

The Synchronizer System is a collection of highly precision engineered set of metal rings that work in tandem within a manual transmission to provide a very smooth engagement of gears as they are "shifted" from one gear to another during the driving process. As the name suggests, these rings "synchronize" the parts that are spinning at different speeds within the transmission system.

Divgi-TTS supplies complete multi-cone steel-based synchronizer systems – single, dual & triple to several leading Indian customers.

Recognizing the inherent advantages of steel as a metal for synchronizer rings over brass, Divgi-TTS pioneered the introduction of steel based synchronizer systems in India and currently is the biggest Indian steel synchronizer systems supplier.

#### Head Office & Bhosari Unit

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#### Sirsi Unit

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### Features:

#### Multi Cone Connected Systems

- » High levels of Torque
- » Reduced Shift times
- » Reduced hand ball / Actuation loads
- » Performance advantages in terms of shift quality and refinement

#### High Mechanical Strength

- » Heat treated steel outer synchronizer rings
- » Accommodate high shift forces
- » Allowing smaller tooth module
- » Patented Bent Lug Design

#### Composite Friction Materials

- » Improved frictional characteristics.
- » Constant friction levels
- » No wear of friction materials

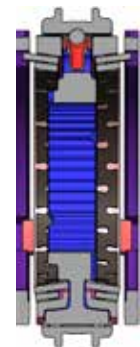
### Cross Sectional View



Single Cone

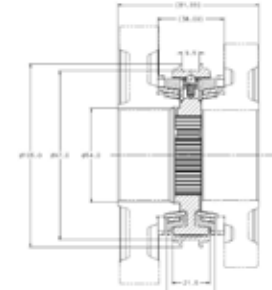
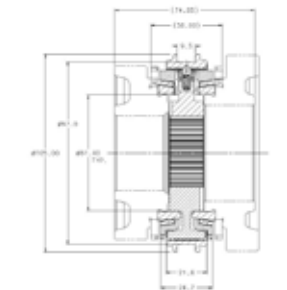
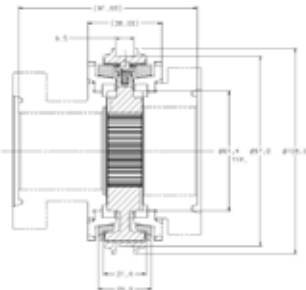


Dual Cone



Triple Cone

### Installation Layout



### Specifications:

Level of friction coefficient	$\mu$ dynamic 0.12 - 0.16
Synchronization Torque	High - Improved shift performance - reduced shift times
Rise in Synchronization Torque	Quick - High levels of Initial $\mu$
Dynamic / Static Ratio	> 1 - Optimises shift quality. Reduce risk of 'wring on'

Long life stability of frictional values	No deterioration in shift quality during life
Axial movement of synchronizer	Minimal - Reduced wear gap, Shorter shift,
Oil compatibility	ATF & MTF
Energy Capacity	1.5 J/mm <sup>2</sup> @ 5.5 W/mm <sup>2</sup>
Unit Loading	Minimal compressibility @ 15N/mm <sup>2</sup>

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