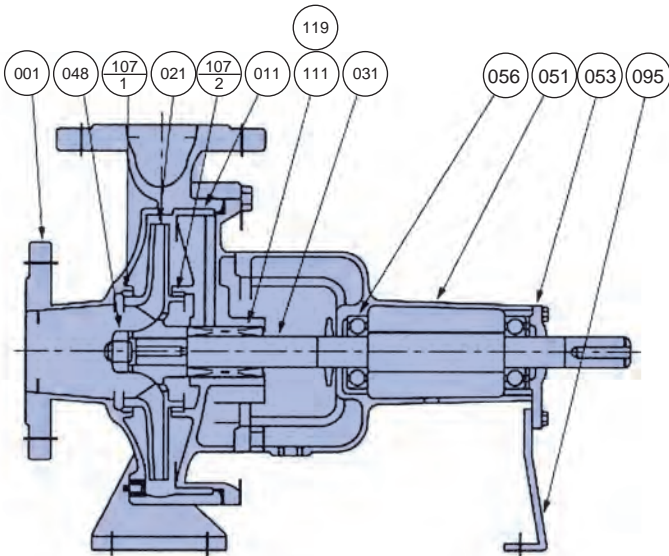
50Hz (Synchronous Speed 3000 min<sup>-1</sup>)



## SPECIFICATIONS

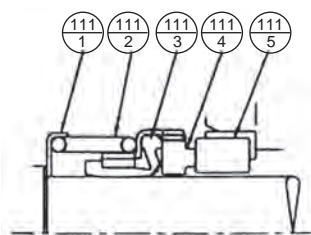
Description		Standard		Optional	
		2 poles model	4 poles model	2 poles model	4 poles model
Liquid	Name	Clean water			
	Temperature	0 to 80°C (32 to 176°F)			
Max. Working Pressure		10 bar (10.2kgf/cm <sup>2</sup> ) for standard flange JIS 10K RF		16 bar (16.3 kgf/cm <sup>2</sup> )	
		16 bar (16.3kgf/cm <sup>2</sup> ) for standard flange JIS 16K RF			
Synchronous Speed		3000 min <sup>-1</sup>	1500 min <sup>-1</sup>		
Installation		Indoors		Outdoors	
Construction	Impeller	Enclosed			
	Shaft seal	Mechanical seal		Gland Packing	
	Sealing	Self flushing		External flushing	
	Bearing	Sealed ball bearing		Oil bath (some models only)	
Flange	Suction & Discharge	Suction < Ø 150mm, except 100X65 FSKA	: JIS 10K RF	16 bar : JIS 16K RF ; DIN PN-16	
		100X65 FSKA	: JIS 16K RF	DIN PN-16	
		Suction = Ø 150mm, except below models	: JIS 10K RF	16 bar : JIS 16K RF ; DIN PN-16	
		150X100 FSKA; 150X100 FSNA	: JIS 16K RF	DIN PN-16	
		Suction = Ø 200mm, except below models	: JIS 10K RF	16 bar : JIS 16K RF ; DIN PN-16	
		200X150 FSLA; 200X150 FSNA	: JIS 16K RF	DIN PN-16	
Suction = Ø 250mm	: JIS 16K RF	DIN PN-16			
Material	Casing	Cast Iron		Ductile Cast Iron (FCD)	
	Impeller	Bronze Casting (CAC406/BC6)		Cast Iron; Ductile Cast Iron (FCD), Stainless steel	
	Shaft	403 Stainless steel		304; 316 Stainless steel	
	Seal	Mechanical Seal: Ceramic/Carbon/NBR		Gland Packing : Teflon (PTFE) impregnated Mechanical seal : SiC/SiC	
Accessories	Bare shaft			Priming funnel; valve; Companion Flange	
	With motor	Common base, Coupling, Coupling guard		Priming funnel; valve; Companion Flange	

## SECTIONAL VIEW



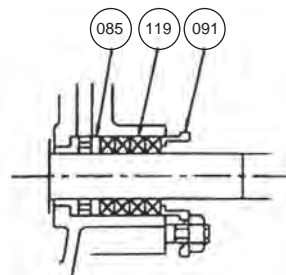
No.	Part Name	Standard Material	Qty
207	Water Inlet Plug	Steel	1
119	Gland Packing	-	-
111	Mechanical Seal	-	-
107-2	Casing Ring	Bronze	1
107-1	Casing Ring		
095	Stay	Steel	1
056	Ball Bearing	-	2
053	Bearing Cover	Cast Iron	1
051	Bearing Housing		
048	Impeller Nut	Brass	
031	Shaft	403 Stainless Steel	
021	Impeller	Bronze	
011	Casing Cover	Cast Iron	
001	Casing		

### Mechanical Seal Type (Standard)



No.	Part Name	Standard Material	Qty
111-5	Seat	Ceramic	1
111-4	Face	Carbon	
111-3	Friction Ring	NBR	
111-2	Spring	316 Stainless Steel	
111-1	Spring Holder	316 Stainless Steel	

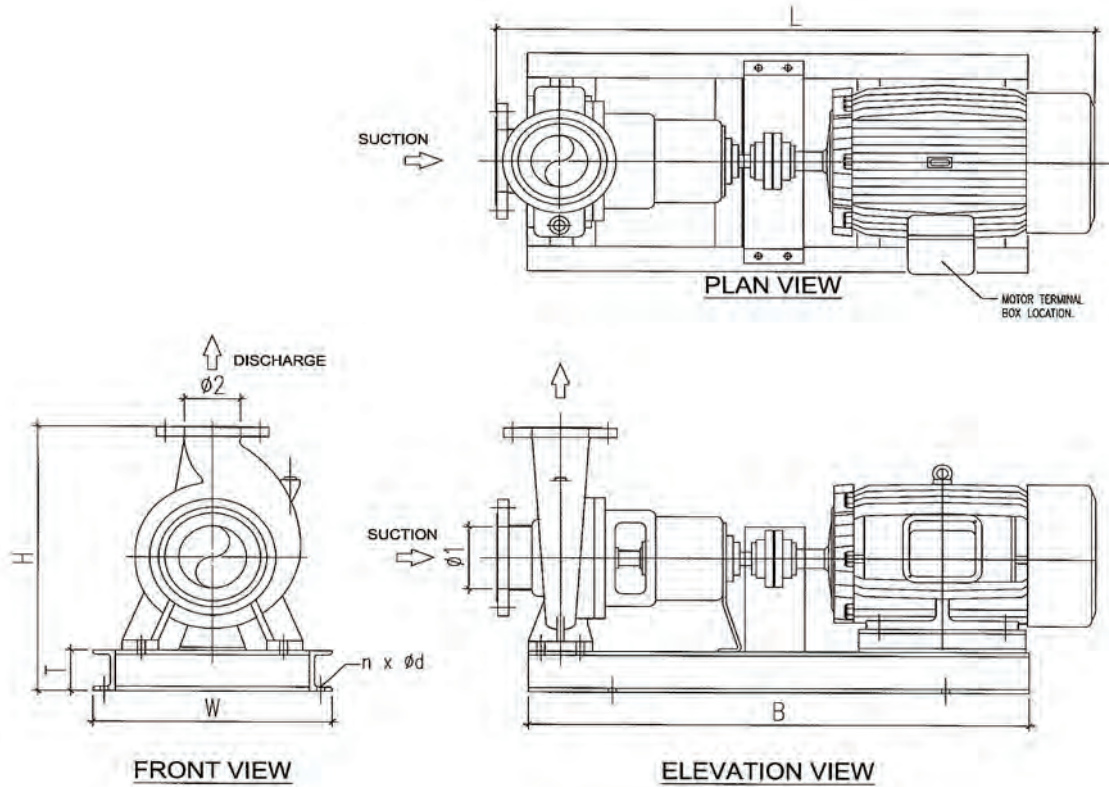
### Gland Packing Type (Option)



No.	Part Name	Standard Material	Qty
119	Gland Packing	Teflon impregnated	4 or 5
091	Gland	Bronze	1
085	Lantern Ring (some models only)		

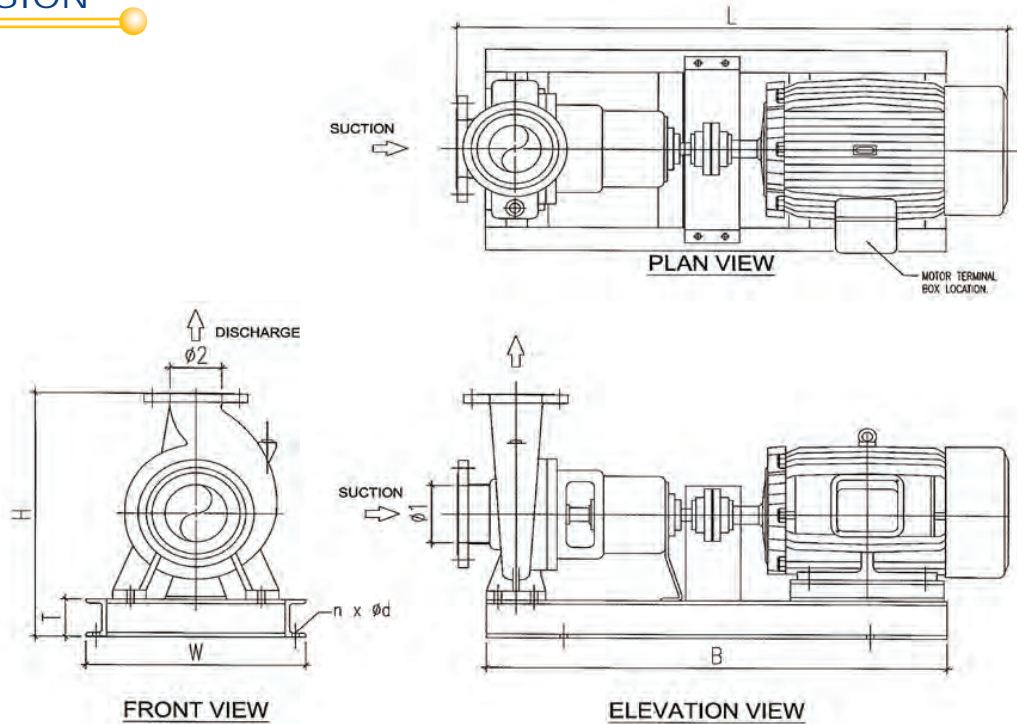
## DIMENSION

2 Poles



Model	Motor	Size (mm)		Dimension (mm)					Base		Weight (kg)
	kW	$\Phi 1$	$\Phi 2$	H	T	W	L	B	n	$\Phi d$	Total
50 x 40 FS2HA	2.2	50	40	415	75	350	775.5	681	4	16	73
	3.7	50	40	415	75	350	843.5	713	4	16	93
	5.5	50	40	440	100	380	897	757	4	19	117
65 x 50 FS2HA	3.7	65	50	415	75	375	854.5	713	4	16	99
	4	65	50	415	75	375	854.5	713	4	16	99
	5.5	65	50	440	100	400	917	757	4	19	123
65 x 50 FS2JA	7.5	65	50	440	100	400	917	757	4	19	129
	5.5	65	50	505	100	440	917	757	4	19	131
	11	65	50	505	100	450	1071	888	4	19	179
80 x 65 FS2GA	5.5	80	65	440	100	400	917	757	4	19	120
	7.5	80	65	440	100	400	917	757	4	19	125
80 x 65 FS2HA	7.5	80	65	460	100	400	917	757	4	19	136
	11	80	65	460	100	450	1071	882	4	19	178
	15	80	65	460	100	430	1071	876	4	19	196
80 x 65 FS2JA	18.5	80	65	505	100	450	1115	932	4	19	228
	22	80	65	505	100	490	1135	932	4	19	282
100 x 80 FS2GA	11	100	80	460	100	450	1071	894	4	19	179
	15	100	80	460	100	450	1071	894	4	19	197
100 x 80 FS2HA	18.5	100	80	505	100	450	1115	932	4	19	230
	22	100	80	505	100	490	1135	932	4	19	284
100 x 80 FS2JA	30	100	80	550	100	540	1233	1035	4	19	391
	37	100	80	575	125	570	1233	1035	6	22	415
	45	100	80	575	125	630	1274	1058	6	22	475
100 x 80 FS2HCA	37	100	80	575	125	570	1258	1022	4	22	409
125 x 100 FS2JCA	55	125	100	655	125	670	1385.5	1106	4	22	644

## DIMENSION



4 Poles

Model	Motor	Size (mm)		Dimension (mm)					Base		Weight (kg)
	kW	Φ1	Φ2	H	T	W	L	B	n	Φd	Total
50 x 40 FS4HA	0.75	50	40	415	75	350	725.5	640	4	16	61
65 x 50 FS4HA	0.75	65	50	415	75	375	745.5	640	4	16	67
	1.1	65	50	415	75	375	770.5	656	4	16	70.5
65 x 50 FS4JA	1.5	65	50	480	75	430	795.5	699	4	16	83.5
	2.2	65	50	480	75	430	837.5	725	4	16	93.2
80 x 65 FS4GA	0.75	80	65	415	75	375	745.5	640	4	16	63
	1.1	80	65	415	75	375	770.5	640	4	16	67.5
80 x 65 FS4HA	1.5	80	65	435	75	375	795.5	681	4	16	82.5
80 x 65 FS4JA	2.2	80	65	480	75	430	837.5	725	4	16	106
	3	80	65	480	75	430	837.5	732	4	16	110.4
	3.7	80	65	480	75	430	854.5	732	4	16	118
80 x 65 FS4KA	5.5	80	65	605	100	530	1052	905	4	19	197
	7.5	80	65	605	100	530	1090	943	4	19	213
	11	80	65	605	100	530	1206	1018	4	19	256
100 x 80 FS4GA	1.5	100	80	435	75	390	795.5	693	4	16	83.5
	2.2	100	80	435	75	390	837.5	725	4	16	93
100 x 80 FS4HA	2.2	100	80	480	75	430	837.5	725	4	16	108
	3.7	100	80	480	75	430	854.5	732	4	16	121
100 x 80 FS4JA	4	100	80	525	75	470	854.5	751	4	16	130
	5.5	100	80	550	100	490	917	795	4	19	153
	7.5	100	80	550	100	490	955	827	4	19	169
100 x 80 FS4GCA	2.2	100	80	480	75	430	862.5	725	4	16	108
	3	100	80	480	75	430	862.5	725	4	16	113
	3.7	100	80	480	75	430	879.5	732	4	16	121
100 x 80 FS4HCA	5.5	100	80	530	100	490	942	776	4	19	147
	7.5	100	80	530	100	490	980	802	4	19	163
125 x 100 FS4JCA	5.5	125	100	605	100	530	957	795	4	19	197
	7.5	125	100	605	100	530	995	833	4	19	213
	11	125	100	605	100	530	1111	914	4	19	256
125 x 100 FS4KA	11	125	100	665	100	530	1221	1024	4	19	279
	15	125	100	665	100	530	1265	1068	4	19	299
	18.5	125	100	665	100	530	1285	1068	4	19	345
125 x 100 FS4LA	18.5	125	100	735	100	640	1346	1143	4	19	391
	22	125	100	735	100	640	1384	1181	4	19	429
	30	125	100	735	100	640	1444	1219	4	19	513
	37	125	100	760	125	670	1490	1253	6	22	429

## DIMENSION

Model	Motor	Size (mm)		Dimension (mm)					Base		Weight (kg)
	kW	Φ1	Φ2	H	T	W	L	B	n	Φd	Total
150 x 125 FS4HA	7.5	150	125	665	100	530	1105	943	4	19	227
	11	150	125	665	100	530	1221	1024	4	19	270
	15	150	125	665	100	530	1265	1068	4	19	290
150 x 125 FS4JA	15	150	125	705	100	530	1265	1068	4	19	299
	18.5	150	125	705	100	530	1285	1068	4	19	345
	22	150	125	705	100	530	1323	1106	4	22	383
150 x 125 FS4KA	22	150	125	735	100	640	1384	1181	4	19	431
	30	150	125	735	100	640	1444	1219	4	19	515
	37	150	125	760	125	670	1490	1253	6	22	572
150 x 125 FS4LA	30	150	125	815	100	640	1444	1219	4	19	555
	37	150	125	840	125	670	1490	1253	6	22	612
	45	150	125	840	125	670	1515	1279	6	22	640
	55	150	125	840	125	720	1556.5	1297	6	22	782
	75	150	125	865	150	690	1594.5	1341	6	25	868
150 x 100 FS4NA	45	150	100	950	125	720	1695	1420	6	22	823
	55	150	100	975	150	730	1736.5	1440	6	25	966
	75	150	100	975	150	730	1774.5	1480	6	25	1052
200 x 150 FS4HA	5.5	200	150	735	100	630	1087	920	4	19	230
	7.5	200	150	735	100	630	1125	958	4	19	246
	11	200	150	735	100	630	1241	1039	4	19	290
200 x 150 FS4JA	15	200	150	755	100	640	1345	1143	4	19	362
	18.5	200	150	755	100	640	1365	1143	4	19	408
	22	200	150	755	100	640	1404	1181	4	19	446
	30	200	150	755	100	640	1464	1219	4	19	530
	37	200	150	780	125	670	1510	1253	6	22	587
200 x 150 FS4KA	37	200	150	840	125	730	1649	1393	6	22	631
	45	200	150	840	125	730	1675	1419	6	22	659
	55	200	150	840	125	730	1716.5	1437	6	22	802
200 x 150 FS4LA	45	200	150	890	125	730	1677	1419	6	22	790
	55	200	150	890	125	730	1718.5	1437	6	22	933
	75	200	150	915	150	750	1756.5	1482	6	25	1019
	90	200	150	915	150	725	1908	1554	6	25	1145
200 x 150 FS4NA	110	200	150	1085	150	800	1978	1754	6	25	1389
	132	200	150	1085	150	860	2017	1620	6	25	1619
	150	200	150	1085	150	860	2068	1672	6	25	1746
250 x 200 FS4LA	75	250	200	1095	150	860	1774.5	1540	6	25	1213
	90	250	200	1095	150	860	1926	1610	6	25	1340
	110	250	200	1095	150	860	1976	1660	6	25	1409
	132	250	200	1095	150	860	2015	1678	6	25	1639
	150	250	200	1095	150	860	2066	1730	6	25	1765
250 x 200 FS4NA	150	250	200	1215	150	860	2236	1890	6	25	1923
	185	250	200	1215	150	860	2236	1890	6	25	1969
	225	250	200	1215	150	860	2520	2036	6	25	2406
	260	250	200	1215	150	860	2670	2186	6	25	2647
	300	250	200	1215	150	860	2670	2186	6	25	2808
	335	250	200	1215	150	860	2870	2386	6	25	2923

\* Dimensional details are provided for reference only.

\* All specifications are subject to change without prior notice.



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