

## Self-Priming Sewage Pump EJZ

Self-Priming Pumps for sewage pumping and other fluids containing sizable solids. Semi-Open impeller to enable passage of relatively large solids and fibres.



### Technical Data

Flow Rate	: up to 160 m <sup>3</sup> /h
Total Head	: up to 25 m
Ports	: 40 - 100 mm
Water Temperature	: max. 80 °C
Max. Operating Pressure	: up to 6 bar

Please contact us if you have a requirement outside this range, as this range is under development.

### Application

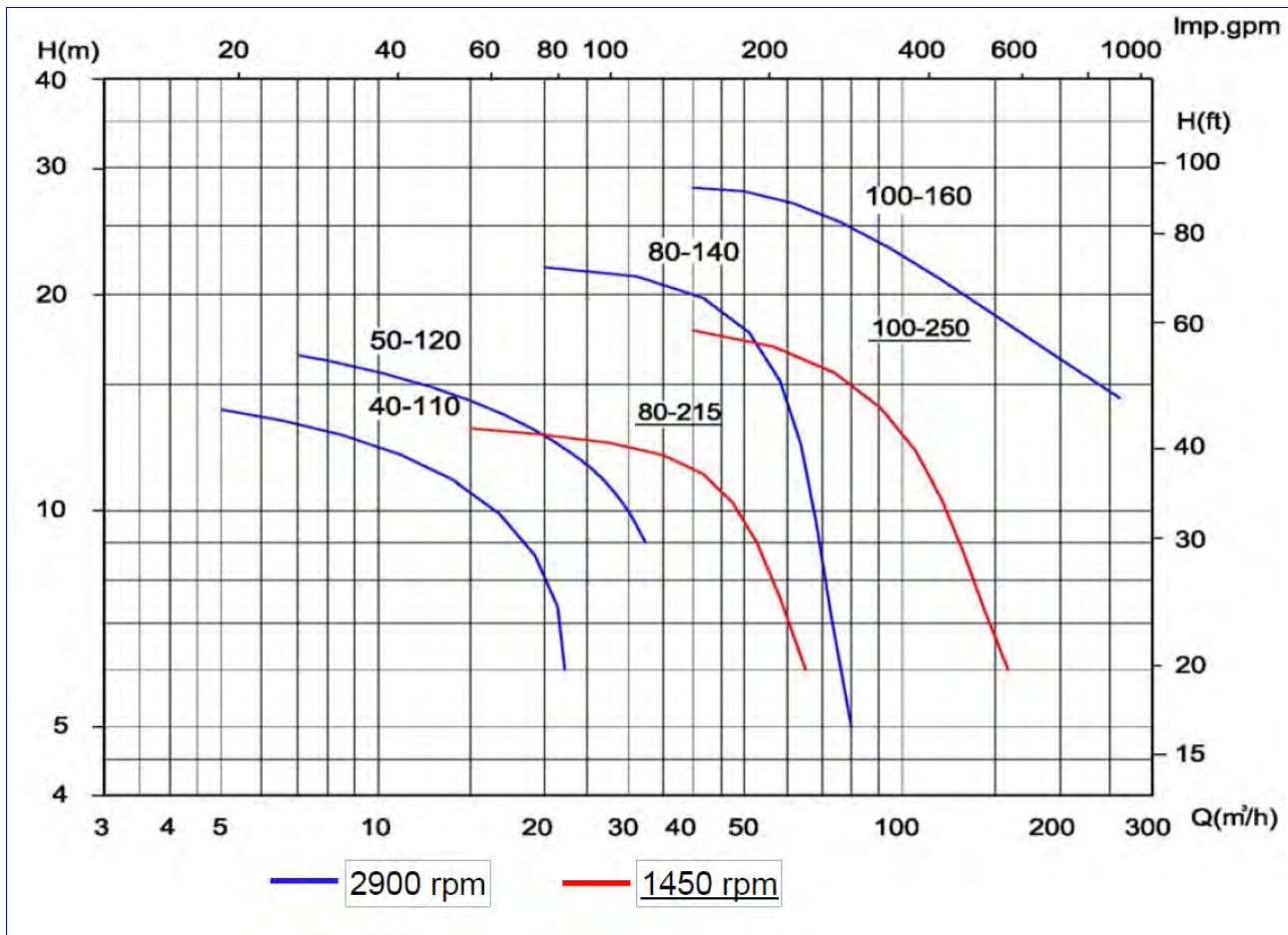
A wide range of applications in wastewater treatment plant and in the industry, where footvalves are not suitable to be used in the suction line.

EJZ pumps are widely found in municipal and industrial wastewater treatment plants, as well as in industries where fluids with solids or fibres have to be transferred, such as textile, pulp and paper, aquaculture, light industry.

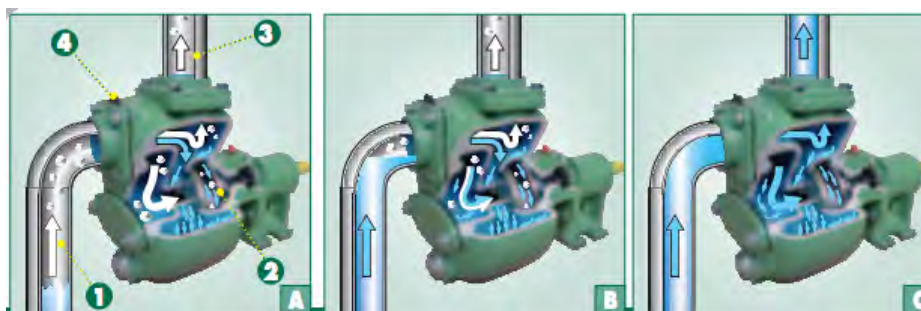
### Advantages

- According to European performance standard and dimensions
- Non-clogging design
- For pumping of wastewater and fluids containing particles or fibres
- Semi-open impeller provides solids passage up to 50 mm or length 5 times the port diameter
- Also available in long-coupled version. The long-coupled series has a wider range available.
- High priming capability, 4.5 - 5.5 m depending on the model
- Reliable
- Available in Cast Iron, Ductile Iron, Bronze.  
Impeller additionally in Stainless Steel AISI 304 and AISI 316
- Simple maintenance

## Performance Chart



## Working Principle of Self-Priming Pumps

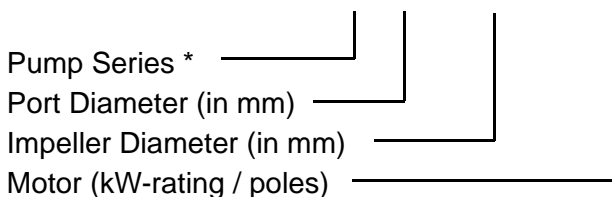


The rotating impeller (2) creates a vacuum and draws air from the suction pipe, and behind that the fluid (1). The air is mixed with the liquid already contained in the pump casing. The air/liquid mixture is pushed to the discharge side, where the air separates out and is expelled through the discharge port (3), while the liquid – due to its higher gravity – falls back and is reused. This will continue until the suction pipe is completely filled with liquid, even if air-laden (A→B→C). When all air evacuated, the pump starts to discharge fluid from the discharge port.

The high suction port keeps enough liquid in the pump casing to enable re-priming at the next pump start. A check-valve in the suction port (4) avoids backflow of the liquid, and therefore reduces priming time.

### Pump Identification

**EJZ 50 - 120 - 2.2/2**



immediately as the pump doesn't need to prime and fill the suction pipe.

### Applications

- Municipal or industrial sewage pumping
- Textile industry
- Pulp & Paper Industry
- Aquaculture
- Liquids containing air

### Pump Description

Self-Priming Sewage Pumps type EJZ are designed matching dimensions and performance standards of European made self-priming sewage pumps.

The EJZ is a close-coupled execution, and is suitable for medium-heavy duty applications. It is an anti-clogging pump equipped with a Semi-Open impeller. Its structure allows passage of solids with diameter up to 50 mm.

The pump is available in various materials. The standard configuration is shown in the section Materials. Other configurations are e.g. complete pump in Bronze or Ductile Iron, or impeller can be upgraded to SS304 or SS316.

The shaft rotates on permanently lubricated, maintenance-free ball bearings.

### Features

The pump casing is equipped with maintenance holes on the front and top, such that any blockages can be removed without disconnecting the pump from the piping.

The pump can be installed above or aside of the fluid storage tank. The priming capability varies per model, but is generally in the range of 4.5 to 5.5 m.

Being a close-coupled pump, the performance is dictated by the motor speed. However, pump performance can be adjusted by varying the rotational speed of the pump by frequency inverter.

Foot valves are not essential for the good operation. However, if the inlet is equipped with a foot valve, discharge starts almost

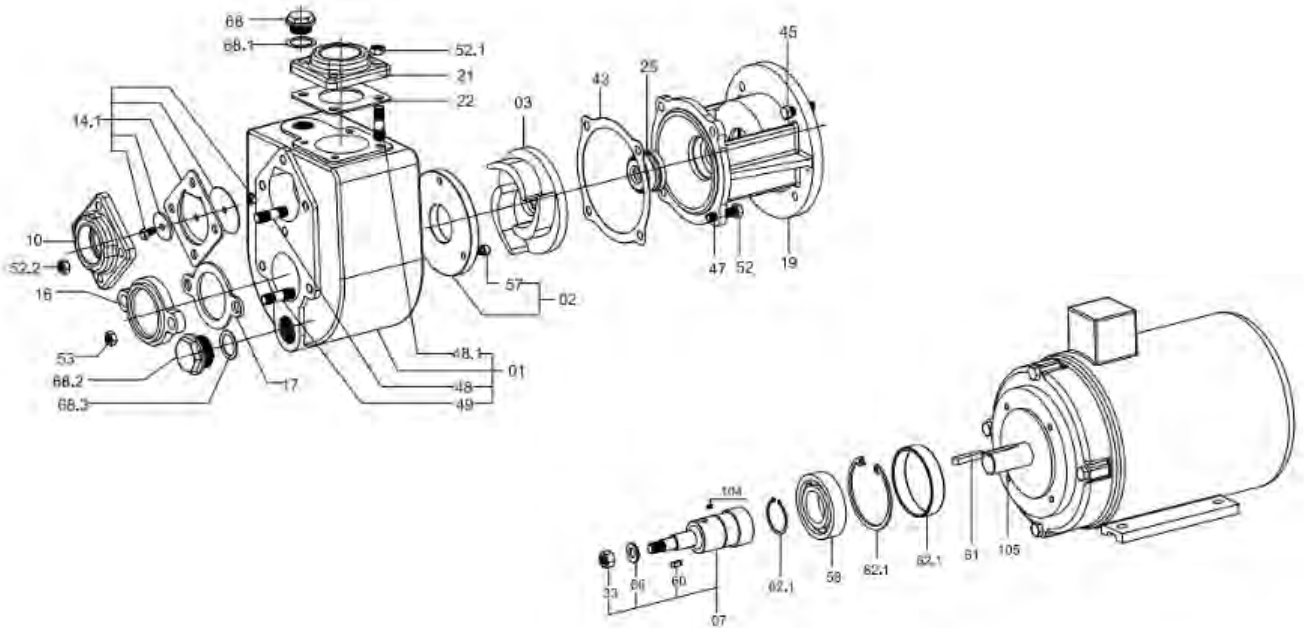
### Materials

PUMP COMPONENT	STANDARD CONFIGURATION
Pump casing	GG20 *
Wearing Ring	SS304 *
Bearing Housing	GG20
Shaft	SS420 *
Impeller	Ductile Iron GGG40 *
Shaft Seal	Single Mechanical Seal SiC / SiC / Viton
Nuts & bolts	SS 304
O-rings	NBR
Bearings	Ball bearings

For details on all components, see the assembly drawing

\* Other materials available on request

### Assembly Drawing EJZ



Item	Name
1	Pump Casing
2	Wear Plate
3	Impeller
7	Shaft
10	Suction Flange
14.1	Rubber Check Valve
	Check Valve Plate (Front)
	Check Valve Plate (Back)
	Screw Bolt
	Screw Nut
16	Inspection Cover
17	Inspection Cover Gasket
19	Motor Adapter
21	Discharge Flange
22	Discharge Gasket

Item	Name
23	Inspection Cover
24	Inspection Cover Gasket
25	Mechanical Seal
26	Inspection Cover
27	Inspection Cover Gasket
33	Impeller Nut
43	Casing Cover Gasket
45	Screw Bolt
47	Double-Screw Stud
48	Double-Screw Stud
48.1	Double-Screw Stud
49	Double-Screw Stud
52	Screw Nut
52.1	Screw Nut
52.2	Screw

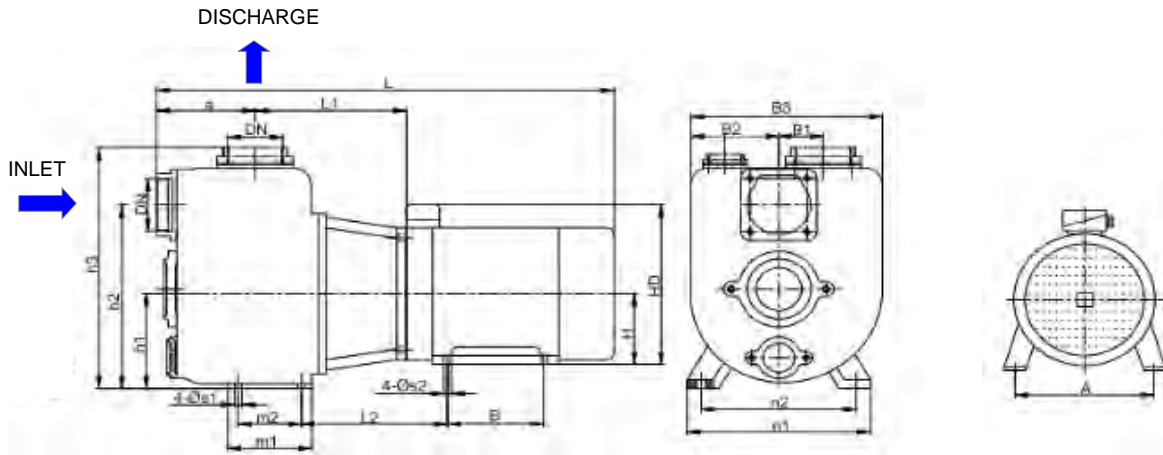
Item	Name
53	Screw Nut
57	Screw
58	Ball Bearing
60	Impeller Key
61	Key (Motor)
62.1	External Clip
	Rubber Clip
	Internal Clip
66	Flat Washer
68	Plug Screw
68.1	O-ring
68.2	Plug Screw
68.3	O-ring
104	Set Screw
105	Motor

**Selection Table EJZ Self-Priming Sewage Pump**

MODEL	Flow (Q)									
	l/s	0	1	2	3	4	4.5	5	6	
EJZ 40-110 - 1.1/2	m <sup>3</sup> /h	0	3.6	7.2	10.8	14.4	16.2	18	21.6	
	Head (m)	16.2	15.2	14.1	12.6	10.8	7.7	6.5	4	
	l/s	0	1.5	3	4.5	6	7.5	9		
EJZ 50-120 - 2.2/2	m <sup>3</sup> /h	0	5.4	10.8	16.2	21.6	27	32.4		
	Head (m)	17.9	16.7	15.5	14.2	12.7	11	9.2		
	l/s	0	4	8	10	12	14	16	20	
EJZ 80-140 - 5.5/2	m <sup>3</sup> /h	0	14.4	28.8	36	43.2	50.4	57.6	72	
	Head (m)	24.9	23.7	22.1	20.9	19.4	17.5	15.2	9.2	
	l/s	0	4	8	10	12	14	16	18	
EJZ 80-215 - 4.0/4	m <sup>3</sup> /h	0	14.4	28.8	36	43.2	50.4	57.6	64.8	
	Head (m)	14.1	13.6	12.7	12	11.1	10.1	9	7.8	
	l/s	0	8	16	24	28	32	36	40	48
EJZ 100-160 - 15/2	m <sup>3</sup> /h	0	28.8	57.6	86.4	100.8	115.2	129.6	144	172.8
	Head (m)	31.5	29.3	26.8	24.3	22.8	21.2	19.3	17.1	11.6
	l/s	0	8	16	24	28	32	36	40	
EJZ 100-250 - 7.5/4	m <sup>3</sup> /h	0	28.8	57.6	86.4	100.8	115.2	129.6	144	
	Head (m)	20.8	19.1	17.1	14.5	12.9	11.2	9.5	7.8	
	l/s	0	8	16	24	28	32	36	40	

## SERIES EJZ

## JET



All dimensions in mm.

MODEL	PUMP DIMENSIONS										
	Inlet	Outlet	a	L1	h1	h2	h3	B1	B2	B3	L
EJZ 40-110 - 1.1/2	40	40	75	153.5	95	167.5	242	30	80	173	485
EJZ 50-120 - 2.2/2	50	50	114	185	105	201	321	36	94	210	595
EJZ 80-140 - 5.5/2	80	80	148	255.5	135	292	384	45	110	240	763
EJZ 80-215 - 4.0/4			156	239	160	310	410	70	139	302	735
EJZ 100-160 - 15/2	100	100	180	283.5	180	341	482	37	150	300	969
EJZ 100-250 - 7.5/4			275	226.5	200	355	485	160	179	420	932

MODEL	MOUNTING									MOTOR	
	n1	n2	m1	m2	L2	A	B	s1	s2	H	HD
EJZ 40-110 - 1.1/2	-	-	-	-	-	125	100	-	10	80	220
EJZ 50-120 - 2.2/2	-	-	-	-	-	140	125	-	10	90	250
EJZ 80-140 - 5.5/2	243	200	115	80	253	216	140	14	12	132	345
EJZ 80-215 - 4.0/4	290	245	133	100	226	190	140	14	12	112	285
EJZ 100-160 - 15/2	-	-	-	-	-	254	210	-	15	160	420
EJZ 100-250 - 7.5/4	340	295	145	95	331.5	216	178	14	12	132	325

### Specifications Connections

Inlet and Outlet Ports

PORT DIAMETER	Φ
40	RP 1½
50	RP 2
80	RP 3
100	RP 4

Port Adapter to the corresponding flange size available on request.  
Flange standard DIN PN10. Other flange standards available on request.

JET Pumps reserves the right to make modifications due to technical improvements