



Logan Power Take Off Clutches for San Francisco Fireboats



View of the St. Francis shown in San Francisco Bay, pumping 18,000 gallons of water per minute (68,137 liters) using three (3) Logan LC-318 PTO clutches; also pictured in the background is the smaller Tiburon fireboat equipped with a Logan Front of Engine Power take-off clutch, pumping 3,242 gallons of water per minute (12,274 liters) using a Logan 600 series PTO clutch.

The San Francisco Fire Department's Fireboat No. 3 / the St. Francis, is 88 ft. long and has a beam of 25 ft., and with an 18,000-gallon-per-minute pumping capacity - is easily the largest municipal firefighting boat on the West Coast.

While the St. Francis acts as any other fireboat in the port of San Francisco, its main function is to act as a mobile pumping station for city water, with the ability to plug into the city's water system should a major earthquake cause a disruption of the system. At 18,000 gallons per minute, the St. Francis has enough power to pressurize the cities fire hydrants in the event they are dismantled during an earthquake.

"The pumps run off the rear of the engines, and the propellers run off the front of the engine", says Andrew Logan, President and CEO of Logan Clutch Corporation. This is not your typical application - and at 18,000 gallons per minute, this is not your typical fireboat", says Logan. "Cummins and Logan worked closely together on this project to ensure we had more than enough power to make the St. Francis a key workhorse in any situation".

More recently, the St. Francis Fireboat No. 3 was instrumental in saving the Jeremiah O'Brien, a WWII Liberty Ship during a 4 alarm fire on San Francisco's Pier 45 over the Memorial Day Weekend.

PROJECT DETAILS:

- Designed by Jensen Maritime Consultants and Built at Vigor's Seattle Shipyard at a cost of 11.8 Million.
- Three (3) Cummins QSK19-M, Tier 3 diesel engines, provide propulsion and pumping power, producing 750 HP at 1,800 RPM each. Pumps run off the rear of the engines flywheel, whereas the main propulsion is run off the front of the engines.
- The Main Cummins Engines power three (3) Counterfire ESF 300-550 pumps with a capacity of 6,000 gpm each, or 18,000 gallons per minute total when all three (3) pumps are in parallel. The boat can operate at speeds up to 11.5 knots.
- Power is transmitted to the pumps through three (3) **Logan LC-318 Bell Housing PTO Clutches**, capable of producing over 7,473 lb. ft. of torque (10,133Nm) @ 100 psi.
- Six (6) Stang Monitors are used to direct water to specific areas which require fire suppression



The 88' foot St. Francis traversing alongside the San Francisco skyline



Logan LC-318's inside the St. Francis Engine Room and Pumping Station



Cummins QSK 19-M Engines equipped with Logan LC-318 Bell Housing PTO's awaiting installation on to the San Francisco Fireboat St. Francis