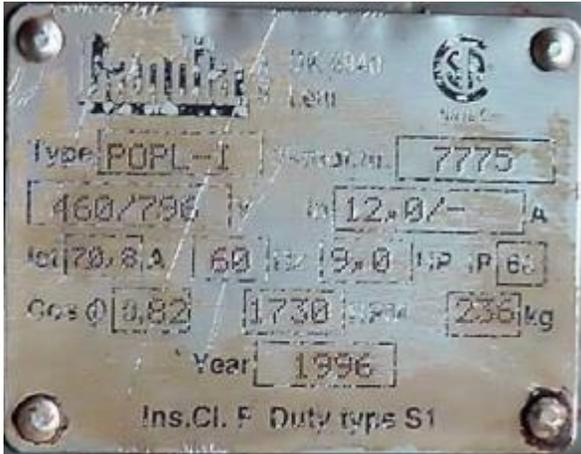




Q. I came across a motor this week that had a nameplate voltage of 460/796v. Who's got a power supply of 796v?

Nobody that I am aware of ! So why the nameplate rating ? Well it's that old Wye /Delta hookup rearing its head again.



The manufacturer of the motor is telling us that this motor can run across the line at 460v if connected Delta and if we connect it in Wye (Star), the winding then would need a line voltage of 796v to operate just like it did when connected Delta on a line voltage of 460v.

Another way of saying this would be that if we connect this motor in a Wye configuration with only 460v fed to it, then effectively we are putting 460v on a winding that is rated for 796v. Because of this the winding will be weak, not strong and will start off much slower than it would if the 460v were connected to the same motor connected Delta.

Well this is exactly what we want if we want a cushioned start in order to protect the process or the drive train.

So the reason the manufacturer has name-plated the motor this way is simply to give you, the end user, the ability to soft start the motor if you need to.

To do this of course you would need to have a Wye/ Delta starter of the

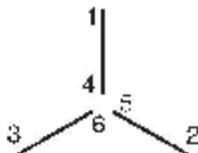
correct size for the HP in question.

If you only have an across the line starter ahead of the motor then you will need to hook up the motor as a Delta connection, suitable for 460v use. If you hook up the motor as a Wye configuration, in this across the line condition, with a supply voltage of 460v the motor will likely approach a stalled condition, will pull high amps, get hot and likely fail in a short time compared to its normal expected life. How soon will depend on the load the motor is connected to.

NEMA NOMENCLATURE—6 LEADS

SINGLE VOLTAGE
EXTERNAL
WYE CONNECTION

L1	L2	L3	JOIN
1	2	3	4&5&6



Just as a refresher here is the connection diagram for a 6 lead Wye / Delta connected motor.

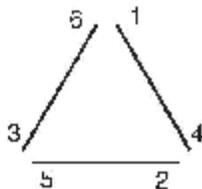
Remember always that Wye is HIGH

If you want to hook up a motor for the highest of the 2 nameplate voltages hook it up Wye

If you want to hook it up for the lower of the 2 nameplate voltages hook it up Delta

SINGLE VOLTAGE
EXTERNAL
DELTA CONNECTION

L1	L2	L3
1,5	2,4	3,6



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