Danfoss Industries

Summary

Metric	Value
Total TDMS files	59
Highest Overall Efficiency	78.41%
Number of Outliers	2
Test Status	Pass
Outlier Count Condition	Outliers < 5

Performance Data

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_50%_1000rpm_1000psi.tdms	3.087361676380636	1004.904402993996	1009.619326326785	11.62990168583438	183.9043395979843
P16_HY5_Eff_180F_50%_1000rpm_2000psi.tdms	2.605093163693438	1004.388523109772	2010.713277739034	9.818259567493225	182.6690009060881
P16_HY5_Eff_180F_50%_1000rpm_3000psi.tdms	2.282949735605421	1003.849403211331	3010.363850999399	8.608767040263244	177.5889511169227
P16_HY5_Eff_180F_50%_1000rpm_4060psi.tdms	1.834935331712156	1003.813529782581	4062.318624453057	6.919593920771413	183.1783564530865
P16_HY5_Eff_180F_50%_1000rpm_4351psi.tdms	1.692662565855685	1003.972601760208	4356.065324970346	6.382041512232083	183.3074341397009
P16_HY5_Eff_180F_50%_1000rpm_4568psi.tdms	1.553118707914453	1003.54816428582	4568.095922506207	5.858408187577538	183.3986564336561
P16_HY5_Eff_180F_50%_1000rpm_500psi.tdms	3.350540629441668	1000.265955678106	500.2261950445252	12.6800327345243	184.4939838535048
P16_HY5_Eff_180F_50%_1000rpm_5076psi.tdms	1.299174585895865	1003.818763031207	5085.366316540212	4.89919923977559	183.3598087678624
P16_HY5_Eff_180F_50%_1500rpm_1000psi.tdms	4.880837706928467	1505.838177535783	1006.01858710404	12.26957184070306	183.7427348737956
P16_HY5_Eff_180F_50%_1500rpm_2000psi.tdms	4.426994874100995	1506.767210435111	2006.758870865164	11.12182438154595	182.4978396485848
P16_HY5_Eff_180F_50%_1500rpm_3000psi.tdms	3.974557109409247	1505.936365848701	3008.477185100944	9.990684286407127	181.3737301127879
P16_HY5_Eff_180F_50%_1500rpm_4060psi.tdms	3.467588610365461	1506.541306938071	4062.092046905446	8.712839095214088	181.0024700021395

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_50%_1500rpm_4351psi.tdms	3.320241890679611	1505.733621273976	4354.948059485567	8.347085527303113	180.8699267869299
P16_HY5_Eff_180F_50%_1500rpm_4568psi.tdms	3.204652837207456	1506.365458426752	4572.717165062306	8.053111173381485	180.7829399774828
P16_HY5_Eff_180F_50%_1500rpm_500psi.tdms	5.172830255544752	1505.801296217597	507.3348464363557	13.00390315540709	183.8446004109119
P16_HY5_Eff_180F_50%_1500rpm_5076psi.tdms	2.945084937870128	1506.273988830953	5078.416411575548	7.401288887365514	180.7525544551907
P16_HY5_Eff_180F_50%_1800rpm_1000psi.tdms	5.928310191816666	1803.897630662245	1019.757518994589	12.44033824997917	183.0503519398759
P16_HY5_Eff_180F_50%_1800rpm_2000psi.tdms	5.590590266412073	1804.350907325973	2011.567387924915	11.72869776830795	180.4255069649491
P16_HY5_Eff_180F_50%_1800rpm_3000psi.tdms	5.076624231511603	1803.852197770275	3014.26368606464	10.65337346029921	180.8220272099638
P16_HY5_Eff_180F_50%_1800rpm_4060psi.tdms	4.615156823922216	1804.014199261792	4062.976295887805	9.684108643876753	181.0932761987582
P16_HY5_Eff_180F_50%_1800rpm_4351psi.tdms	4.476831239734588	1804.098196536326	4352.787730858515	9.393417853031414	181.0145820367546
P16_HY5_Eff_180F_50%_1800rpm_4568psi.tdms	4.347974324583849	1804.275382300224	4563.301794878376	9.122150325948427	180.7550884641883
P16_HY5_Eff_180F_50%_1800rpm_500psi.tdms	6.242099853196537	1802.946878555568	498.7834768777385	13.1057380271534	182.5647993079184
P16_HY5_Eff_180F_50%_1800rpm_5076psi.tdms	4.070137957658142	1804.991460280163	5063.017577892205	8.535855437736249	180.8080284657353
P16_HY5_Eff_180F_50%_2000rpm_1000psi.tdms	6.677496678864608	2001.336813845769	997.5683304344493	12.63009710685469	183.4873966499069

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_50%_2000rpm_2000psi.tdms	6.303105098115388	2001.597122320058	2015.519181632563	11.9204054145368	180.8763300846039
P16_HY5_Eff_180F_50%_2000rpm_3000psi.tdms	5.749058081609446	2001.522562151087	3012.323376727246	10.87299827972876	181.4078338069478
P16_HY5_Eff_180F_50%_2000rpm_4060psi.tdms	5.296393562053219	2001.471502145852	4061.170824608462	10.01714507096565	181.9400211879558
P16_HY5_Eff_180F_50%_2000rpm_4351psi.tdms	5.21654414162893	2001.66837752284	4348.654190996449	9.865154494680473	178.8889360956486
P16_HY5_Eff_180F_50%_2000rpm_4568psi.tdms	5.033477229841308	2003.079861798097	4568.118803939808	9.512248958796619	181.4416381902958
P16_HY5_Eff_180F_50%_2000rpm_500psi.tdms	6.995149724159165	2000.571994109456	493.144544907906	13.23597621024796	182.1267639513717
P16_HY5_Eff_180F_50%_2000rpm_5076psi.tdms	4.722722862027485	2002.480356177638	5079.035829122859	8.92764891010115	181.9181847878103
P16_HY5_Eff_180F_50%_2500rpm_1000psi.tdms	8.610473229204601	2502.961159428832	1008.681993146682	13.02225061146941	178.494919053331
P16_HY5_Eff_180F_50%_2500rpm_2000psi.tdms	7.967731926794253	2503.44545435973	2010.550950946965	12.04785466609471	183.8781042379566
P16_HY5_Eff_180F_50%_2500rpm_3000psi.tdms	7.524907490465834	2503.697708373509	3006.120384390453	11.37712282864725	179.0962452938903
P16_HY5_Eff_180F_50%_2500rpm_4060psi.tdms	7.100867407428137	2503.378656284033	4059.609438157002	10.73737283824623	179.4672121442145
P16_HY5_Eff_180F_50%_2500rpm_4351psi.tdms	6.918530507858774	2504.031775773252	4352.214901711685	10.45892712142729	179.7393533377888
P16_HY5_Eff_180F_50%_2500rpm_4568psi.tdms	6.804810977926182	2502.980642901252	4563.976863390851	10.29133507774057	180.0493078526406

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_50%_2500rpm_500psi.tdms	8.864286586345532	2502.819466572524	508.3736126699802	13.40687028523381	177.6160235771617
P16_HY5_Eff_180F_50%_2500rpm_5076psi.tdms	6.502418367516385	2503.377200870055	5080.561842388127	9.832450023189002	180.6250742026565
P16_HY5_Eff_180F_50%_3000rpm_1000psi.tdms	10.39075073195075	3004.016817894431	1019.296975417048	13.09355862309245	181.3194333618832
P16_HY5_Eff_180F_50%_3000rpm_2000psi.tdms	9.854012821460268	3003.328319841834	2015.122381318812	12.42005223384033	179.3229492009703
P16_HY5_Eff_180F_50%_3000rpm_3000psi.tdms	9.361350992333968	3003.091273261213	3006.339258303165	11.80003065510712	179.7014694757857
P16_HY5_Eff_180F_50%_3000rpm_4060psi.tdms	8.758998251317688	3003.564103982429	4069.10136491192	11.03902379634158	180.0554916275287
P16_HY5_Eff_180F_50%_3000rpm_4351psi.tdms	8.484647778101634	3003.991856899582	4359.141175047474	10.6917394955465	180.5770291432824
P16_HY5_Eff_180F_50%_3000rpm_4568psi.tdms	8.40438579033919	3005.48750430153	4575.970039480316	10.58533213190732	180.9610894052596
P16_HY5_Eff_180F_50%_3000rpm_500psi.tdms	10.66695771763221	3002.789902170655	503.9570853165226	13.44710385503071	183.726812592954
P16_HY5_Eff_180F_50%_3000rpm_5076psi.tdms	8.067888458893634	3003.441390399458	5078.377441675218	10.16842912971423	182.8459642604022
P16_HY5_Eff_180F_50%_3500rpm_1000psi.tdms	12.18013483961889	3498.883302855798	1006.232414589971	13.17758320683048	176.3657828638055
P16_HY5_Eff_180F_50%_3500rpm_2000psi.tdms	11.66526271605031	3497.138210368997	2010.244859382169	12.62684957503101	179.0058979659434
P16_HY5_Eff_180F_50%_3500rpm_3000psi.tdms	11.01565469714884	3498.134604426215	3009.296316335753	11.92029327332722	180.0976350484761

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_50%_3500rpm_4060psi.tdms	10.14126577226684	3496.52504158876	4060.073323791565	10.97915149669296	181.0532145524007
P16_HY5_Eff_180F_50%_3500rpm_4351psi.tdms	9.97719603424101	3498.672516333682	4350.578939358078	10.79489141313749	181.7715958093973
P16_HY5_Eff_180F_50%_3500rpm_4568psi.tdms	9.850341732396103	3498.846802133094	4566.422255354572	10.65711118575919	181.9896622891649
P16_HY5_Eff_180F_50%_3500rpm_500psi.tdms	12.49829777362266	3498.9712850639	503.0407711590372	13.52146126482094	178.5947436842998
P16_HY5_Eff_180F_50%_3500rpm_5076psi.tdms	9.56457941324627	3498.967323878652	5076.011520012307	10.34758785752487	182.0321671835119
P16_HY5_Eff_180F_50%_500rpm_1000psi.tdms	1.297120664128306	503.0236872209104	1010.631571100495	9.761277654202338	182.7954477924737
P16_HY5_Eff_180F_50%_500rpm_2000psi.tdms	0.9018419725538692	503.5268742094622	2006.724445009702	6.779834521328768	182.765738933146
P16_HY5_Eff_180F_50%_500rpm_500psi.tdms	1.5274968012388055	502.7516676759432	506.1178548265194	11.5011115104548	181.175612130545

Statistics

Column	Min	Max	Average	Median	IQR
Mean_Main_Flow_GPM	0.90184197255 38692	12.4982977736 2266	6.10750014131 9114	5.74905808160 9446	4.82648764376 5763
Mean_RPM	502.751667675 9432	3498.97128506 39	2102.97997900 3272	2001.47150214 5852	1496.83541037 6107
Mean_Outlet_Pressure_Psi	493.144544907 906	5085.36631654 0212	2977.69987359 4169	3012.32337672 7246	3338.07600280 3091
Mean_Displacement	4.89919923977 559	13.5214612648 2094	10.5733639454 20049	10.6917394955 465	2.56053445206 2198
Mean_Inlet_Temp_F	176.365782863 8055	184.493983853 5048	181.262916438 98617	181.093276198 7582	2.45579891290 447

Outliers

TDMS file	Mean_Displacement	Mean_Inlet_Temp_F	Outlier Type
P16_HY5_Eff_180F_50%_1000rpm_5076psi.tdms	4.89919923977559	nan	Lower
P16_HY5_Eff_180F_50%_3500rpm_1000psi.tdms	nan	176.3657828638055	Lower

VE Pivot

Outlet Pressure	2102
2977.0	78.19690297030978

ME Pivot

Outlet Pressure	2102
2977.0	84.23826199627528

OE Pivot

Outlet Pressure	2102
2977.0	65.10760285941734

flow_line_plot

Line Graph of Main Flow, Outlet Pressure, and RPM
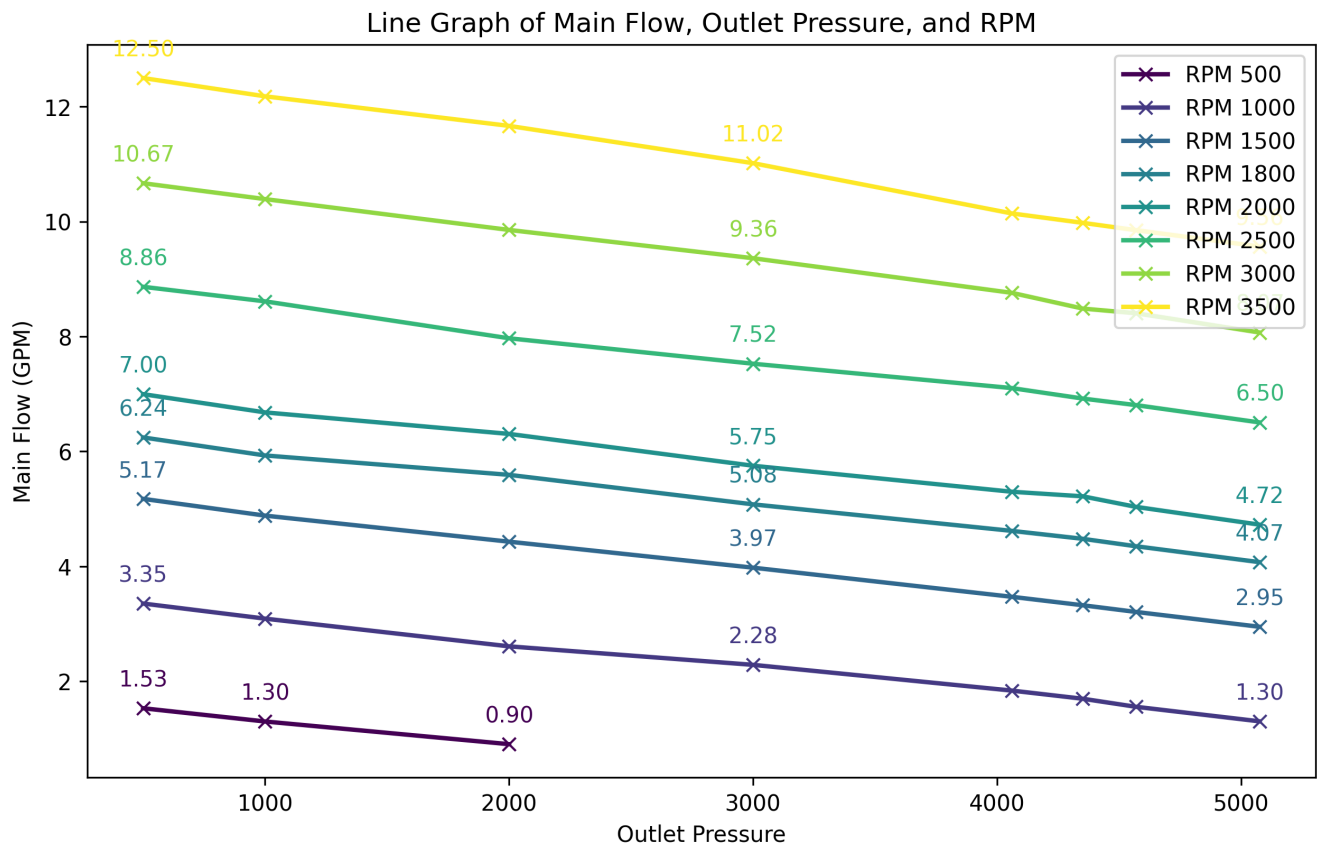
efficiency_map_plot

oe_contour_plot

Overall Efficiency (OE) Contour Plot w/ RPM and Pressure

me_contour_plot

Mechanical Efficiency (ME) Contour Plot w/ RPM and Pressure
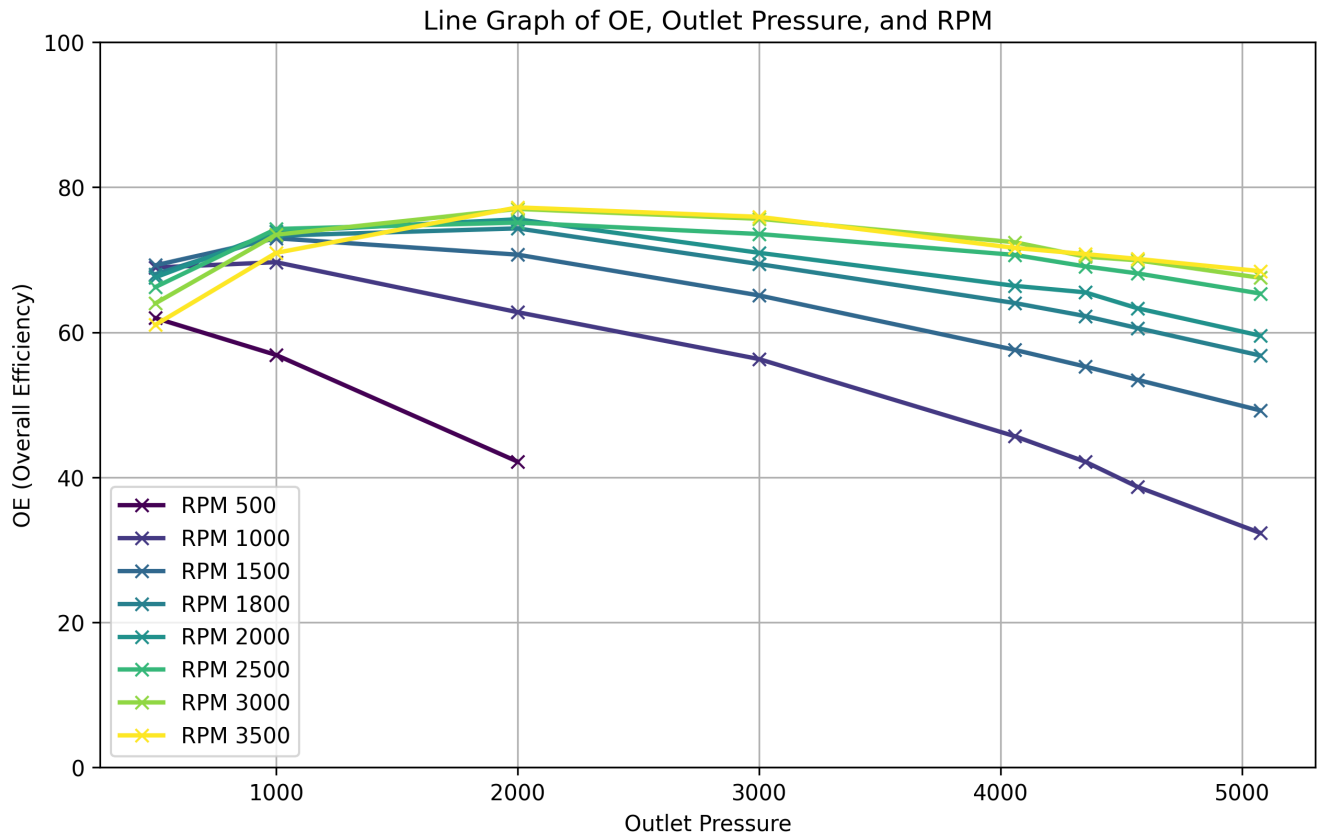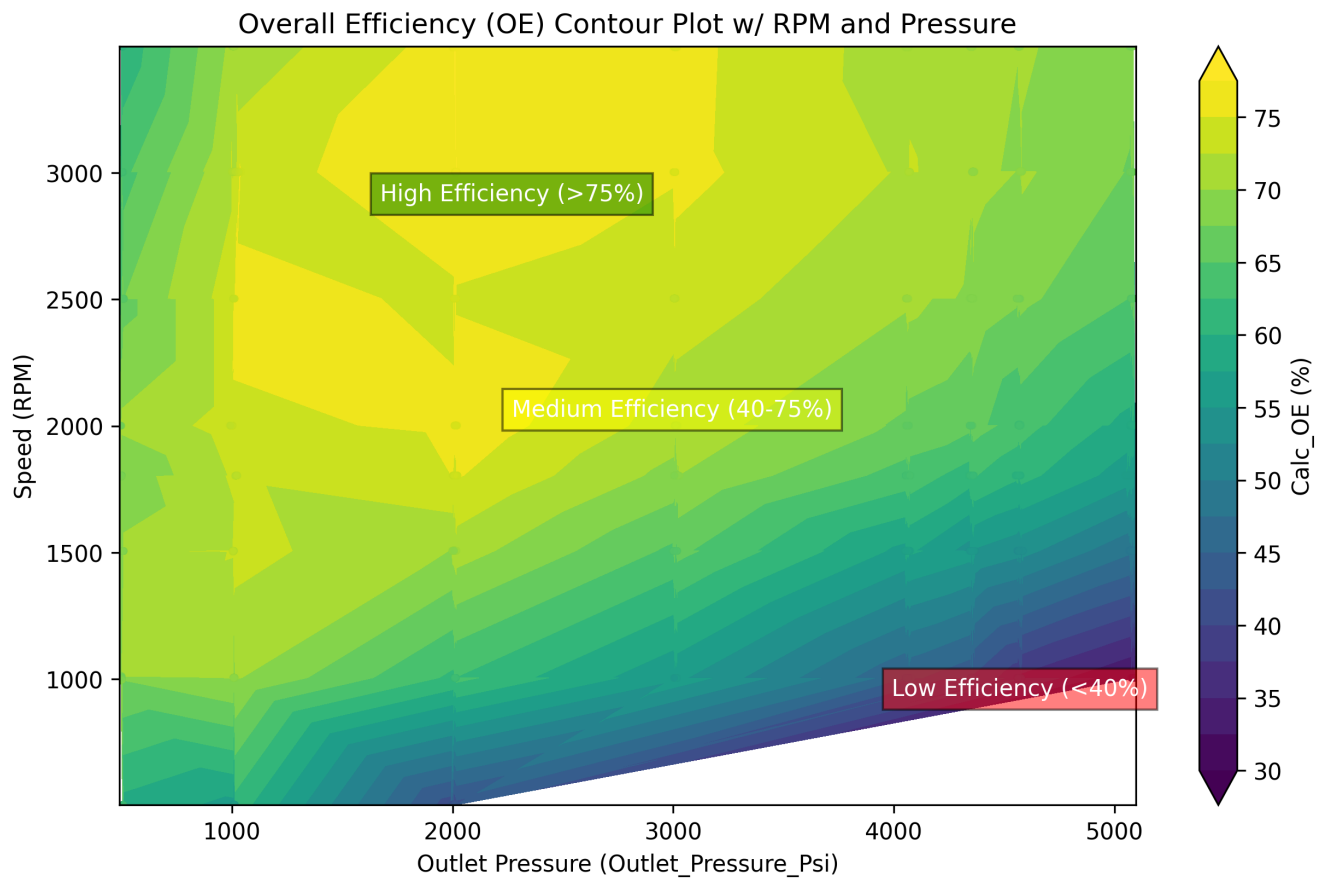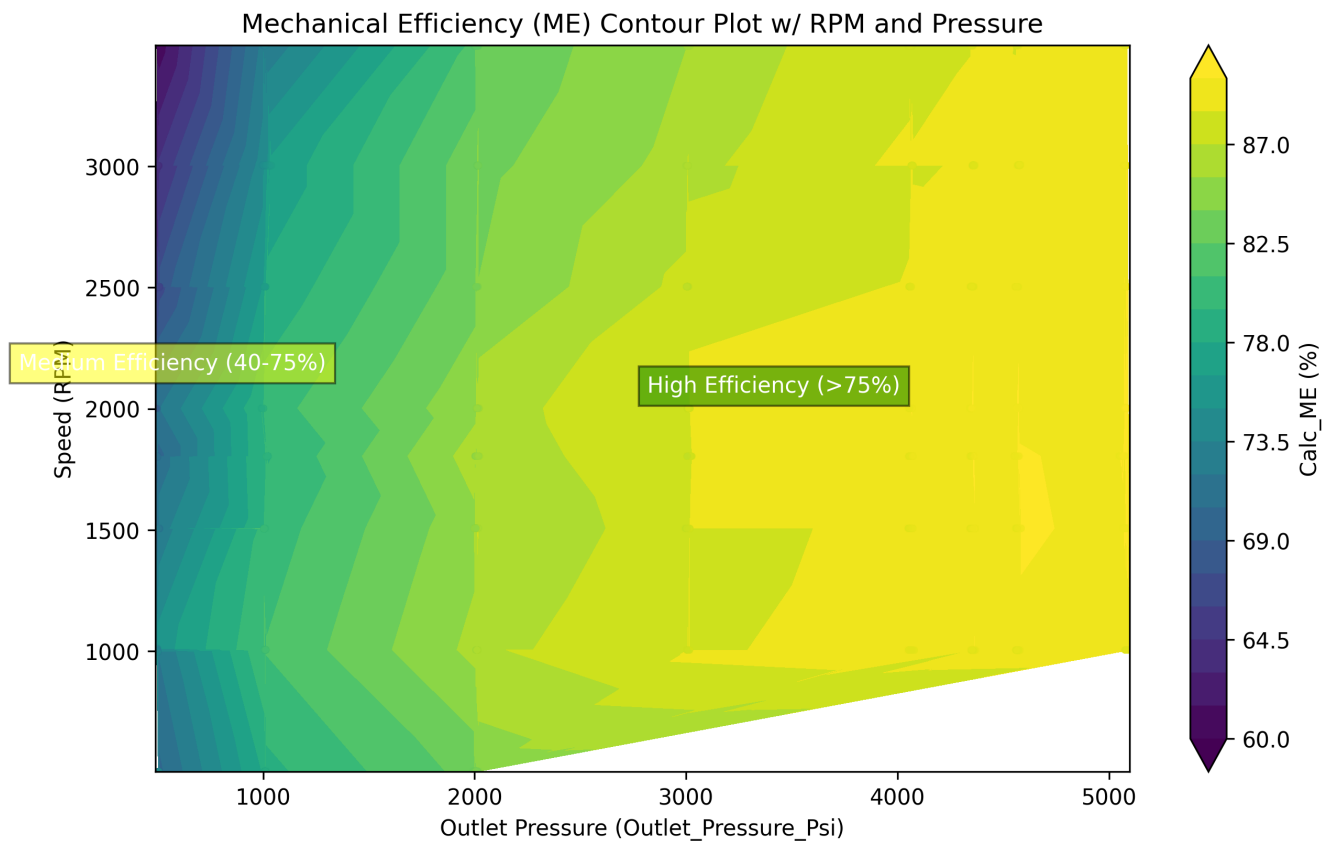
ve_contour_plot
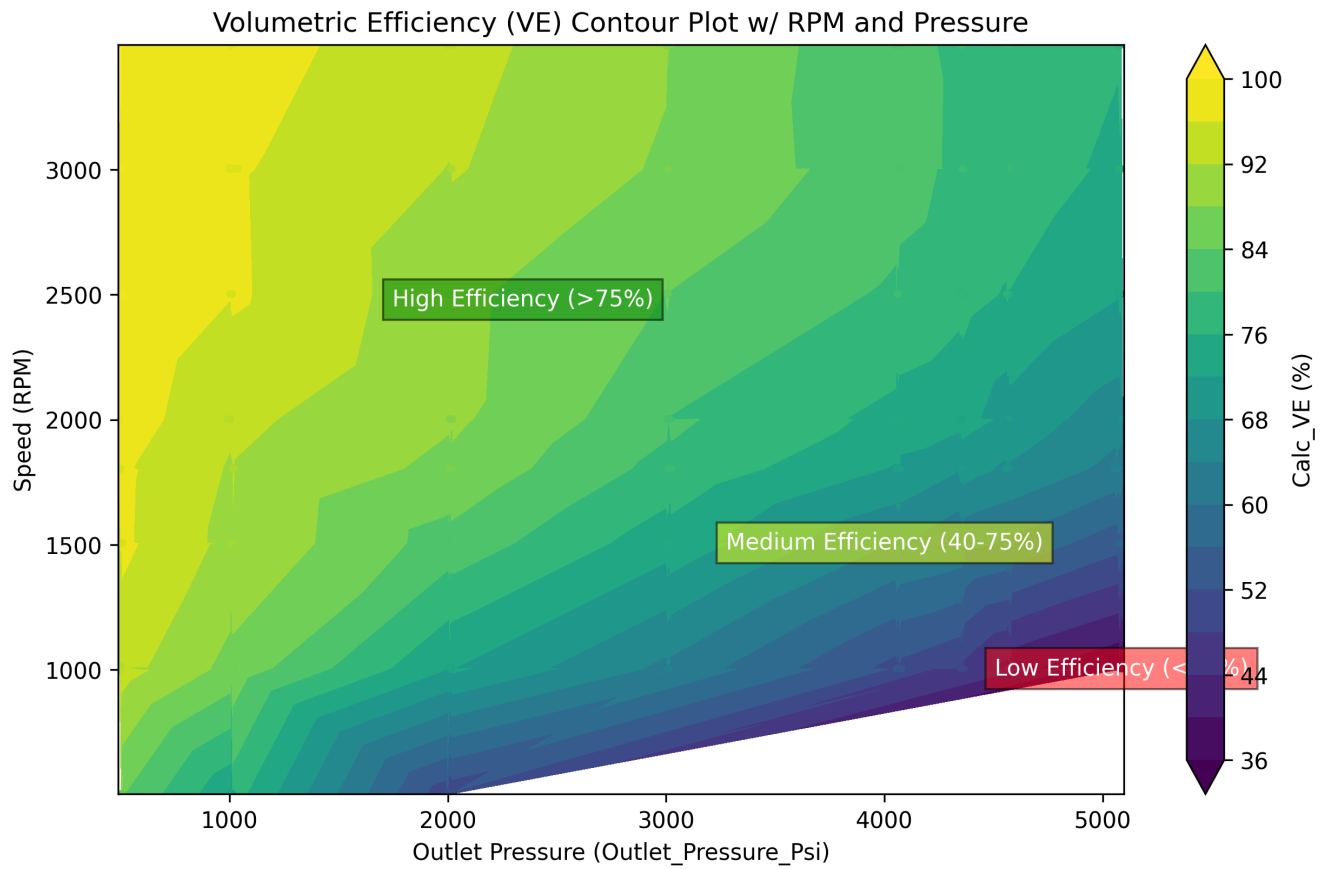
Mean_Main_Flow_GPM Plot
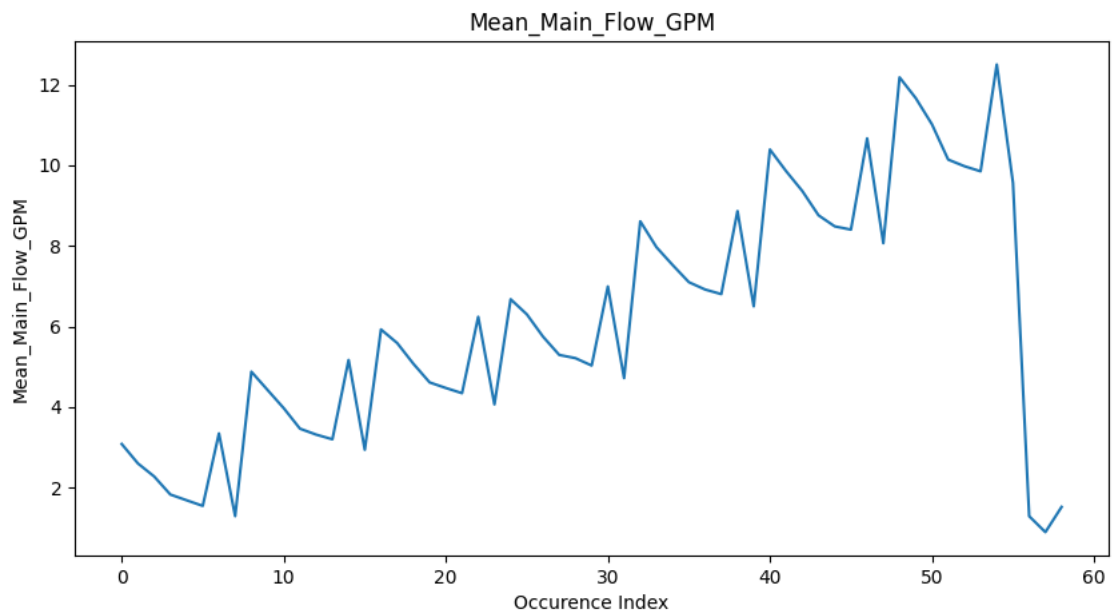
Mean_RPM Plot
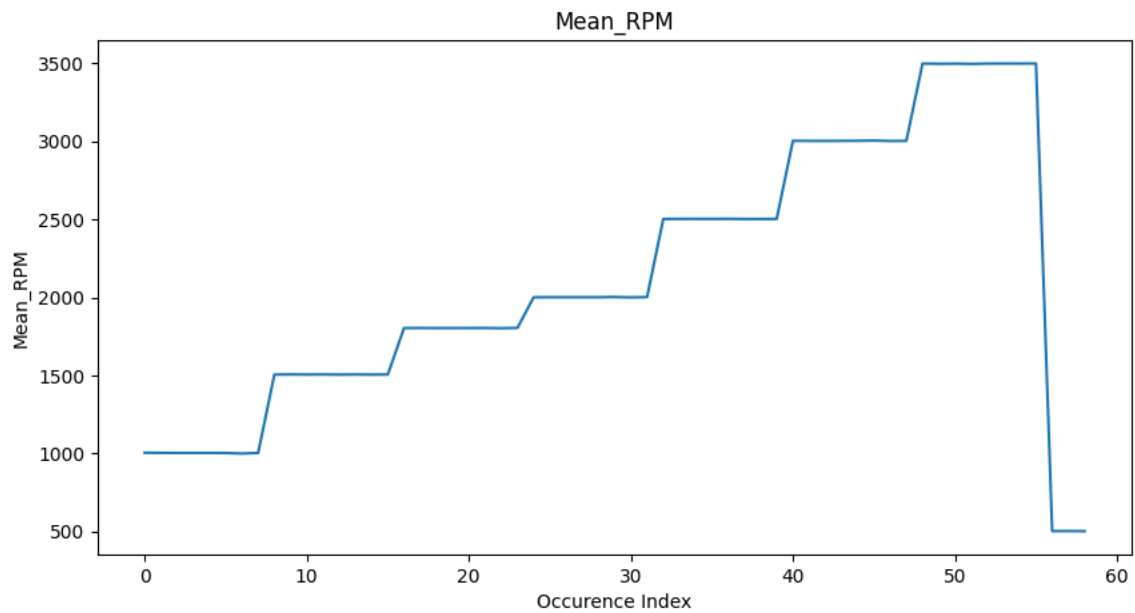
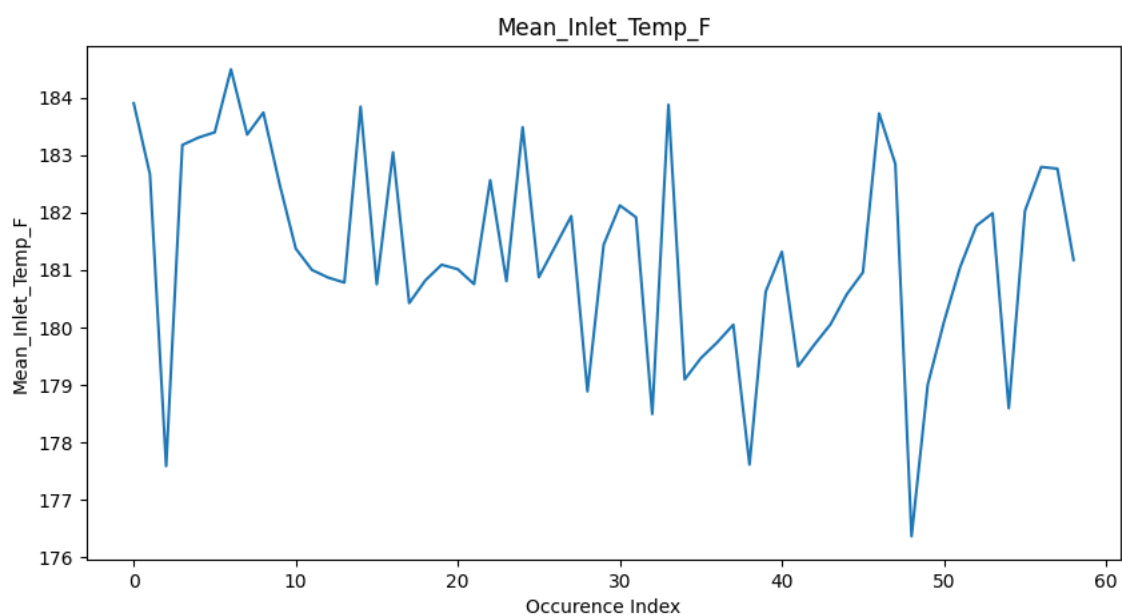# Mean_Outlet_Pressure_Psi Plot
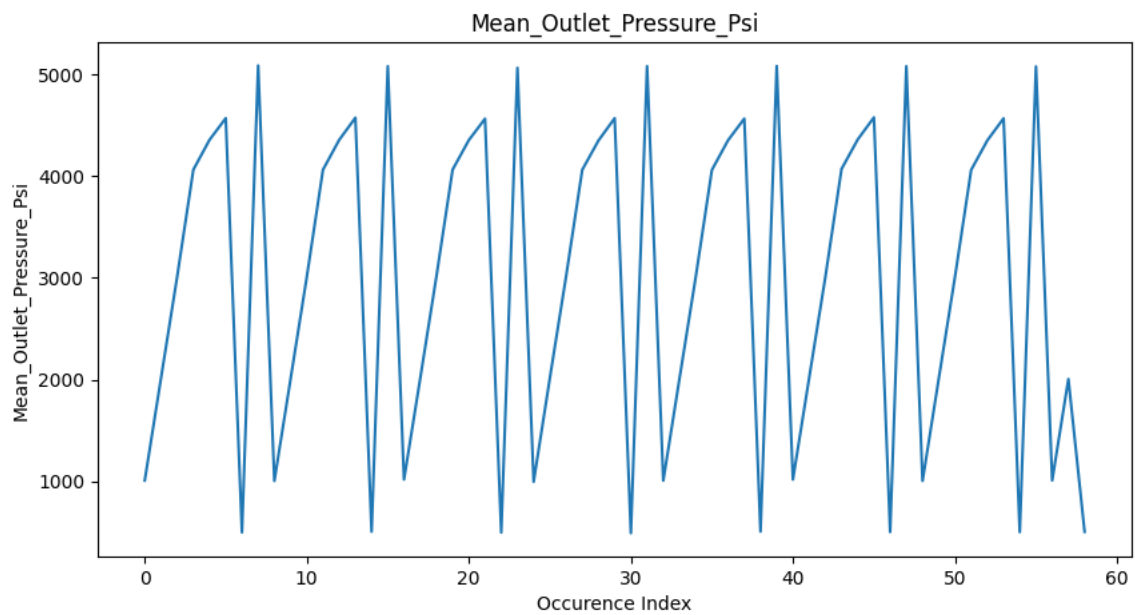
Mean_Displacement Plot

Mean_Displacement
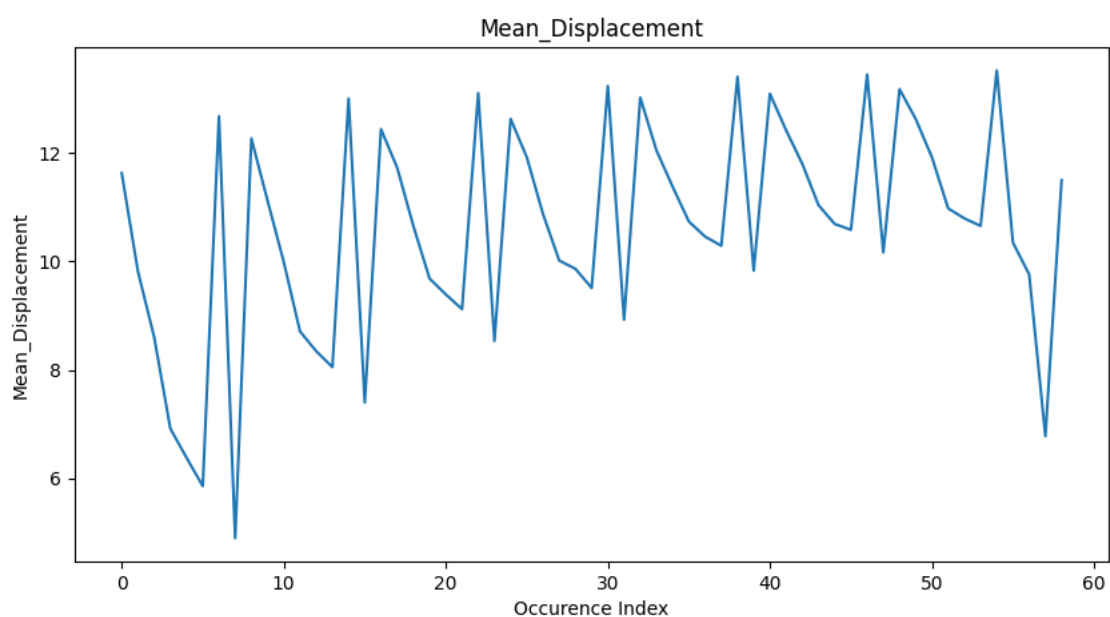
Mean_Inlet_Temp_F Plot

Mean_Inlet_Temp_F

Single TDMS File Analysis