FRP COOLING TOWER FAN

LF SERIES

NEWIN®
MACHINE EXPERT

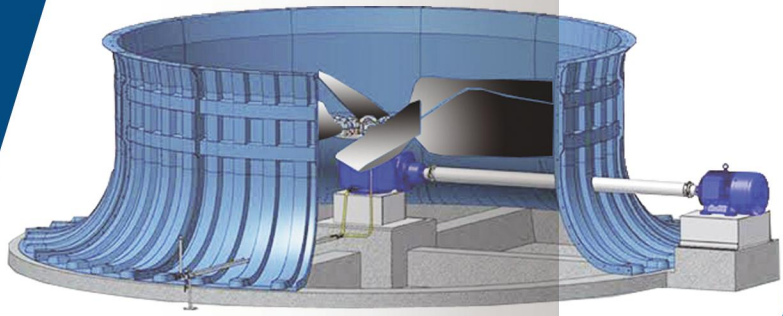
Shenzhen Newin Machinery Co., Ltd.

Office address: No.510, Building 12, Tiedong, China South City, Pinghu, Shenzhen, China.

Factory address: Building 1&2, No.8, Liantangjiao 2nd Rd, Tangxia Town, Dongguan, China

Service hotline: +86 755 23077266
Email: sales@newinmachine.com
Website: www.newincoolingtower.com

深圳市钮盈机械有限公司
Shenzhen Newin Machinery Co., Ltd.

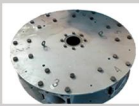


LF SERIES

NEWIN FRP COOLING TOWER FAN

- ◇ Beautiful shape, compact structure, high strength and light weight.
- ◇ Corrosion resistance and anti-aging.
- ◇ Power saving, low noise and reliable operation.
- ◇ Economical and practical, convenient installation and maintenance.

FRP FAN BLADES
(high strength, anticorrosion, heat preservation and long life service)



HUB
(cast iron)

GEARBOX REDUCER
(service factor 2.0 or above)

SHAFT
(stainless steel/ carbon fiber material for option)

LF-42

FRP COOLING TOWER FAN

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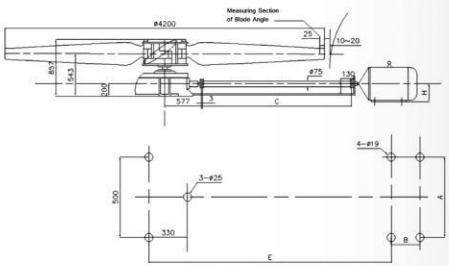
Structural Sketch

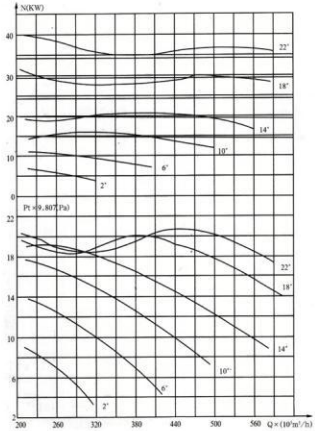
LF-42 Type



Fan Performance Parameter

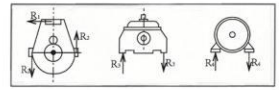
parameter	model	LF-42
Fan performance parameter	Impeller speed (r/min)	200
	Air volume (m^3/h)	45
	Full pressure (Fa)	127.5
	Blade angle	13°
	Nos of fan blade	4
	Blade shaft power (KW)	20
	Pressure efficiency (%)	80
	Fan weight (Kg)	500
Supporting motor	Model	Y180L-4
	Power (KW)	22kw/4
	Weight (Kg)	195
Install size	A(mm)	279
	B(mm)	279
	C(mm)	1860
	E(mm)	2676

Air performance curve



Diameter: D= 4200 mm
Rotate Speed: n= 200 r/min
Nos of Fan Blade: Z= 4
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter		model	LF-42
Fan motor load parameters	Impeller	Weight (Kg)	172
		Axial force (N)	2196
		Gyroscopic moment (kg/m^1)	786
	Vibration frequency	Impeller(Hz)	4
		Motor(Hz)	16.33
	Disturbance force	Impeller(N)	66
		Motor(N)	202
	Maximum vibration speed		6.3
Torque reaction	Reducer	R1(N)	2984
		R2(N)	1750
		R3(N)	504
	Motor	Normal load R4(N)	821
		Max. load R4(N)	1640

LF-47

FRP COOLING TOWER FAN

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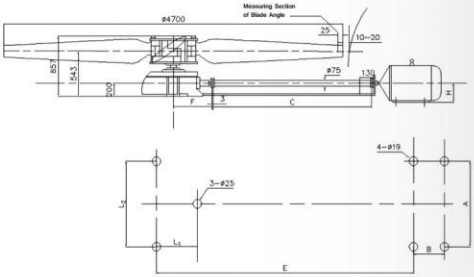
Structural Sketch

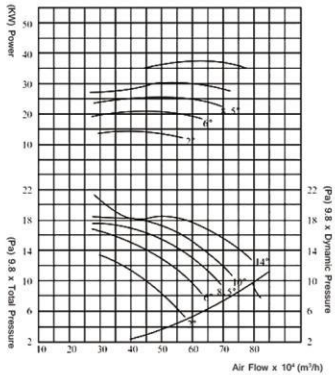
LF-47 Type



Fan Performance Parameter

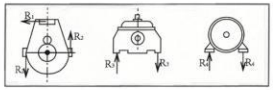
Parameter	Model	LF-47A1	LF-47A2	LF-47B	LF-47C	LF-47D	LF-47E
Fan performance parameter	Impeller speed (r/min)	240	240	240	240	240	240
	Air Volume× 10^4 (n^3/h)	60	60	60	78	60	60
	Full pressure (Pa)	127.5	127.5	127.5	127.5	127.5	127.5
	Blade angle	12.5°	12.5°	19°	12.5°	12.5°	12.5°
	Blade number	4	4	4	4	6	6
	Blade shaft power (KW)	25.5	20	25.5	38	25.5	25.5
	Pressure efficiency (%)	83.3	83.3	83.3	78.1	83.3	83.3
	Fan weight (Kg)	549	510	543	549	543	543
Supporting motor	Model	Y225M-6	Y180L-4	Y200L-4	Y225M-4/6	YB225M-6	Y200L-4
	Power (KW)	30	22	30	45/15	30	30
	Weight (Kg)	292	195	245	333	292	245
Install size	A (mm)	356	279	318	356	356	318
	B (mm)	311	279	305	311	311	305
	C (mm)	2280	2256	2280	2280	2280	2280
	E (mm)	3122	3070	3070	3122	3122	3070
	F	557	557	557	575	557	557
	L_1	340	330	340	350	340	340
	L_2	580	500	580	770	580	580

Air performance curve



Diameter: D= 4700 mm
Rotate Speed: n= 240 r/min
Nos of Fan Blade: Z= 4/6
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter		model	LF-47
Fan motor load parameters	Impeller	Weight (Kg)	172
		Axial force (N)	2196
		Gyroscopic moment (kg/m²)	782
	Vibration frequency	Impeller(Hz)	4
		Motor(Hz)	16.33
	Disturbance force	Impeller(N)	66
		Motor(N)	202
	Maximum vibration speed		6.3
Torque reaction	Reducer	R1(N)	2984
		R2(N)	1750
		R3(N)	504
	Motor	Normal load R4(N)	821
		Max. load R4(N)	1640

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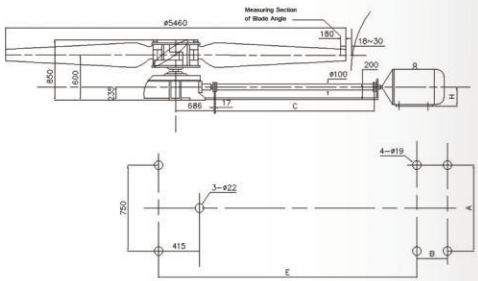
Structural Sketch

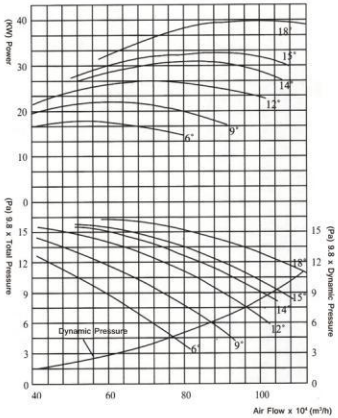
LF-55 Type



Fan Performance Parameter

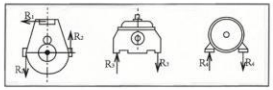
Parameter	Model	LF-55A1	LF-55B1	LF-55A2	LF-55B2
Fan performance parameter	Impeller speed (r/min)	165	165	165	165
	Air Volume+ 10^4 (n^3/h)	76	76	76	76
	Full pressure (Pa)	127.5	132.3	127.5	132.3
	Blade angle	14°	18°	14°	18°
	Blade number	6	6	6	6
	Blade shaft power (KW)	31	40	31	40
	Pressure efficiency (%)	86.8	87.3	86.8	87.3
	Fan weight (Kg)	990	990	990	990
Supporting motor	Model	Y225S-4	YB225M-4	Y255S-4	YB225M-4
	Power (KW)	37	45	37	45
	Weight (Kg)	305	333	305	333
Install size	A (mm)	356	356	356	356
	B (mm)	286	311	286	311
	C (mm)	2548	2548	2702	2702
	E (mm)	3557	3557	3557	3557
	H (mm)	225	225	225	225

Air performance curve



Diameter: D= 5460 mm
Rotate Speed: n= 165 r/min
Nos of Fan Blade: Z= 6
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter			model	LF-55
Fan motor load parameters	Impeller		Weight (Kg)	405
			Axial force (N)	3098
			Gyroscopic moment (kg/m²)	3914
	Vibration frequency		Impeller(Hz)	2.75
			Motor(Hz)	24.67
	Disturbance force		Impeller(N)	73
			Motor(N)	226
	Maximum vibration speed			6.3
Torque reaction	Reducer		R1(N)	5579
			R2(N)	3087
			R3(N)	387
	Motor		Normal load R4(N)	816
			Max. load R4(N)	1794

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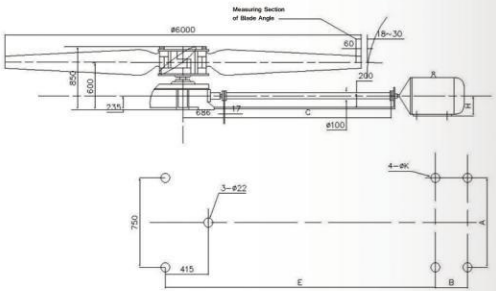
Structural Sketch

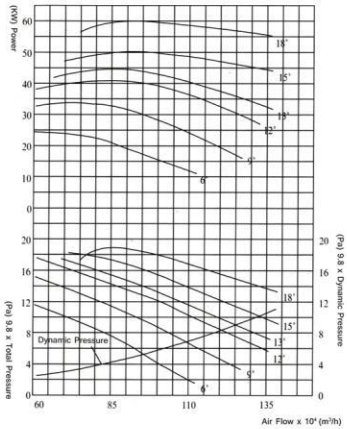
LF-60 (A_1,B_1) Type



Fan Performance Parameter

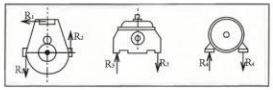
Parameter	Model	LF-60A$_1$	LF-60B$_1$	LF-60A$_2$	LF-60B$_2$
Fan performance parameter	Impeller speed (r/min)	165	165	165	165
	Air Volume+ 10^4 (n^3/h)	100	100	100	100
	Full pressure (Pa)	132.3	117	132.3	117
	Blade angle	13°	11.5°	13°	11.5°
	Blade number	6	6	6	6
	Blade shaft power (KW)	43	38	43	38
	Pressure efficiency (%)	85.5	85.5	85.5	85.5
	Fan weight (Kg)	1010	1005	1010	1005
Supporting motor	Model	YB250M-4	Y225M-4	YB250M-4	Y225M-4
	Power (KW)	55	45	55	45
	Weight (Kg)	530	333	530	333
Install size	A (mm)	406	356	406	356
	B (mm)	2680	2680	2834	2833
	C (mm)	3708	3688	3708	3688
	E (mm)	250	225	250	225
	K (mm)	24	19	24	19

Air performance curve



Diameter: D= 6000 mm
Rotate Speed: n= 165 r/min
Nos of Fan Blade: Z= 6
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter		model	LF-60
Fan motor load parameters	Impeller	Weight (Kg)	425
		Axial force (N)	3740
		Gyroscopic moment (kg/m²)	4020
	Vibration frequency	Impeller(Hz)	2.75
		Motor(Hz)	24.67
	Disturbance force	Impeller(N)	76
		Motor(N)	273
	Maximum vibration speed		6.3
Torque reaction	Reducer	R1(N)	5997
		R2(N)	3318
		R3(N)	266
	Motor	Normal load R4(N)	874
		Max. load R4(N)	1923

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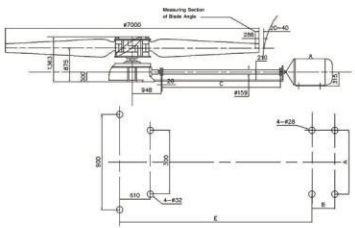
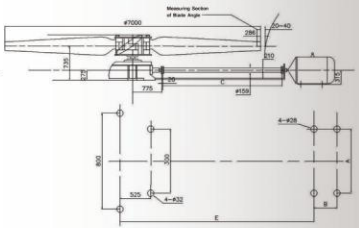
Structural Sketch

LF-70 (A_1,B_1) Type



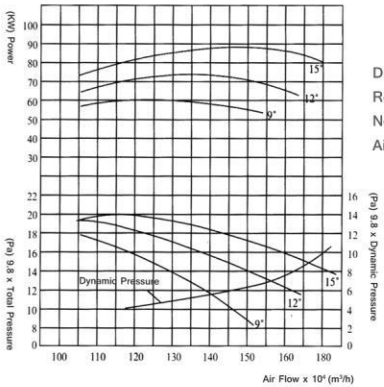
LF-70 (A_2,B_2) Type



Fan Performance Parameter

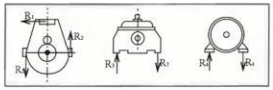
Parameter	Model	LF-70A_1	LF-70B_1	LF-70A_2	LF-70B_2
Fan performance parameter	Impeller speed (r/min)	149	149	149	149
	Air Volume+ 10^4 (n^3/h)	140	140	140	140
	Full pressure (Pa)	155	155	155	155
	Blade angle	12°	12°	12°	12°
	Blade number	6	6	6	6
	Blade shaft power (KW)	73	73	73	73
	Pressure efficiency (%)	82.6	82.6	82.6	82.6
	Fan weight (Kg)	2278	2278	2278	2278
Supporting motor	Model	Y(B)315M_1-6	Y280M-4	Y(B)315M_1-6	Y280M-4
	Power (KW)	90	90	90	90
	Weight (Kg)	1050	630	1050	630
Install size	A (mm)	508	457	508	457
	B (mm)	457	419	457	419
	C (mm)	2812	2812	2989	2989
	E (mm)	4190	4134	4190	4134

Air performance curve



Diameter: D= 7000 mm
Rotate Speed: n= 149 r/min
Nos of Fan Blade: Z= 6
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter		model	LF-70
Fan motor load parameters	Impeller	Weight (Kg)	909
		Axial force (N)	5770
		Gyroscopic moment (kg/m²)	7800
	Vibration frequency	Impeller(Hz)	2.48
		Motor(Hz)	16.33
	Disturbance force	Impeller(N)	132
		Motor(N)	2083
	Maximum vibration speed		6.3
Torque reaction	Reducer	R1(N)	7670
		R2(N)	5199
		R3(N)	2900
	Motor	Normal load R4(N)	1712
		Max. load R4(N)	3424

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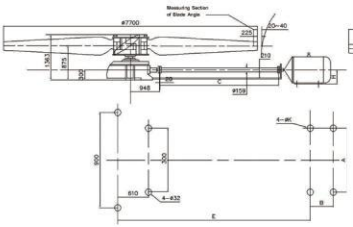
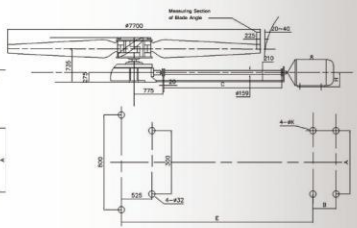
Structural Sketch

LF-77 (A_1,B_1,C_1,D_1) Type



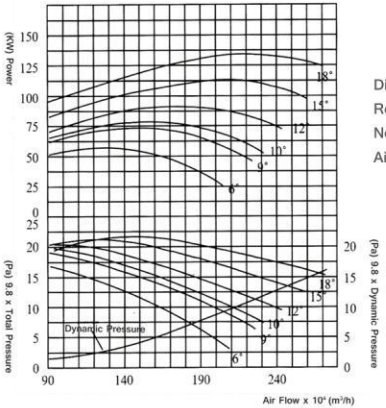
LF-77 (A_2,B_2,C_2,D_2) Type



Fan Performance Parameter

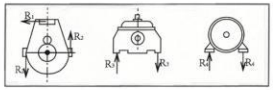
Parameter	Model	LF-77A_1	LF-77B_1	LF-77C_1	LF-77D_1	LF-77A_2	LF-77B_2	LF-77C_2	LF-77D_2
Fan performance parameter	Impeller speed (r/min)	149	149	149	149	149	149	149	149
	Air Volume+ 10% (n^3/h)	135	152	135	190	135	152	135	190
	Full pressure (Pa)	127	152.4	127	127	127	152.4	127	127
	Blade angle	6°	9.5°	6°	10°	6°	9.5°	6°	10°
	Blade number	4	6	4	6	4	6	4	6
	Blade shaft power (KW)	57	77	57	80.5	57	77	57	80.5
	Pressure efficiency (%)	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8
	Fan weight (Kg)	2280	2280	2280	2280	2280	2280	2280	2280
Supporting motor	Model	Y280S-4	YB280M-4	Y315S-6	YB315M-6	Y280S-4	YB280M-4	Y315S-6	YB315M-6
	Power (KW)	75	90	75	90	75	90	75	90
	Weight (Kg)	560	780	990	1100	560	780	990	1100
Install size	A (mm)	457	457	508	508	457	457	508	508
	B (mm)	368	419	406	457	368	419	406	457
	C (mm)	3252	3252	3252	3252	3429	3429	3429	3429
	E (mm)	4574	4574	4630	4630	4574	4574	4630	4630
	H (mm)	280	280	315	315	280	280	315	315
	K (mm)	24	24	28	28	24	24	28	28

Air performance curve



Diameter: D= 7700 mm
Rotate Speed: n= 149 r/min
Nos of Fan Blade: Z= 4
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter		model	LF-77A	LF-77B
Fan motor load parameters	Impeller	Weight (Kg)	728	728
		Axial force (N)	6553	5913
		Gyroscopic moment (kg/m²)	6078	6078
	Vibration frequency	Impeller(Hz)	2.48	2.48
		Motor(Hz)	24.83	24.83
	Disturbance force	Impeller(N)	106	106
		Motor(N)	457	690
	Maximum vibration speed		6.3	6.3
Torque reaction	Reducer	R1(N)	5989	5989
		R2(N)	4059	4059
		R3(N)	1613	2411
	Motor	Normal load R4(N)	1059	1424
		Max. load R4(N)	2118	2848

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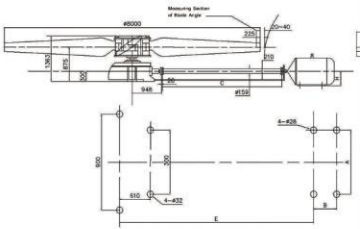
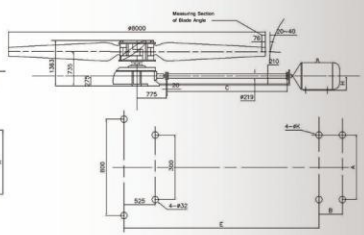
Structural Sketch

LF-80 (A_1,B_1,C_1) Type



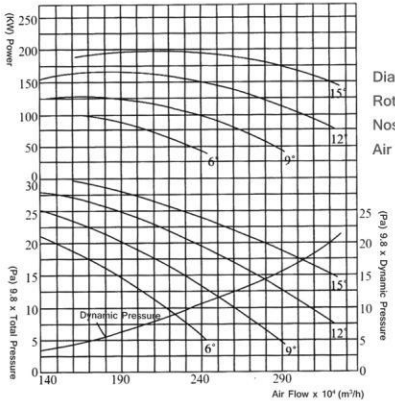
LF-80 (A_2,B_2,C_2) Type



Fan Performance Parameter

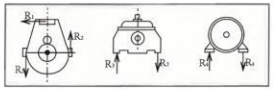
Parameter	Model	LF-80A_1	LF-80B_1	LF-80C_1	LF-80A_2	LF-80B_2	LF-80C_2
Fan performance parameter	Impeller speed (r/min)	149	149	149	149	149	149
	Air Volume* 10^4 (n^3/h)	255	255	255	255	255	255
	Full pressure (Pa)	167	167	167	167	167	167
	Blade angle	12	12°	12°	12°	12°	12°
	Blade number	6	6	6	6	6	6
	Blade shaft power (KW)	127.3	127.3	127.3	127.3	127.3	127.3
	Pressure efficiency (%)	86	86	86	86	86	86
	Fan weight (Kg)	2470	2470	2470	2470	2470	2470
Supporting motor	Model	Y315L_1-4	Y335M_1-6	Y315L_2-6	Y315L_1-4	Y335M_1-6	Y315L_2-6
	Power (KW)	160	160	132	160	160	132
	Weight (Kg)	1200	1590	1120	1200	1200	1120
Install size	A (mm)	508	610	508	508	610	508
	B (mm)	508	560	508	508	560	508
	C (mm)	3622	3622	3622	3797	3797	3797
	E (mm)	5000	5038	5000	5000	5038	5000
	H (mm)	315	315	315	315	315	315

Air performance curve



Diameter: D= 8000 mm
Rotate Speed: n= 149 r/min
Nos of Fan Blade: Z= 6
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter		model	LF-80A	LF-80B
Fan motor load parameters	Impeller	Weight (Kg)	939	939
		Axial force (N)	8354	8354
		Gyroscopic moment (kg/m²)	8438	8438
	Vibration frequency	Impeller(Hz)	2.48	2.48
		Motor(Hz)	24.83	24.83
	Disturbance force	Impeller(N)	137	137
		Motor(N)	752	752
	Maximum vibration speed		6.3	6.3
Torque reaction	Reducer	R1(N)	13375	13375
		R2(N)	9065	9065
		R3(N)	3441	5197
	Motor	Normal load R4(N)	2032	4470
		Max. load R4(N)	2558	5116

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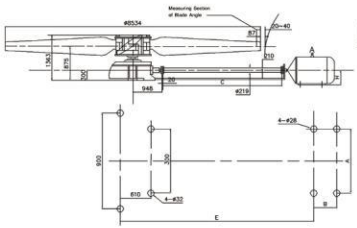
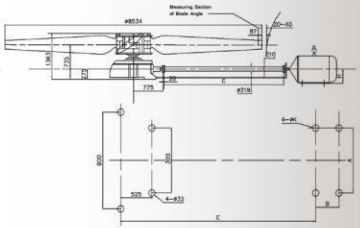
Structural Sketch

LF-85 (A_1,B_1) Type



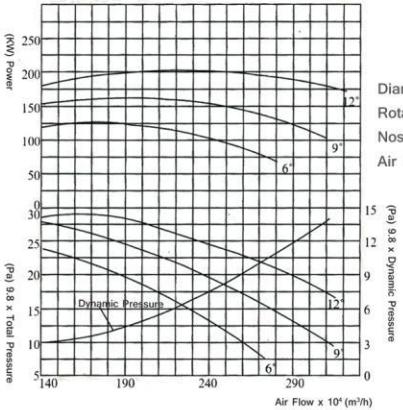
LF-85 (A_2,B_2) Type



Fan Performance Parameter

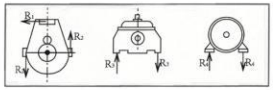
Parameter	Model	LF-85A_1	LF-85B_1	LF-85A_2	LF-85B_2
Fan performance parameter	Impeller speed (r/min)	149	149	149	149
	Air Volume+ 10^4 (n^3/h)	273	273	273	273
	Full pressure (Pa)	152	152	152	152
	Blade angle	9°	9°	9°	9°
	Blade number	6	6	6	6
	Blade shaft power (KW)	135	135	135	135
	Pressure efficiency (%)	85.6	85.6	85.6	85.6
	Fan weight (Kg)	2430	2430	2430	2430
Supporting motor	Model	YB315L_1-4	YB355S_2-6	YB315L_1-4	YB355S_2-6
	Power (KW)	160	160	160	160
	Weight (Kg)	1200	1200	1200	1200
Install size	A (mm)	508	610	508	610
	B (mm)	508	500	508	500
	C (mm)	3682	3682	3682	3682
	E (mm)	5060	5100	5060	5100
	H (mm)	315	315	315	315

Air performance curve



Diameter: D= 8534 mm
Rotate Speed: n= 149 r/min
Nos of Fan Blade: Z= 6
Air Density: ρ= 1.2 kg/m³

Reducer reaction



parameter		model	LF-85A	LF-85B
Fan motor load parameters	Impeller	Weight (Kg)	951	951
		Axial force (N)	8689	8689
		Gyroscopic moment (kg/m^2)	8611	8611
	Vibration frequency	Impeller(Hz)	2.48	2.48
		Motor(Hz)	752	752
	Disturbance force	Impeller(N)	140	140
		Motor(N)	752	1028
	Maximum vibration speed		6.3	6.3
Torque reaction	Reducer	R1(N)	14184	14184
		R2(N)	9613	9613
		R3(N)	3441	5197
	Motor	Normal load R4(N)	2032	2558
		Max. load R4(N)	4470	5116

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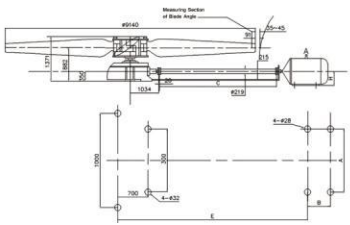
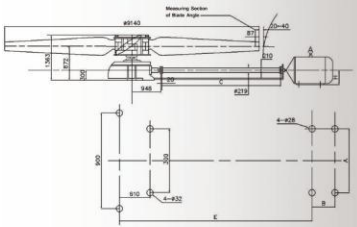
Structural Sketch

LF-92 (A_1,B_1) Type



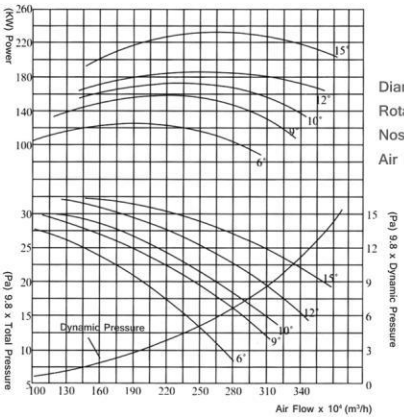
LF-92 (A_2,B_2) Type



Fan Performance Parameter

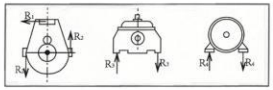
Parameter	Model	LF-92A_1	LF-92B_1	LF-92A_2	LF-92B_2
Fan performance parameter	Impeller speed (r/min)	127	127	127	127
	Air Volume× 10^4 (n^3/h)	315	315	315	315
	Full pressure (Pa)	176.4	176.4	176.4	176.4
	Blade angle	12°	12°	12°	12°
	Blade number	8	8	8	8
	Blade shaft power (KW)	175.6	175.6	175.6	175.6
	Pressure efficiency (%)	87.97	87.97	87.97	87.97
	Fan weight (Kg)	3250	3150	3250	3150
Supporting motor	Model	YB400S_1-4(6KV)	Y355M_3-6	YB400S_1-4(6KV)	Y355M_3-6
	Power (KW)	200	200	200	200
	Weight (Kg)	2100	1750	2100	1750
Install size	A (mm)	686	610	686	610
	B (mm)	900	560	900	560
	C (mm)	3983	3983	4067	4067
	H (mm)	400	355	400	355
	G (mm)	30	28	30	28

Air performance curve



Diameter: D= 9140 mm
Rotate Speed: n= 127 r/min
Nos of Fan Blade: Z= 8
Air Density: ρ= 1.2 kg/m³

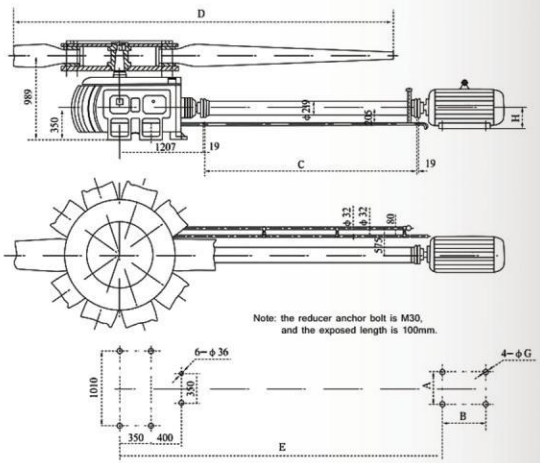
Reducer reaction



parameter		model	LF-92
Fan motor load parameters	Impeller	Weight (Kg)	1153
		Axial force (N)	11574
		Gyroscopic moment (kg/m²)	26657
	Vibration frequency	Impeller(Hz)	2.12
		Motor(Hz)	24.8
	Disturbance force	Impeller(N)	122.2
		Motor(N)	1681
	Maximum vibration speed		6.3
Torque reaction	Reducer	R1(N)	18863
		R2(N)	13204
		R3(N)	4302
	Motor	Normal load R4(N)	1871
		Max. load R4(N)	3929

Structural Sketch

LF-98A/100A/104A Type

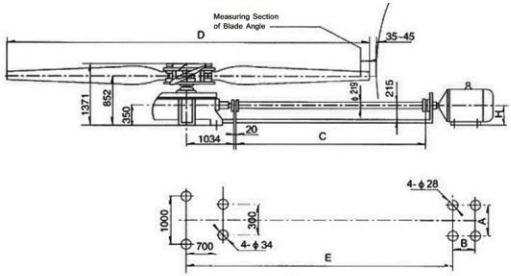


Install Size

Model	A	B	C	D	E	G	H	Mark
LF-98A	630	900	4495	9754	6227	28	355	Single shaft
LF-100A	686	900	4723	10060	6380	28	400	
LF-104A	610	560	4631	10360	6300	28	355	
LF-98B	630	900	4668	9754	6227	28	355	
LF-100B	686	900	4896	10060	6380	28	400	
LF-104B	610	560	4804	10360	6300	28	355	

Structural Sketch

LF-98B/100B/104B Type

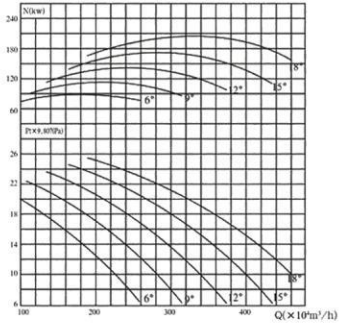


Fan Performance Parameter

Parameter	Model	LF-98	LF-100	LF-104
Fan performance parameter	Impeller speed (r/min)	109	109	109
	Air Volume× 10^4 (m^3/h)	290	323	360
	Full pressure (Pa)	178.39	167.2	169.18
	Blade angle	12.5°	11°	10°
	Blade number	10	10	10
	Blade shaft power (KW)	170.6	170.6	191
	Pressure efficiency (%)	84	87	88.6
	Fan weight (Kg)	4600	4700	4750
Supporting motor	Model	YKK355$_1$-4(6KV)	YB400S$_3$-4(6KV)	Y3-355M$_1$-4F
	Power (KW)	200	220	220
	Rotate speed(r/min)	1482	1485	1488
	Weight (Kg)	3300	3200	1720

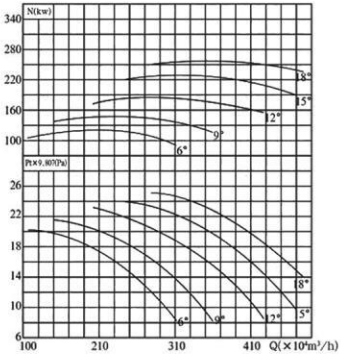
Air performance curve

LF-98 Air performance curve



Diameter: D= 9754 mm
Rotate Speed: n= 109 r/min
Nos of Fan Blade: Z= 10
Air Density: ρ= 1.2 kg/m³

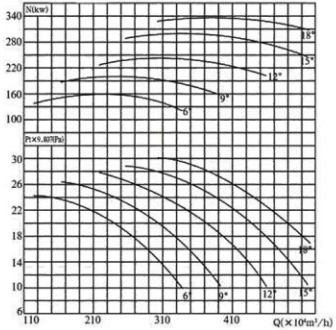
LF-100 Air performance curve



Diameter: D= 10060 mm
Rotate Speed: n= 109 r/min
Nos of Fan Blade: Z= 10
Air Density: ρ= 1.2 kg/m³

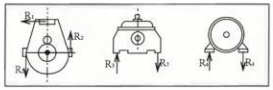
Air performance curve

LF-104 Air performance curve



Diameter: D= 10360 mm
Rotate Speed: n= 109 r/min
Nos of Fan Blade: Z= 10
Air Density: ρ= 1.2 kg/m³

Reducer reaction



Parameter	Model		LF-98	LF-100	LF-104
The fan motor load parameters	Impeller	Weight (Kg)	1450	1500	1564
		Axial force (N)	12971	12321	13942
		Gyroscopic moment (Kg·m²)	33269	37286	43145
	Maximum vibration speed mm/s		6.3	6.3	6.3
	Vibrational frequency	Impeller (hz)	1.82	1.82	1.82
		Motor (hz)	24.8	24.8	24.8
	Vibration equialent static	Impeller (N)	431	1280	444
		Motor (N)	9966	9692	5220
Torque reaction	Reducer	R1	19929	19929	25700
		R2	14799	14799	19084
		R3	3682	4042	1398
	Motor	Normal load R4 (N)	2046	2062	2315
		Max. load R4 (N)	3682	4537	5092

NEWIN FRP COOLING TOWER FAN

NEWIN®
MACHINE EXPERT

Carbon Fiber Shaft

Carbon Steel Shaft

Stainless Steel Shaft

Coupling

FRP Fan Blades

FRP Fan Blades