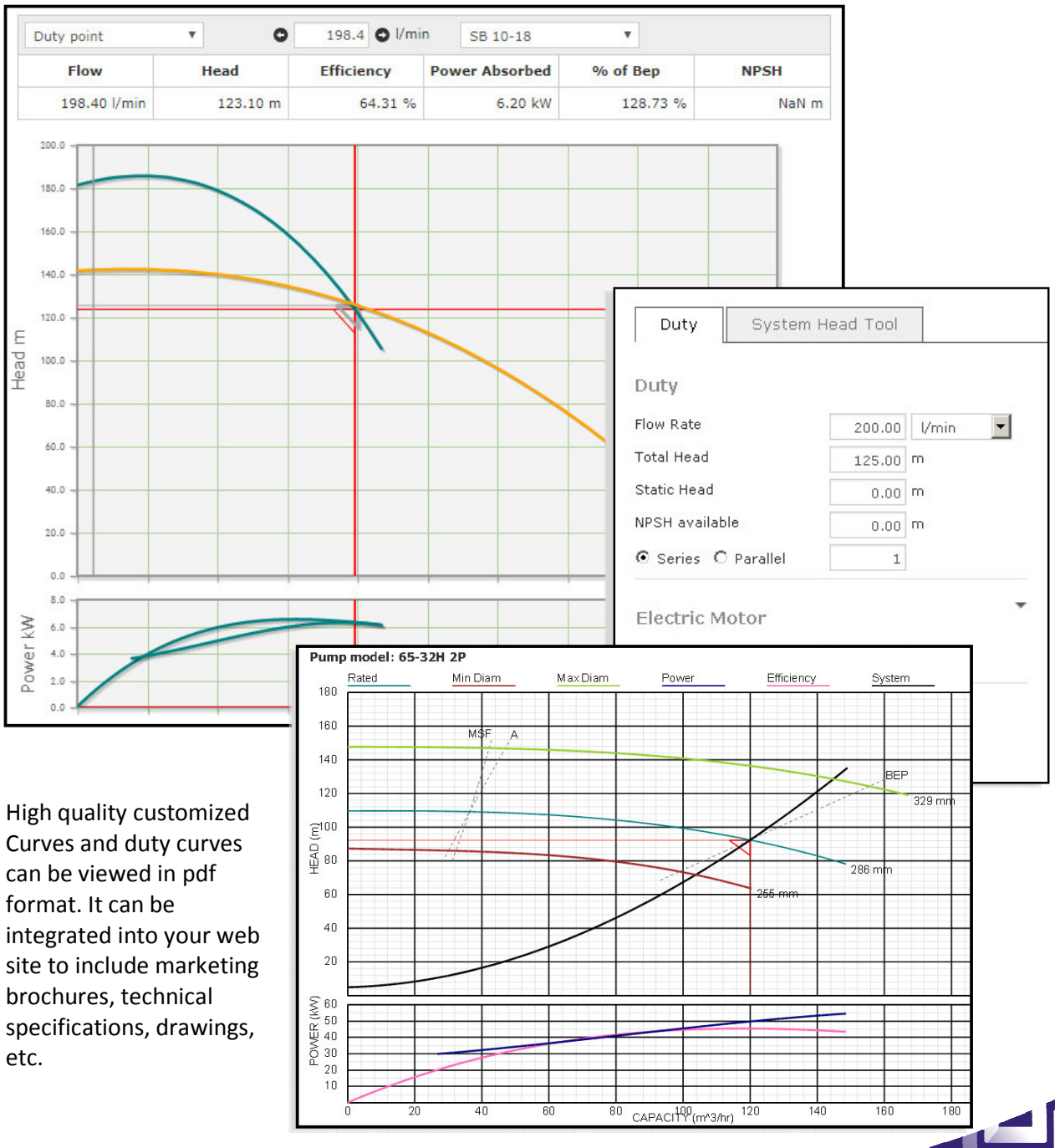
TAS Engineering Software Design

Aquatec Online (AOL) - Basic Pump Selection



High quality customized Curves and duty curves can be viewed in pdf format. It can be integrated into your web site to include marketing brochures, technical specifications, drawings, etc.

+27 11 325 0681
+27 11 325 0488
+27 82 552 1747

www.aquateconline.com

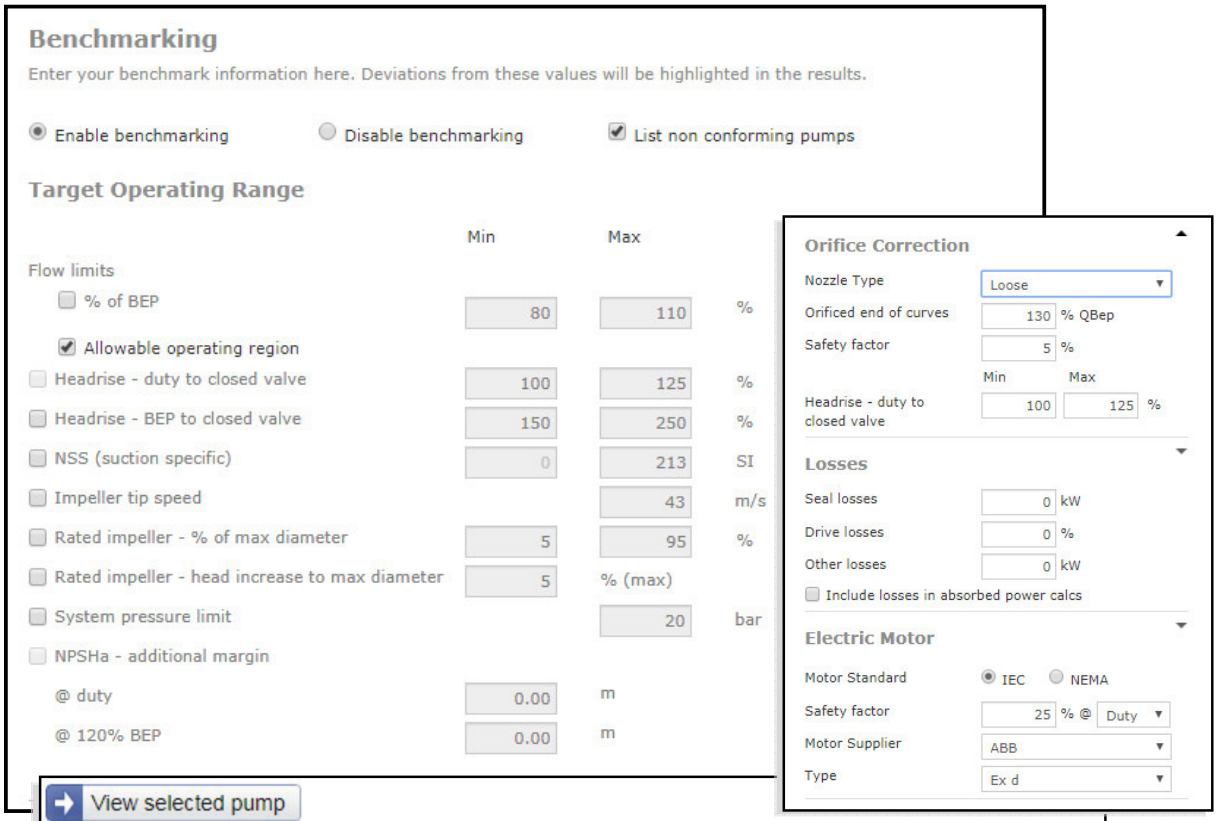
aquatec@tasonline.co.za

TAS Engineering Software Design

Advanced Selection Criteria

Use the benchmarking parameters to hone in on the best pumps for your pumping system.

- Set benchmarking limits on pump operating envelope
- Automatically select orifice size for minimum head rise
- Add losses for seal and drive, select different electric motors



View selected pump

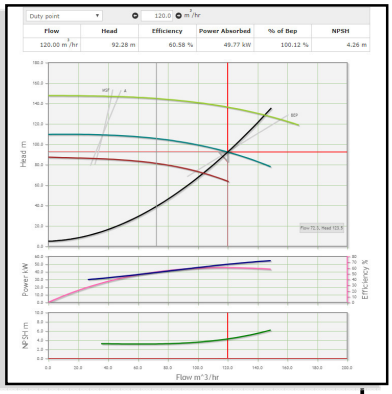
	Pump Model	Speed	NPSH	Effcy %	kW Abs	NSS	% BEP
	Exceeded Min Qbep Check	2900	8.04	53.1	12.31	151	150.5
£	C080050175OB250-2	2950	2.50	68.2	9.59	174	85.8
⚠	C080050175SB250-5	2950	2.17	71.2	9.18	189	83.7
⚠	C080050175SX250-1	2950	3.17	71.2	9.18	151	83.7
£	C080050225OB250-2	2950	2.77	63.0	10.37	175	98.9
£	C080050225OB250-3	2950	2.73	61.7	10.59	173	94.6
⚠ £	C080050225SB250-6	2950	2.39	70.8	9.23	189	90.6

+27 11 325 0681
+27 11 325 0488
+27 82 552 1747
www.aquateconline.com
aquatec@tasonline.co.za

TAS Engineering Software Design

System Design

Calculate the total pump system head when static head, pipe sizes, fittings and other components are specified.



Duty | System Head Tool | Customer details | Additional d

Surface System Head Tool

Surface

Flow Rate	120.00	m^3/hr
Suction Height	5	m
Discharge Height	10	
Discharge Press	500	kPa
Site Altitude	0	m
Barometric Pressure	10.34	m

Calculate Barometric Pressure

Specific Gravity	1	
Temperature	26	°C
Vapour Pressure	0.31	m

Calculate Vapour Pressure

Suction Pipe

Pipe Material	STEEL "Bare"	Std Pipes
Roughness Factor	0.2500	mm
Nom Diam	100	mm
Internal Diam	98.3	mm
Length	50	m
Pipe Fittings	0	

Discharge Pipe

Pipe Material	STEEL "Bare"	Std Pipes
Roughness Factor	0.2500	mm
Nom Diam	100	mm
Internal Diam	94.3	mm
Length	75	m
Pipe Fittings	0	

Friction loss calculation formula ☐ Hazen-Williams ☑ Darcy-Weisbach

Calculated Results

			Suction	Discharge	
Static Head	5	m			
Friction Head	87.28	m			
Total Head	92.28	m			
NPSH Available	2.35	m			
			Fluid Velocity	4.393	4.773 m/s
			Friction Fitting	0	0 m
			Friction Loss	12.68	23.65 m

Calculate

+27 11 325 0681
+27 11 325 0488
+27 82 552 1747
www.aquateconline.com
aquatec@tasonline.co.za

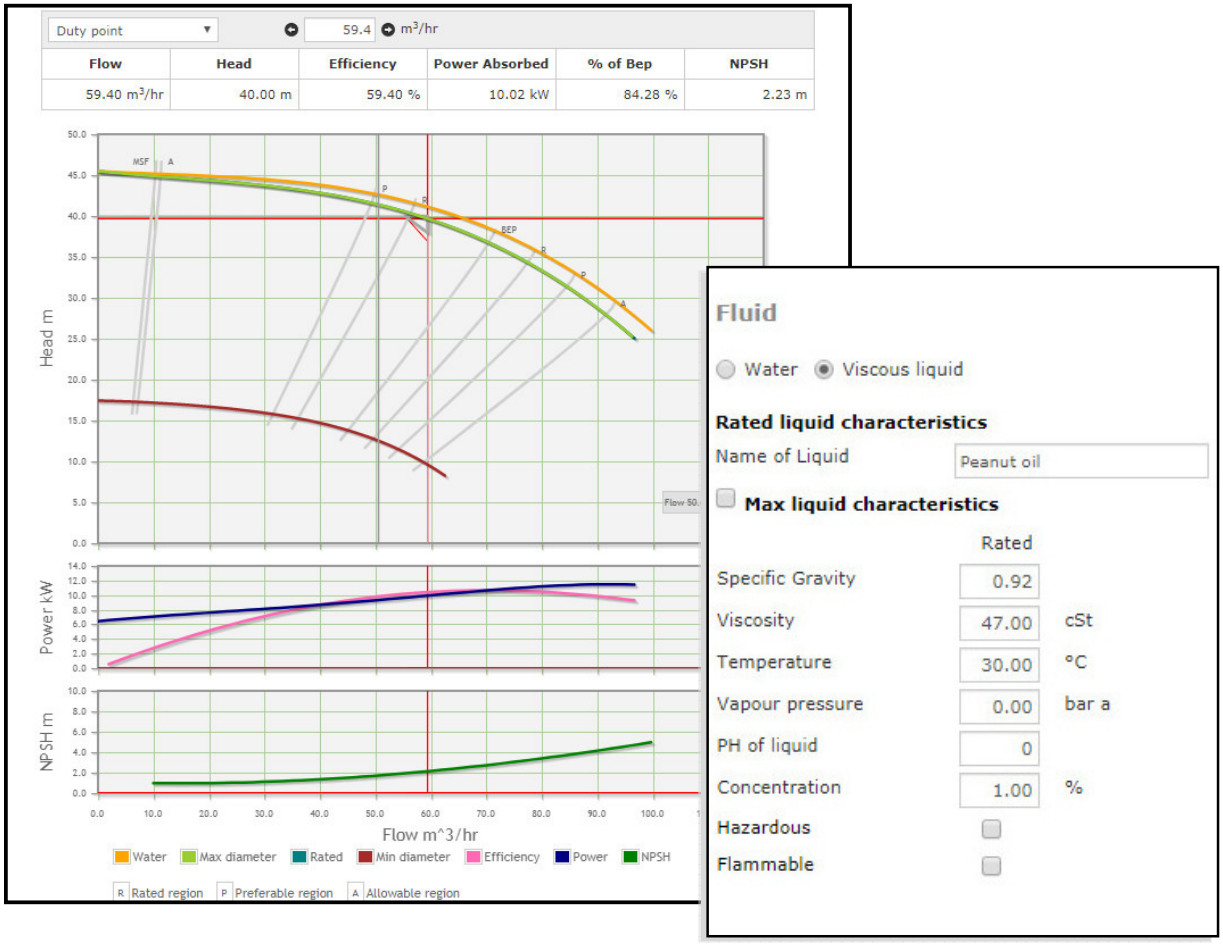
TAS Engineering Software Design

Viscous Pump Selection

Importance of viscosity and density

If you do not consider the properties of the liquid being pumped, it is highly unlikely you will make the right choice when choosing a pump for your pumping system.

Based on the latest viscosity loss coefficients from American Hydraulic Institute, AOL calculates correction factors for flow, head and efficiency to make sure that your selected pump can handle the liquid you intend pumping, no matter what the viscosity or density. AOL includes a benchmarking section where you can preset allowable operating ranges for the pump, specifically catering to the latest requirements from API 610 12th edition. For low density fluids you have the option to select the motor size based on max conditions to ensure the motor is not overloaded when pumping water.



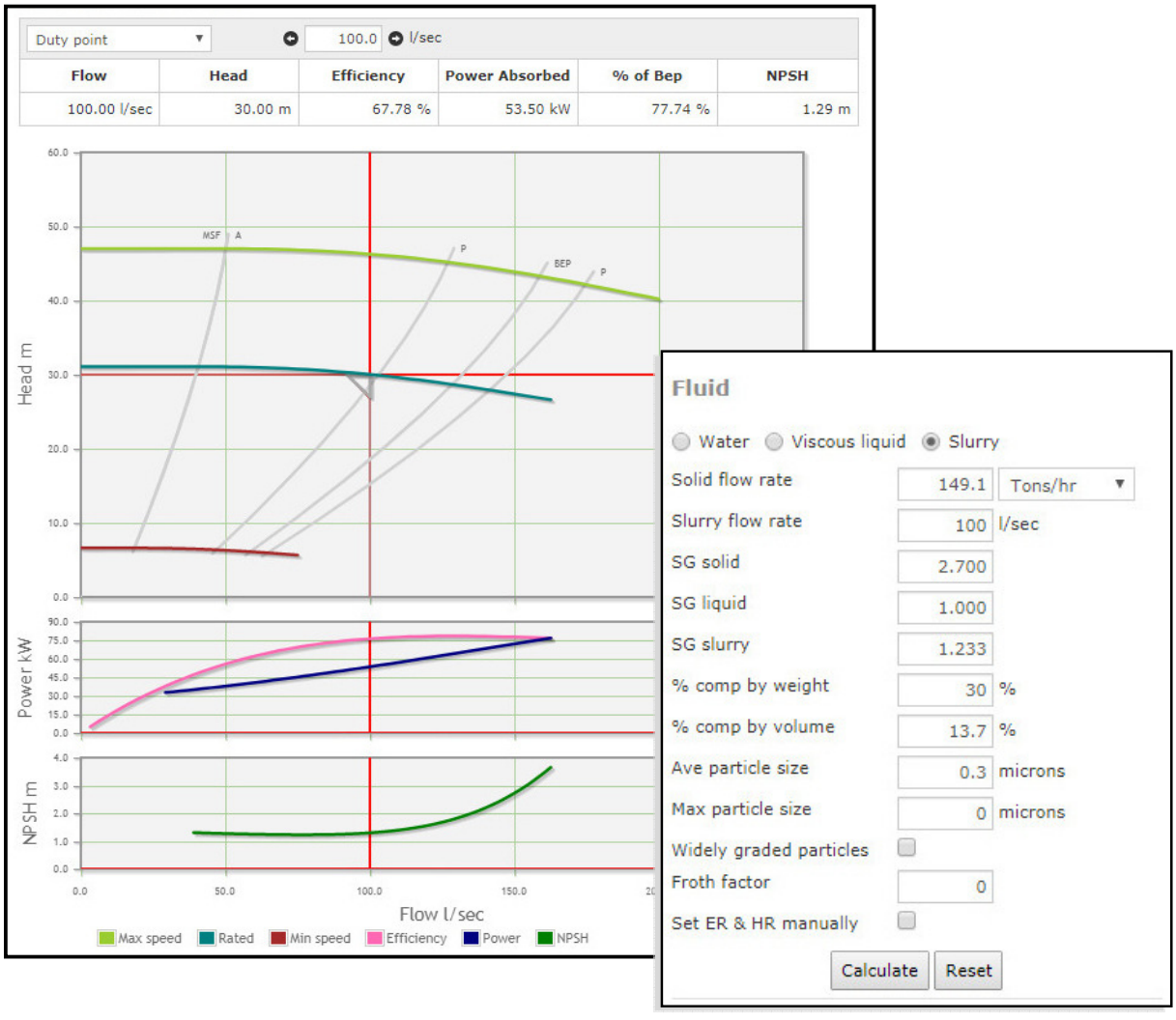
+27 11 325 0681
+27 11 325 0488
+27 82 552 1747
www.aquateconline.com
aquatec@tasonline.co.za

TAS Engineering Software Design

Slurry Pump Selection

The Slurry selection module within AOL calculates the following parameters:

- Minimum fluid velocity to avoid settling of particles in pipes.
- Slurry density based on solid and liquid density, and concentration by mass or volume.
- Actual flow and solid tonnage based on slurry properties.
- Effect of solids on the generated pump head and pump efficiency.
- Selects pump size for the specified duty and calculates required pump speed.
- Recommends motor size and drive for the duty.



+27 11 325 0681
+27 11 325 0488
+27 82 552 1747

www.aquateconline.com
aquatec@tasonline.co.za