

## CM15FS Vacuum Pump System

The CM15FS Vacuum Pump System is designed to provide a low vacuum for vacuum film holders. The pump system operates off unregulated 12VDC and typically draws less than 0.3 A.



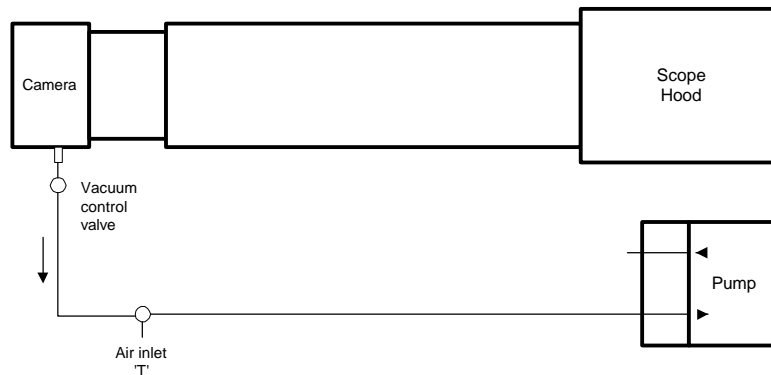
### Configuring Your System

While the CM15FS may be immediately used by connecting it to the camera system vacuum connector, it is best to first route the vacuum hose properly along the telescope mount and OTA.

Take care to insure that an adequate length is provided and that the tubing is not kinked and will not be snagging on anything no matter how the mount is positioned.

Once the tubing is cut to the proper length, if the vacuum pressure is too great, insert the

provided "T" section to divide the flow between the camera system and the open air. If a further reduction is necessary, insert the valve into the line on the camera side and adjust it until the pressure is at the desired level. If more couplers and hose sections are required (e.g. providing vacuum hold to multiple cameras), compatible aquarium air supply parts can be commonly found at pet stores.



CM15FS configuration with 'T' and valve installed.

### Using the CM15FS

In regular operation all that is necessary is to attach the hose to the appropriate camera connection and turn on the pump. Between frames, be sure to turn off the pump and bleed air into the camera before advancing the film. Simply turning off the pump may not be adequate when advancing the film as the vacuum hold system may maintain the pull on the film for several minutes. If a 'T' section has been installed as shown in the sample configuration above, simply turning the pump off will be adequate as the 'T' allows air to enter and release the film hold.

**Notes:**

1. Enclosure power connector specification:
  - ◆ Unregulated 12VDC, center positive
  - ◆ 5.5mm OD
  - ◆ 2.1mm ID