Levare HPS Design 5.0.1C.3.1

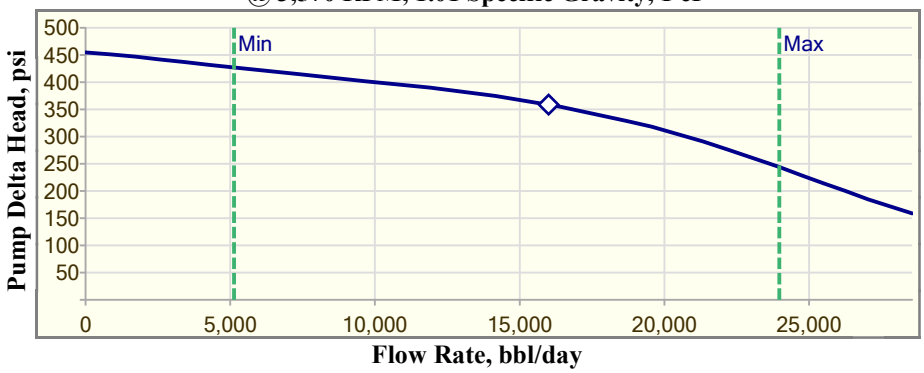
Client	DJAM Pump Specialties
Contact	Mike Keeley
Field	Unknown
Application	00-00-000-00 W0M Water Production
Design Number	25-00078
Application Engineer	David Fortnum

Design Parameters

Intake Temperature	-18	°C
Intake	45	psi
Discharge	400	psi
Desired Flow	16,000	bbl/day
Average Liquid Specific Gravity	1.01	
Average Viscosity at Intake	1	cP
Pump Delta Head	359	psi

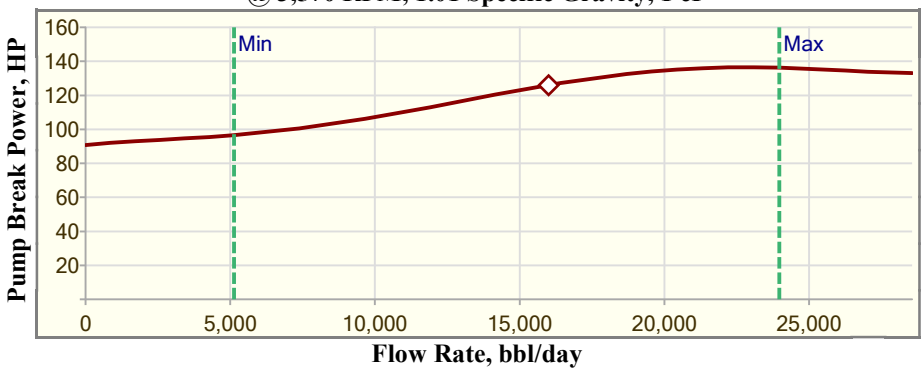
HPS Design Summary

7 Stages, 862-18000 Pump Head Curve, @ 3,570 RPM, 1.01 Specific Gravity, 1 cP



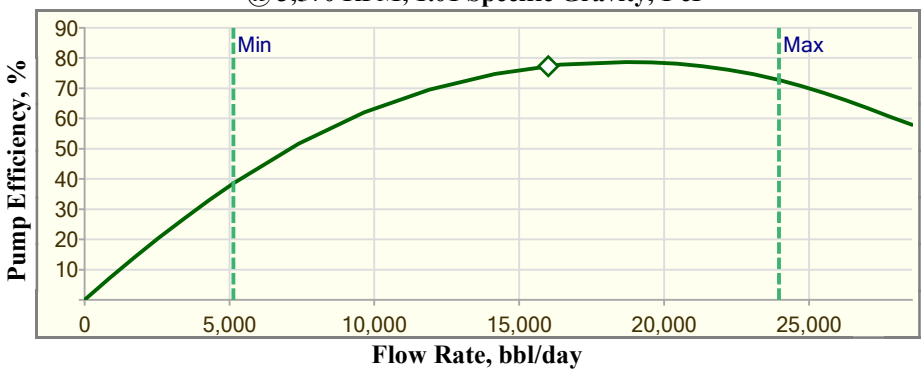
Pump Type	862-18000
Pump Stage Count	7
Pump Construction	CP
Pump Shaft Material	MS
Housing Threads	HS Buttress
Pump Metallurgy	MTS (SB)

7 Stages, 862-18000 Break HP Curve, @ 3,570 RPM, 1.01 Specific Gravity, 1 cP



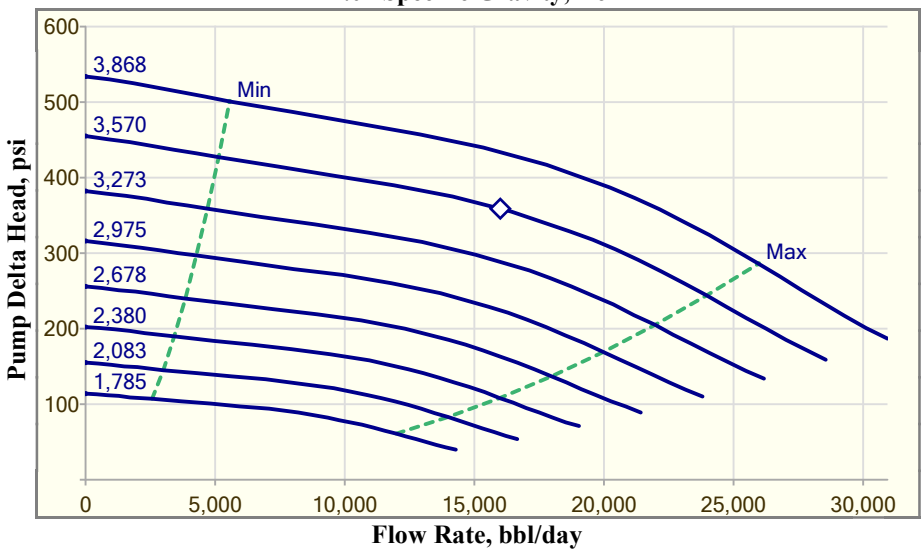
Design Speed, RPM	3,570
Required HP @ Design	126
Run Out HP	136

7 Stages, 862-18000 Pump Efficiency, @ 3,570 RPM, 1.01 Specific Gravity, 1 cP



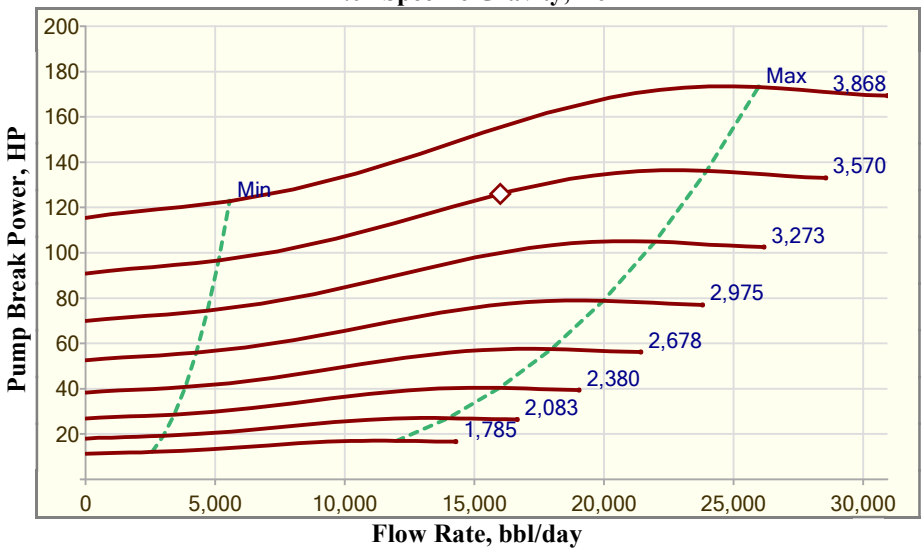
Thrust Chamber	2 Bearing
Operating Thrust	847
Shut-in Thrust	1,074

Variable Speed Delta Pressure Curve 7 Stages, 862-18000, 1.01 Specific Gravity, 1 cP



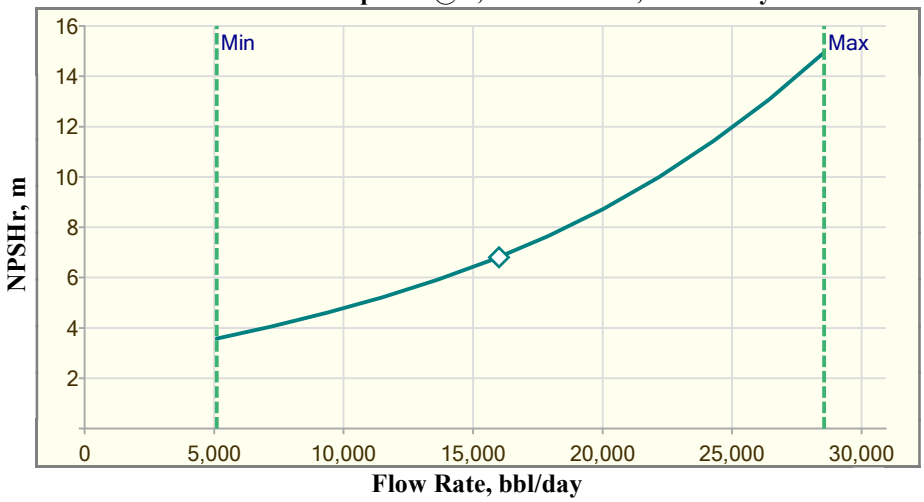
Maximum Pump Limits		
Speed in RPM	MS Shaft Load Factor %	HS Buttress Housing Load Factor %
3,868	16%	22%
3,570	14%	19%
3,273	11%	16%
2,975	9%	13%
2,678	8%	11%
2,380	6%	8%
2,083	5%	6%
1,785	3%	5%

Variable Speed Break HP Curve 7 Stages, 862-18000, 1.01 Specific Gravity, 1 cP



Motor Limits		
Speed in RPM	Max BHP within ROR	Motor HP Rating @ 60 Hz
3,868	174	161
3,570	136	136
3,273	105	115
2,975	79	95
2,678	58	77
2,380	40	60
2,083	27	46
1,785	17	34

6.8 m NPSH Required @ 3,570 RPM - 16,000 bbl/day



Thrust Limits		
Speed in RPM	Max Shut-in Thrust Load	TC Bearing Required
3,868	1,260	2 Bearing
3,570	1,074	2 Bearing
3,273	902	2 Bearing
2,975	746	2 Bearing
2,678	604	2 Bearing
2,380	477	2 Bearing
2,083	365	No Bearing
1,785	268	No Bearing