





Centrifugal Motorised Impellers and Fans

High Efficiency - 90W Range









For over a century...

History

Originally formed over 100 years ago as part of the USA based Torin Corporation, and then established as a UK subsidiary in 1964; Torin have developed into an independent market leader in the supply of air-movement products, incorporating over 60 years of UK innovation.



Core Focus

Torin is a technology expert in the design, development and manufacture of centrifugal impellers, traditional AC motors and highly efficient Electronically Commutated (EC) motors.

Torin products exceed the requirements of European energy saving legislation; helping our customers to position themselves at the forefront of their markets.





Otorin Efficiency with every rotation

About us

Torin design and manufacture highly efficient AC and EC motors, motorised impellers and fans for the residential and commercial HVAC manufacturing markets worldwide.

With over 60 years experience developing and manufacturing products, we sell over 1 million units per year and manufacture from two production sites in the UK.

More than 60 years of Innovation

Since our humble beginnings on the banks of the Naugatuck river in Connecticut USA, we have come a long way changing names, continents, owners and innovating the most efficient electric motor technology. We continue to invest in our local community, British engineering and raising the profile of Torin throughout the world.

International markets

We are a truly international business with our sales evenly split between our home market in the UK and numerous export customers, all serviced by our technically competent international sales team. Support is provided by experienced product development and applications engineers backed up by an excellent research and development facility.

Customised Solutions

We understand the ever-changing market, therefore we offer customised product solutions to meet your exact needs. Whether you require a change to one of our standard products or by managing a truly joint development partnership to produce a product customised to meet your requirements.

Current examples include:

- Specific housing designs, including material thickness, mounting-hole locations and flange design.
- Lead lengths cut to size and your specified plug fitted.
- External or on-board electronics options
- Performance optimisation, including impeller and electronics design
- Licensing agreements for electronic circuitry
- Production and balancing of fans within your own product assemblies.



Torin started manufacturing EC Centrifugal motorised impellers and fans in the late 1990's and since then, have successfully sold over one million EC products to the European ventilation industry.

We have opened our own EC Manufacturing and Technology Centre which acts as the centre of excellence for everything EC. Our state of the art facility has benefited from an investment exceeding £2m and houses the production of highly efficient EC motor, fan and blower products.

Our EC motorised impellers utilise the latest three phase technology, ensuring best in class efficiency levels as well as whisper quiet operation. These are fundamental considerations when selecting your partner for air movement projects. This 170W range is optimised to provide aerodynamic efficiency and low acoustic noise at the higher static pressures encountered in today's ventilation applications.

EC motors are significantly more efficient when compared to their AC counterparts. This is inherently down to how the motor generates torque. EC motors use permanent magnets to create an interactive magnetic field, a process that doesn't consume much energy unlike AC technology which suffers losses through copper windings and aluminium bars.

Features and Benefits

- Compact impeller design
- 'Whisper Quiet' operation.
- Cost-effective pressed steel or aluminium construction.
- Can be utilised without additional scroll housing.
- Energy Efficient

Customised Solutions

We understand not every product offers the most optimal solution for your application. We can work together to provide a customised solution for you.



What is a forward curved fan?

A forward curved impeller is characterised by a relatively large number of shallow blades facing the direction of rotation.

For this type of impeller, flow from the impeller is produced in a tangential direction. The forward curve of the blade imparts kinetic energy to the air requiring a scroll housing to convert the kinetic energy into static pressure. For any given constant speed, the input power characteristic increases as flow increases from zero to maximum. At higher flow rates, care must therefore be taken that the load presented by the impeller does not exceed the rating of the driving motor.

Which applications do Forward Curved fans suit?

Forward curved impellers are typically used to provide large air volumes at low running speeds in a compact installation. They are also suited for applications where constant airflow or constant pressure delivery is needed.

What is a backward curved fan?

They are called Backward Curved due to the direction of rotation. The blades curve backwards from the inner edge to the outer edge, relative to the direction of rotation, and may be of plate or aerofoil form.

For this type of impeller, flow is produced in a radial direction because the impeller develops static pressure across the longer length of blade. On the front side of the blade a positive pressure is generated pushing the air outwards and on the reverse side of the blade a negative pressure is generated. This negative pressure draws air in to the space so that the front side of the following blade picks this air up and pushes it outwards.

Which applications do Backward curved fans suit?

Backward curved impellers are typically suited to higher efficiency, higher pressure applications where overall system efficiency is a key factor or where a scroll housing is not required.



1.17

90W Motorised Impellers and Fans summary



0.56

0.9

0.95





0.95

1.15

1.35



Weight (kg)

0.91

1.07

1.11





90W Motorised Impellers and Fans Forward Curved - 120mm

Technical Data	
Supply Voltage (V/Ph/Hz)	230 / 1 / 50
Max Airflow (m ³ /h)	314
Max Current (A)	0.6
Max Input Power (W)	59
Max Speed (rpm)	3600
ErP Efficiency Rating (FMEG)	56
IP Rating	54
Motor Insulation Class	В
Temperature Range (°C)	-20 to +60
Weight (kg)	0.91

Performance Data

Data Point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	546	0	0.39	3609	35.6
2	512	67	0.44	3605	42.3
3	430	148	0.51	3282	51.0
4	269	230	0.54	2695	54.0
5	0	314	0.58	2184	58.9





Dime	Dimensions (mm)				
A	102.0	G	73.3		
В	120.0	н	80.0		
С	88.0	I			
D	63.4	J			
E	61.4	К			
F	16.7				





Forward Curved - 140mm

230 / 1 / 50
390
0.81
85
3000
52
54
В
-20 to +60
1.07

Performance Data

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Efficiency with every rotation

C

Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)
1	491	0	0.43	3004	36.8
2	503	113	0.60	3003	57.9
3	431	206	0.74	2878	76.1
4	241	308	0.78	2405	81.1
5	0	390	0.81	2137	85.3









Forward Curved - 146mm

Technical Data	
Supply Voltage (V/Ph/Hz)	230 / 1 / 50
Max Airflow (m ³ /h)	337
Max Current (A)	0.79
Max Input Power (W)	84
Max Speed (rpm)	3000
ErP Efficiency Rating (FMEG)	56
IP Rating	54
Motor Insulation Class	В
Temperature Range (°C)	-20 to +60
Weight (kg)	1.11

Performance Data

Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)
1	527	0	0.47	3002	42.4
2	547	148	0.62	3008	61.9
3	476	194	0.72	2860	74.5
4	217	305	0.76	2323	79.9
5	0	337	0.79	2055	84.0









90W Motorised Impellers and Fans Forward Curved - 160mm

230 / 1 / 50	-
442	
0.78	
81.2	
3000	
54	
54	
В	
-20 to +50	
1.17	
	230 / 1 / 50 442 0.78 81.2 3000 54 54 54 54 8 8 -20 to +50 1.17

Performance Data						
Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)	
1	701	0	0.62	3000	64.8	
2	495	160	0.64	2584	67.6	
3	311	283	0.68	2097	72.8	
4	164	371	0.72	1803	78.2	
5	0	442	0.70	1501	75.6	





Dimensions (mm)				
А	140.0	G	74.2	
В	160.0	Н	80.0	
С	89.0	I		
D	63.6	J		
E	61.6			
F	8.7			







90W Motorised Impellers and Fans Backward Curved - 133mm - 43W

230 / 1 / 50
232
0.38
45.6
5050
52
54
В
-20 to +60
0.56

Performance Data

Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)
1	579	0	0.25	5050	31.7
2	546	51	0.33	5050	40.3
3	394	127	0.38	5050	45.6
4	210	180	0.32	5050	37.4
5	0	232	0.23	5050	27.1





Dimensions (mm)					
A	93.0	G	98.1		
В	133.0	Н	81		
С	63.0	Ι			
D	48.5	J			
E	35.0	К			





90W Motorised Impellers and Fans Backward Curved - 175mm

230 / 1 / 50		8
672		
0.71		
8.5		
4100		6
73		
54		
В	(Pa)	
-20 to +60	ssure	4
0.9	Pre	
	230 / 1 / 50 672 672 0.71 8.5 4100 73 54 54 8 9 -20 to +60 0.9	230 / 1 / 50 672 672 0.71 8.5 4100 73 54 54 8 9 9 20 to +60 0.9

Performance Data						
Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)	
1	702	0	0.58	4092	0.0	
2	554	141	0.68	3894	21.6	
3	403	301	0.69	3667	33.6	
4	201	518	0.69	3698	29.0	
5	0	661	0.67	4090	0.0	





Dimensions (mm)						
А	132.2	G	135.8			
В	175.0	Н	81.1			
С	68.8	I				
D	63.0	J				
Е	36.5	К				
F	2.8					







Backward Curved - 190mm

Tec	hnical	Date
Tec	nnicai	Date

Supply Voltage (V/Ph/Hz)	230 / 1 / 50
Max Airflow (m³/h)	511
Max Current (A)	0.79
Max Input Power (W)	89
Max Speed (rpm)	3750
ErP Efficiency Rating (FMEG)	60
IP Rating	54
Motor Insulation Class	В
Temperature Range (°C)	-20 to +60
Weight (kg)	0.95

Performance Data

Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)
1	693	0	0.53	3754	54.1
2	512	233	0.79	3753	87.9
3	382	331	0.77	3755	86.0
4	184	432	0.65	3754	69.2
5	0	511	0.49	3753	48.3











90W Motorised Impellers and Fans Backward Curved - 190mm - High Flow

Technical Data			
Supply Voltage (V/Ph/Hz)	230 / 1 / 50		
Max Airflow (m ³ /h)	690		
Max Current (A)	0.73		
Max Input Power (W)	76		
Max Speed (rpm)	3750		
ErP Efficiency Rating (FMEG)	60		
IP Rating	54		
Motor Insulation Class	В		
Temperature Range (°C)	-20 to +60		
Weight (kg)	0.95		
Motor Insulation Class Temperature Range (°C) Weight (kg)	B -20 to +60 0.95		

Performance Data

Data Point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	680	0	0.65	3750	65.0
2	533	99	0.71	3412	73.5
3	341	299	0.73	3080	76.0
4	201	496	0.73	3118	75.8
5	0	690	0.72	3340	74.4





Dimensions (mm)						
А	132.5	G	135.5			
В	190.0	Н	81			
С	69.2	Ι				
D	63.5	J				
E	39.0	К				
F	3.7					







Backward Curved - 220mm

Technical Data		600			220mm Ba	ckward Curv	/e	
Supply Voltage (V/Ph/Hz)	230 / 1 / 50		1					
Max Airflow (m ³ /h)	1002							
Max Current (A)	0.73	500						
Max Input Power (W)	83							
Max Speed (rpm)	3050	400		2				
ErP Efficiency Rating (FMEG)	70	400						
IP Rating	54							
Motor Insulation Class	В	300						
Temperature Range (°C)	-20 to +60							
Weight (kg)	1.15				3			
		200						

Performance Data

Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)
1	570	0	0.56	3055	67
2	400	217	0.71	2715	86
3	235	556	0.73	2530	88
4	100	796	0.72	2650	87
5	0	1002	0.71	2755	86









Backward Curved - 225mm

Technical Data

Supply Voltage (V/Ph/Hz)	230 / 1 / 50
Max Airflow (m ³ /h)	704
Max Current (A)	0.75
Max Input Power (W)	83.2
Max Speed (rpm)	2520
ErP Efficiency Rating (FMEG)	64
IP Rating	54
Motor Insulation Class	В
Temperature Range (°C)	-20 to +60
Weight (kg)	1.35

Performance Data

Data Point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)
1	450	0	0.44	2521	43.0
2	422	175	0.66	2520	70.1
3	259	489	0.75	2518	83.2
4	152	586	0.67	2519	71.1
5	0	704	0.50	2520	49.5



Airflow (m³/hr)

	Dime
	А
	В
	С
	D
	E
инстрана с то	F

Dimensions (mm)						
А	153.5	G	157.3			
В	225.0	н	81			
С	99.0	I				
D	88.4	J				
E	58.7	К				
F	18.7					







Torin, Drakes Way, Greenbridge, Swindon, Wiltshire, United Kingdom. SN3 3JB

 Tel
 Fax
 Email

 +44 (0) 1793 524291
 +44 (0) 1793 486570
 sales@torin.co.uk

www.torin.co.uk