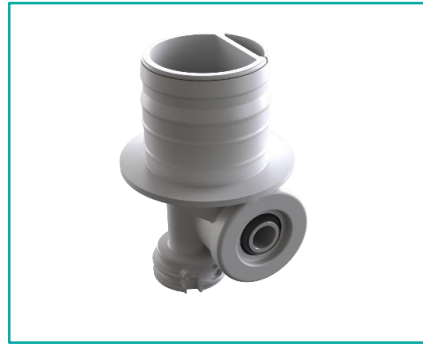


# BiB-19 Pump Features and Data Sheet



Mechanical Properties	SI	Imperial
Flow Rate Per Revolution	1.5 ml	0.051 fl.oz.
Baseline accuracy	+/-3.5% at +/-3 SD	

	Ready to Drink	Post mix	High Viscosity	High Output Pressure	Regulated Output Pressure	Long Pipe Runs	High Vacuum
Standard	✓				✓		✓
High Pressure			✓	✓		✓	✓
Dilution		✓	✓	✓			

# Pump Fittings

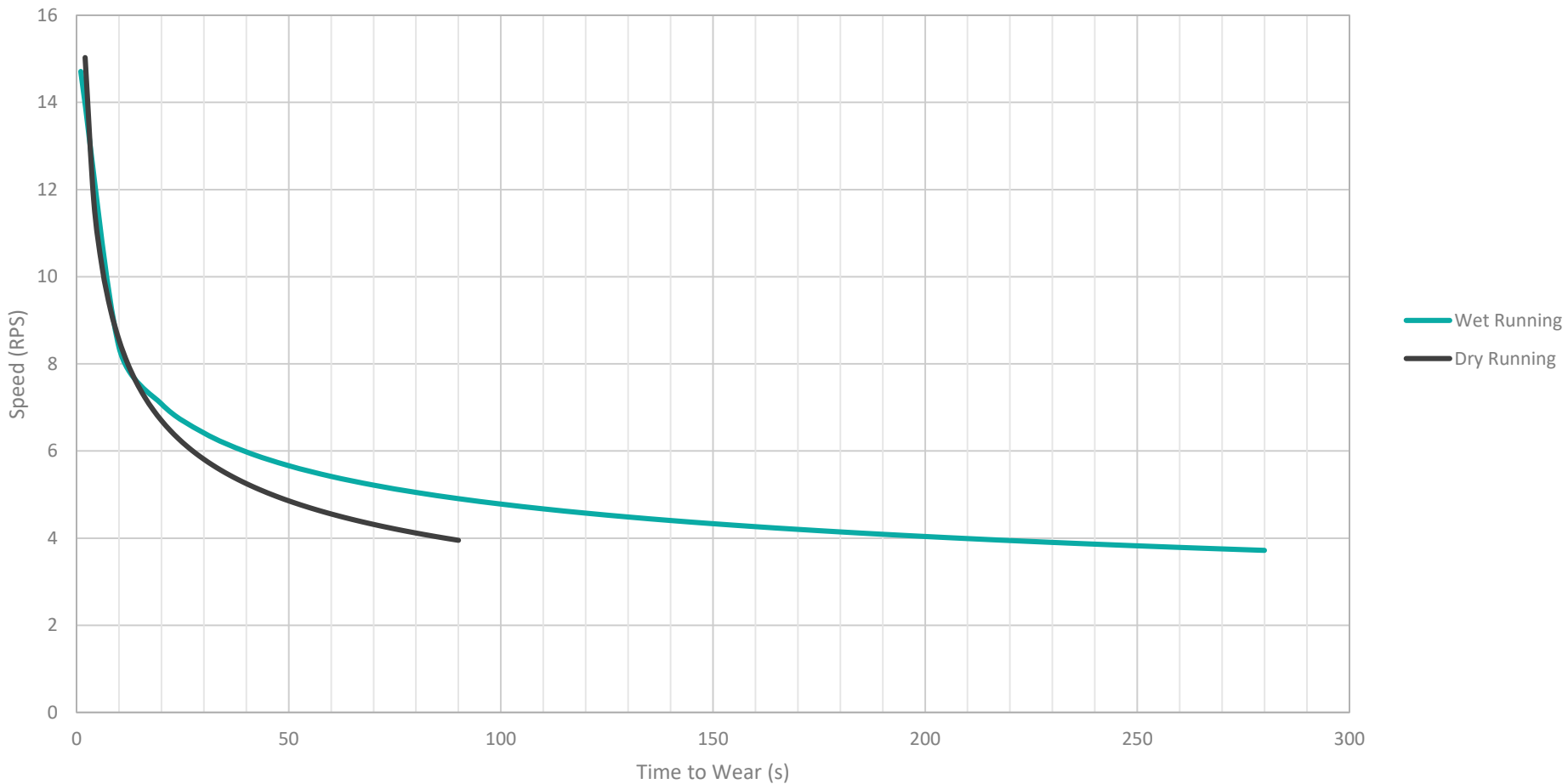
The following table shows the different nozzles and valves that can be used with the different variations of the Quantex BiB-19 Pump. Custom fittings can be designed on request.

Fitting	Name	Standard Pump	High Pressure Pump	Dilution Pump
	Ready to Drink with valve	✓	✓	
	Mixer Nozzle with valve			✓
	Elbow Connector	✓	✓	
	Dome valve with holder For high viscosity fluids	✓	✓	

# Duty Cycle

The following chart shows the duty cycle\* for a BiB-19 pump for wet and dry running. Operation under the curve will dispense pack volume with a safety factor of 5 (typically 5x10L).

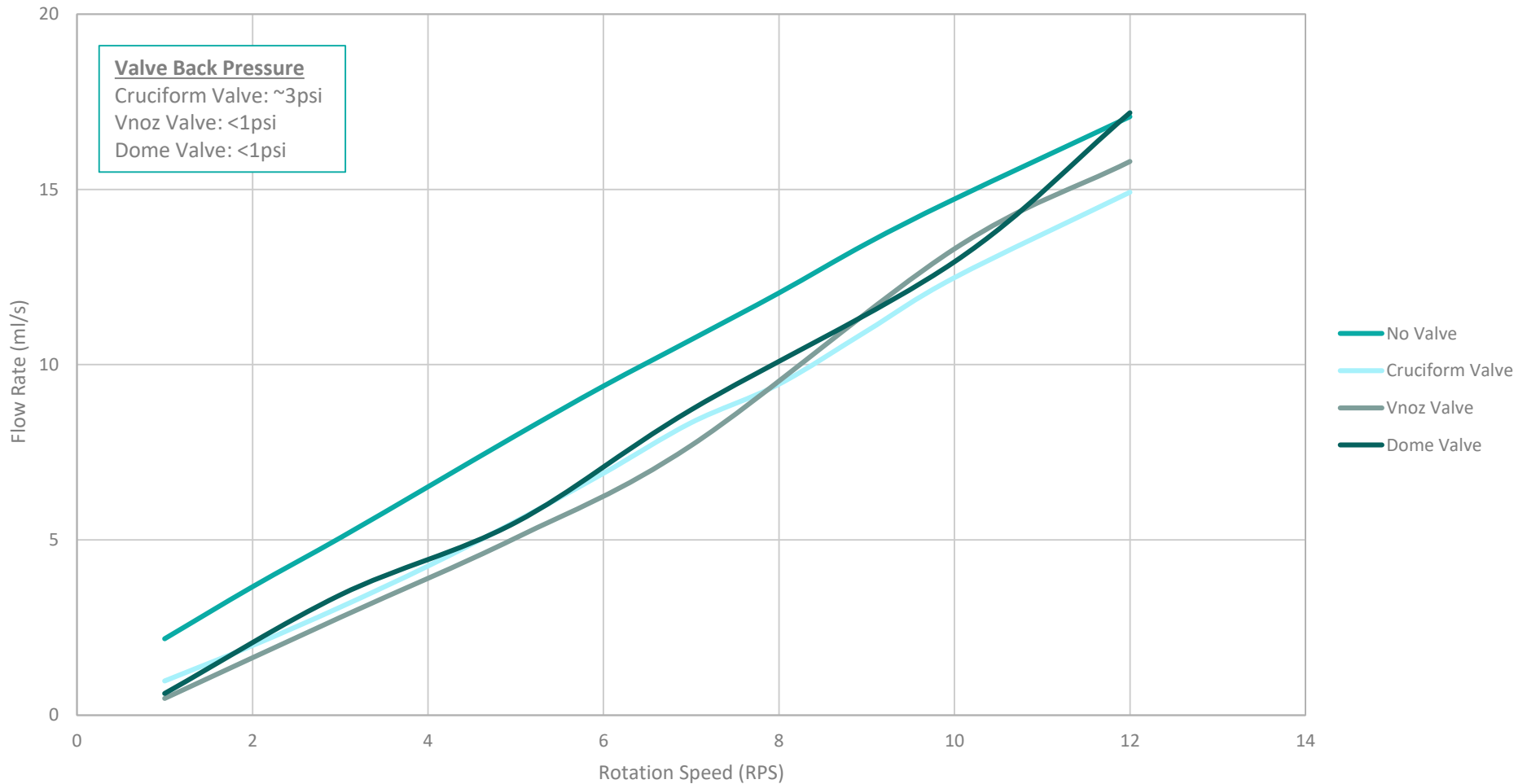
\*The maximum time that the pump can be run continuously at a particular rotation speed (RPS).



# BiB-19 Standard Pump Data

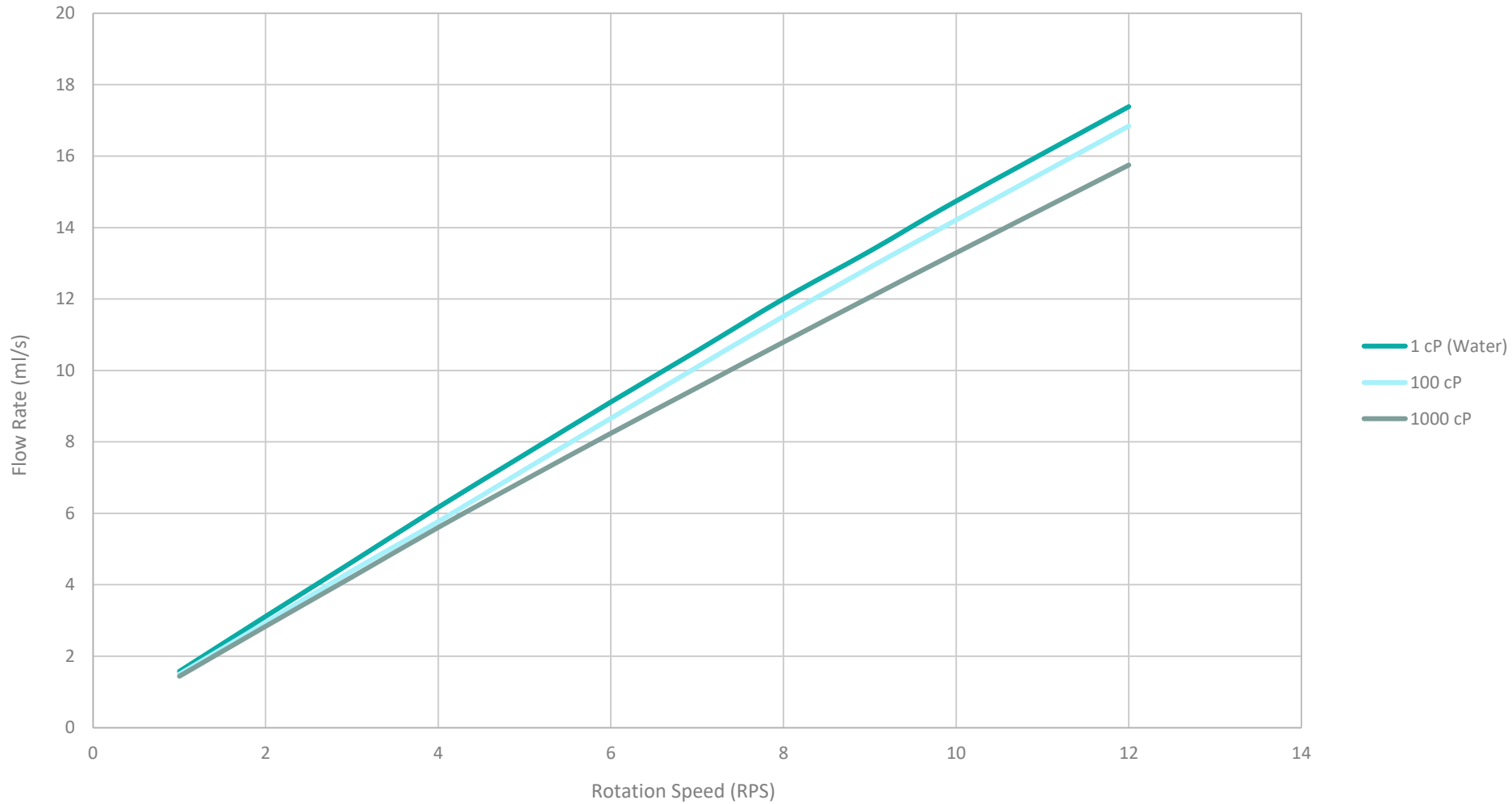
# Flow Rate vs Speed

The following chart shows the flow rate performance of a Quantex BiB-19 Standard Pump at different rotation speeds (RPS). The chart also shows the pump performance using different Quantex valves which have different check pressures.



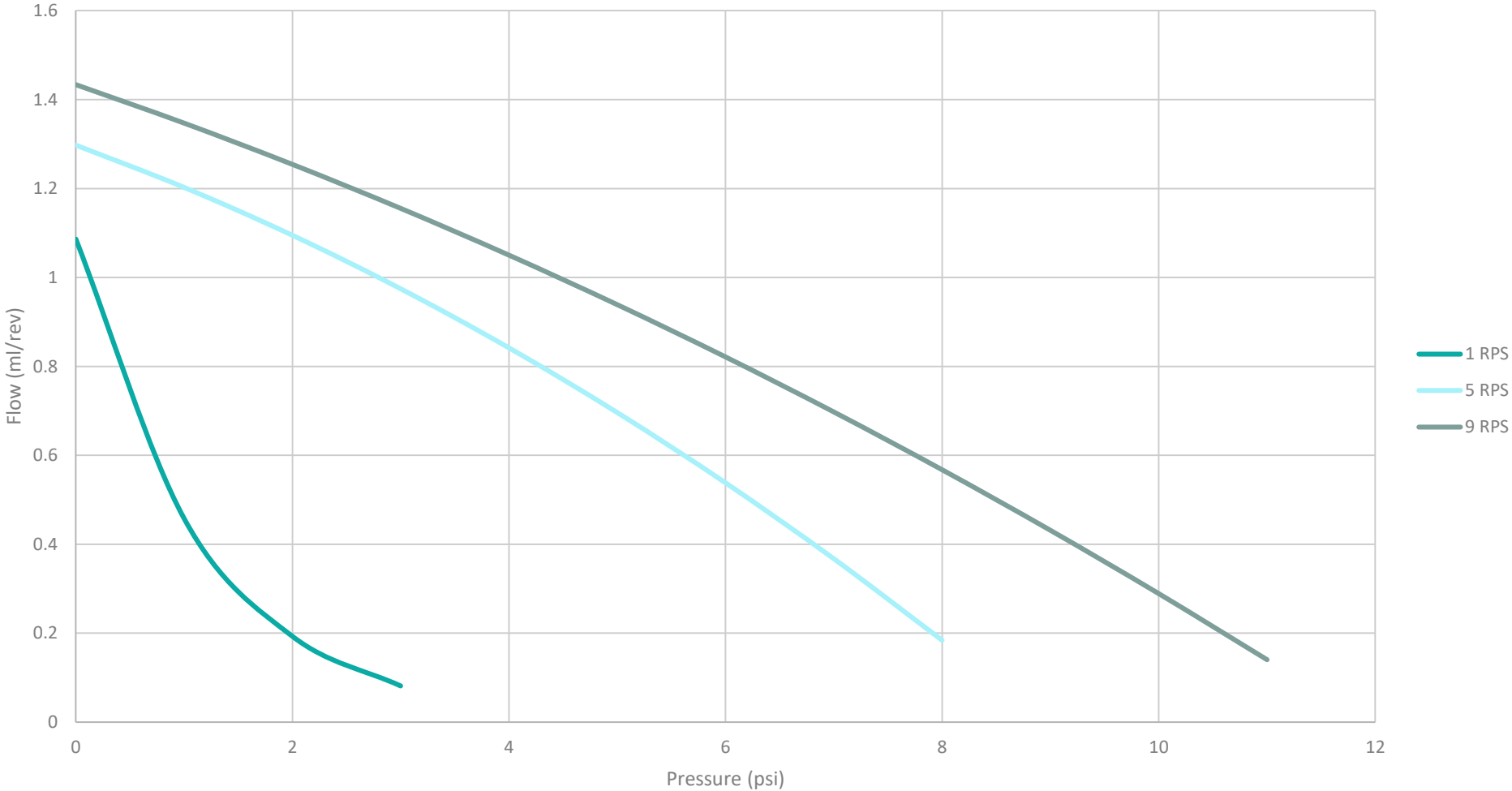
# Viscosity Effect with Speed

The following chart shows the flow rate performance of a Quantex BiB-19 Standard Pump at different viscosities and rotation speeds. The liquid used is a glycerol-water mixture at 20C.



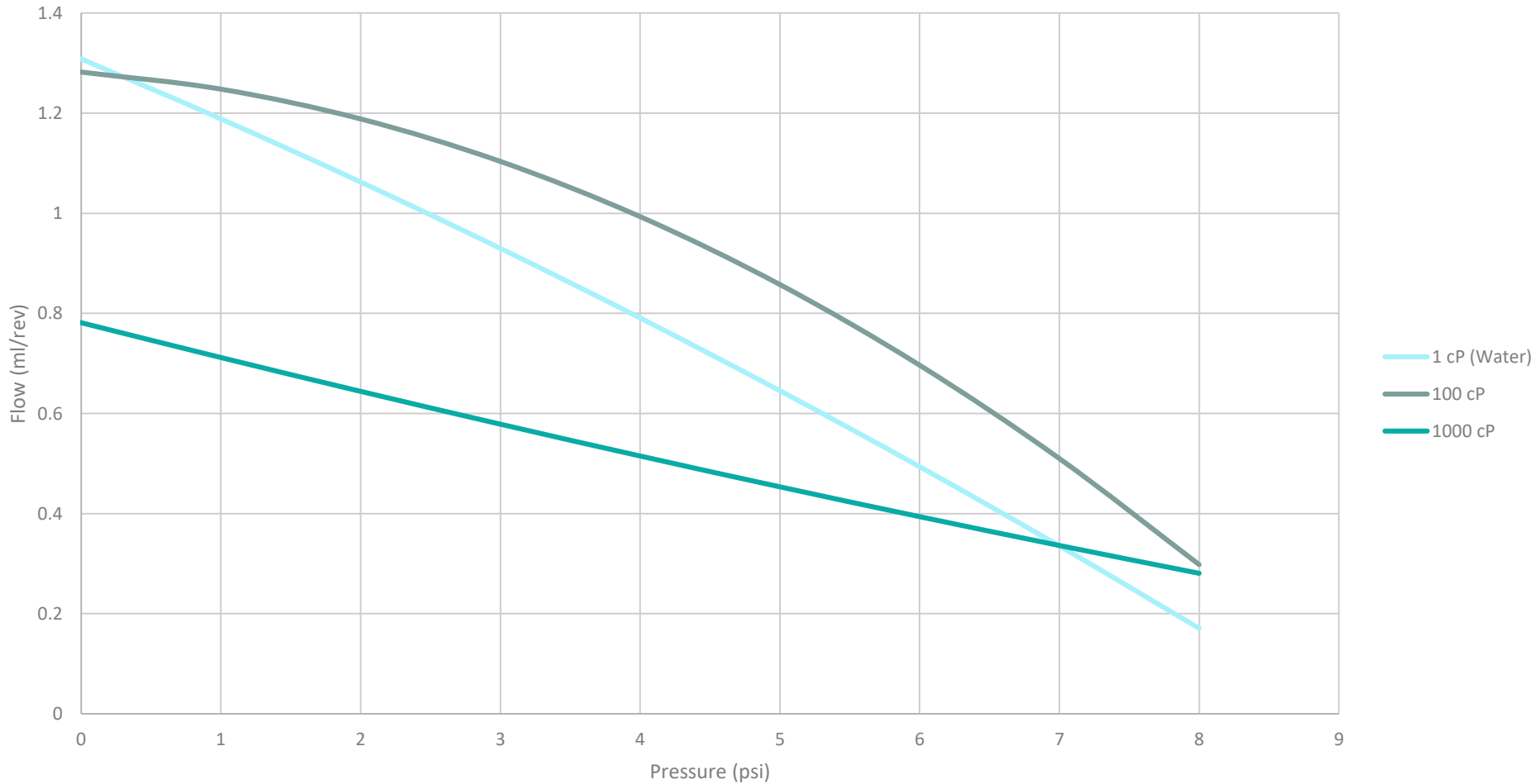
# Flow vs Pressure at Different Speeds

The following chart shows the performance of a Quantex BiB-19 Standard Pump against back pressure at different rotation speeds with water.



# Viscosity Effect with Back Pressure

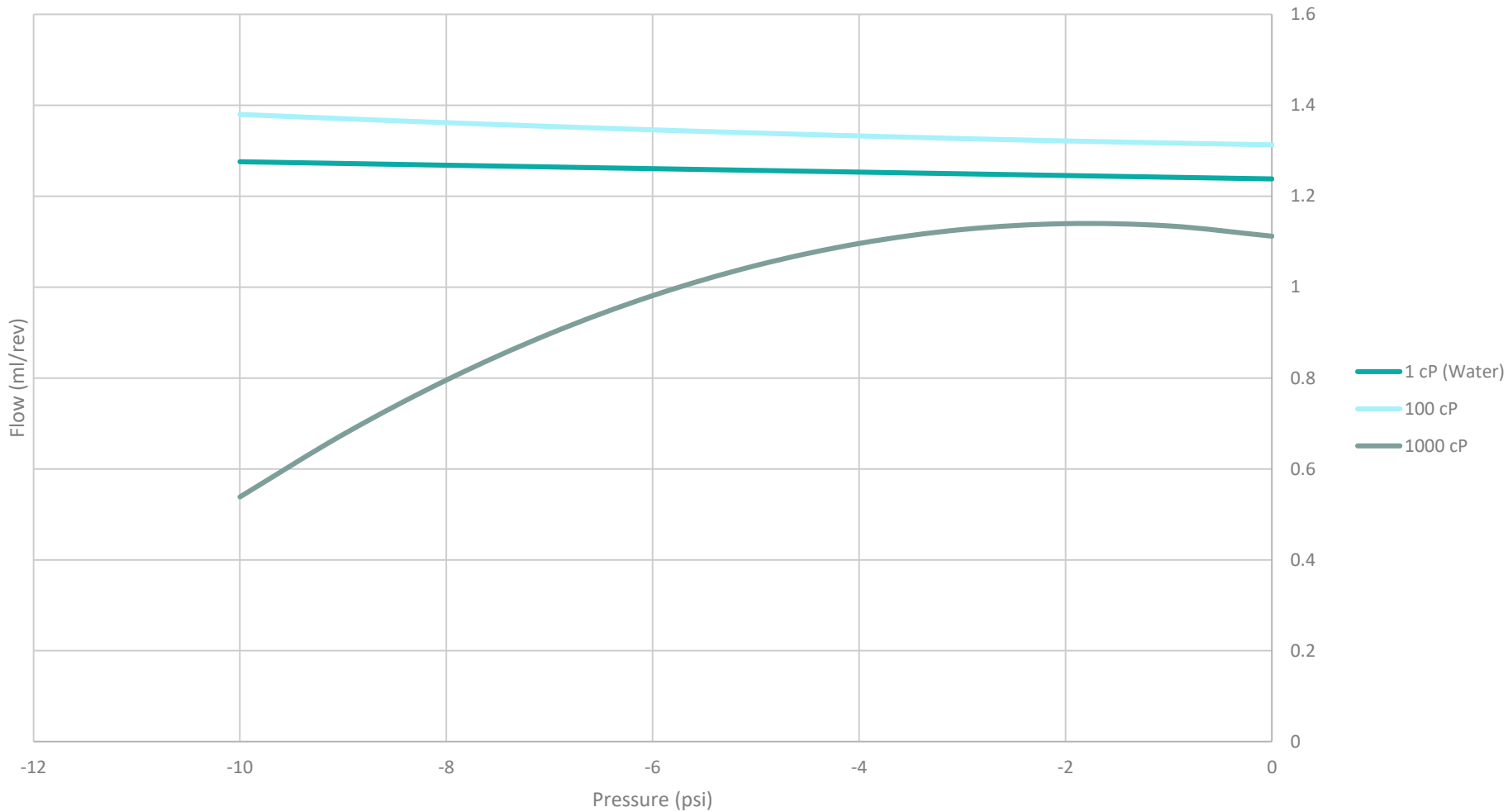
The following chart shows the performance of a Quantex BiB-19 Standard Pump for different viscosities against back pressure at 5 RPS. The liquid used is a glycerol-water mixture at 20C.





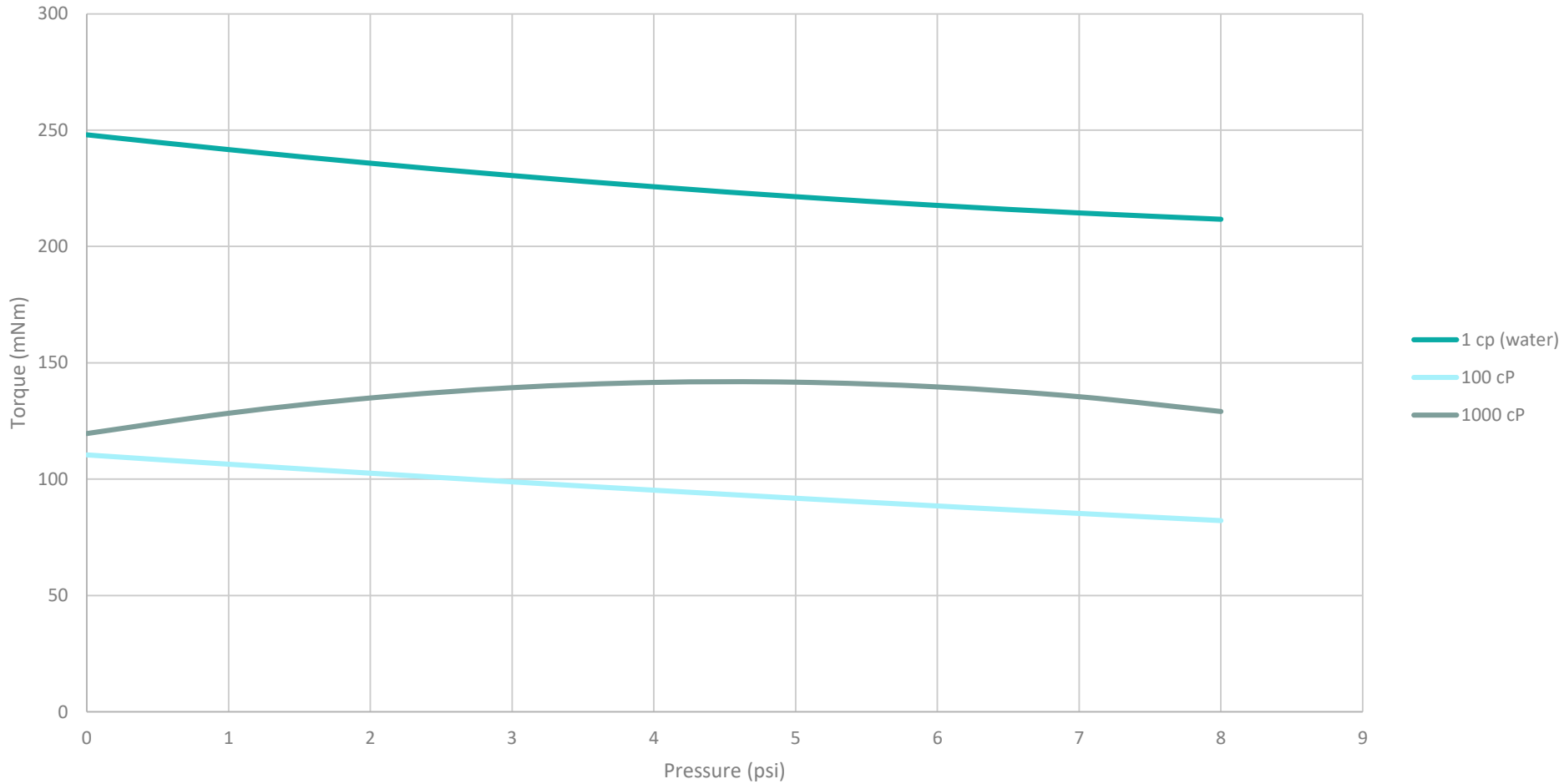
# Vacuum Performance

The following chart shows the performance of a Quantex BiB-19 Standard Pump against vacuum for different viscosities at 5 RPS. The liquid used is a glycerol-water mixture at 20C.



# Torque

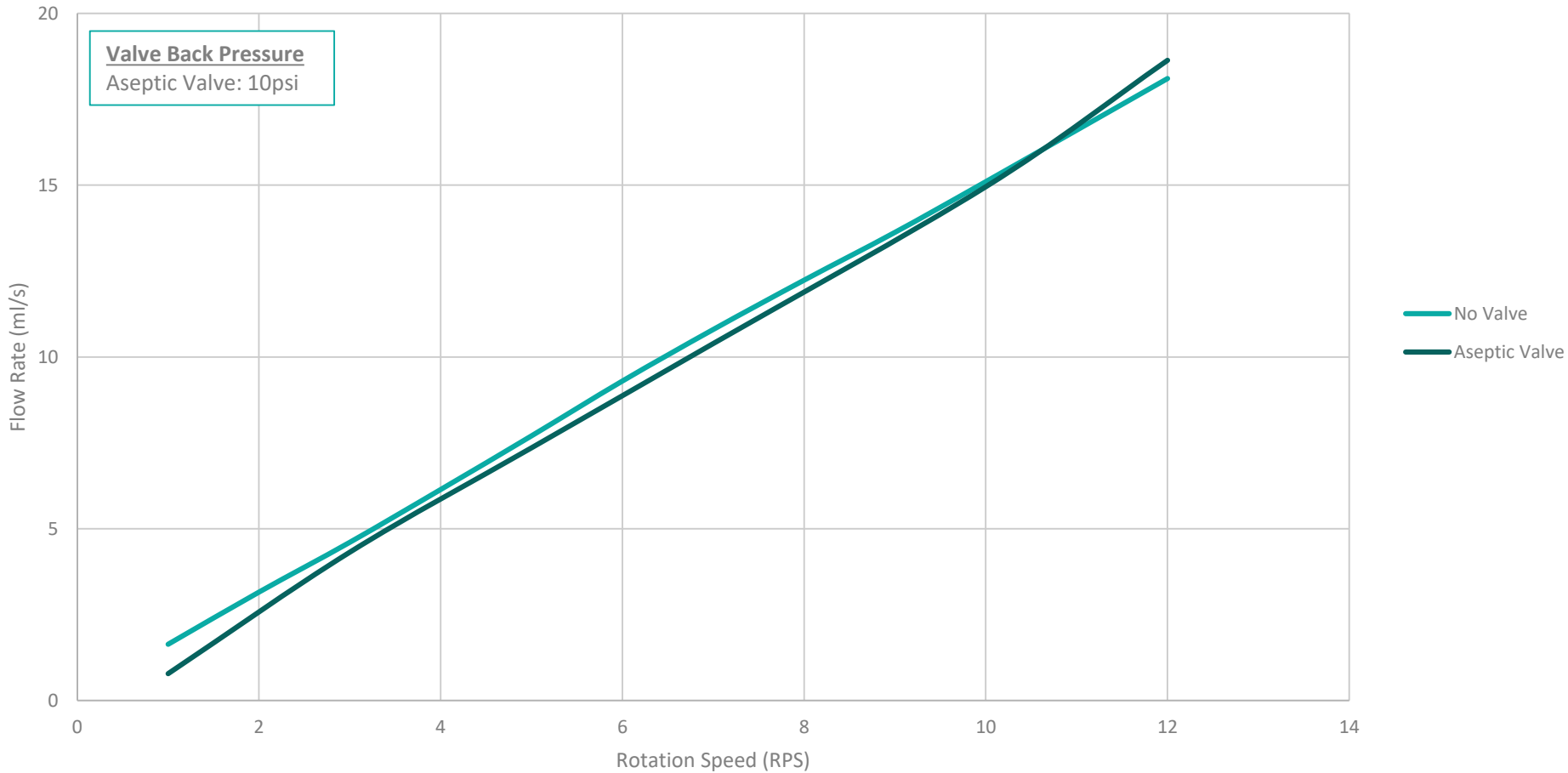
The following chart shows the torque of a Quantex BiB-19 Standard Pump for different viscosities and back pressures at 5 RPS. The liquid used is a glycerol-water mixture at 20C.



# BiB-19 High Pressure Pump Data

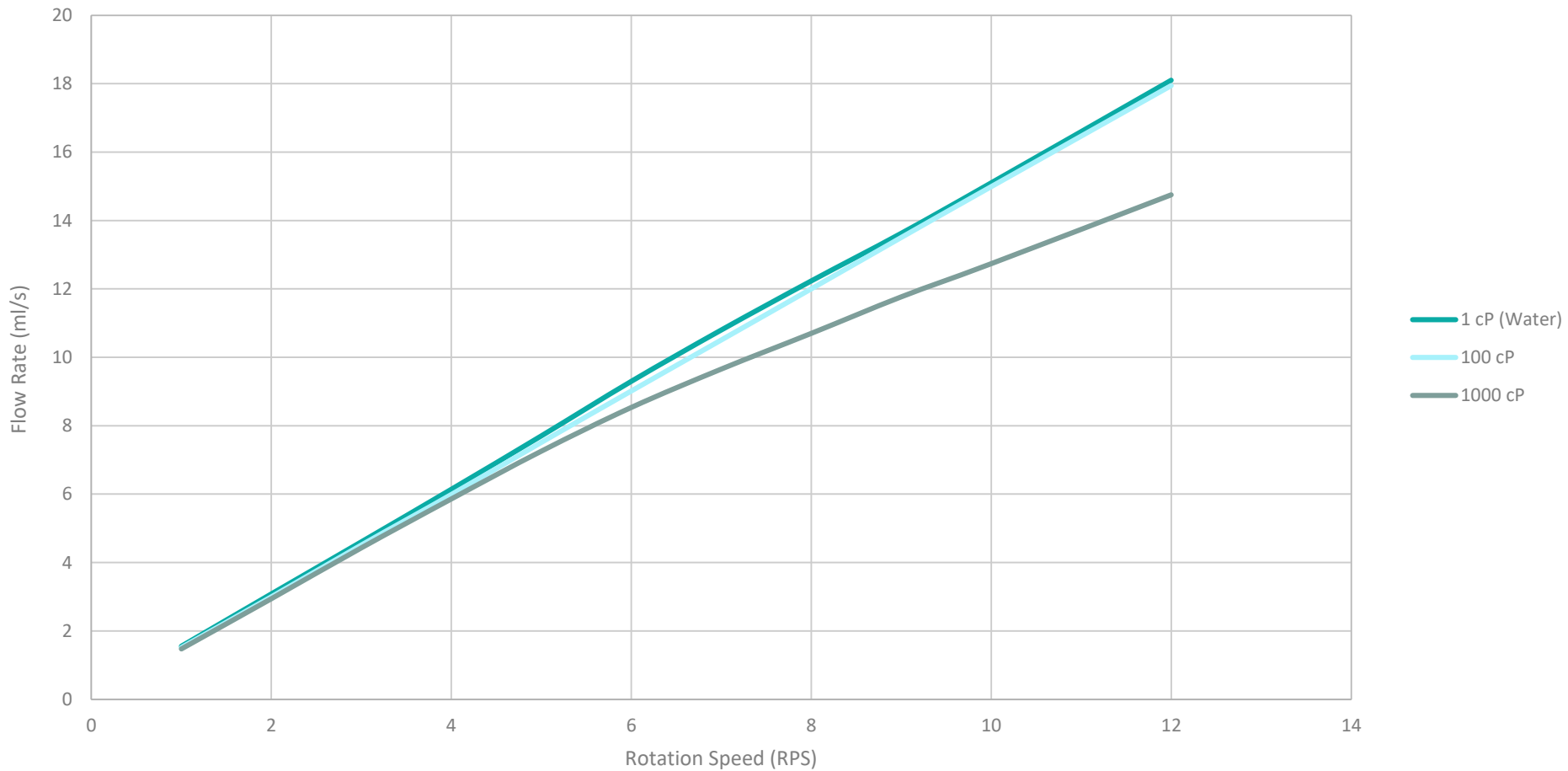
# Flow Rate vs Speed

The following chart shows the flow rate performance of a Quantex BiB-19 High Pressure Pump at different rotation speeds (RPS). The chart also shows the pump performance using an aseptic valve which generates a high back pressure of about 10 psi. Since, the curves of other Quantex valves with lower back pressure fall between these curves, they are not shown on this chart.



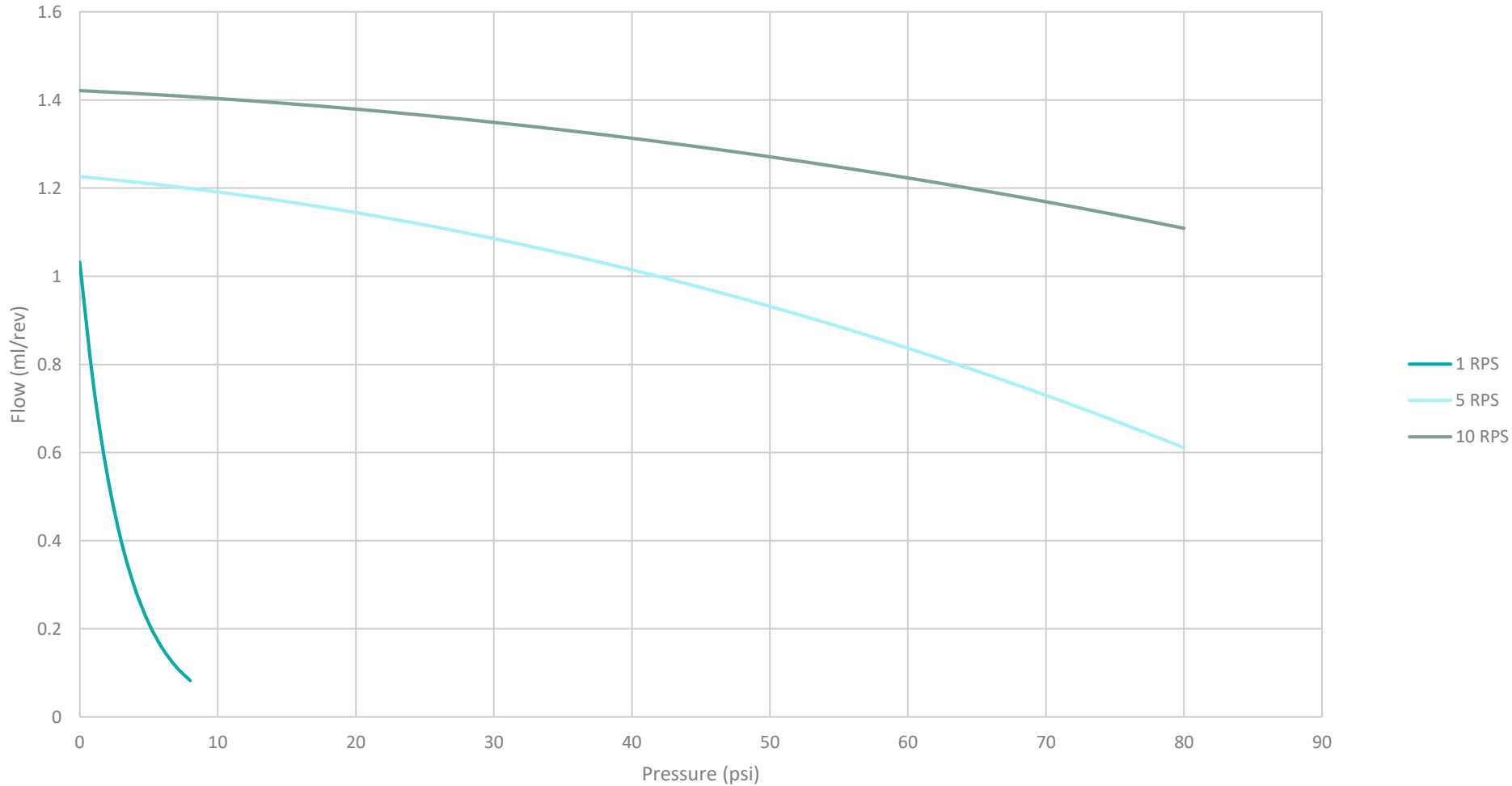
# Viscosity Effect with Speed

The following chart shows the flow rate performance of a Quantex BiB-19 High Pressure Pump at different viscosities and Rotation Speeds. The liquid used is a glycerol-water mixture at 20C.



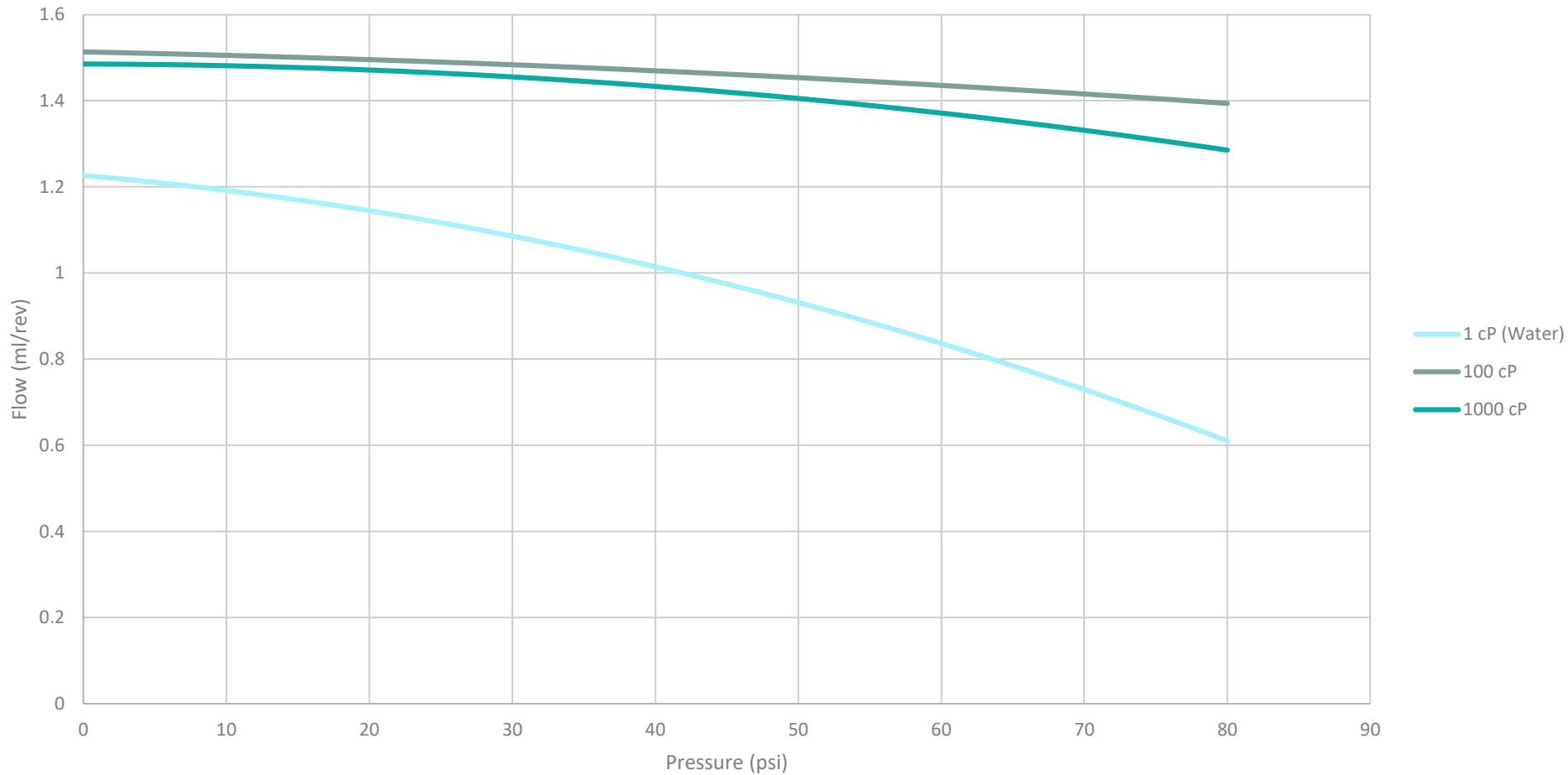
## Flow vs Pressure at Different Speeds

The following chart shows the performance of a Quantex BiB-19 High Pressure Pump against back pressure at different rotation speeds with water.



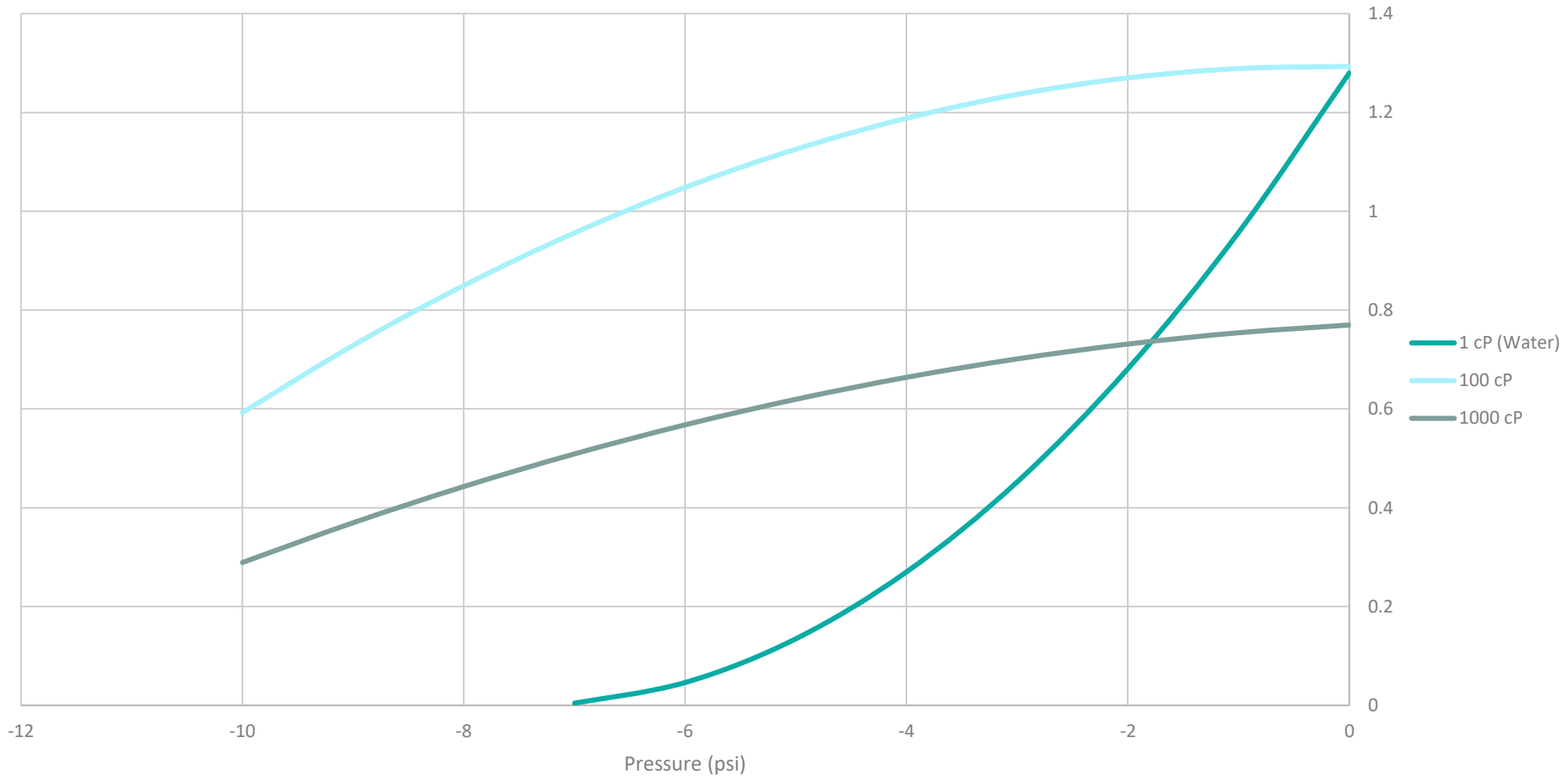
# Viscosity Effect with back pressure

The following chart shows the performance of a Quantex BiB-19 High Pressure Pump for different viscosities against back pressure at 5 RPS. The liquid used is a glycerol-water mixture at 20C.



# Vacuum Performance

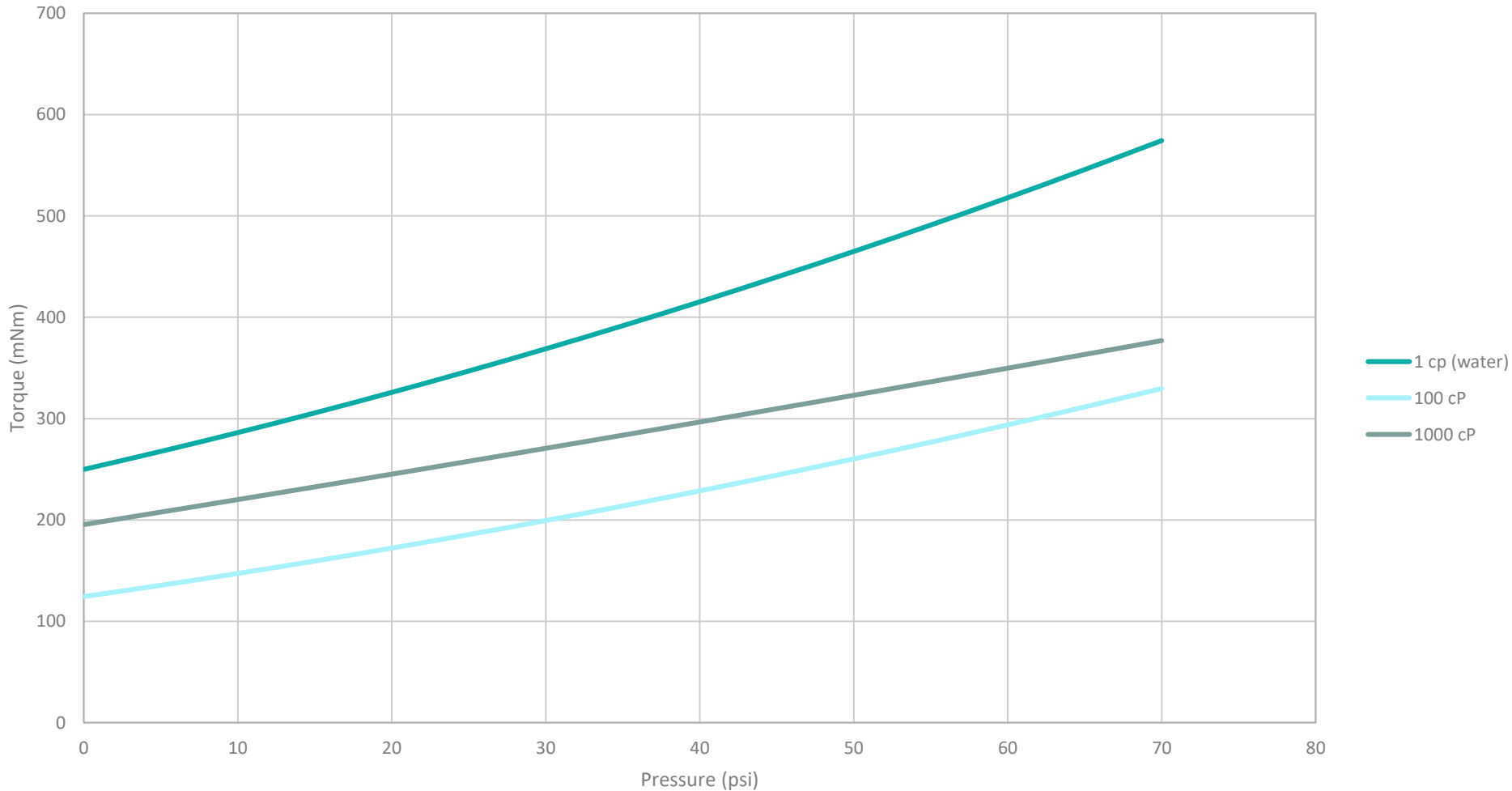
The following chart shows the performance of a Quantex BiB-19 High Pressure Pump against vacuum for different viscosities at 5 RPS. The liquid used is a glycerol-water mixture at 20C.





# Torque

The following chart shows the torque of a Quantex BiB-19 High Pressure Pump at 5RPS for different viscosities and back pressures. The liquid used is a glycerol-water mixture at 20C.



# BiB-19 Dilution Pump Data

# Dilution Performance

A dilution pump has the characteristics of a high pressure pump but also allows for the introduction of a diluent. The following data shows an example of the performance of the BiB-19 dilution pump when used with 65 Brix Apple Concentrate. The top, middle and bottom data is taken from each cup right after dispense and the mixed data is taken after thoroughly mixing the dispensed liquid in the cup.

Test Specifications	
Concentrate	65 Brix Apple Concentrate
Water to Concentrate ratio	5.75:1
Concentrate temperature	8 °C
Inlet Water Pressure	21 psi
Mix Flow Rate	Fills a 200 ml glass in 5 seconds

Test Data	
Mean Cup	11.6 %Brix
Cup to Cup Spread St. Dev	0.04 %Brix
Stratification Spread	<0.1 %Brix

# 65 Brix Apple Juice Concentrate Mix Data Across 9 Pumps

