

SIXTY SECONDS WITH SUMMIT PUMP : VOL 1-20

API versus ANSI Pumps

API pumps are utilized in applications where pressures and/or temperatures are higher than ANSI standards allow. API pumps may handle fluids that are flammable, toxic, hazardous, and my favorite...explosive. API pumps should be used when safety is especially important. An example would be the release of toxic liquids or vapors to the atmosphere, which would compromise safety and/or some environmental restrictions. API pumps can easily operate at temperatures over 1000°F, but are limited to 750 PSIG if the temperature is approaching 500°F.



ANSI Pump - Summit Pump Model 2196

There was a relaxation of API 610 9th edition about ten years ago. Consequently, some customers are rightfully trying to save money on applications where API compliance was really not justified. Other people are carelessly obsessed with trying to use an ANSI pump, as an API pump. We witness more and more inexperienced engineers attempting this substitution. As grandma used to say... "You should not try to teach a pig to sing...it just upsets the pig, and is a waste of time."

Plenty of ANSI pumps are used in hazardous and high temperature applications, so when and how do you know which to use?

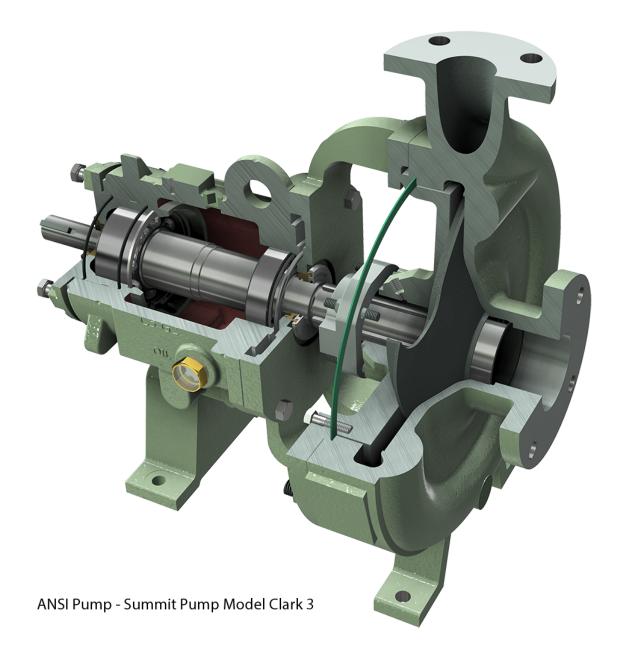
Consider an API pump if:

• Liquid is flammable, toxic, hazardous or explosive

- Head (TDH) is over 375 Ft.
- Temperatures are over 350 degrees F
- Driver horsepower is over 125 BHP
- Suction pressure is over 75 PSIG
- Driver speed is over 3600 RPM
- Impeller diameter is over 13 inches

The following expression used by one company has worked well: **kW x RPM** If the result is greater than 675,000, they will likely use an API pump.

General Differences		
Attribute	API	ANSI
Stuffing Box	Bolted to Casing	Captured by Frame Adaptor
Pump Support	Centerline	Foot Mounted
Bearing Housings	Larger	Smaller
Impeller Connection	Keyed	Threaded
Wear Rings	Yes	No
Impeller	Enclosed (Usually)	Semi-Open (Usually)
Seal Chamber	Throat Bushing	No Bushing



An ANSI B73.1 pump, by specification, is not as restrictive or detailed as an API pump, but it is also **significantly less expensive**, with **shorter lead times**.

Please work with your customers to know which one is required. Do not use an ANSI pump when it is obvious you should be using an API pump. Also, do not be afraid to use an ANSI pump on a tough application that is not specifying API pumps.

-The Summit Pump Team

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Jim Elsey's Pumps and Systems Articles

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Summit Pump offers and stocks

Frame Adaptor Guards

for 2196, 2196LF, 2196R, 2796 and Clark 3 models

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