

Circulatory Pumps 50 Hz

Zirantec

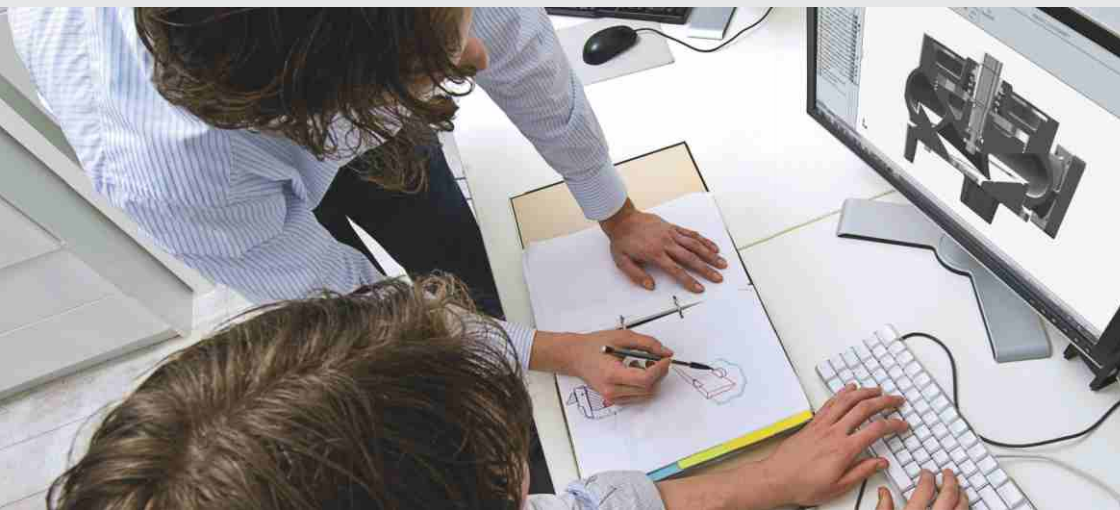


www.zirantec.com

An ISO 9001 Company

CE*

* For Specific models only.



ZIRANTEC products are designed & manufactured by well qualified and experienced Engineers in state of the art manufacturing facilities

CERTIFICATION



ZIRANTEC Pumps & Motors are from the house of **Fabbrica Italiana Pompe Sommergibili S.r.l.** a four decades old Italian company of high repute, offering complete waste water solutions around the world. Its current product portfolio includes world class Waste Water Pumps of various types, Multistage Centrifugal Pressure Booster Pumps, Borehole Submersible Pumps & Motors, End Suction Centrifugal Pumps, Industrial Pumps for various applications.

Founded as early as 1978 in Rozzano, South of Milan, Italy by Mr.Orfeo Agostini, the company has witnessed steady growth and market expansion continuously ever since. In these four decades of existence, the company has carved a niche for itself in the waste water and sewage pump market in Italy and other countries. Its products are employed in Municipal, Domestic and Industrial applications. The Company is well known for the unique and robust designs of its products and their workmanship. Due to its superior quality ZIRANTEC products are also exported to many European, African and Asian countries.

ZIRANTEC's products are designed and manufactured to meet high quality Standards and they are 'CE' certified. The Facility is accredited with ISO 9001 Certification.

Over the years, the company has metamorphosed and ventured into manufacturing of high quality water pumps, for domestic, agricultural and industrial applications. In the due process, Fabbrica Italiana Pompe Sommergibili S.r.l. has shed its image of an exclusive sewage and waste water pumps manufacturer to a complete pump production company with an ability to manufacture diverse kinds of pumps for different applications.

CIRCULATORY PUMPS

Description

Technological competence and immense experience of Zirantec pumps always inspire its Engineers in an optimistic manner to come out with successful and innovative products. These single head circulatory pumps are yet another quality products from the house of Zirantec which can meet the demanding technological challenges, and stand as testimony to Zirantec's quality & consistent performance for years.

Zirantec Circulatory pumps are used to circulate hot/cold water with adequate pressure in HVAC systems. All parts & components have been uncompromisingly tested to ensure trouble free performance and safety operation. The motor is of 2 pole asynchronous and squirrel cage type and consists of canned rotor portion. All the rotating parts are in touch with pumped liquid and thus it acts as lubricant to rotor, shaft & thrust bearings. An air vent plug is provided in the rear-end.

The centrifugal impeller is of radial & closed type with corrosion resistant curved blades. Impeller, shaft with rotor, thrust bearing pad and the intermediate rings are assembled as a single unit to avoid the misalignment of the bearings. The thrust bearing is designed to withstand high axial thrust load.

The particular model of pumps are equipped with a rotary switch in the terminal box that can be used to control the speed in 3 different levels based on the requirement. For trouble free operation the temperature of the pumped liquid should not exceed the specified level, the minimum inlet pressure should be maintained (to avoid cavitations) and dry run must totally be avoided. As the motor is impedance protected and consequently short-circuit proof, no additional motor protection is required. The pump is provided with standard length of cable lead out with plug.

These circulatory pumps are generally used in tandem with heating systems.

Applications

- Domestic heating systems.
- Air conditioning.
- Cooling system.
- Industrial hot water circulatory systems.

Pumped Liquid

- Clean, thin, non aggressive, non-explosive, clear cold or hot water without abrasives, solid particles & fibers.
- Water with specified chemical additives.
- Water mixed with glycol in 1:1 ratio.
- The pump is not strictly recommended for inflammable liquids such as Diesel, Petrol, Oil, Chemicals etc.,



CIRCULATORY PUMPS

Special Features

- Tried and trusted.
- Highly efficient.
- Corrosion free parts for hygiene.
- Low wear and tear.
- Easy for installation & service.
- Multi speed control (3 Levels).
- Perfectly and aesthetically designed.
- Silent operation & reduced electrical energy consumption.

Technical data

Ambient Temperature	40°C
Maximum humidity	95%
Liquid temp. range	-5°C to +110°C
Max. Operating Pressure	10bar
Voltage	Single phase 230V
Frequency	50 Hz
Degree of Protection	IP 44
Insulation Class	F
Mounting position	Horizontal
Connection type	Screw / Flange
Head	Single

Minimum Inlet Pressure

To avoid cavitation noise and to ensure long life operation, a pressure of minimum 2.0m head / 0.2 bar is required at the pump suction port during operation.

Location of Pump

The pump must be installed in a non aggressive & non explosive environment.

Warning

To prevent fatal or serious electric shock, disconnect main power supply before working on or around the water system. Only technically qualified personnel must perform the work complying with local electrical rules and regulations. To reduce the risk of electrical shock during operation of the pumpset, an appropriate earthing is mandatory. Do not run the pump in closed valve condition.

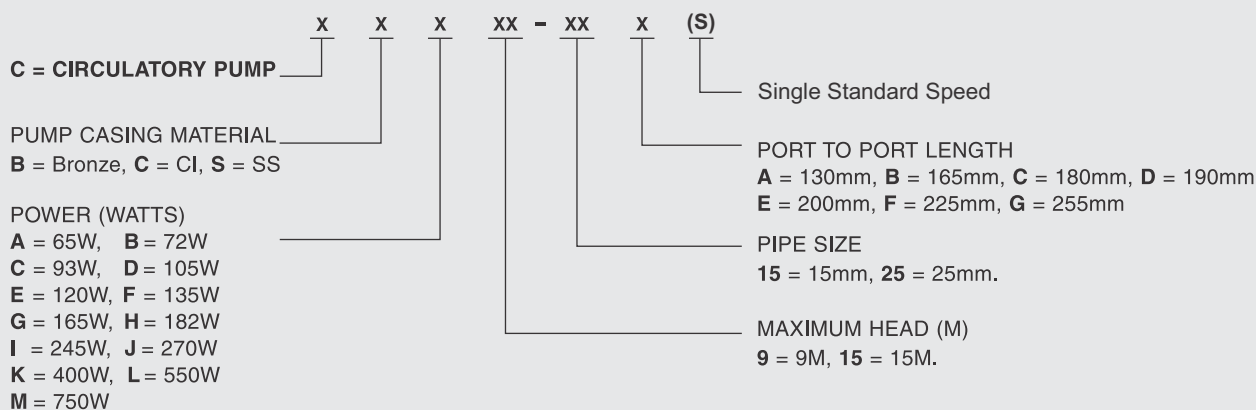
Speed Settings

The rotary switch provided in the terminal box can be turned to three different positions to adjust / control the speed based on the requirement, as mentioned in the table. Changing the speed to the lower level not only helps to save energy but also to reduce the noise considerably. The pressure level also can be increased or decreased by changing the pump speed, subject to the available inlet pressure.

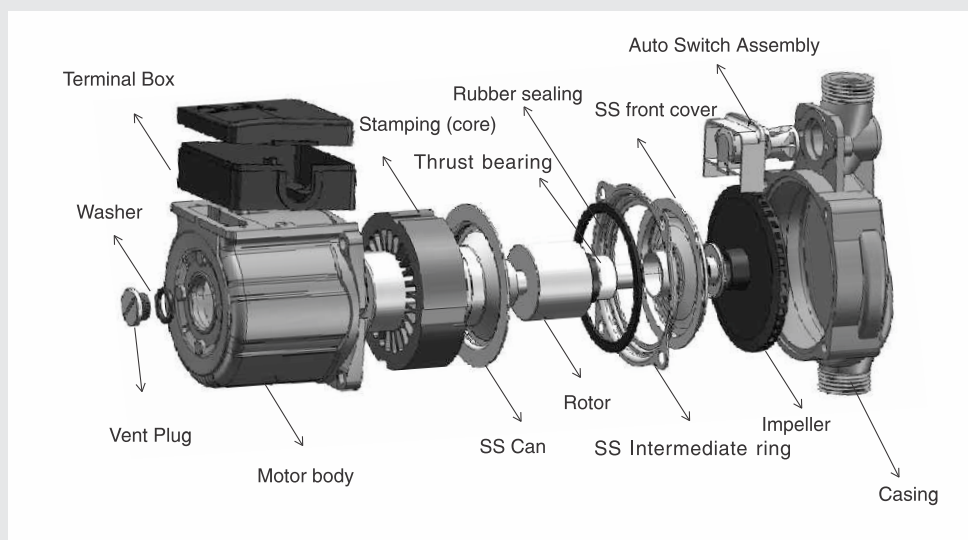
Switch Positions	Approx max Speed in %
I	60%
II	80%
III	100%

CIRCULATORY PUMPS

Model Identification Code



Exploded View

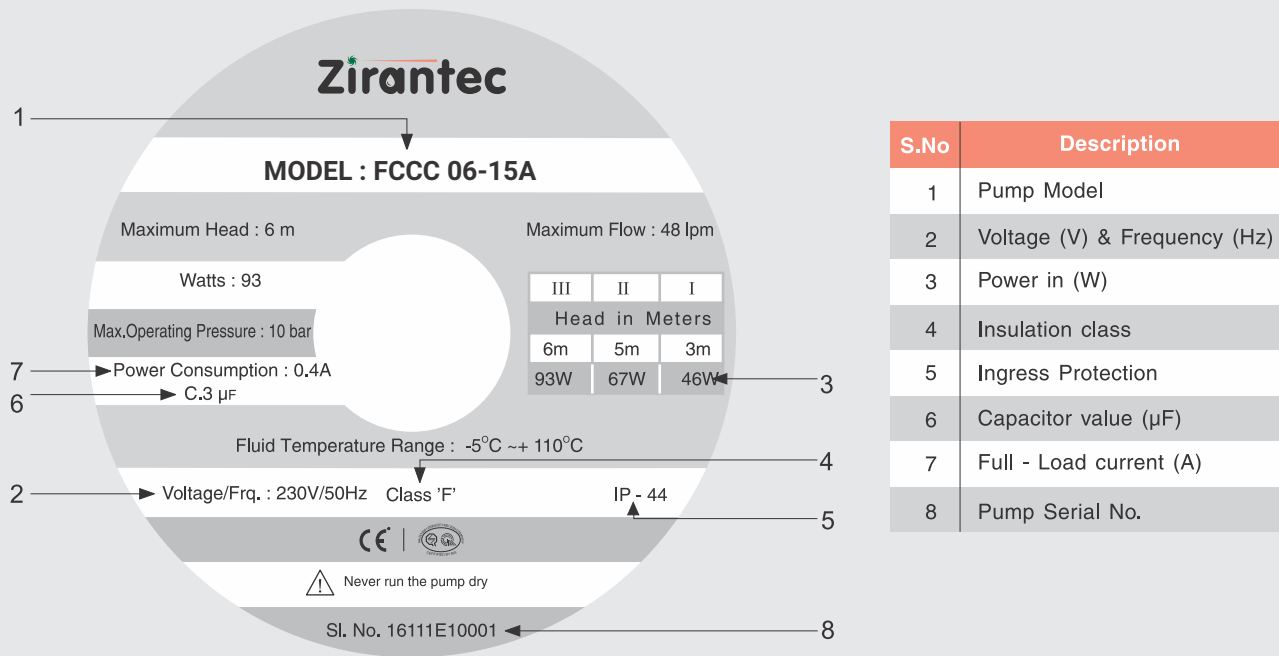


Materials of Construction

Description	Materials
Casing	Cast Iron
Impeller	Composite PP
Shaft	Ceramic
Motor Body	Al. Die Casting
Thrust Bearing	Graphite Carbon & Ceramic
Terminal Box / Cover	Composite PPE / PS
'O' ring	EPDM Rubber
Vent Plug	Brass
Bearing Plate	Stainless Steel
Intermediate ring	Stainless Steel

CIRCULATORY PUMPS

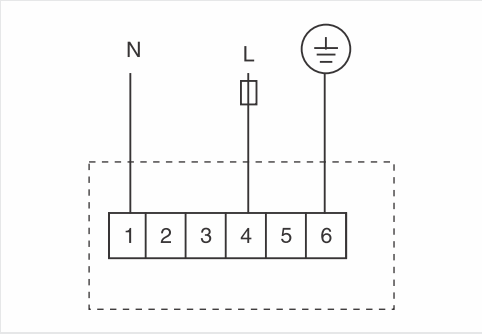
Name Plate Data



Electrical Connections

Single Phase

- Terminal L - Phase
- N - Neutral
- Earth



Pump Maintenance

The minimum inlet pressure must be maintained to avoid cavitation noise and vibration.

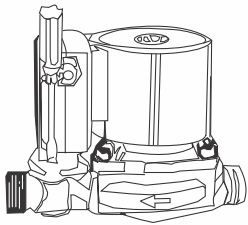
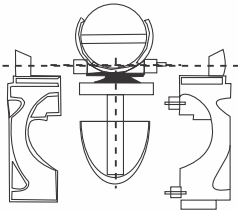
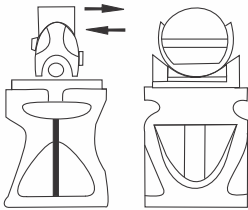
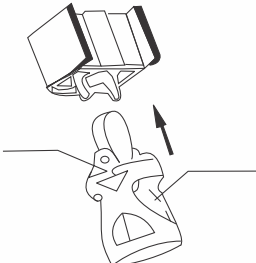
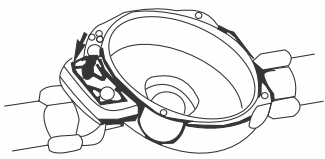
Ensure the pipe system is properly filled and vented ; normally the pump is vented automatically after a short period of operation. If cavity noise occurs or vibration occurs direct venting of pump is required.

Minimum inlet pressure at suction port		
At +85°C	0.5 bar	(up to 300m msl)
At +95°C	0.3 bar	(up to 300m msl)
At +110°C	1 bar	(up to 300m msl)

Utmost care must be taken during direct venting of the pump, take care during the release of hazardous hot water or vapor depending upon the fluid temperature. Generally the Zirantec Circulatory pumps are maintenance free.

CIRCULATORY PUMPS

Auto Switch Maintenance

Impurities and pump jam due to rust may affect the proper functioning of auto switch. In such cases, please follow the below given directions. Switching off the power is mandatory before repairing the auto switch.	
Cut off the power and close the isolating valves near by pump inlet and outlet ports. Twist off the two screws in terminal box, take out the switch assembly.	
Check and clean every sub-assembly of the auto switch.	
Check the flexibility of the auto switch valve.	
Install the valve in terminal box and cover with "O" ring. Fit the two screws and check for leakage, If no leakage is observed, then switch on the pump.	

External Auto Switches



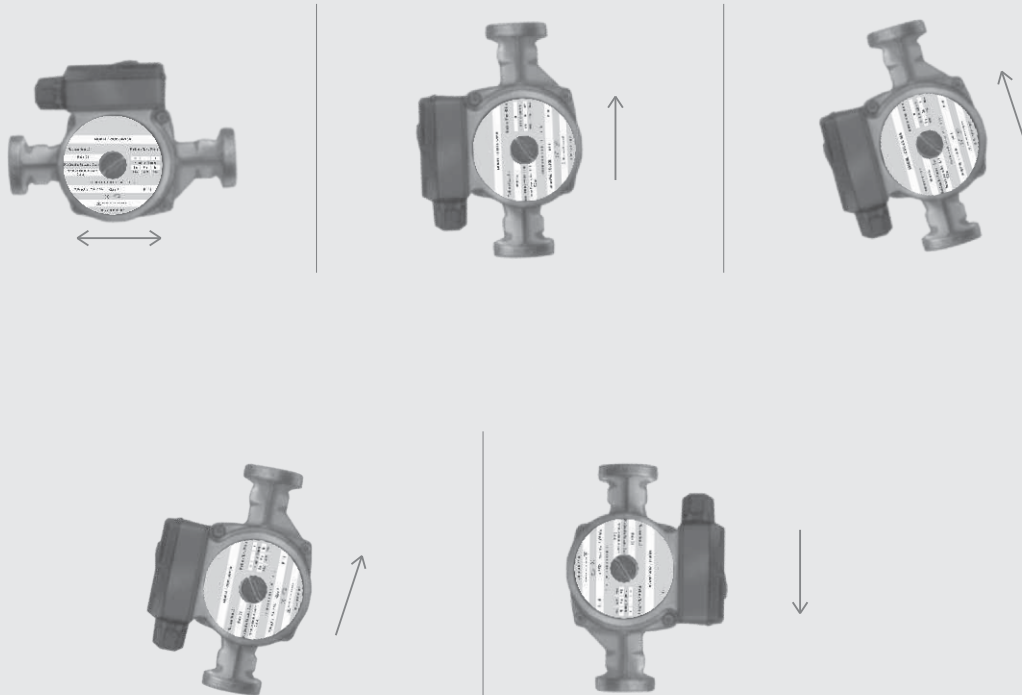
Connectors



CIRCULATORY PUMPS

Mounting Positions

This circulatory pump can be installed depending upon suitable field. But the Pump Shaft must be in Horizontal position.



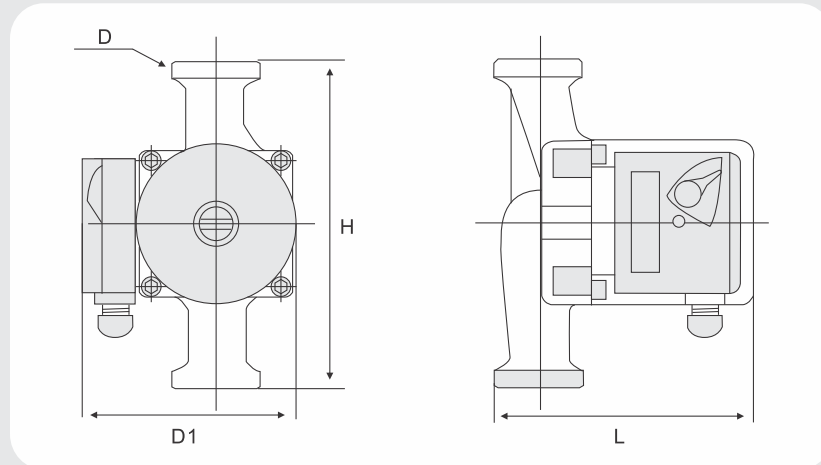
Filling & Venting of the System

Ensure the system is filled with the liquid pumped, through discharge valve and vented through the vent plug before starting. Before venting ensure the discharge valve is closed. Slacken & remove the vent plug carefully such that the escaping liquid doesn't cause any damage / injury. If it is hot then tighten the vent plug firmly.



CIRCULATORY PUMPS

Dimensional Drawing



Dimensional Data

Pump Model	Height H (mm)	Connection Size (DN)	L (mm)	D	L (mm)
FCCB 04-15A	130	15	132	1"	122
FCCB 04-25A	130	25	129	1½"	123
FCCB 04-25C	180	25	129	1½"	123
FCCB 04-32C	180	32	129	2"	123
FCCC 06-15A	130	15	132	1"	122
FCCC 06-20A	130	20	129	1¼"	123
FCCC 06-25B*	166	25	160	1½"	120
FCCC 06-25A	130	25	129	1½"	123
FCCC 06-25C	180	25	129	1½"	123
FCCC 06-32C	180	32	129	2"	123
FCCE 07-25C	180	25	145	1½"	126
FCCE 07-32C	180	32	145	2"	126
FCCG 08-15C	180	15	159	1"	135
FCCG 08-25C	180	25	159	1½"	135
FCCH 08-15C	180	25	153	1½"	138
FCCG 11-20C	180	20	147	1"	141
FCCI 12-20C	180	20	147	1"	147
FCCI 12-25C	180	25	147	1½"	147
FCCJ 14-25C	180	25	150	1½"	140
FCCJ 08-32D	190	32	166	2"	147
FCCJ 08-40E*	200	40	166	2"	147
FCCK 11-32FS	225	32	210	2"	180
FCCL 12-40GS*	225	40	300	2"	200
FCCM 17-40GS*	250	40	300	2"	200
FCCN 20-40GS*	250	40	300	2"	200

* Flange type connection.

Note : Pump models with last digit 'S' are of single (Standard) speed operation.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

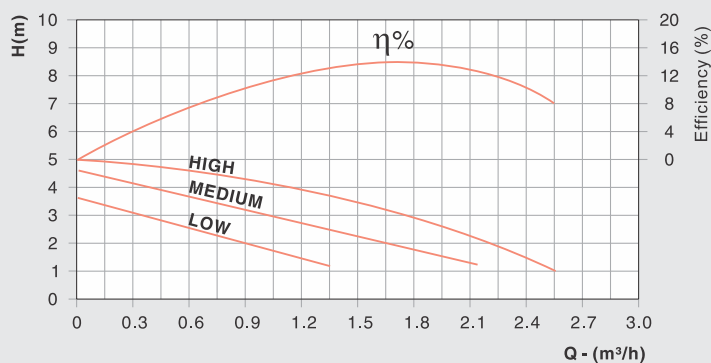
PERFORMANCE CURVES & TABLES

Multi Speed (3 Level) Models



FCCB 04-15A

Capacitor : 2.5µf

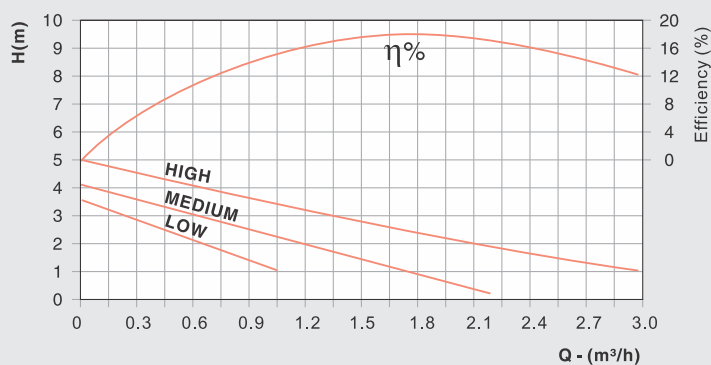


Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCB 04-15A	H	72	0.33	4.5	2.5	15mm	130mm	1"	2.2
	M	53	0.24	4	2.1				
	L	38	0.17	3	1.4				



FCCB 04-25A

Capacitor : 2.5µf



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCB 04-25A	H	72	0.33	4.5	2.9	25mm	130mm	1½"	2.4
	M	53	0.24	4	2.2				
	L	38	0.17	3	1.1				
FCCB 04-25C	H	72	0.33	4.5	2.9	25mm	180mm	1½"	2.4
	M	53	0.24	4	2.2				
	L	38	0.17	3	1.1				



FCCB 04-25C

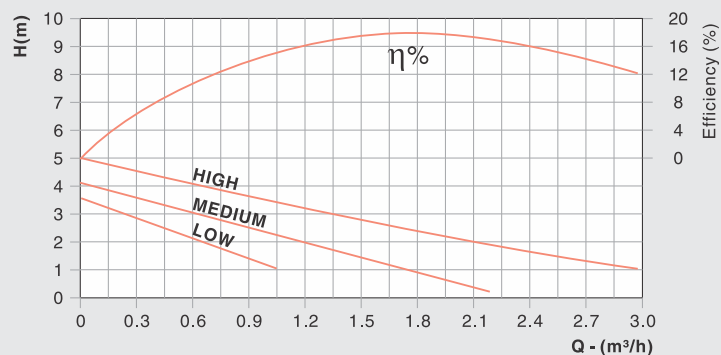
Capacitor : 2.5µf

CIRCULATORY PUMPS

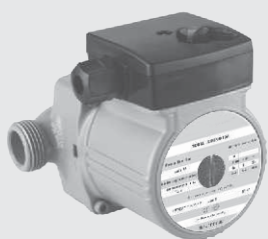
Multi Speed (3 Level) Models



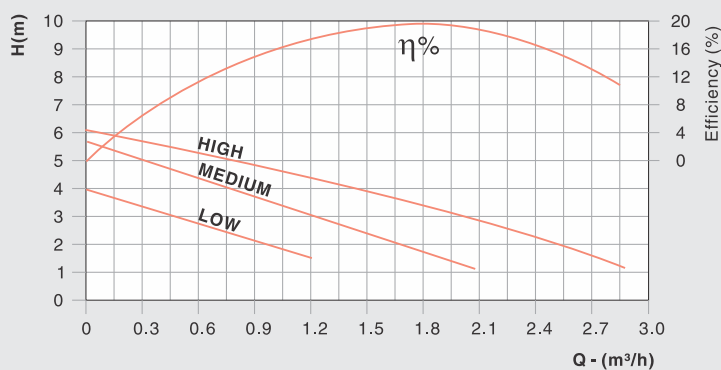
FCCB 04-32C
Capacitor : 2.5µf



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCB 04-32C	H	72	0.33	4.5	2.9	32mm	180mm	2"	2.4
	M	53	0.24	4	2.2				
	L	38	0.17	3	1.1				



FCCC 06-15A
Capacitor : 3µf



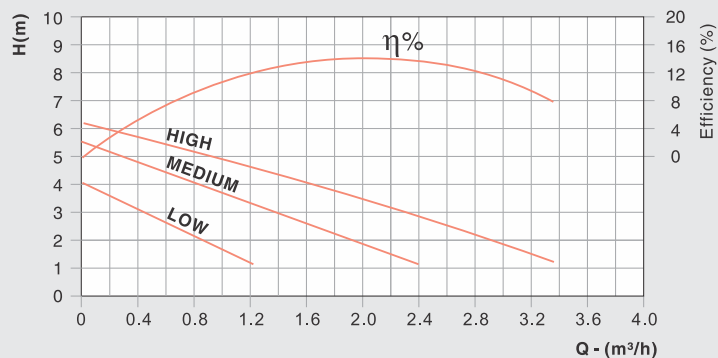
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCC 06-15A	H	93	0.42	6	2.9	15mm	130mm	1"	2.2
	M	67	0.3	5	2.1				
	L	46	0.21	3	1.2				

PERFORMANCE CURVES & TABLES

Multi Speed (3 Level) Models



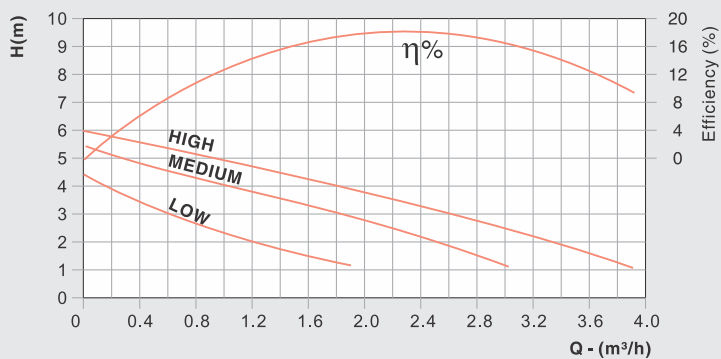
FCCC 06-20A
Capacitor : 3 μ f



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCC 06-20A	H	93	0.42	6	3.3	20mm	130mm	1¼"	2.3
	M	67	0.3	5	2.3				
	L	46	0.21	3	1.3				



FCCC 06-25B*
Capacitor : 3 μ f



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCC 06-25B*	H	93	0.42	6	3.3	25mm	165mm	1½"	2.6
	M	67	0.3	5	2.3				
	L	46	0.21	3	1.3				

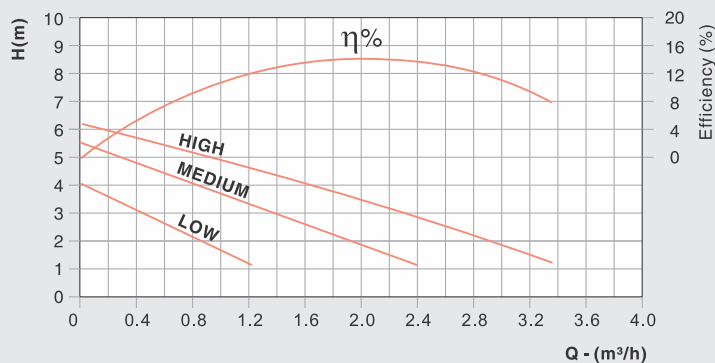
* Flange type connection.

CIRCULATORY PUMPS

Multi Speed (3 Level) Models



FCCC 06-25A
Capacitor : 3µf

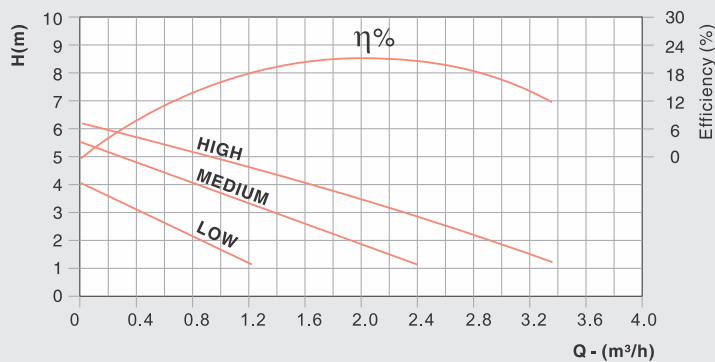


FCCC 06-25C
Capacitor : 3µf

Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCC 06-25A	H	93	0.42	6	3.3	25mm	130mm	1½"	2.4
	M	67	0.3	5	2.3				
	L	46	0.21	3	1.3				
FCCC 06-25C	H	93	0.42	6	3.3	25mm	180mm	1½"	2.4
	M	67	0.3	5	2.3				
	L	46	0.21	3	1.3				



FCCC 06-32C
Capacitor : 3µf



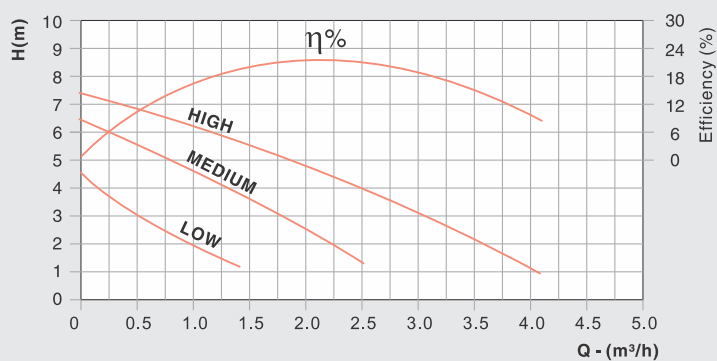
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCC 06-32C	H	93	0.42	6	3.3	32mm	180mm	2"	2.5
	M	67	0.3	5	2.3				
	L	46	0.21	3	1.3				

PERFORMANCE CURVES & TABLES

Multi Speed (3 Level) Models



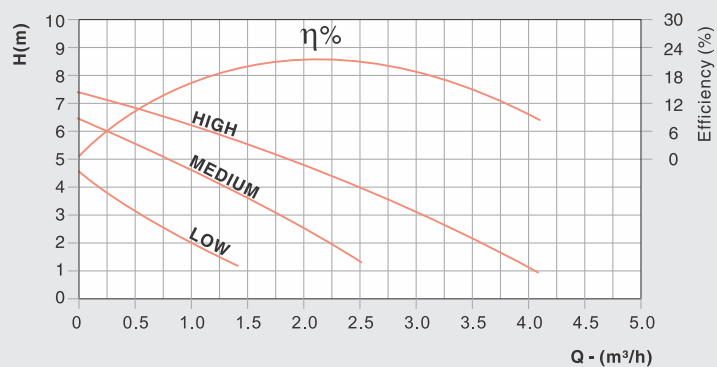
FCCE 07-25C
Capacitor : 4µf



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCE 07-25C	H	135	0.61	7	3.9	25mm	180mm	1½"	2.5
	M	93	0.42	6.5	2.6				
	L	67	0.3	4.5	1.3				



FCCE 07-32C
Capacitor : 4µf



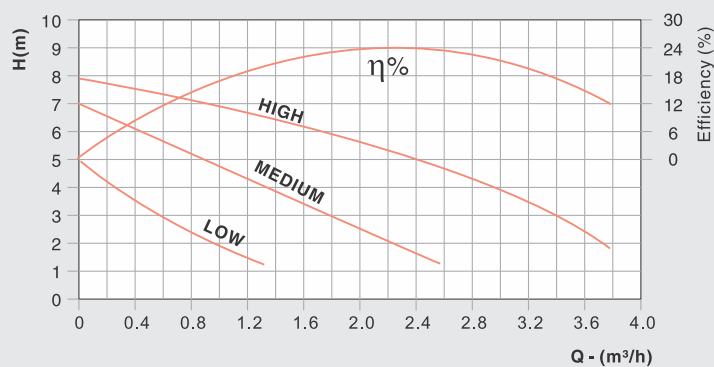
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCE 07-32C	H	135	0.61	7	3.9	32mm	180mm	2"	2.8
	M	93	0.42	6.5	2.6				
	L	67	0.3	4.5	1.3				

CIRCULATORY PUMPS

Multi Speed (3 Level) Models



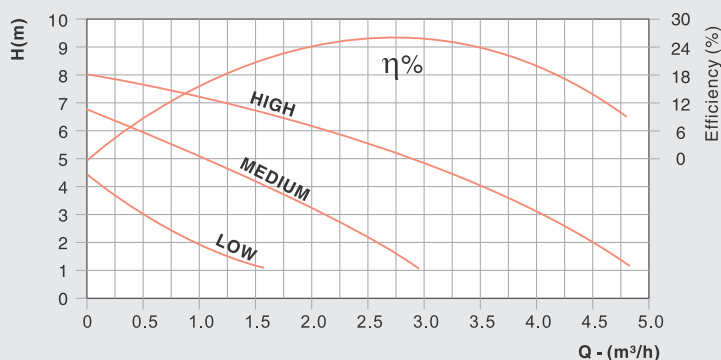
FCCG 08-15C
Capacitor : 4 μ f



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCG 08-15C	H	165	0.75	8	3.9	15mm	180mm	1"	3.3
	M	115	0.52	7	2.5				
	L	75	0.34	5	1.3				



FCCG 08-25C
Capacitor : 4 μ f



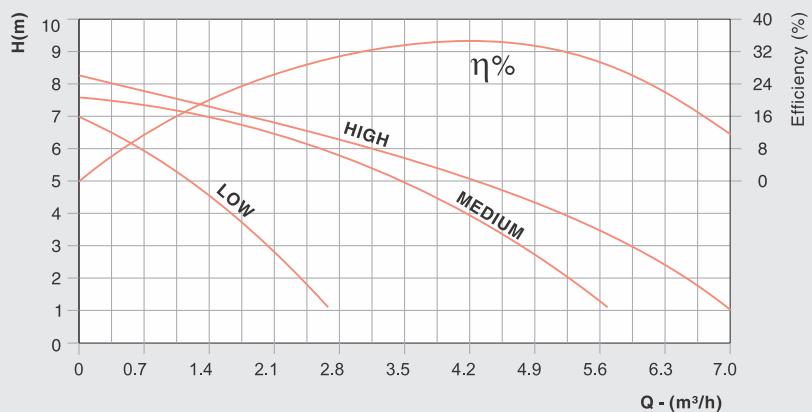
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCG 08-25C	H	165	0.61	8	4.8	25mm	180mm	1½"	3.4
	M	115	0.42	7	2.9				
	L	75	0.3	5	1.5				

PERFORMANCE CURVES & TABLES

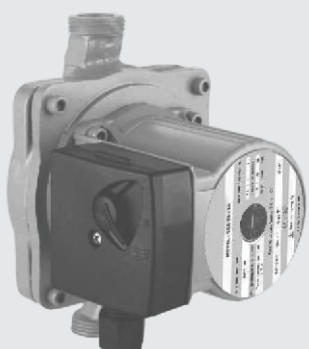
Multi Speed (3 Level) Models



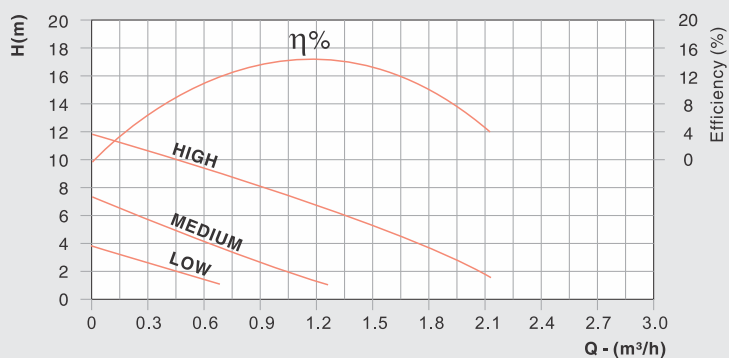
FCCH 08-15C
Capacitor : 6µf



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCH 08-15C	H	182	0.83	8	6.9	25mm	180mm	1½"	3.8
	M	170	0.77	7.5	5.7				
	L	145	0.66	7	2.7				



FCCG 11-20C
Capacitor : 4µf



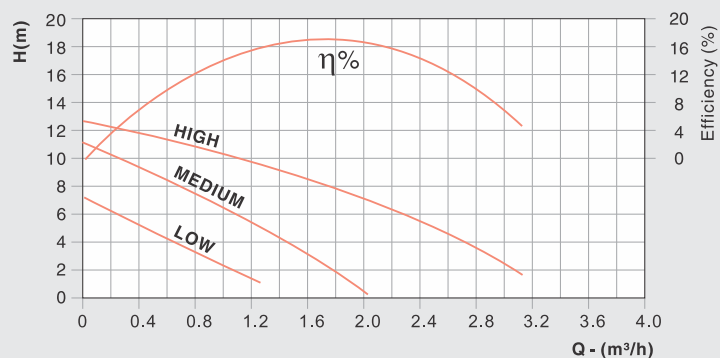
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCG 11-20C	H	165	0.75	11	2.1	20mm	180mm	1"	3.8
	M	115	0.52	7	1.2				
	L	75	0.34	3.4	0.6				

CIRCULATORY PUMPS

Multi Speed (3 Level) Models



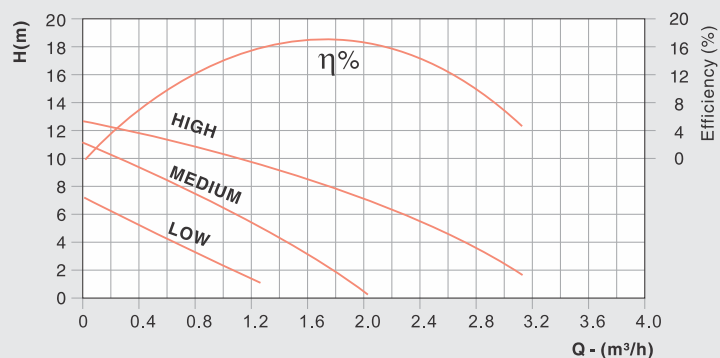
FCCI 12-20C
Capacitor : 6 μ f



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCI 12-20C	H	245	1.11	12	3.1	20mm	180mm	1"	4.2
	M	220	1.0	11	1.9				
	L	145	0.66	7	1.3				



FCCI 12-25C
Capacitor : 6 μ f



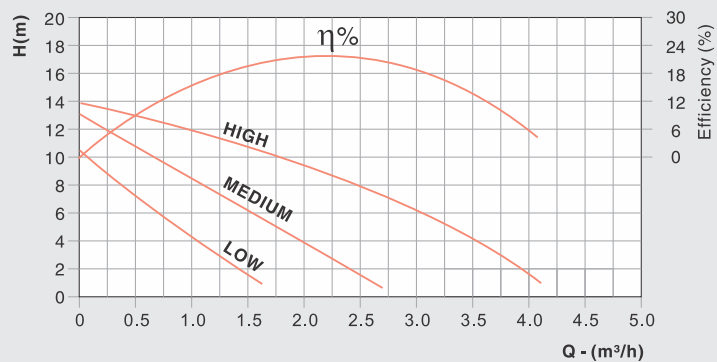
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCI 12-25C	H	245	1.11	12	3.1	25mm	180mm	1½"	4.5
	M	220	1.0	11	1.9				
	L	145	0.66	7	1.8				

PERFORMANCE CURVES & TABLES

Multi Speed (3 Level) Models



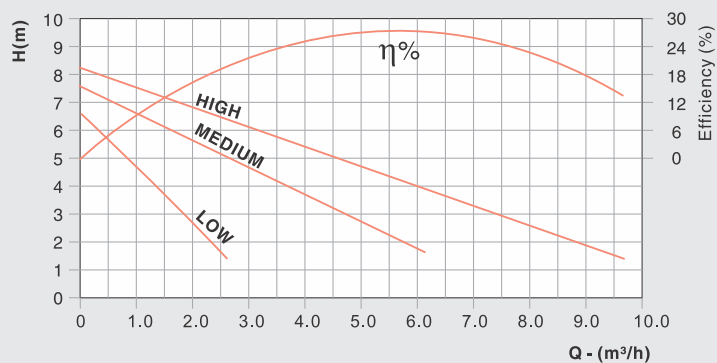
FCCJ 14-25C
Capacitor : 8 μ f



Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCJ 14-25C	H	270	1.23	14	4.1	25mm	180mm	1½"	4.9
	M	210	0.95	13	2.8				
	L	150	0.68	10	1.7				



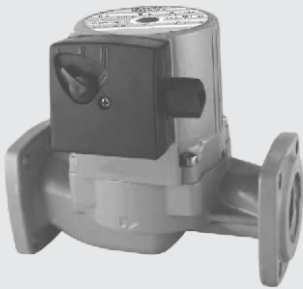
FCCJ 08-32D
Capacitor : 8 μ f



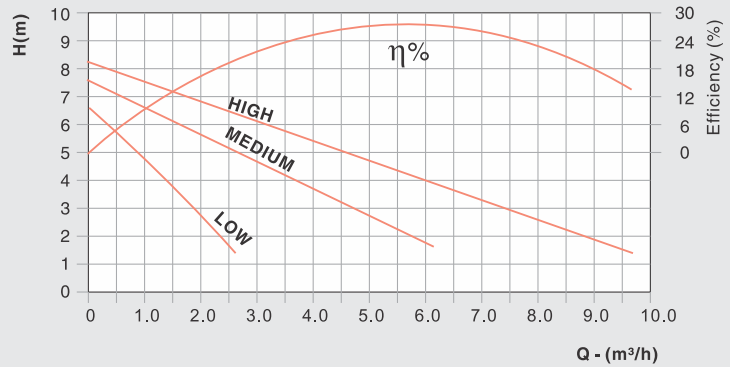
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCJ 08-32D	H	270	1.23	8	9.6	32mm	190mm	2"	5
	M	210	0.95	7.5	6.2				
	L	150	0.68	6.5	2.6				

CIRCULATORY PUMPS

Multi Speed (3 Level) Model



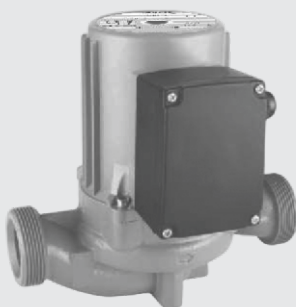
FCCJ 08-40E*
Capacitor : 8 μ f



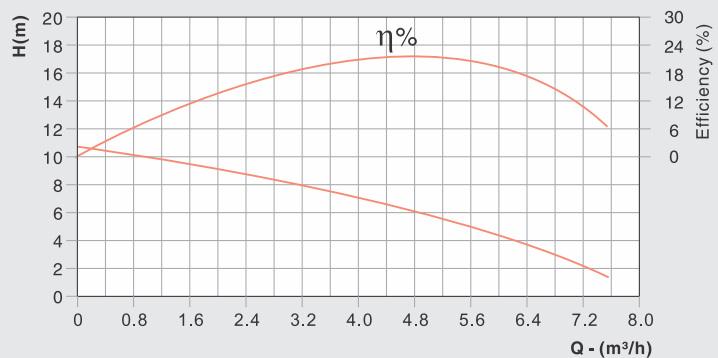
Pump Model	Speed	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCJ 08-40E*	H	270	1.23	8	9.6	40mm	200mm	2"	5.9
	M	220	0.95	7.5	6.2				
	L	150	0.68	6.5	2.6				

Flange type connection.

Single Speed Model



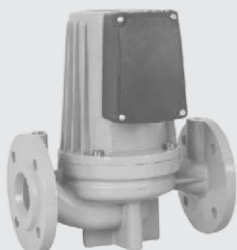
FCCK 11-32FS
Capacitor : 8 μ f



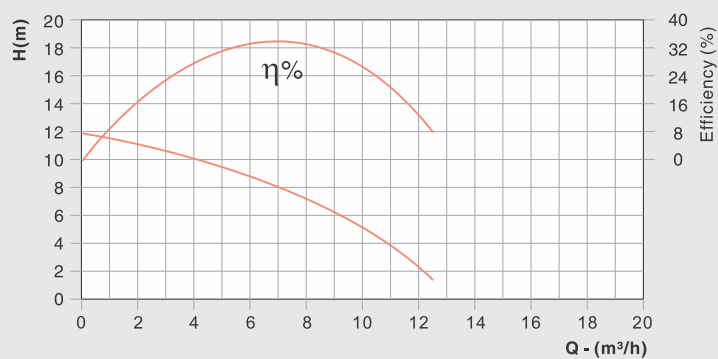
Pump Model	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCK 11-32FS	400	1.81	11	7.6	32mm	225mm	2"	7

PERFORMANCE CURVES & TABLES

Single Speed Models

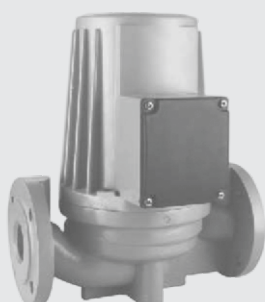


FCCL 12-40GS*
Capacitor : 12 μ f

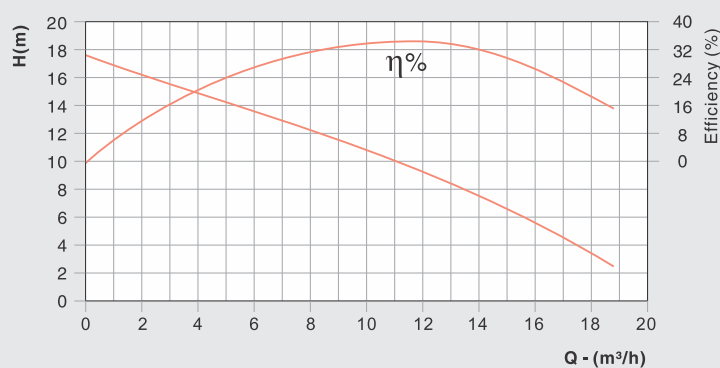


Pump Model	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCL 12-40GS*	550	2.5	12	12	40mm	225mm	2"	17

* Flange type connection.



FCCM 17-40GS*
Capacitor : 15 μ f

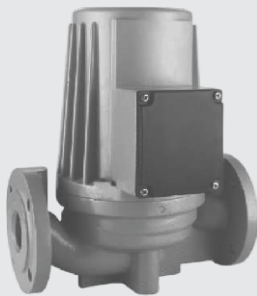


Pump Model	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCM 17-40GS*	750	3.4	17	18.6	40mm	250mm	2"	17

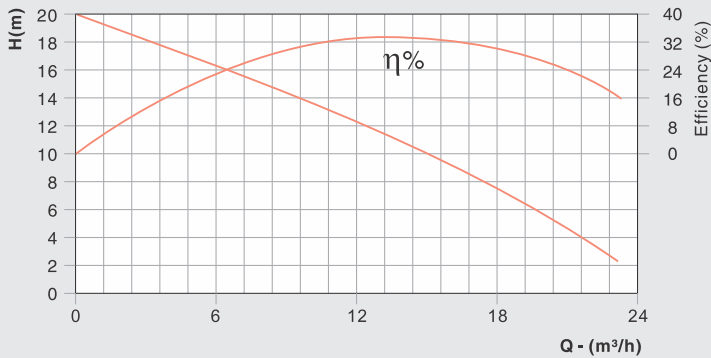
* Flange type connection.

CIRCULATORY PUMPS

Single Speed Model



FCCN 20-40GS*
Capacitor : 22µf



Pump Model	Power (W)	Amps (A)	Max. Head (m)	Max. Flow (m³/h)	Pipe Size	Port to Port	Inlet Outlet	Wt. (kg)
FCCN 20-40GS*	1100	5	20	23.1	40mm	250mm	2"	19

* Flange type connection.



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