

EXAMPLE SCREENS OF THE COMPRESSOR CHARACTERIZER

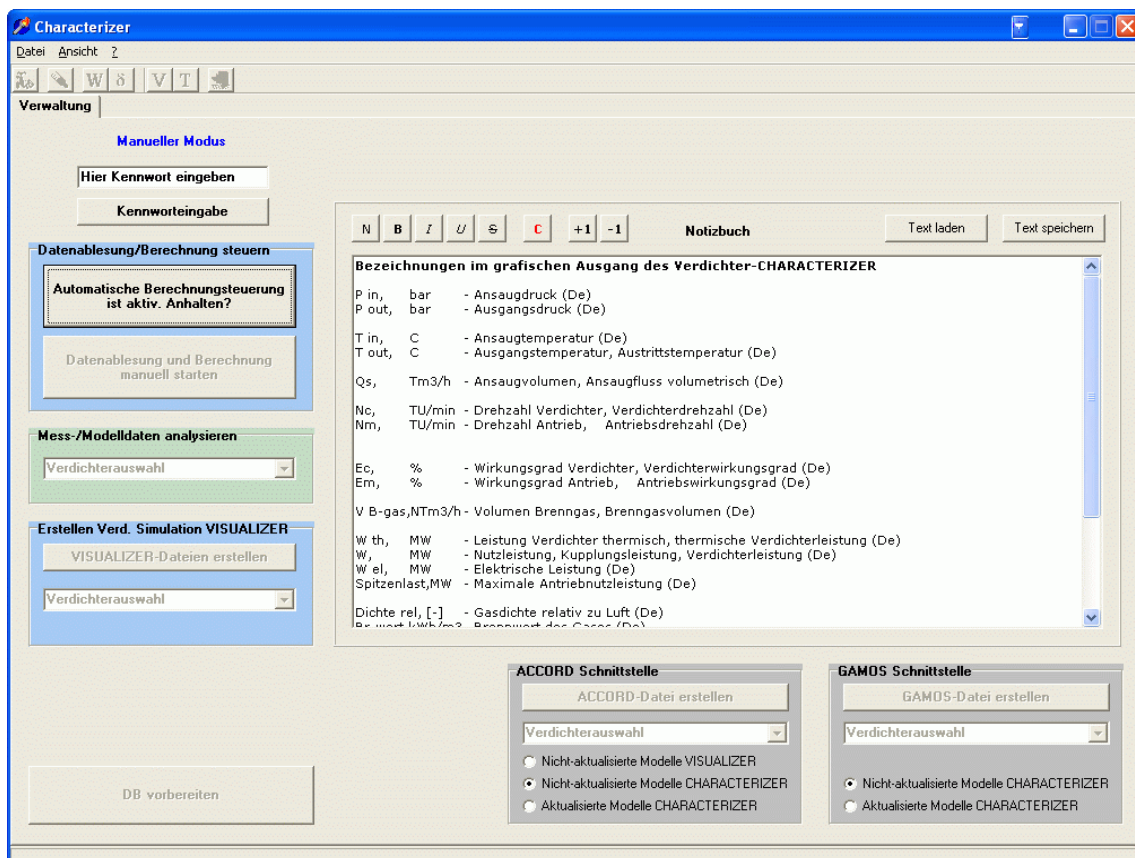
There are three modes of the Compressor-Characterizer:

- System Administrator Mode
- Reading and Calculation Mode
- Analysis and Monitoring Mode

Tables, Diagrams and Graphic Diagram Ranges of the Analysis Mode concern measurements, operating points of Compressors, Turbines and Drives and of the Combustion Chamber.

The Characterizer uses 4 types of Graphic Diagram Ranges, in which the relations between Displacement, Pressure Ratio, Compressor Rotation Speed and Efficiency are shown.

Main Screen System Administrator



Monitoring Mode Screen

Bezeichnungen im grafischen Ausgang des Verdichter-CHARACTERIZER

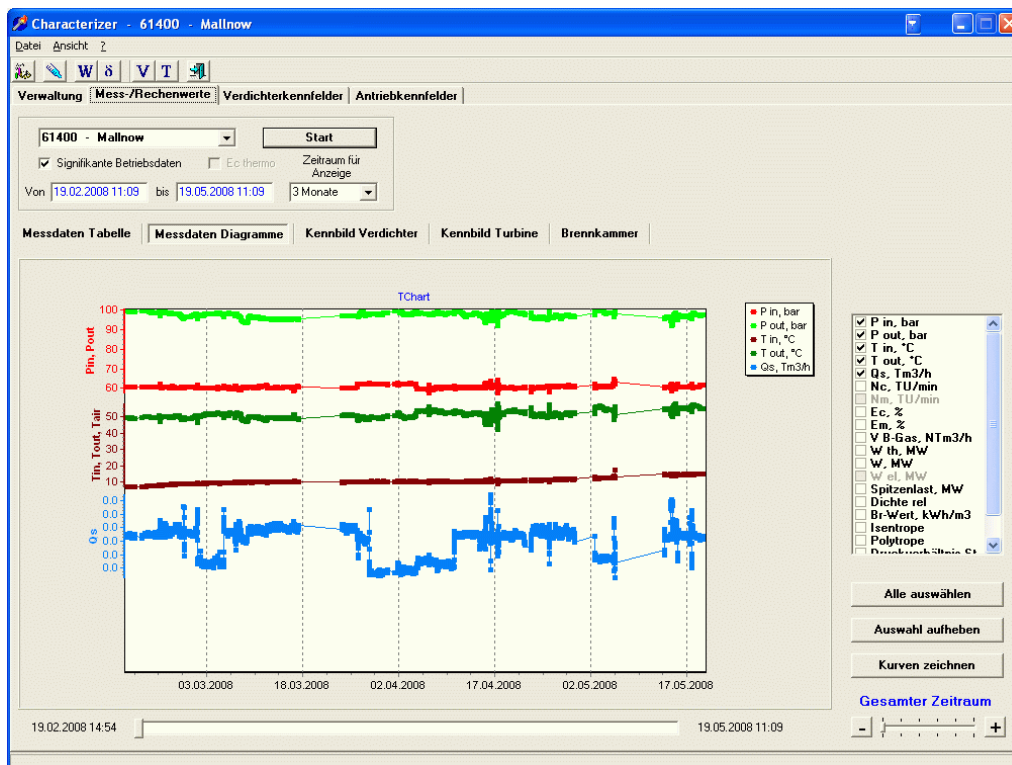
- P in, bar - Ansaugdruck (De)
- P out, bar - Ausgangsdruck (De)
- T in, C - Ansaugtemperatur (De)
- T out, C - Ausgangstemperatur, Austrittstemperatur (De)
- Qs, Tm3/h - Ansaugvolumen, Ansaugfluss volumetrisch (De)
- Nc, TU/min - Drehzahl Verdichter, Verdichterdrehzahl (De)
- Nm, TU/min - Drehzahl Antrieb, Antriebsdrehzahl (De)
- Ec, % - Wirkungsgrad Verdichter, Verdichtewirkungsgrad (De)
- Em, % - Wirkungsgrad Antrieb, Antriebswirkungsgrad (De)
- V B-gas, NTm3/h - Volumen Brenngas, Brenngasvolumen (De)
- W th, MW - Leistung Verdichter thermisch, thermische Verdichterleistung (De)
- W, MW - Nutzleistung, Kupplungsleistung, Verdichterleistung (De)
- W el, MW - Elektrische Leistung (De)
- Spitzenlast, MW - Maximale Antriebnutzleistung (De)
- Dichte rel, [-] - Gasdichte relativ zu Luft (De)
- Br-wert, kWh/m3 - Brennwert des Gases (De)
- Isentrope, [-] - Isentrope Exponent, (De)
- Polytrope, [-] - Polytrope Exponent, (De)
- Druckverhältnis St, [-] - Druckverhältnis S = P_out / P_in, (De)
- E mech, % - Wirkungsgrad mechanisch, (De)

Tables of measurements

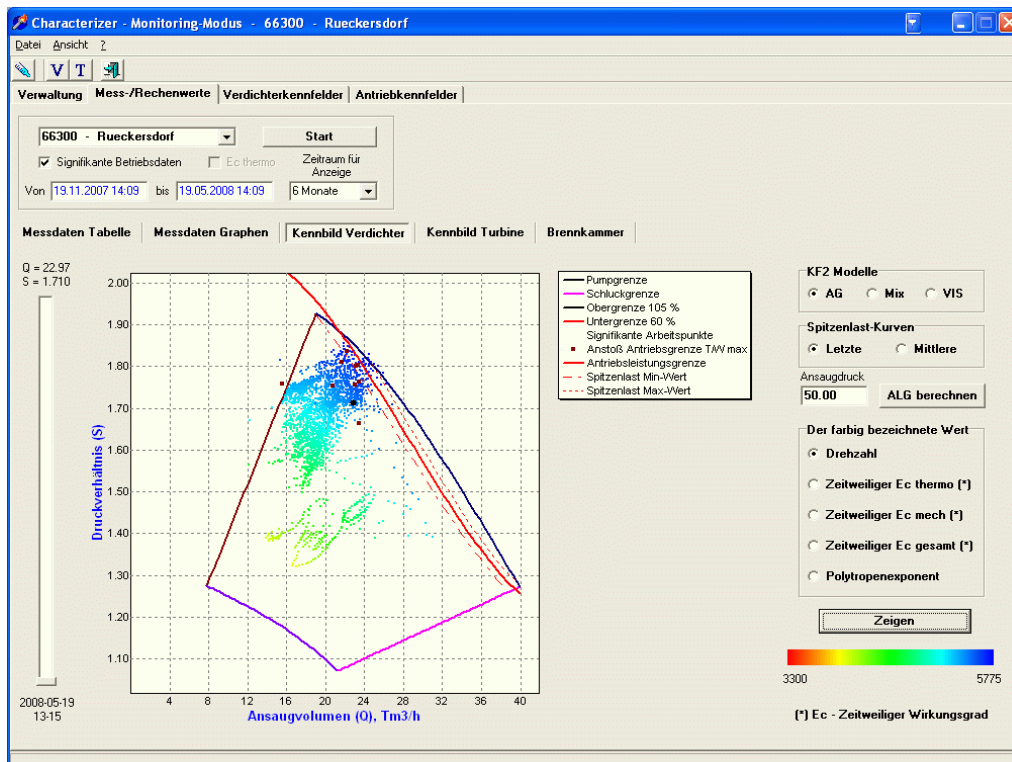
LidNr	Datum	Uhrzeit	P in, bar	P out, bar	T in, °C	T out, °C	Q, Tm3/h	Bypass, %	Nc, U/min	W Spitze, MW	S Stand	Polyprope	W th, MW	W, MW	Ec th, %	Ec mech, %	Ec, %	S	S
Min			57.707	91.896	7.11	42.63	14.613	0.00	4438	20.188	1.42591	1.49969	13.452	14.514	88.83	84.69	76.92	1.4	
Max			64.790	100.553	17.24	58.21	26.874	4.98	5349	24.753	1.72285	1.59868	22.933	24.753	96.08	94.80	86.31	1.7	
1	2008-02-19	14:54	60.623	99.349	7.13	49.56	20.635		5132		1.62449	1.55712	20.544	22.534	91.39	91.17	83.32	1.6	
2	2008-02-19	15:06	60.623	99.349	7.13	49.52	21.059		5134		1.62449	1.55624	20.951	22.543	91.45	92.94	84.99	1.6	
3	2008-02-19	19:12	60.623	99.257	7.13	49.52	20.602		5122		1.62290	1.55814	20.486	22.348	91.32	91.67	83.71	1.6	
4	2008-02-19	19:18	60.658	99.257	7.13	49.44	21.083		5132		1.62209	1.55773	20.942	22.555	91.35	92.85	84.82	1.6	
5	2008-02-19	21:33	60.658	99.164	7.16	49.40	20.638		5122		1.62040	1.55802	20.463	22.391	91.33	91.39	83.46	1.6	
6	2008-02-19	21:42	60.658	99.164	7.16	49.40	21.123		5132		1.62040	1.55802	20.944	22.599	91.33	92.67	84.64	1.6	
7	2008-02-19	22:18	60.658	99.118	7.13	49.37	20.663		5112		1.61976	1.55982	20.479	22.185	91.28	92.31	84.26	1.6	
8	2008-02-19	22:45	60.728	99.164	7.13	49.40	21.041		5122		1.61879	1.56150	20.891	22.402	91.11	93.26	84.96	1.6	
9	2008-02-20	00:03	60.658	99.025	7.24	49.25	20.622		5112		1.61836	1.55513	20.336	22.271	91.52	91.31	83.56	1.6	
10	2008-02-20	00:51	60.658	99.164	7.21	49.37	21.019		5122		1.62060	1.55566	20.801	22.402	91.48	92.85	84.94	1.6	
11	2008-02-20	01:30	60.658	99.071	7.26	49.25	20.584		5112		1.61911	1.55344	20.292	22.228	91.63	91.29	83.65	1.6	
12	2008-02-20	01:39	60.658	99.118	7.24	49.33	21.022		5122		1.61975	1.55499	20.772	22.391	91.53	92.77	84.90	1.6	
13	2008-02-20	02:39	60.658	99.118	7.24	49.33	20.602		5112		1.61985	1.55499	20.356	22.228	91.53	91.58	83.82	1.6	
14	2008-02-20	03:09	60.728	99.071	7.29	49.33	21.022		5122		1.61719	1.55719	20.757	22.402	91.38	92.66	84.67	1.6	
15	2008-02-20	06:03	60.728	99.118	7.26	49.40	20.496		5112		1.61794	1.55875	20.284	22.228	91.28	91.26	83.30	1.6	
16	2008-02-20	06:09	60.728	99.164	7.26	49.37	20.947		5122		1.61868	1.55691	20.722	22.424	91.40	92.41	84.46	1.6	
17	2008-02-20	16:51	60.762	99.118	7.26	49.33	20.504		5102		1.61713	1.55834	20.271	22.076	91.31	91.83	83.85	1.6	
18	2008-02-20	17:15	60.762	99.118	7.24	49.22	20.968		5112		1.61712	1.55642	20.699	22.271	91.43	92.94	84.98	1.6	
19	2008-02-20	17:33	60.762	99.071	7.24	49.25	20.515		5102		1.61638	1.55826	20.260	22.065	91.32	91.82	83.85	1.6	
20	2008-02-20	19:15	60.728	99.025	7.24	49.18	20.955		5108		1.61655	1.55608	20.651	22.254	91.46	92.80	84.87	1.6	
21	2008-02-21	19:03	60.658	99.395	7.11	49.59	20.488		5118		1.62452	1.55915	20.438	22.265	91.26	91.79	83.77	1.6	

Arbeitspunkt 1 von 2292

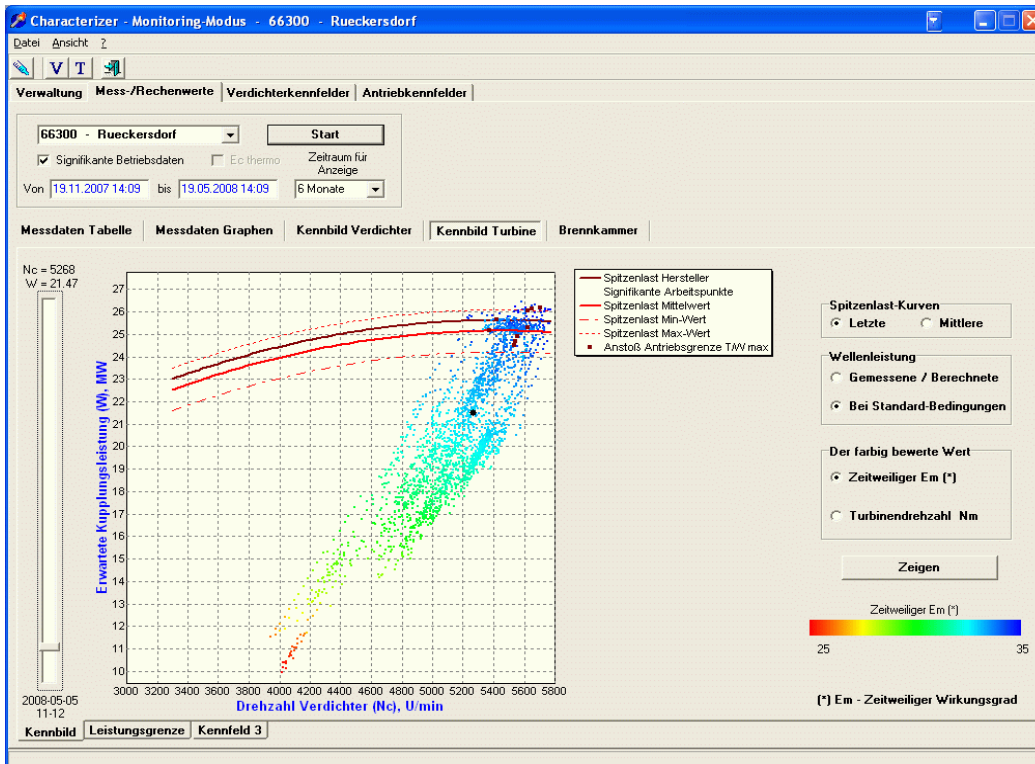
Diagrams of Measurements



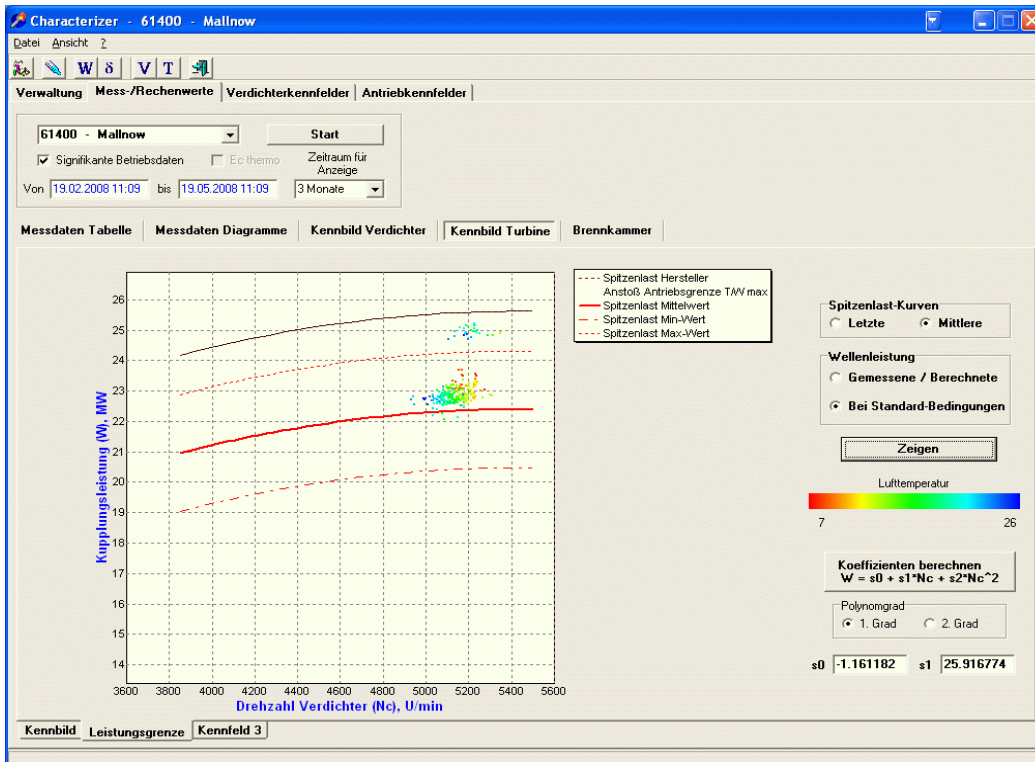
Operating point in a Graphic Diagram Range of a Compressor



Operating point of a Turbine. Drive Diagram



Operating point of a Turbine. Drive Performance boundaries



Operating point of a Turbine. Relations between Performances

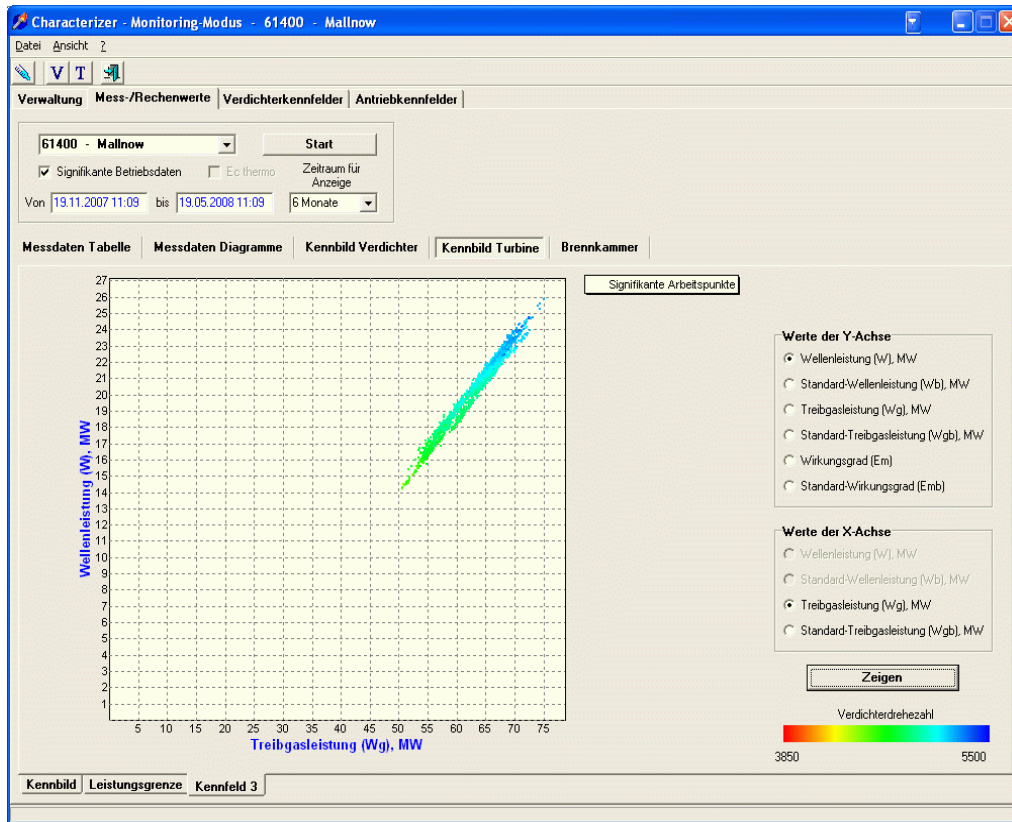
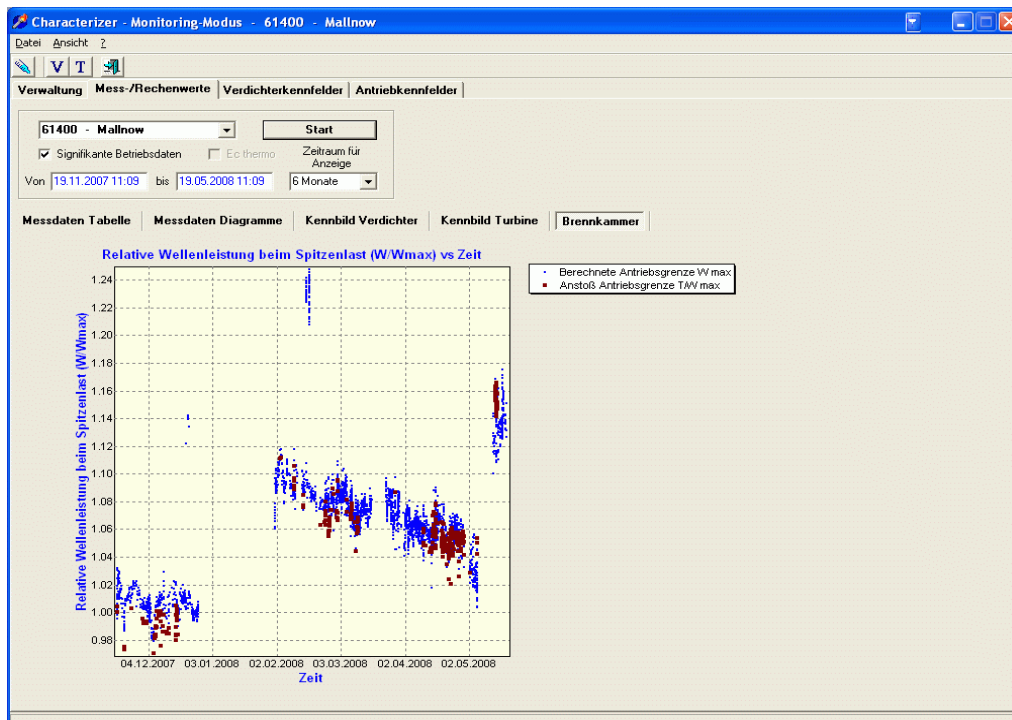
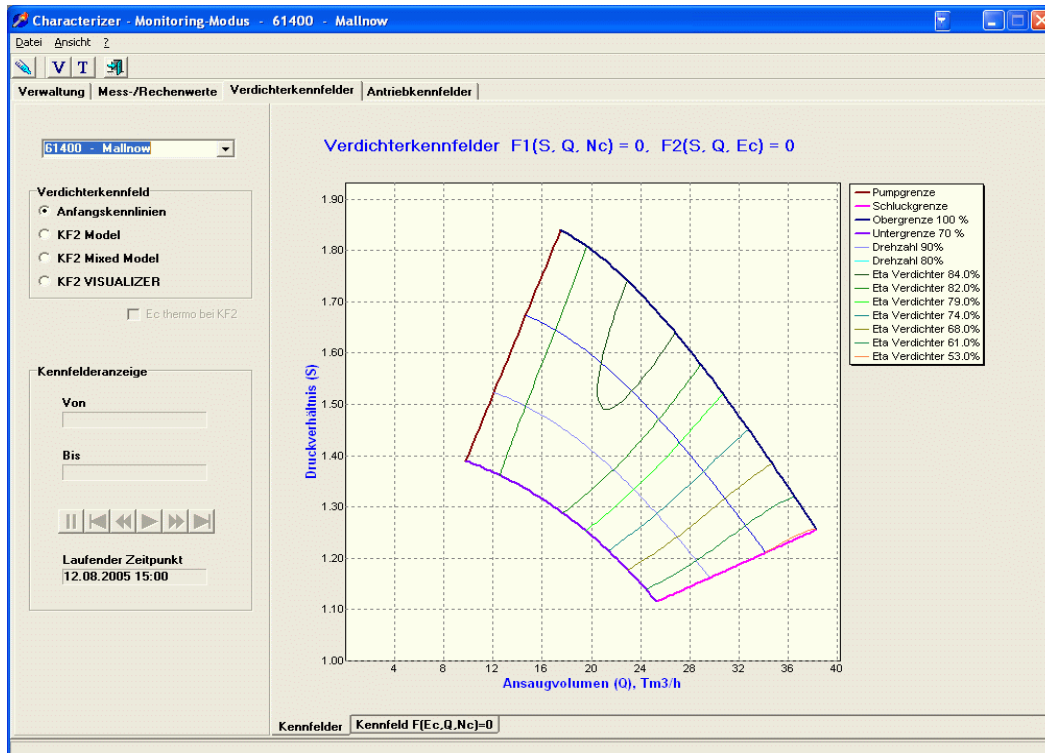


Diagram Combustion Chamber



Updated Compressor Graphic Diagram Range 1 and 2



Updated Compressor Graphic Diagram Range $F(Ec, Q, Nc) = 0$.

