

PJ&PJ TAYLOR PTY LTD have developed over years of field trials a reliable soft starting 480 volt single phase pump motor from 4KW > 18.5 KW range for rural pumping applications, traditionally these types of motors have had their problems, high start current, start capacitor failures, premature motor burn out. With these past problems in mind a rethink of design was called for, hence **SOFTPHAZ** was developed.

Unlike V.S.Ds drives that draw non-linear loads from the supply thereby placing limitations on the load to supply capacity ratio of 10% > 40% as per ASNZ2279 part 2, the SOFTPHAZ motor controller combination can **utilize 100% of the supply capacity**



15KW Controller



15KW SOFTPHAZ Motor

MOTOR DATA

Kw	Hp	Frame	FLC @ 480volt	Controller size	Part#	Price GST not included
4	5.5	132s	13	600x400x210	Spz132s4	
5.5	7.5	132s	16	700x500x300	Spz132s5.5	
7.5	10	160m	22	700x500x300	Spz160m	
11	15	160m	28	700x500x250	Spz160m11	
15	20	160L	40	700x500x250	Spz160L	
18.5	25	180m	50	700x500x250	Spz180m	

Not inclusive of delivery costs.

Controller complete with thermal O/L protection, 2 wire control, full voltage rated components used throughout.

Based in two pole motors.

Off delay re start, start fail, & additional protection functions included.

Other options available

- HP/LP input
- Hour run meter
- Auto /Man/ Off switch
- 24volt 2 wire control

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SOFTPHAZ

480volt Single phase electric motors, high kW range 4KW > 18.5KW

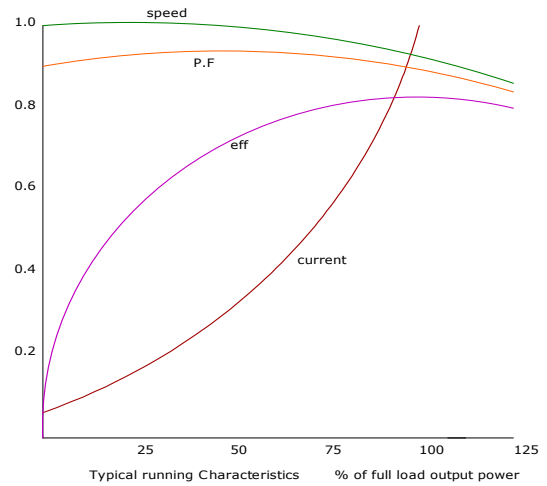
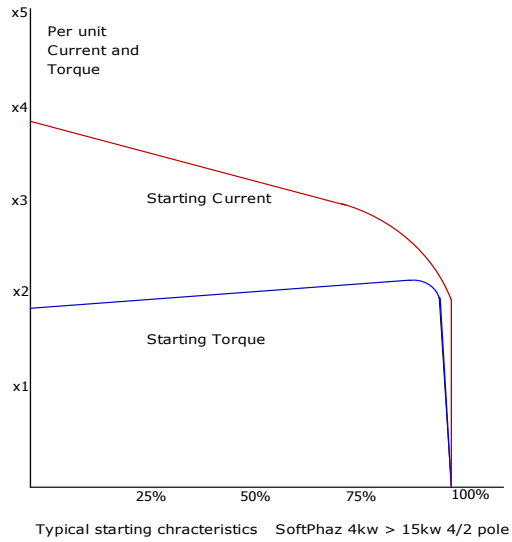
Features

- Smooth start characteristic.
- High efficiency.
- Low noise.
- Low heat losses.
- IP55 rating.
- Flange mount available.
- Designed for pumping
- Auto starting time, load dependent with minimal transition peak
- Microprocessor controlled, designed with rural power conditions in mind
- Type "2" coordinated in event of short circuit fault

Benefits

- No need for three phase power if suitable single phase power is available
- Cost saving in running three phase power
- Standard three phase frame sizes & components used
- **No Harmonics = Lower power cost in comparison to VSDs**
- Unlike VSDs a SOFTPHAZ can utilize 100% of supply transformer capacity as per ASNZ2279.2
- Motor can operate on three phase power if backup generator is required

Electrical Performance



Electrical Performance Single phase 480Volt 50hz

Motor	KW	Speed	A	Ist Ifl	P.F @ FL	Eff@ FL	FL T(Nm)	Tst Tfl	Tmax Tfl
SPZ132s4	4.0	2925	12.0	5.2	0.95	74	13.1	2.0	2.0
SPZ132s5.5	5.5	2935	15.0	4.9	0.95	80	17.9	1.5	1.9
SPZ160m7.5	7.5	2940	20	4.7	0.98	80	24.4	1.6	2.0
SPZ160m11	11	2940	28	3.5	0.99	83	35.7	1.7	1.9

SOFTPHAZ v V.S.D

The following are points to consider when comparing installation of 480v single phase **SOFTPHAZ** controller and pump motor and 480v single phase V.S.D method.

- 1 Reduced KVA supply capacity requirement due to no harmonic distortion and no pre-calculation required prior to installation as per AS2279.2
- 2 No line chokes required
- 3 No screened cable
- 4 No EMC glands required
- 5 No output chokes

