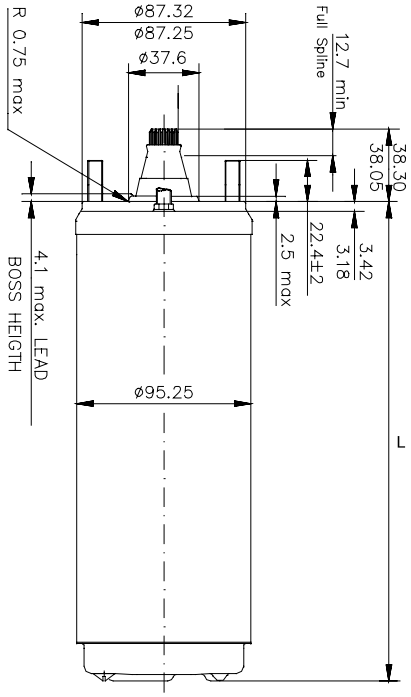
Franklin Electric

Date: 16.05.01
Supersedes: 24.08.2000

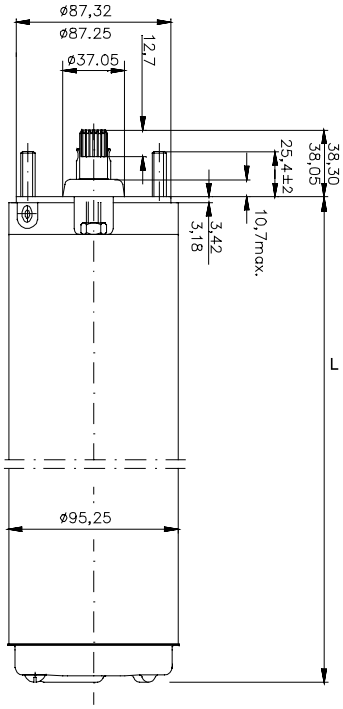
4" PRODUCT INFORMATION

4" Standard Mechanical Design

4" Standard 304 SS Dimensions



4" Standard 316 SS Dimensions



Thrust load capacity : 1500N ; 3000N; 4000N

Materials

Part	Material DIN / AISI	
Shell	1.4301	304
Top endbell, cover	1.4301	304
Upper endbell	Cast Iron claded	
Lower endbell	Cast Iron claded	
Bottom endbell cover	1.4301	304
Diaphragm cover	1.4310	301
Stud	1.4305	303
Nut	1.4305	303
Shaft seal	Lip seal BUNA N	
Seal cover	Delrin 500	
Slinger	BUNA N	
Shaft end	1.4305	303
Diaphragm	BUNA N	
Cable	EPDM	
Cap screw (cable)	Brass	
Lead bushing	chrome plated	
Lead seal	Neoprene	
Other seals	BUNA N	

Materials

Part	Material DIN / AISI	
Shell	1.4571	316Ti
Upper endbell	1.4404	316 L
Lower endbell	Cast Iron 20	
Diaphragm cover	1,4401	316
Stud	1.4401	316
Nut	1.4401	316
Shaft seal	Mechanical seal SiC	
Seal cover	1.4401	316
Slinger	BUNA N	
Shaft end	1.4460	329
Diaphragm	BUNA N	
Cable	EPDM	
Cap screw (cable)	1.4571	316Ti
Lead bushing	1.4571	316Ti
Lead seal	Neoprene	
Other seals	BUNA N	

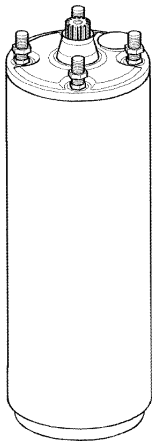
Franklin Electric

Date: 24.08.2000
Supersedes: 03.08.1999

4" SINGLE PHASE PSC

PSC

- PSC **P**ermanent **S**plit **C**apacitor
- Single phase motor for operation with run capacitor.
- Control box with run capacitor and overload protection required.
- 1,5m motor lead optionally available
- 4" Standard 304SS mechanical design (see page 1)



4" SS PSC

Application

This motor is built for dependable operation in 4" diameter or larger water wells. It is fitted with water lubricated radial and thrust bearings for a maintenance - free operation.

The motor is filled with a special fluid, providing frost protection down to -40ºC. A special diaphragm ensures pressure compensation inside the motor.

Other advantages:

- Corrosion free NEMA shaft end
- Cable material in accordance with regulations for drinking water
- All motors pre-filled and 100% tested
- Hermetically sealed stator
- Stainless steel outer shell

Warning: Serious or fatal electric shock or fire hazard may result from failure to follow the instructions for proper installation and use which accompany this equipment.

Specification

- Rotation: CCW facing shaft end
- Splined shaft
- 4" NEMA flange
- Degree of protection: IP 68
- Insulation: Class B
- Max. starts per hour: 20
- Mounting position: vertical / horizontal
- Tolerance of voltage: ±10%
- Motor protection: Select thermal overloads according to EN 60947 - 4 - 1
  trip time <10s. at 5x I_N
- Max. ambient temperature: 30ºC
- Min. cooling flow: 8 cm/s

Advantages

- No control and switching elements required
  Only run capacitor and overload required

PSC Model Numbers 50 Hz

Power P [kW]	Voltage U_N [V]	Model No. 304 SS Design
0,25	220-230	**254 623 3116**
	230-240	**254 633 3116**
0,37	220-230	**254 624 3116**
	230-240	**254 634 3116**
0,55	220-230	**254 625 3116**
	230-240	**254 635 3116**
0,75	220-230	**254 626 1616**
	230-240	**254 636 1616**
1,10	220-230	**254 627 1616**
	230-240	**254 637 1616**
1,50	220-230	**254 628 1616**
	230-240	**254 638 1616**
2,20	220-230	**254 629 2516**
	230-240	**254 639 2516**

Function

The PSC motor is a single phase motor for operation with run capacitor.
Capacitor and motor overload protection have to be provided by the customer.

The motor is connected to only one capacitor which works permanently as start and run capacitor.

Lengths & Weights

(40 motors per packing unit)

P [kW]	L* [mm] flange to bottom end	Motor Package size [mm]	Shipping Weight [kg]
0,25	223,0	800 x 520 x 625	317
0,37	242,1	800 x 520 x 625	349
0,55	270,8	800 x 520 x 625	401
0,75	298,5	800 x 520 x 625	457
1,10	327,2	800 x 520 x 625	509
1,50	355,9	800 x 520 x 625	561
2,20	460,4	800 x 520 x 625	745

- **outline drawings see page 1**

VDE / KTW Approved Flat Leads

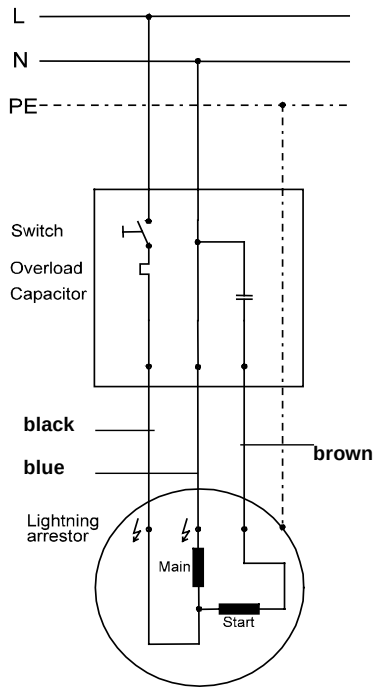
Franklin Electric cable *(without yellow stripe!)*

PSC	
Cable size / lengths	**Number**
4 x 1,5mm^2 1,5m	310 113 001
4 x 1,5mm^2 2,5m	310 113 002
4 x 1,5mm^2 5m	310 113 005
4 x 1,5mm^2 10m	310 113 010
4 x 1,5mm^2 15m	310 113 015
4 x 1,5mm^2 20m	310 113 020
4 x 1,5mm^2 30m	310 113 030
4 x 1,5mm^2 40m	310 113 040

Options

- VDE KTW approved flat leads
- built-in lightning arrestor
- built-in overload protection
- drop (double plug) cables

Electrical Connection
PSC



Overload Protection

- Only thermally operated overloads with temperature compensation between20 –40 °C and trip class of 10 or 10 A according to EN 60947-4-1
- Tripping time has to be at 5x I_N within 10 seconds

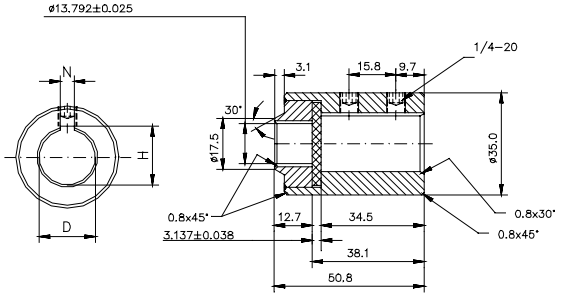
PSC Performance Data 50 Hz

PSC 220V - 230V version													
P_N	Thrust	U_N	n_N	I_N	I_A	η (%)			cos φ			M_A	Capacitor
kW	N	V	min^{-1}	A	A	50	75	100	50	75	100	M_N	µF (U_C=450V)
0,25	1500	220	2860	2,3	7,0	35	46	54	0,85	0,90	0,94	0,95	12,5
		230	2870	2,5	8,4	32	43	50	0,78	0,85	0,90	1,05	
0,37	1500	220	2850	3,2	10,7	37	49	56	0,88	0,94	0,97	0,76	16
		230	2860	3,4	11,2	36	46	53	0,81	0,84	0,93	0,84	
0,55	1500	220	2840	4,2	15,4	48	58	64	0,90	0,95	0,97	0,69	20
		230	2855	4,3	16,1	46	56	63	0,82	0,90	0,94	0,76	
0,75	1500	220	2840	5,8	20,2	44	55	61	0,96	0,98	0,99	0,81	30
		230	2855	5,7	21,1	42	53	60	0,90	0,95	0,98	0,89	
1,10	3000	220	2840	8,4	30,1	48	57	64	0,90	0,95	0,97	0,76	40
		230	2855	8,6	31,5	44	54	62	0,82	0,89	0,94	0,84	
1,50	3000	220	2805	10,6	33,9	52	62	67	0,91	0,96	0,98	0,66	50
		230	2825	10,6	35,4	49	59	66	0,82	0,90	0,95	0,73	
2,20	4000	220	2810	16	54,2	53	61	65	0,94	0,97	0,99	0,59	70
		230	2840	15,5	56,7	51	61	66	0,86	0,93	0,97	0,65	
PSC 230V - 240V version													
P_N	Thrust	U_N	n_N	I_N	I_A	η (%)			cos φ			M_A	Capacitor
kW	N	V	min^{-1}	A	A	50	75	100	50	75	100	M_N	µF (U_C=450V)
0,25	1500	230	2860	2,2	7,4	34	45	53	0,85	0,92	0,95	0,95	12,5
		240	2862	2,4	7,7	30	42	50	0,77	0,86	0,90	1,04	
0,37	1500	230	2860	3,0	10,4	40	51	58	0,85	0,92	0,95	0,87	16
		240	2865	3,2	10,9	37	48	55	0,78	0,85	0,91	0,95	
0,55	1500	230	2830	4,1	14	47	57	63	0,90	0,95	0,98	0,68	20
		240	2850	4,1	14,6	45	55	62	0,84	0,90	0,95	0,75	
0,75	1500	230	2835	5,4	18,5	46	56	62	0,95	0,97	0,99	0,78	30
		240	2850	5,4	19,3	43	54	60	0,90	0,95	0,97	0,86	
1,10	3000	230	2830	8,0	27	48	58	64	0,89	0,95	0,98	0,68	40
		240	2845	8,1	28,2	45	56	63	0,81	0,89	0,95	0,75	
1,50	3000	230	2810	10,3	32,9	51	61	66	0,91	0,96	0,99	0,64	50
		240	2830	10,2	34,3	47	58	65	0,82	0,91	0,96	0,70	
2,20	4000	230	2815	15,5	51	50	59	65	0,95	0,98	0,99	0,56	70
		240	2840	15,2	53,2	48	58	64	0,89	0,95	0,97	0,62	

4" Couplings

No.	Coupling Material DIN / AISI	Dimension D Max. / Min.	Dimension N Max. / Min.	Dimension H Max. / Min.
151 551 911	1.4005 / 304 SS	19,075 / 19,063	4,838 / 4,788	20,70 / 20,53
151 551 912	1.4005 / 304SS	17,489 / 17,475	4,838 / 4,788	19,86 / 19,69
151 551 913	1.4005 / 304 SS	15,900 / 15,888	4,838 / 4,788	18,24 / 18,06
308 712 904	1.4401 / 316 SS			
151 970 102	Coupling insert			

4" coupling 304 SS



4" coupling 316 SS