Table1 (star connection)

M/Nm	0.0	0.1	0.3	0.5	0.7	0.9
n/(1/rpm)	2930	2890	2800	2680	2520	2220
Uphase/V	225	225	225	225	225	225
Iphase/A	0.16	0.20	0.26	0.40	0.53	0.74

Table Chart

Table2 (delta connection)

M/Nm	0.0	0.5	1.0	1.5	2.0	2.5
n/rpm	2975	2910	2830	2744	2600	2370
Uphase/V	389	389	389	389	389	389
Iphase/A	0.29	0.35	0.46	0.60	0.81	1.09

Table1 (star connection)

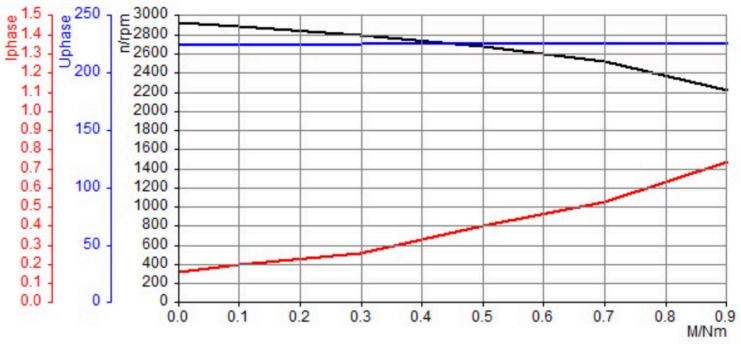
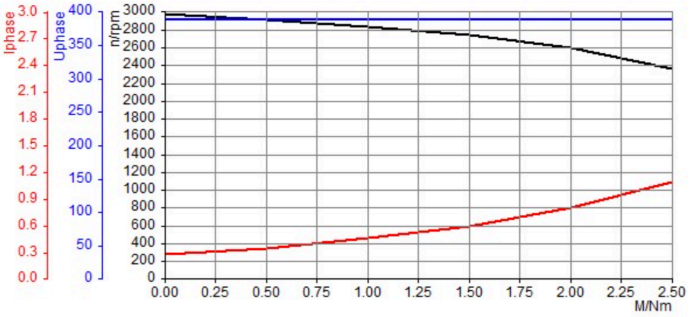


Table 2 Delta Connection



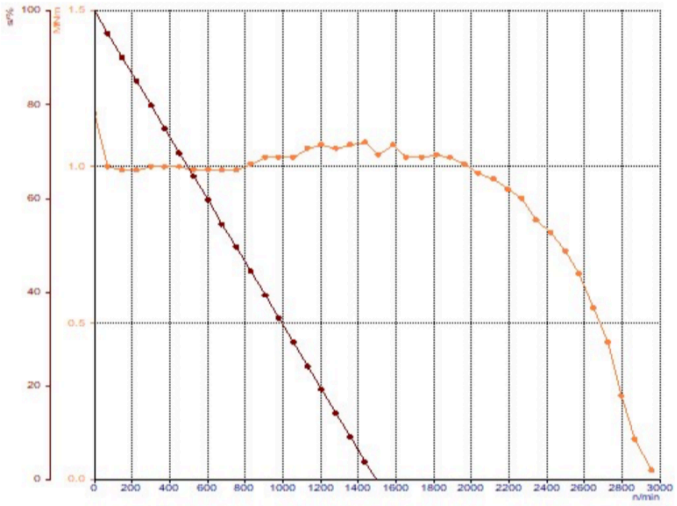
Connecting and starting
nominal data for the asynchronous machine
Nominal power 370w
U_N Star circuit connection 690v
U_N Delta circuit connection 400v
I_N Star circuit connection 0.6A
I_N Delta circuit connection 1.0A
cos ϕ 0.83
Speed 2800rpm
Frequency 50__ Hz
What is the maximum permissible voltage of the motor winding
Uphase= 400_ V
star configuration
Uphase= 224.6 V Iphase= 0.167 A
delta configuration
Uphase= 389_ V Iphase= 0.53 A
In star connection the phase current is lower
A delta connection offers better speed torque ratio as compared to a star circuit
The stating current is generally lower for the star connection
The star/delta switch permits the motor to start more smoothly

Load Characteristics

Star

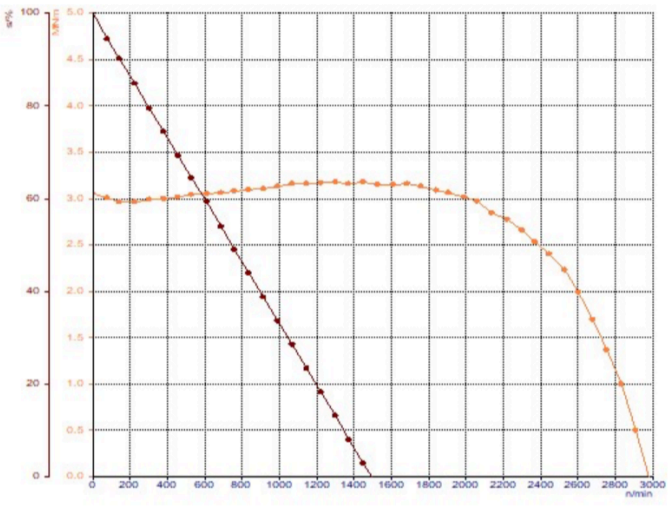
Delta

Placeholder for the load graph (star connection); $M_{(n)}$; $s_{(n)}$



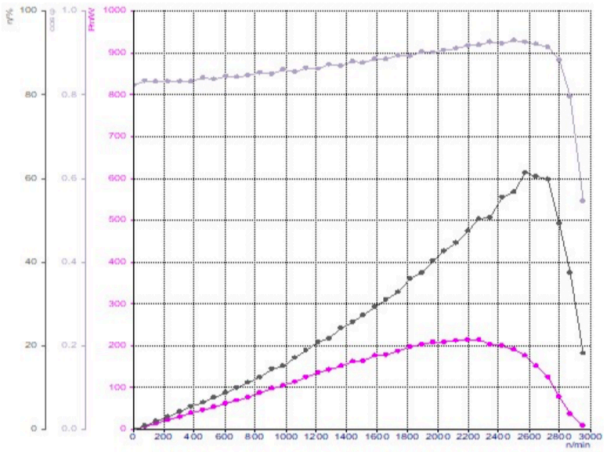
Torque Mn
Slip S(n)

Placeholder for load graph (delta connection); $M_{(n)}$; $s_{(n)}$

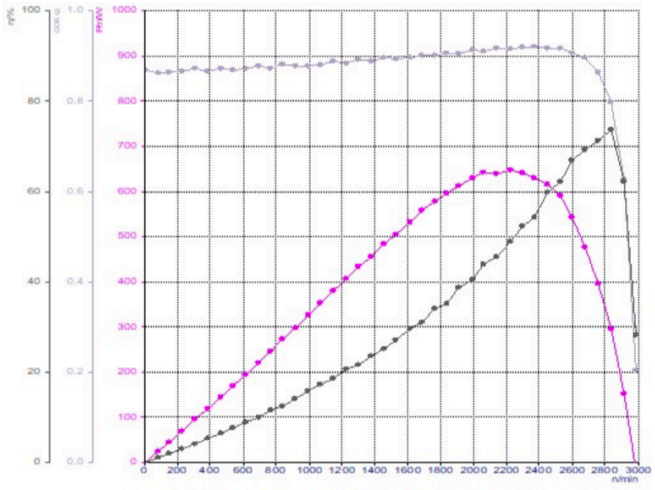


Mechanical Power P2(n)
Power factor cos o(n)
Efficiency (n)

Placeholder for load graph (star connection);
$P_{2(n)}$; $\cos_{\varphi(n)}$;$\eta_{(n)}$ (η => "eta")



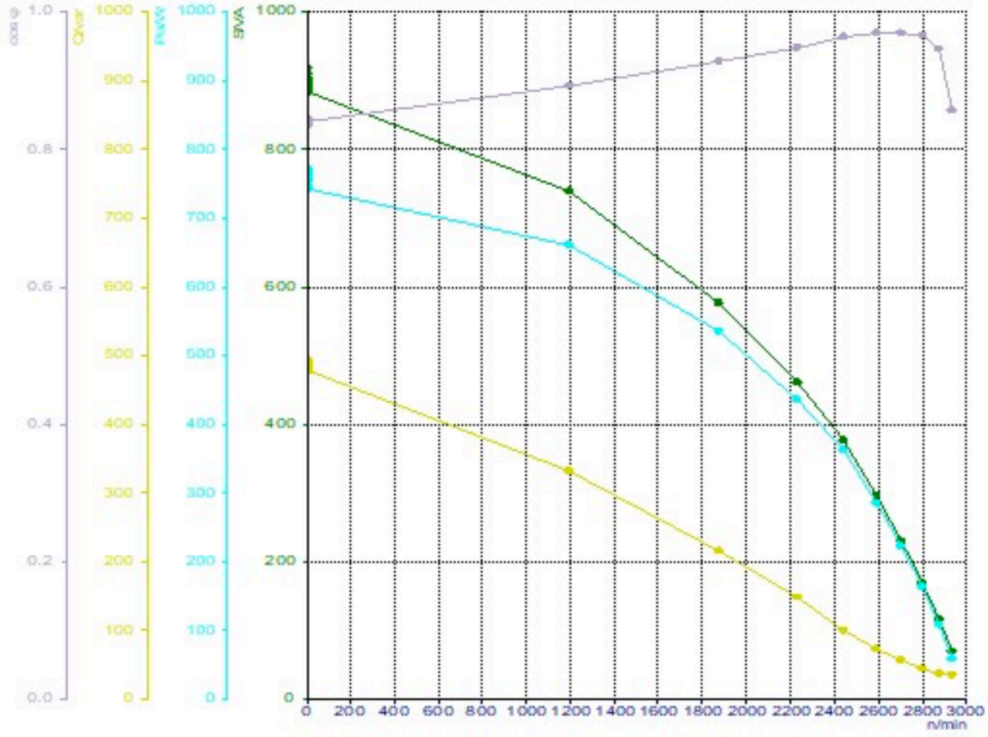
Placeholder for load graph (delta connection);
$P_{2(n)}$;$\cos_{\varphi(n)}$; $\eta_{(n)}$ (η => "eta")



Efficiency of the asynchronous machine in star configuration at nominal speed η = 48__%
Efficiency of the asynchronous machine in delta configuration at nominal speed η = 70__%

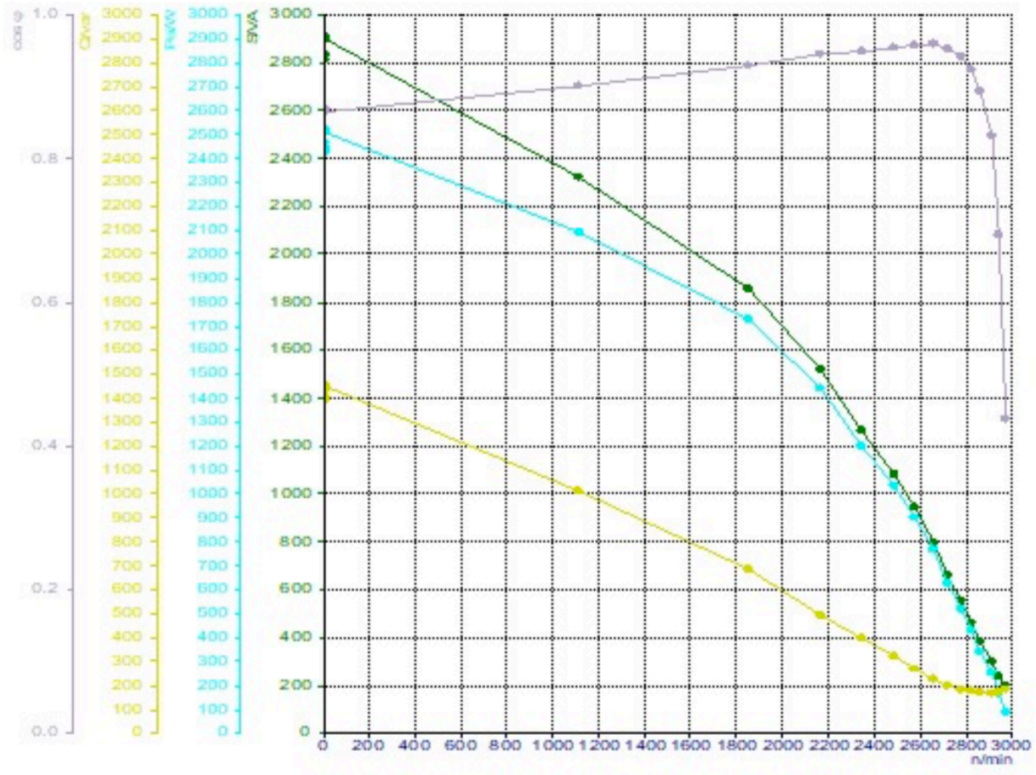
The torque of the asynchronous machine at nominal speed in star configuration M_N = 0.27 Nm
The torque of the asynchronous machine at nominal speed in delta configuration M_N = 1.19 Nm

load characteristic for the motor in star configuration with compensation-1µF Capacitor



Apparent power $S_{(n)}$
Active power $P1_{(n)}$
Reactive power $Q_{(n)}$
Power factor cos $\phi_{(n)}$

load characteristic for the motor in delta configuration with compensation 1µF Capacitor



Apparent power $S_{(n)}$
Active power $P1_{(n)}$
Reactive power $Q_{(n)}$
Power factor cos $\Phi_{(n)}$