



**Danfoss Industries**

## Summary

Metric	Value
Total TDMS files	64
Highest Overall Efficiency	86.34%
Number of Outliers	4
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_100%_1000rpm_1000psi.tdms	6.725384603483304	1004.299981044209	1019.641841926336	25.34934401634005	180.0773176075411
P16_HY5_Eff_180F_100%_1000rpm_2000psi.tdms	6.286239775736202	1003.961377342711	2019.781028376306	23.70211042814002	184.6010331349375
P16_HY5_Eff_180F_100%_1000rpm_3000psi.tdms	5.904217176964783	1003.513487627691	3006.011260738619	22.27164015789172	184.141370443644
P16_HY5_Eff_180F_100%_1000rpm_4060psi.tdms	5.568480690390916	1003.770185092662	4058.654766865976	20.99981954456547	183.5310437111482
P16_HY5_Eff_180F_100%_1000rpm_4351psi.tdms	5.494739896116183	1004.05601499717	4327.731582776796	20.71585819492147	182.8406364718111
P16_HY5_Eff_180F_100%_1000rpm_4568psi.tdms	5.423231215695467	1003.492996876051	4572.445848615141	20.45770499747019	182.1171864326036
P16_HY5_Eff_180F_100%_1000rpm_500psi.tdms	6.940803995531756	1003.168619527992	512.692604057268	26.19081175516164	183.5281531042993
P16_HY5_Eff_180F_100%_1000rpm_5076psi.tdms	5.200854571121576	1003.906316913086	5059.074312122797	19.61077852925183	181.1524556816404
P16_HY5_Eff_180F_100%_1500rpm_1000psi.tdms	10.27501064173001	1506.133761290374	1007.604153660418	25.82449676742632	181.7521328650674
P16_HY5_Eff_180F_100%_1500rpm_2000psi.tdms	9.899710649204811	1505.456459966213	2024.11052493481	24.89243894135355	179.5304510771145
P16_HY5_Eff_180F_100%_1500rpm_3000psi.tdms	9.642593434977329	1505.427110451624	3012.399007928334	24.2464057007783	180.1237359222409
P16_HY5_Eff_180F_100%_1500rpm_4060psi.tdms	9.150980887875786	1506.378248583889	4087.193014338453	22.99570428778757	180.439626304844

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_100%_1500rpm_4351psi.tdms	9.035208657025523	1506.476785102023	4348.827525461979	22.70329162578498	180.7083701709763
P16_HY5_Eff_180F_100%_1500rpm_4568psi.tdms	8.916002746083583	1506.451569569097	4572.149776986475	22.4041393536975	180.9582450582889
P16_HY5_Eff_180F_100%_1500rpm_500psi.tdms	10.50285608549658	1505.699900721462	509.3301555689373	26.40475835947855	182.0814358207566
P16_HY5_Eff_180F_100%_1500rpm_5076psi.tdms	8.650830827288546	1506.095798527677	5065.652020376322	21.74294404444031	181.2427655325436
P16_HY5_Eff_180F_100%_1800rpm_1000psi.tdms	12.47107176335446	1804.353749835229	1027.774309962162	26.16346453123352	184.4229845397095
P16_HY5_Eff_180F_100%_1800rpm_2000psi.tdms	12.01040385223285	1803.785688255338	2011.267382249539	25.20494807246166	182.4855383286967
P16_HY5_Eff_180F_100%_1800rpm_3000psi.tdms	11.59474130962789	1804.255982940709	3012.433068241584	24.32629986543745	183.1324856936813
P16_HY5_Eff_180F_100%_1800rpm_4060psi.tdms	11.13063303641569	1803.966141433529	4050.084525945481	23.35633177879329	183.4059232063149
P16_HY5_Eff_180F_100%_1800rpm_4351psi.tdms	10.96918953741624	1804.141542457447	4360.072624684062	23.0153231336508	183.8056081971021
P16_HY5_Eff_180F_100%_1800rpm_4568psi.tdms	10.88555503571978	1803.751008447484	4558.648346014549	22.84478807217932	183.9662428962449
P16_HY5_Eff_180F_100%_1800rpm_500psi.tdms	12.67966338955726	1804.346502450056	511.3275766671833	26.60118100417814	181.5919074291931
P16_HY5_Eff_180F_100%_1800rpm_5076psi.tdms	10.63525514535026	1804.406485240353	5057.98962295729	22.31139312496114	184.1716086012271
P16_HY5_Eff_180F_100%_2000rpm_1000psi.tdms	13.90297268638611	2001.956195444103	1015.483046241173	26.28852398627545	181.7725858303546

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_100%_2000rpm_2000psi.tdms	13.40032737104474	2002.267164296477	2012.462754598768	25.3341614097477	179.9310860964264
P16_HY5_Eff_180F_100%_2000rpm_3000psi.tdms	13.10890287522869	2002.248746909523	3009.565342562522	24.78343267904993	180.0935101512763
P16_HY5_Eff_180F_100%_2000rpm_4060psi.tdms	12.53253069907477	2002.390291308493	4058.915019895835	23.69207992890214	180.2623541249113
P16_HY5_Eff_180F_100%_2000rpm_4351psi.tdms	12.33609737498764	2001.882936762435	4362.700445816533	23.32664589683024	180.3632267403491
P16_HY5_Eff_180F_100%_2000rpm_4568psi.tdms	12.23618993512728	2002.544862676137	4557.524748365986	23.13008306212015	180.6714548462824
P16_HY5_Eff_180F_100%_2000rpm_500psi.tdms	14.11416927961314	2001.078979326152	509.5647637315123	26.69956725561705	183.1589717259046
P16_HY5_Eff_180F_100%_2000rpm_5076psi.tdms	12.00650679665461	2002.262083951811	5065.448412362319	22.69911596609592	180.8720674390658
P16_HY5_Eff_180F_100%_2500rpm_1000psi.tdms	17.53331943763945	2503.120041152042	1022.27092571644	26.51524244483412	180.468940146178
P16_HY5_Eff_180F_100%_2500rpm_2000psi.tdms	17.02563722344621	2503.816379712085	2044.988855524569	25.74032506339039	180.7071274772229
P16_HY5_Eff_180F_100%_2500rpm_3000psi.tdms	16.64811008534076	2503.712250331488	2990.107745158615	25.17060491835662	181.0246540258884
P16_HY5_Eff_180F_100%_2500rpm_4060psi.tdms	16.20464936560513	2503.832053464045	4075.623888939569	24.49896200359665	181.3186259360385
P16_HY5_Eff_180F_100%_2500rpm_4351psi.tdms	16.07247734007878	2504.086665675692	4382.444527211653	24.29666151739091	181.6507150916258
P16_HY5_Eff_180F_100%_2500rpm_4568psi.tdms	15.97833925044085	2503.543479788983	4575.921616742272	24.15959324697323	181.7094402214892

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_100%_2500rpm_500psi.tdms	17.79054523785485	2503.670339787914	509.6857173747586	26.89832482628246	180.1661089563873
P16_HY5_Eff_180F_100%_2500rpm_5076psi.tdms	15.57216368993998	2504.430096754726	5058.562594902605	23.5371133004476	181.7411294054694
P16_HY5_Eff_180F_100%_3000rpm_1000psi.tdms	21.01253646226926	3004.017186242551	1004.943447234546	26.47824490150585	179.9376102093719
P16_HY5_Eff_180F_100%_3000rpm_2000psi.tdms	20.61688678082722	3003.013569253763	2015.355316214223	25.98836302866853	180.1846224127133
P16_HY5_Eff_180F_100%_3000rpm_3000psi.tdms	20.0967084606205	3003.402532375355	3005.99755620807	25.32937777054478	180.5149831608595
P16_HY5_Eff_180F_100%_3000rpm_4060psi.tdms	19.5618354510599	3003.163784320407	4046.907919834275	24.6571981428433	180.9623760037769
P16_HY5_Eff_180F_100%_3000rpm_4351psi.tdms	19.35907064362161	3003.412485275975	4360.737755501322	24.39959759223801	181.3964726433762
P16_HY5_Eff_180F_100%_3000rpm_4568psi.tdms	19.19632713821614	3004.196655008963	4564.1060831984	24.18816436261378	181.5614889425526
P16_HY5_Eff_180F_100%_3000rpm_500psi.tdms	21.28412545354727	3004.022568594409	500.8591578465172	26.82043068849796	180.8712114296692
P16_HY5_Eff_180F_100%_3000rpm_5076psi.tdms	18.85637193008712	3003.740321374659	5049.866121333936	23.76341678988054	181.8457819075929
P16_HY5_Eff_180F_100%_3500rpm_1000psi.tdms	24.50822316385736	3495.45854516093	1009.919101618909	26.54121524766429	182.757767022294
P16_HY5_Eff_180F_100%_3500rpm_2000psi.tdms	23.77166234942485	3498.369804591775	2013.111774780002	25.72213184073858	183.3602036934669
P16_HY5_Eff_180F_100%_3500rpm_3000psi.tdms	22.95780846892161	3496.505108070398	3009.868000933694	24.85475202336613	183.9523272773534

TDMS file	Mean_Main_Flow_GPM	Mean_RPM	Mean_Outlet_Pressure_Psi	Mean_Displacement	Mean_Inlet_Temp_F
P16_HY5_Eff_180F_100%_3500rpm_4060psi.tdms	22.15313419433348	3498.937306857576	4059.023586919248	23.96691672816911	184.6392930865786
P16_HY5_Eff_180F_100%_3500rpm_4351psi.tdms	21.99354923107208	3499.281268674047	4353.3874837014	23.79192621839011	184.8166506339066
P16_HY5_Eff_180F_100%_3500rpm_4568psi.tdms	21.87916540343838	3499.500727693455	4557.686007097847	23.66670481306024	184.8736697871039
P16_HY5_Eff_180F_100%_3500rpm_500psi.tdms	24.78529264573314	3496.668479155306	503.4832182634487	26.83197767254875	182.2845343065727
P16_HY5_Eff_180F_100%_3500rpm_5076psi.tdms	21.65068924890206	3499.262898292141	5053.67859150412	23.42115345861187	184.8406753035542
P16_HY5_Eff_180F_100%_500rpm_1000psi.tdms	3.130574171604099	503.0670868755493	1019.107968801484	23.55654898704159	180.2921807154361
P16_HY5_Eff_180F_100%_500rpm_2000psi.tdms	2.769520241540932	502.1403938890913	2013.948606922524	20.87820229024668	180.4261487772067
P16_HY5_Eff_180F_100%_500rpm_3000psi.tdms	2.559874473596211	502.5057468975945	3013.560912412946	19.28372952103035	181.0249572558182
P16_HY5_Eff_180F_100%_500rpm_4060psi.tdms	2.179021648122658	503.2529066560544	4058.205152107757	16.39040307347317	180.9872842578987
P16_HY5_Eff_180F_100%_500rpm_4351psi.tdms	2.058051496620787	502.9142848891876	4355.032074222249	15.49085719516976	180.9190016456827
P16_HY5_Eff_180F_100%_500rpm_4568psi.tdms	1.967577609358945	502.8768033397533	4565.238123597015	14.81096637934391	180.7663392393743
P16_HY5_Eff_180F_100%_500rpm_500psi.tdms	3.329548605878428	502.2081519165218	507.5756436688395	25.09659079020085	180.1943521801919
P16_HY5_Eff_180F_100%_500rpm_5076psi.tdms	1.73958442580651	503.2442647729014	5080.752266569264	13.08519058444113	180.6336467895832

# Statistics

Column	Min	Max	Average	Median	IQR
Mean_Main_Flow_GPM	1.73958442580651	24.78529264573314	12.748027144864379	12.28614365505746	9.833677791563568
Mean_RPM	502.1403938890913	3499.500727693455	1978.0203306596022	1902.7427322832525	1248.9306367797149
Mean_Outlet_Pressure_Psi	500.8591578465172	5080.752266569264	3074.4768618295934	3530.2344161236106	2660.8204683225413
Mean_Displacement	13.08519058444113	26.89832482628246	23.595632404587256	24.173878804793503	2.6331270118589494
Mean_Inlet_Temp_F	179.5304510771145	184.8736697871039	181.80880992388177	181.35754928970735	2.5351263193348643



# Outliers

TDMS file	Mean_Displacement	Outlier Type
P16_HY5_Eff_180F_100%_500rp m_4060psi.tdms	16.39040307347317	Lower
P16_HY5_Eff_180F_100%_500rp m_4351psi.tdms	15.49085719516976	Lower
P16_HY5_Eff_180F_100%_500rp m_4568psi.tdms	14.81096637934391	Lower
P16_HY5_Eff_180F_100%_500rp m_5076psi.tdms	13.08519058444113	Lower

VE Pivot

Outlet Pressure	1978
3074.0	87.72156837637662

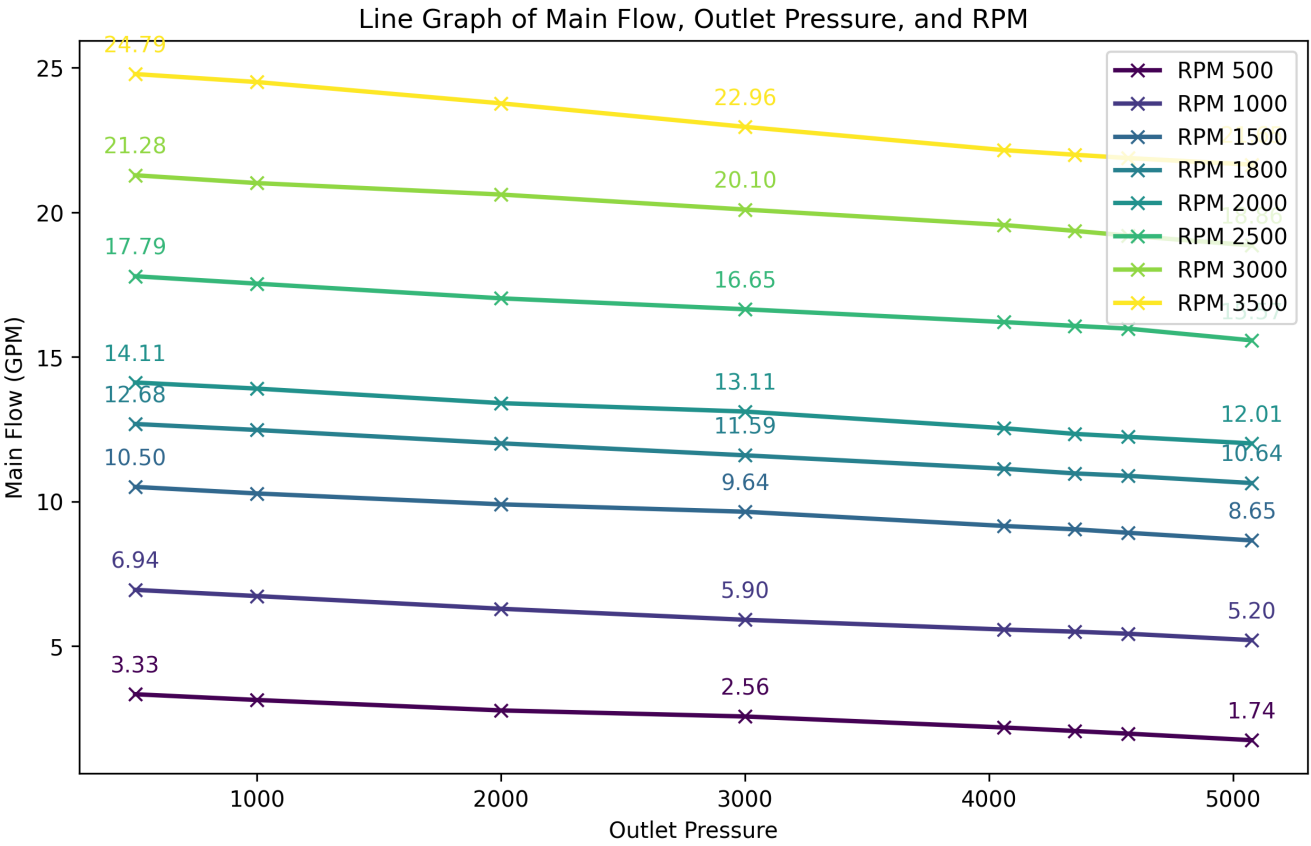
ME Pivot

Outlet Pressure	1978
3074.0	87.81280909919643

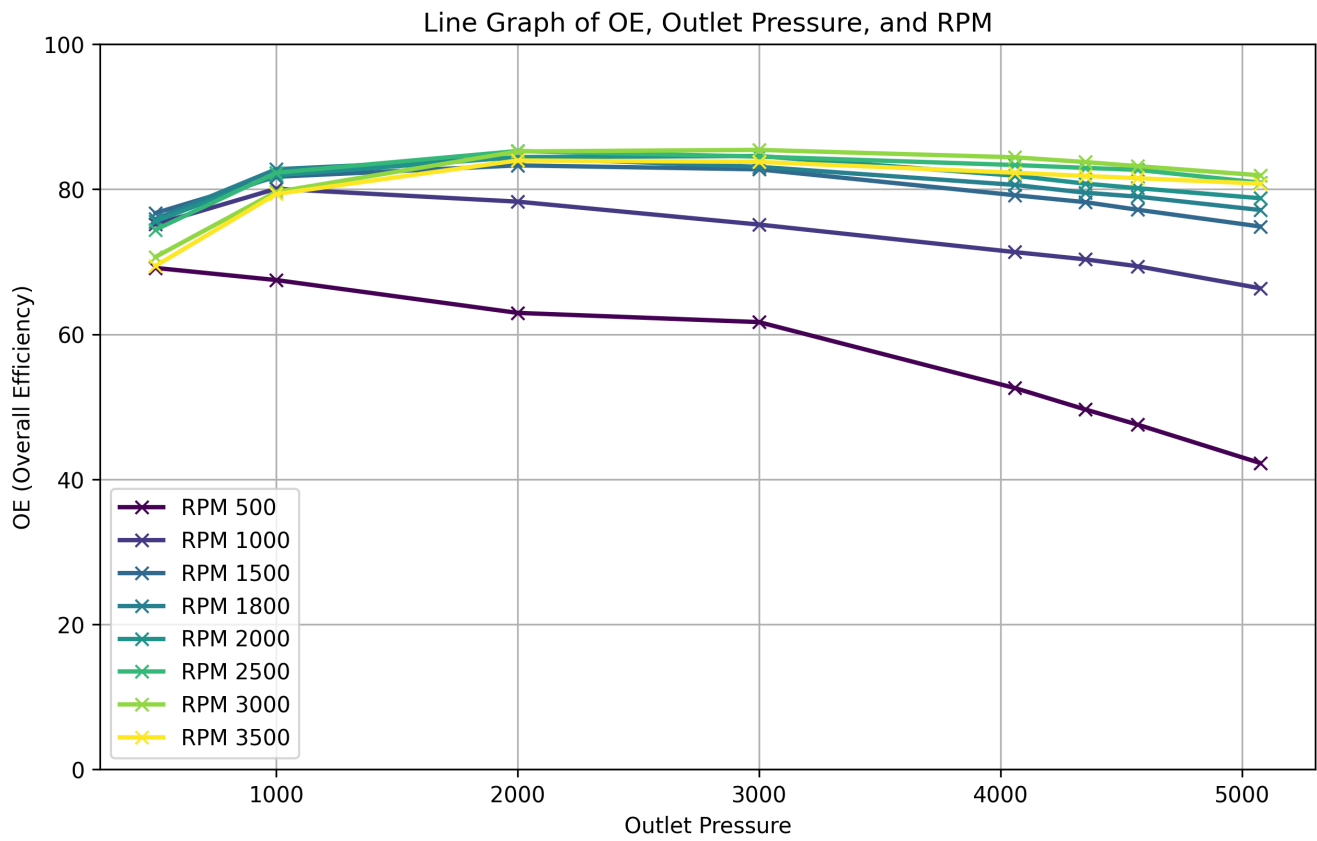
OE Pivot

Outlet Pressure	1978
3074.0	76.83004304624242

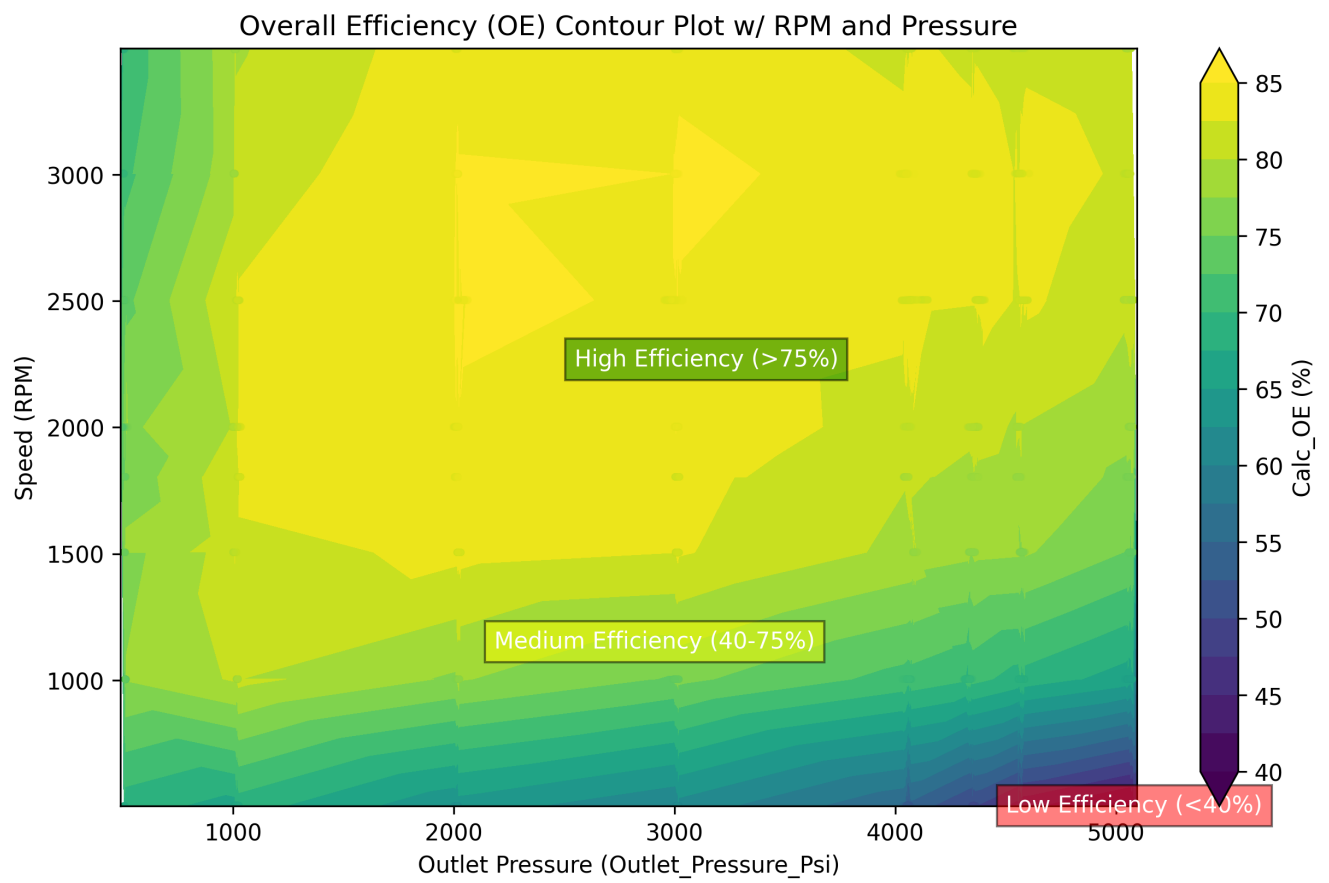
# flow\_line\_plot



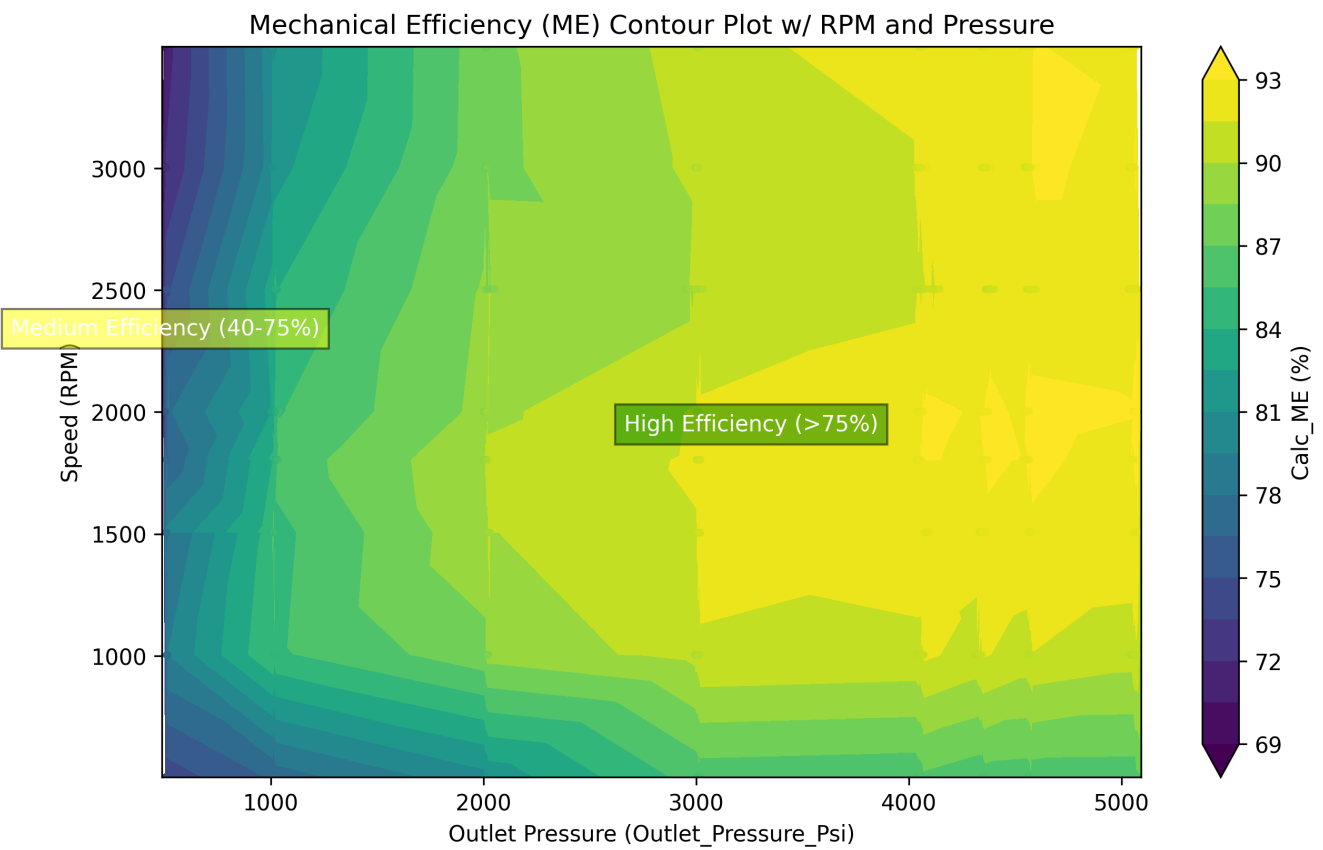
# efficiency\_map\_plot



oe\_contour\_plot

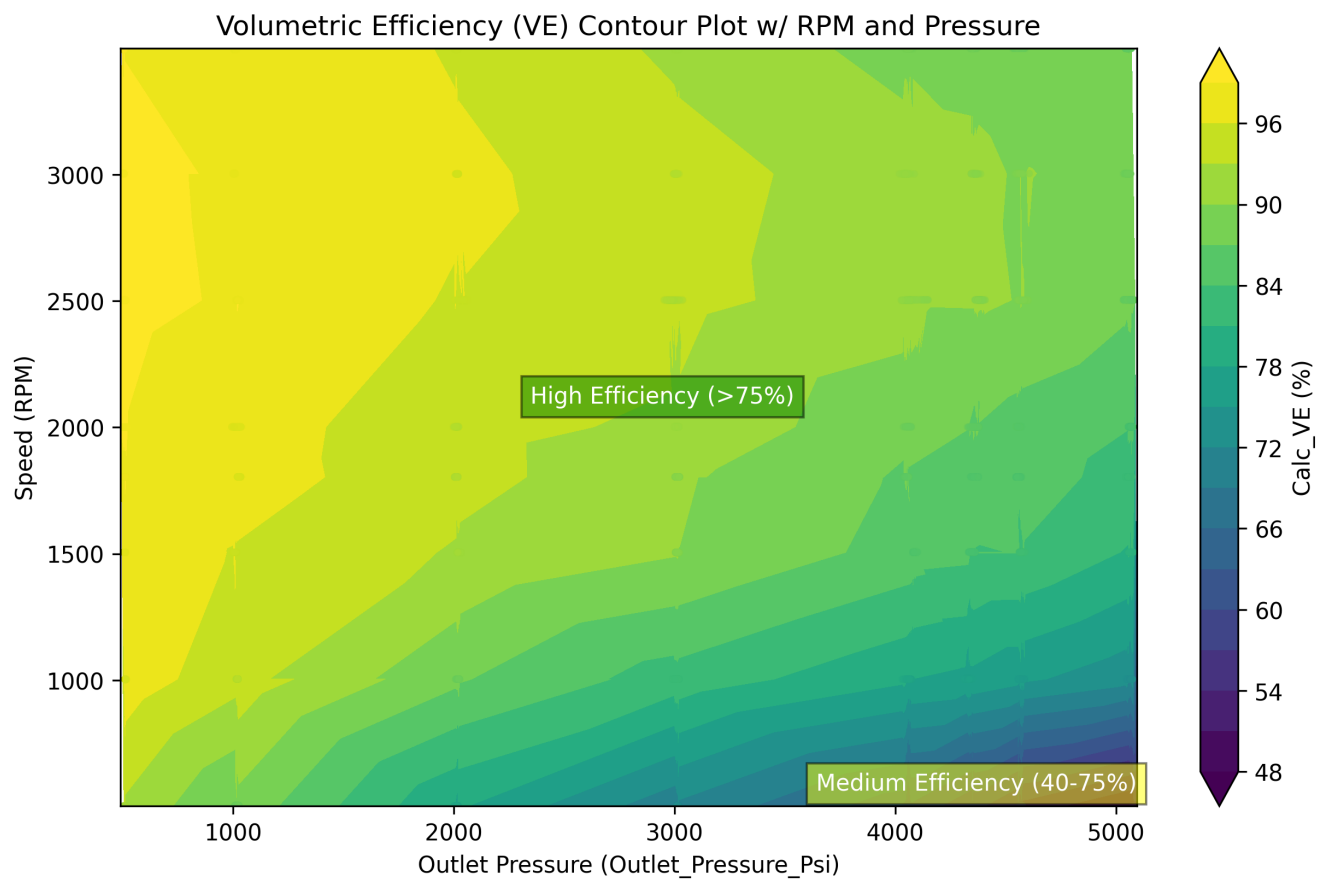


me\_contour\_plot

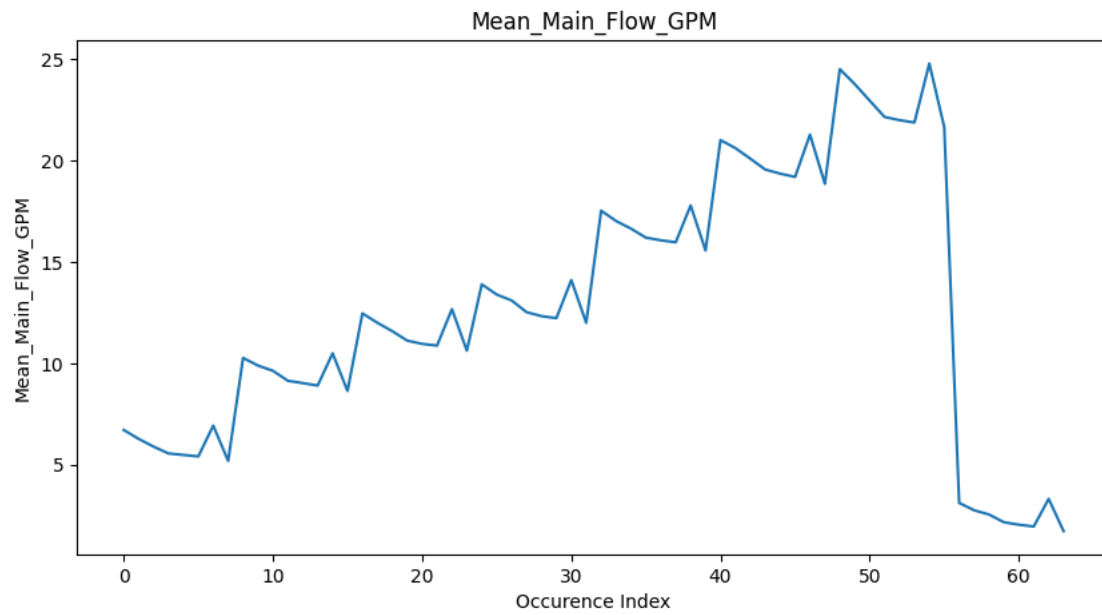




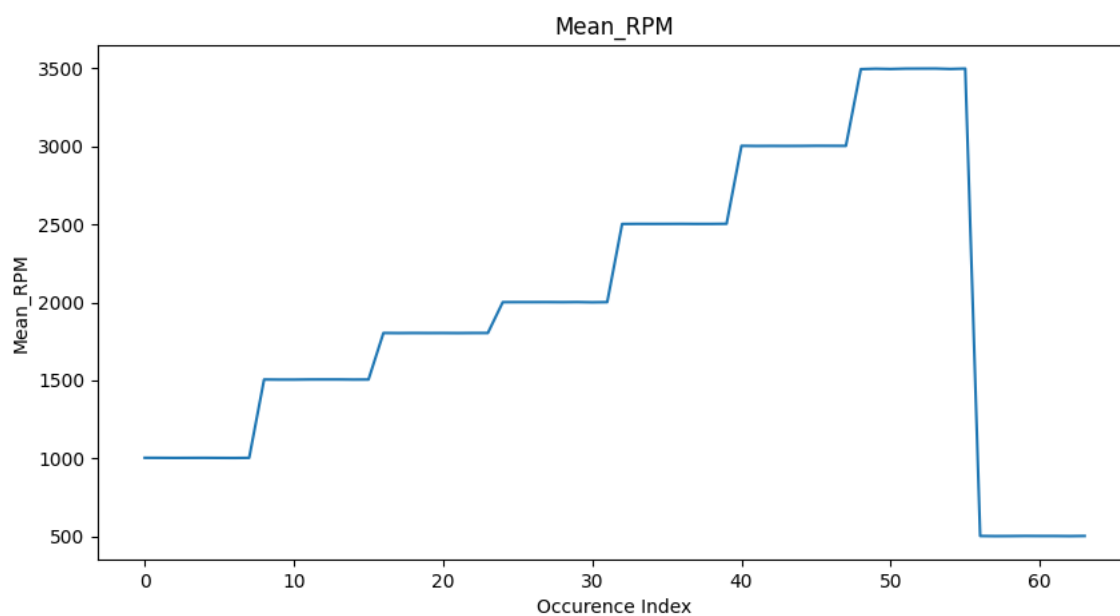
# ve\_contour\_plot



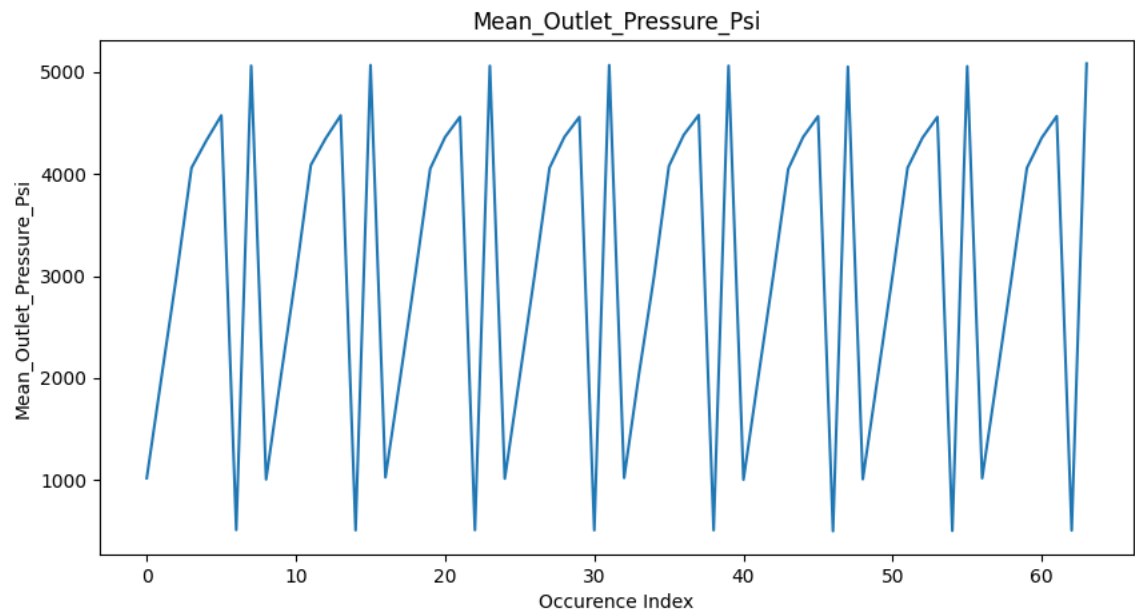
## Mean\_Main\_Flow\_GPM Plot



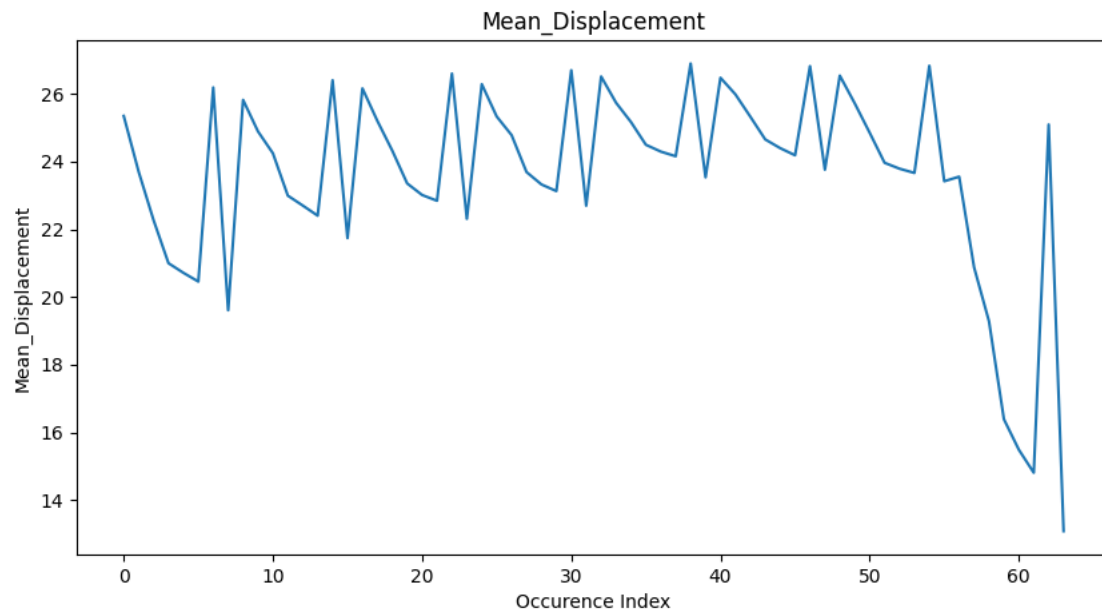
## Mean\_RPM Plot



# Mean\_Outlet\_Pressure\_Psi Plot



# Mean\_Displacement Plot



## Mean\_Inlet\_Temp\_F Plot

