

FTL is linear, and takes time. It is also subject to a gravity limit near any celestial body. The larger the body, the bigger the shadow. This can be summed up as the hyperlimit. A ship traveling from one system to another will also need to achieve some sort of change in delta-v to match it's movement with the target system. This is because star systems are all moving at different speeds and directions from one another, and this change must be accounted for.

The hyperlimit for a given body is based on it's mass, and can be calculated using the standard Sphere of Influence equation on ChatGPT. Then, the hyperlimit can be ignored up to a small percentage based on the accuracy and precision of the FTL drive this is the first category of drive ranking.

The other category is linear FTL speed; how many times the speed of light can the ship move. FTL drive designs are variations on a theme. Some focus on accuracy and precision, others focus on speed, the best and most expensive drives focus on both. The more expensive the drive, the more difficult and expensive to maintain it. Drives also are limited based on energy requirements, this is not a huge factor except on very long FTL trips. Depending on the energy stores of the vessel, it may need to layover and recharge somewhere prior to continuing.

This does mean that ships can use their FTL drives to travel inside of systems, so long as they are outside of their effective hyperlimit as listed in the chart below. This does come with additional risks:

If there is a large unknown body on the route, it will drop the ship out of FTL as the drives effectively detect it and override the transit so they don't take damage. This can be overridden and will cause serious damage to the drives and quite possibly the ship itself.

Drive Class	Hyperlimit decrease percentage	Speed in LY/day
2	0	200
3	0	300
4	0	400
4b	1	450
5	2	500
M-1C	1	500
M-3	5	600
M-4	3	600
M-5A	5	1000

FTL travel works on the principle first theorized by physicist Miguel Alcubierre. The ship isn't necessarily moving, however the drive is warping the fabric of space so that it arrives sooner at its destination than light would given the same distance and time. FTL drives rely on difficult to manufacture exotic materials in order to manipulate space. While the first FTL drives were only capable of 1 light year every 2.6 days, modern drives are capable of many hundreds of light years per day. As always, human progress does not stop. Several research initiatives have been introduced in the past 40 years to develop instantaneous transit between locations. Currently, this is more likely to be pure vaporware than not.

This chart is not comprehensive of all FTL drives and is provided as a sample of common types.