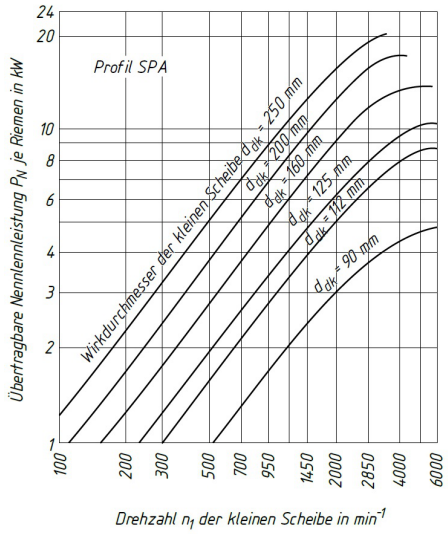
(*Profil SPA*)


Profil SPA
Wirkdurchmesser der kleinen Scheibe d_{dk} = 250 mm
d_{dk} = 200 mm
d_{dk} = 160 mm
d_{dk} = 125 mm
d_{dk} = 112 mm
d_{dk} = 90 mm
Übertragbare Nennleistung P_N je Riemen in kW
24
20
10
8
6
4
3
2
1
100
200
300
500
700
950
1450
2000
2850
4000
6000
Drehzahl n_1 der kleinen Scheibe in min^{-1}

```
(*Odredjivanje nominalne specificne snage jednog uskog remena Pn*)
(*Definisanje uredjene liste podataka*)
Lista250 = {{100, 1.22}, {200, 2.3}, {300, 3.25}, {500, 5.16},
   {700, 7}, {950, 9}, {1450, 12.58}, {2000, 15.8}, {2850, 19.21}};
Lista200 = {{111.8, 1}, {200, 1.68}, {300, 2.4}, {500, 3.84}, {700, 5.25},
   {950, 6.83}, {1450, 9.8}, {2000, 12.52}, {2850, 15.8}};
Lista160 = {{156, 1}, {200, 1.24}, {300, 1.76}, {500, 2.78}, {700, 3.8},
   {950, 5}, {1450, 7.2}, {2000, 9.3}, {2850, 11.81}};
Lista125 = {{240, 1}, {300, 1.24}, {500, 1.96}, {700, 2.65},
   {950, 3.43}, {1450, 4.86}, {2000, 6.21}, {2850, 7.94}};
Lista112 = {{300, 1}, {500, 1.58}, {700, 2.15}, {950, 2.8},
   {1450, 4}, {2000, 5.08}, {2850, 6.56}};
Lista90 = {{530, 1}, {700, 1.31}, {950, 1.7}, {1450, 2.4}, {2000, 3.03}, {2850, 3.8}};

(*Fitovanje*)
d250[x_] = Fit[Lista250, {1, x, x^2}, x];
Print["d250=", d250[x]]
d200[x_] = Fit[Lista200, {1, x, x^2}, x];
Print["d200=", d200[x]]
d160[x_] = Fit[Lista160, {1, x, x^2}, x];
Print["d160=", d160[x]]
d125[x_] = Fit[Lista125, {1, x, x^2}, x];
Print["d125=", d125[x]]
d112[x_] = Fit[Lista112, {1, x, x^2}, x];
Print["d112=", d112[x]]
d90[x_] = Fit[Lista90, {1, x, x^2}, x];
Print["d90=", d90[x]]

(*Stampanje funkcije*)
Grafik1 = ListPlot[{Lista250, Lista200, Lista160, Lista125, Lista112, Lista90},
   AxesOrigin → {100, 0}, AxesLabel → {"n1[min^-1]", "PN[kW]"}];
Grafik2 = Plot[{d250[x], d200[x], d160[x], d125[x], d112[x], d90[x]},
   {x, 100, 2850}, PlotLegends → "Expressions"];
Show[Grafik1, Grafik2]
```

$$d250 = 0.23655 + 0.0104964\,x - 1.34946\times10^{-6}\,x^2$$

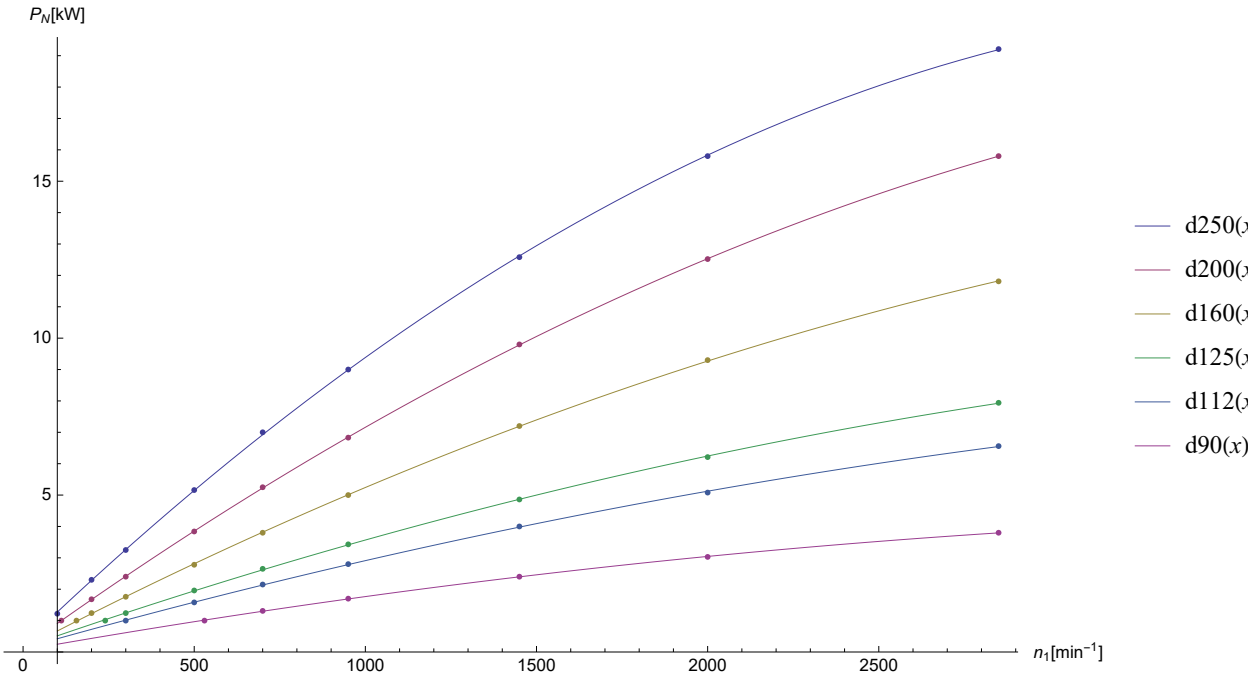
$$d200 = 0.131047 + 0.00785693\,x - 8.28067\times10^{-7}\,x^2$$

$$d160 = 0.105619 + 0.00568988\,x - 5.53784\times10^{-7}\,x^2$$

$$d125 = 0.137733 + 0.00380715\,x - 3.77028\times10^{-7}\,x^2$$

$$d112 = 0.116034 + 0.00308645\,x - 2.91316\times10^{-7}\,x^2$$

$$d90 = 0.0575015 + 0.00192277\,x - 2.14491\times10^{-7}\,x^2$$




```
(*Provera*)
d125[950]
```

3.41426