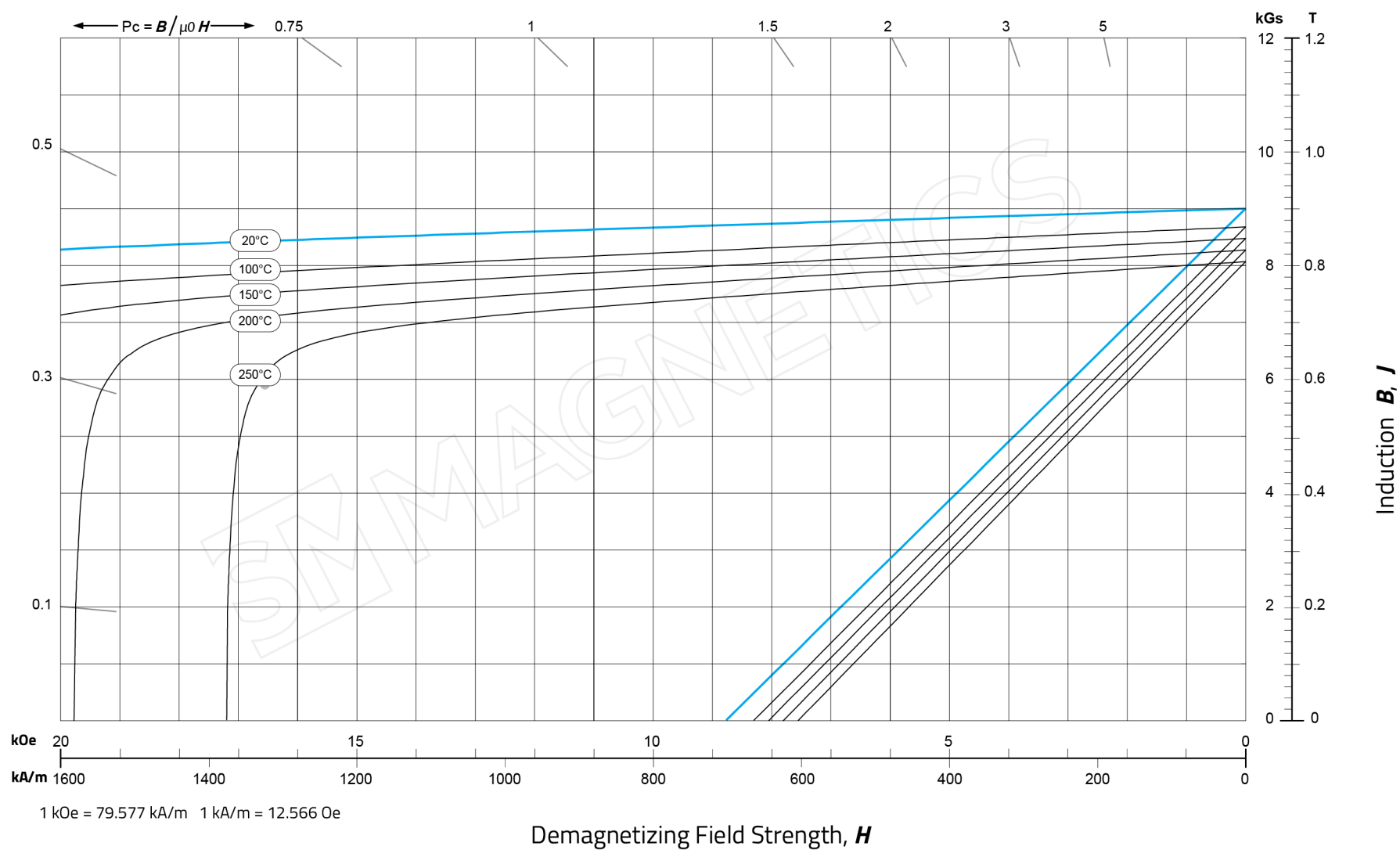


### Typical Magnetic Properties of Sintered SmCo Magnets

| Item                             | Grade                                 | Remanence |           | Coercivity |           |          |       | Max Energy Product |       | Max Working Temperature |
|----------------------------------|---------------------------------------|-----------|-----------|------------|-----------|----------|-------|--------------------|-------|-------------------------|
|                                  |                                       | $B_r$     |           | $H_{cb}$   |           | $H_{cj}$ |       | $(BH)_{max}$       |       | $T_w$ Max               |
|                                  |                                       | T         | kGs       | kA/m       | kOe       | kA/m     | kOe   | kJ/m <sup>3</sup>  | MGOe  | ° C                     |
| SmCo <sub>5</sub>                | SmCo <sub>5</sub> -20                 | 0.89-0.93 | 8.9-9.3   | 684-732    | 8.6-9.2   | ≥1830    | ≥23   | 151-167            | 19-21 | 250                     |
|                                  | SmCo <sub>5</sub> -22                 | 0.92-0.96 | 9.2-9.6   | 708-756    | 8.9-9.5   | ≥1830    | ≥23   | 159-175            | 20-22 | 250                     |
|                                  | SmCo <sub>5</sub> -24                 | 0.96-1.00 | 9.6-10.0  | 740-788    | 9.3-9.9   | ≥1830    | ≥23   | 175-191            | 22-24 | 250                     |
| Sm <sub>2</sub> Co <sub>17</sub> | Sm <sub>2</sub> Co <sub>17</sub> -30L | 1.08-1.10 | 10.8-11.0 | 541-796    | 6.8-10.0  | 636-955  | 8-12  | 223-239            | 28-30 | 250                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -32L | 1.10-1.15 | 11.0-11.5 | 541-812    | 6.8-10.2  | 636-955  | 8-12  | 231-255            | 29-32 | 250                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -30M | 1.08-1.10 | 10.8-11.0 | 676-835    | 8.5-10.5  | 955-1433 | 12-18 | 223-239            | 28-30 | 300                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -32M | 1.10-1.15 | 11.0-11.5 | 676-852    | 8.5-10.7  | 955-1433 | 12-18 | 231-255            | 29-32 | 300                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -28  | 1.03-1.08 | 10.3-10.8 | 756-812    | 9.5-10.2  | ≥1433    | ≥18   | 207-223            | 26-28 | 300                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -30  | 1.08-1.10 | 10.8-11.0 | 788-835    | 9.9-10.5  | ≥1433    | ≥18   | 223-239            | 28-30 | 300                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -32  | 1.10-1.15 | 11.0-11.5 | 812-860    | 10.2-10.8 | ≥1433    | ≥18   | 231-255            | 29-32 | 300                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -28H | 1.03-1.08 | 10.3-10.8 | 756-812    | 9.5-10.2  | ≥1990    | ≥25   | 207-223            | 26-28 | 350                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -30H | 1.08-1.10 | 10.8-11.0 | 788-835    | 9.9-10.5  | ≥1990    | ≥25   | 223-239            | 28-30 | 350                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -32H | 1.10-1.15 | 11.0-11.5 | 812-860    | 10.2-10.8 | ≥1990    | ≥25   | 231-255            | 29-32 | 350                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -33H | 1.14-1.17 | 11.4-11.7 | 827-875    | 10.4-11.0 | ≥1990    | ≥25   | 247-262            | 31-33 | 350                     |
|                                  | Sm <sub>2</sub> Co <sub>17</sub> -35  | 1.17-1.21 | 11.7-12.1 | 860-915    | 10.8-11.5 | ≥2069    | ≥26   | 255-279            | 32-35 | 350                     |

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>1</sub>Co<sub>5</sub>-20**

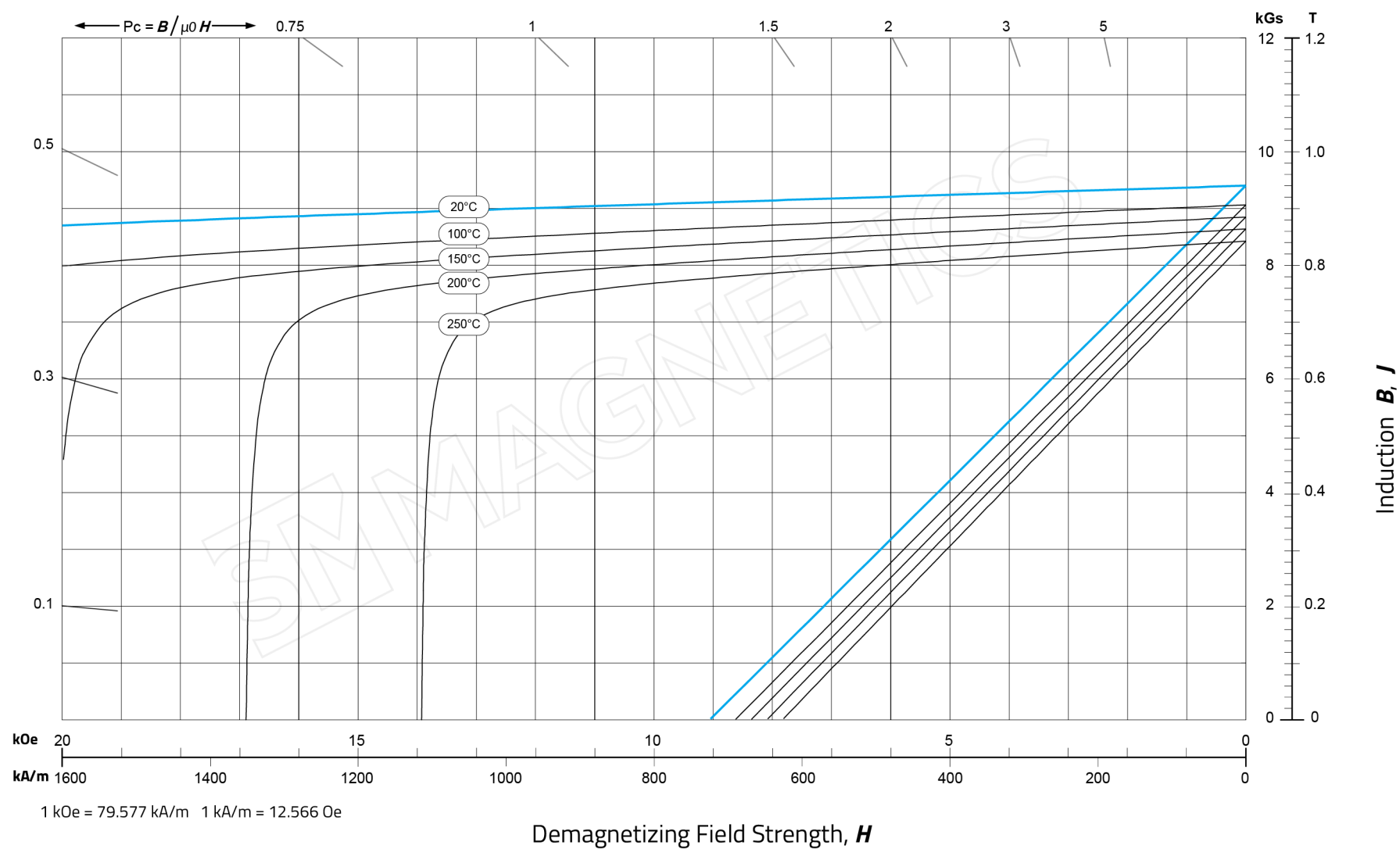
**$B_r$**  (Remanence):  
8.9 - 9.3 kGs  
0.89 - 0.93 T

**$H_{cb}$**  (Normal Coercivity):  
8.6 - 9.2 kOe  
684 - 732 kA/m

**$H_d$**  (Intrinsic Coercivity):  
≥ 23.0 kOe  
≥ 1830 kA/m

**$(BH)_{max}$**  (Max Energy Product):  
19 - 21 MGOe  
151 - 167 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>1</sub>Co<sub>5</sub>-22**

**$B_r$**  (Remanence):

9.2 - 9.6 kGs  
0.92 - 0.96 T

**$H_{cb}$**  (Normal Coercivity):

8.9 - 9.5 kOe  
710 - 756 kA/m

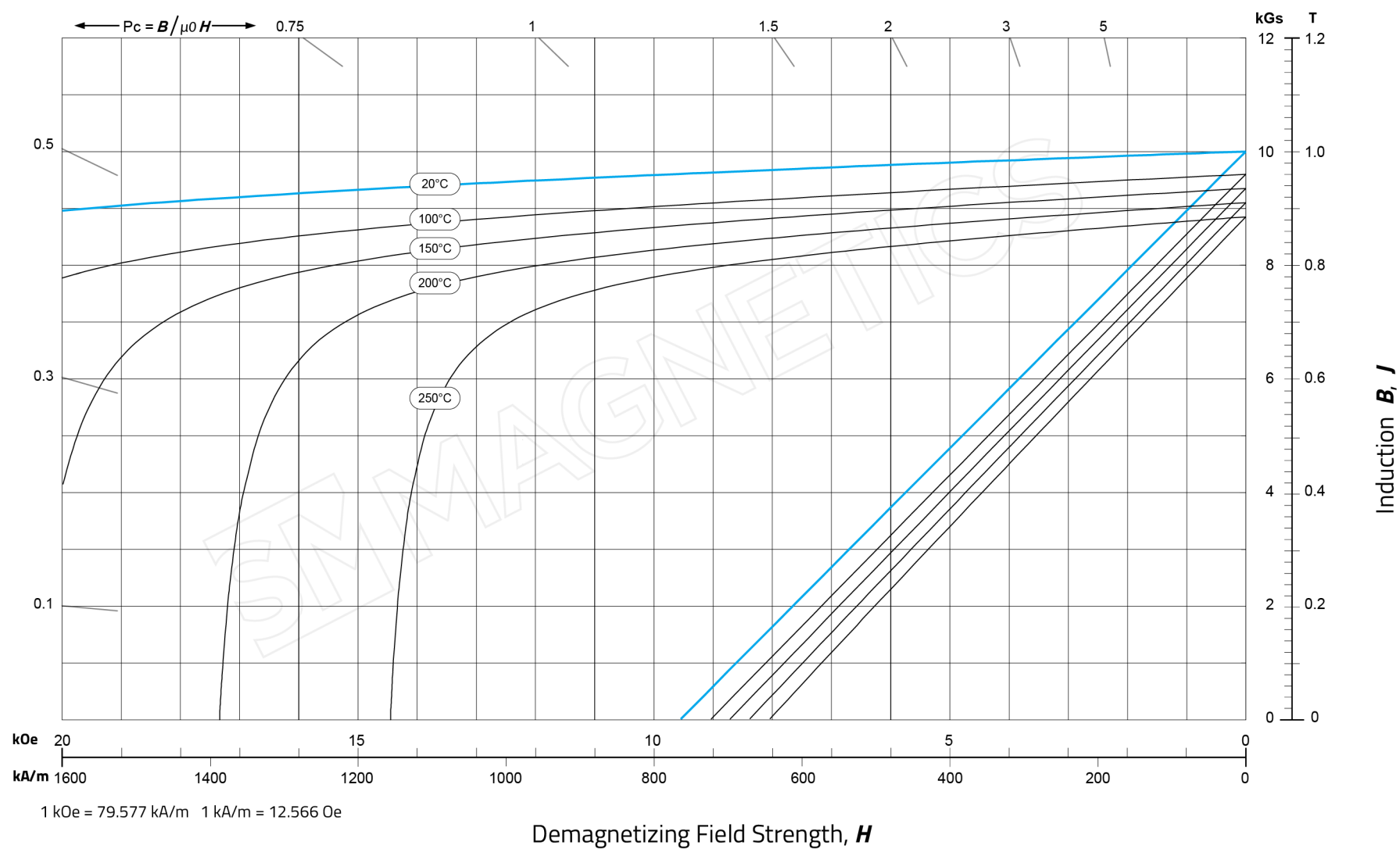
**$H_d$**  (Intrinsic Coercivity):

≥ 23.0 kOe  
≥ 1830 kA/m

**$(BH)_{max}$**  (Max Energy Product):

20 - 22 MGOe  
159 - 175 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>1</sub>Co<sub>5</sub>-24**

**$B_r$**  (Remanence):

9.6 - 10.0 kGs  
0.96 - 1.00 T

**$H_{cb}$**  (Normal Coercivity):

9.3 - 9.9 kOe  
740 - 788 kA/m

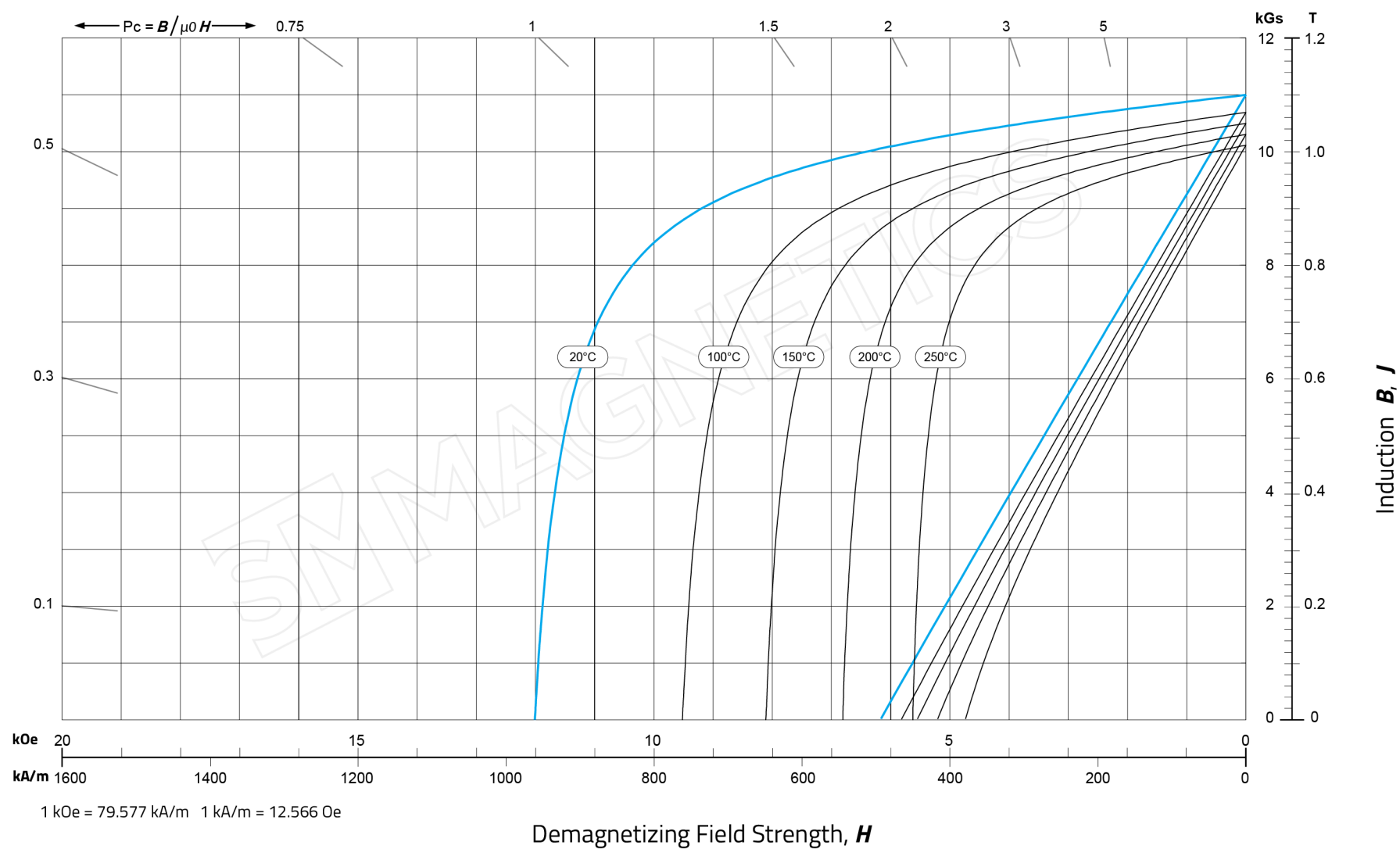
**$H_d$**  (Intrinsic Coercivity):

≥ 23.0 kOe  
≥ 1830 kA/m

**$(BH)_{max}$**  (Max Energy Product):

22 - 24 MGOe  
175 - 191 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-30L**

**$B_r$**  (Remanence):

10.8 - 11.0 kGs  
1.08 - 1.10 T

**$H_{cB}$**  (Normal Coercivity):

6.8 - 10.0 kOe  
541 - 796 kA/m

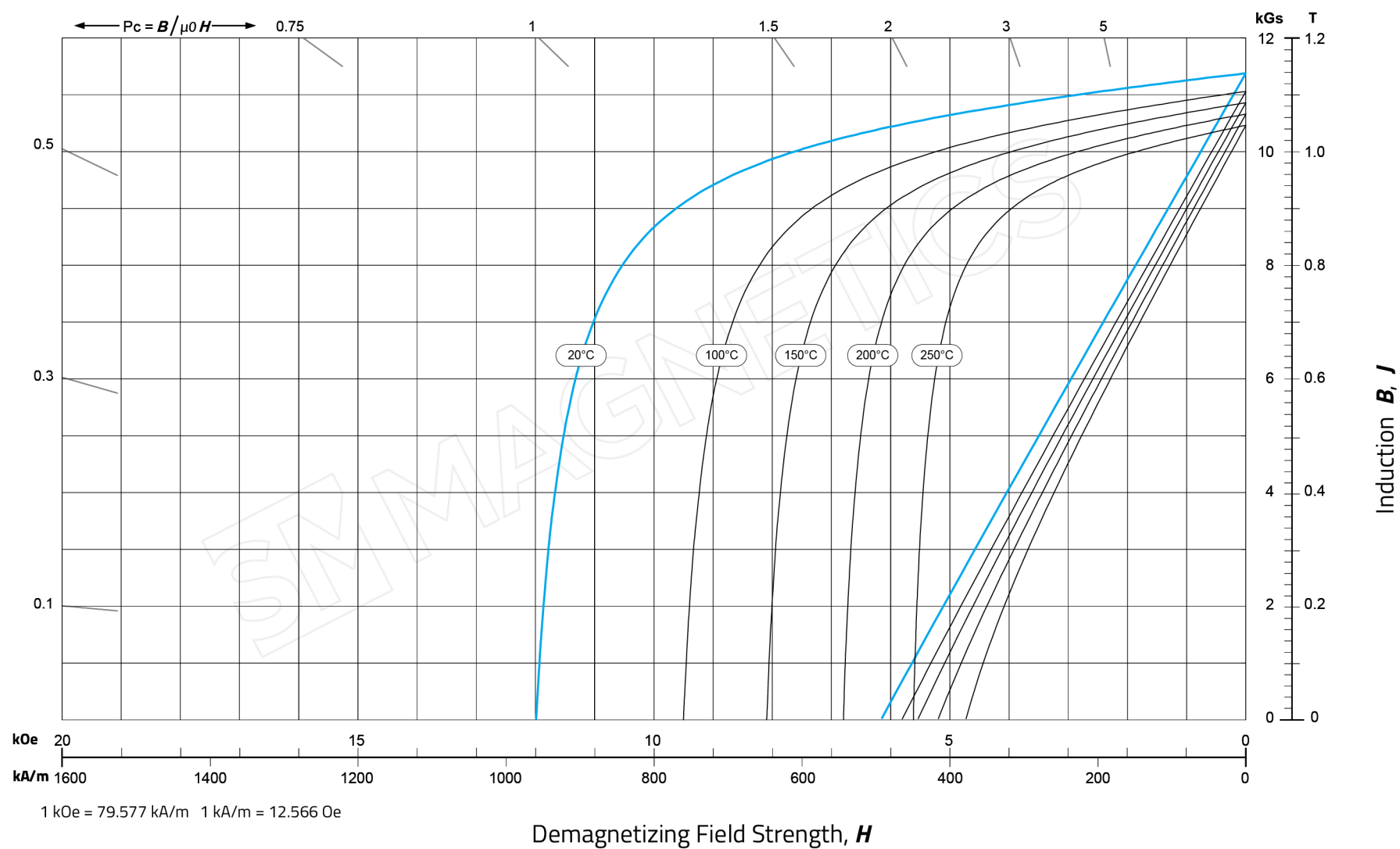
**$H_{ci}$**  (Intrinsic Coercivity):

8 - 12 kOe  
636 - 955 kA/m

**$(BH)_{max}$**  (Max Energy Product):

28 - 30 MGOe  
223 - 239 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-32L**

**B<sub>r</sub>** (Remanence):

11.0 - 11.5 kGs  
1.10 - 1.15 T

**H<sub>cb</sub>** (Normal Coercivity):

6.8 - 10.2 kOe  
541 - 812 kA/m

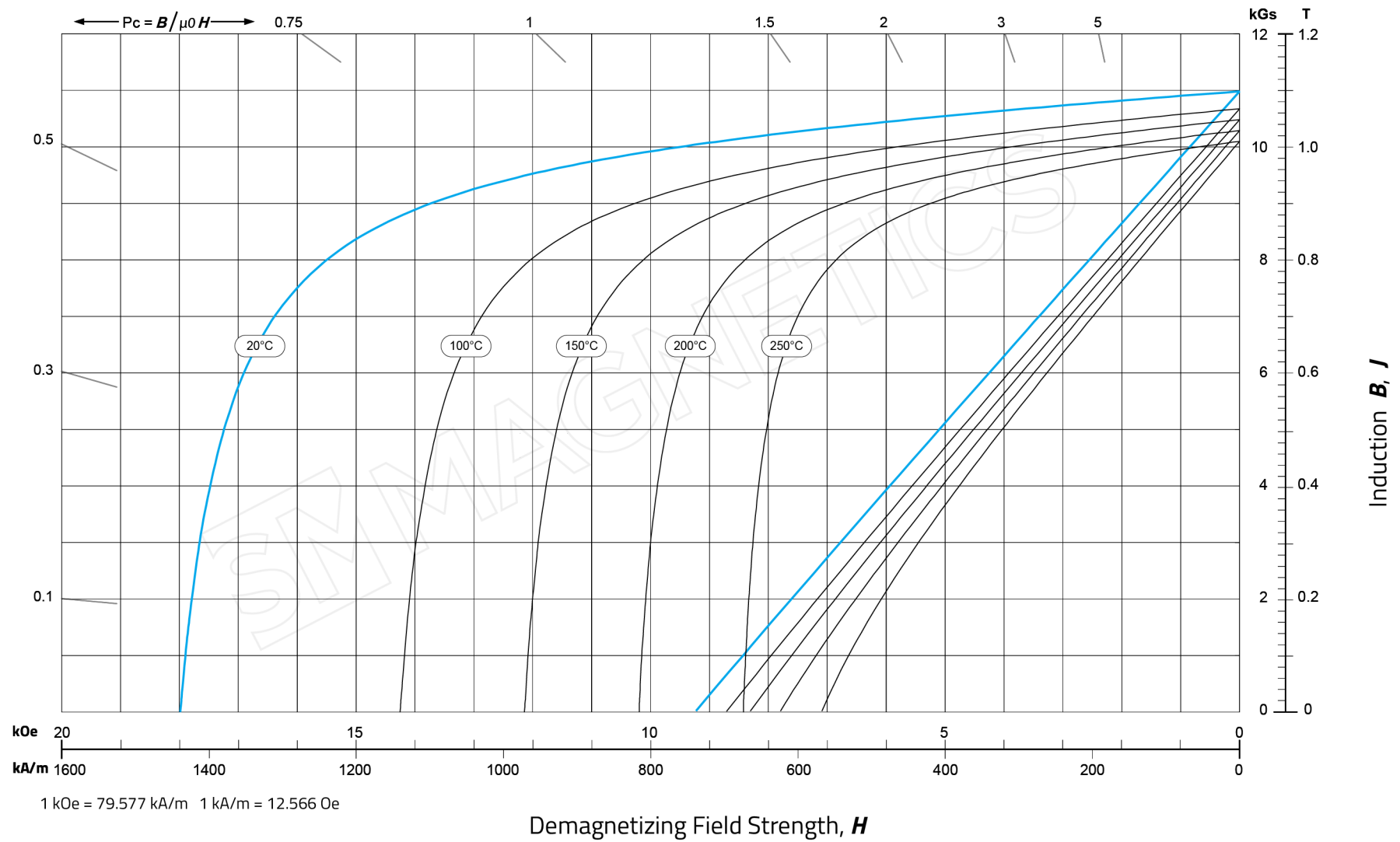
**H<sub>d</sub>** (Intrinsic Coercivity):

8 - 12 kOe  
636 - 955 kA/m

**(BH)<sub>max</sub>** (Max Energy Product):

29 - 32 MGOe  
231 - 255 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-30M**

**$B_r$**  (Remanence):

10.8 - 11.0 kGs  
1.08 - 1.10 T

**$H_{cB}$**  (Normal Coercivity):

8.5 - 10.5 kOe  
676 - 835 kA/m

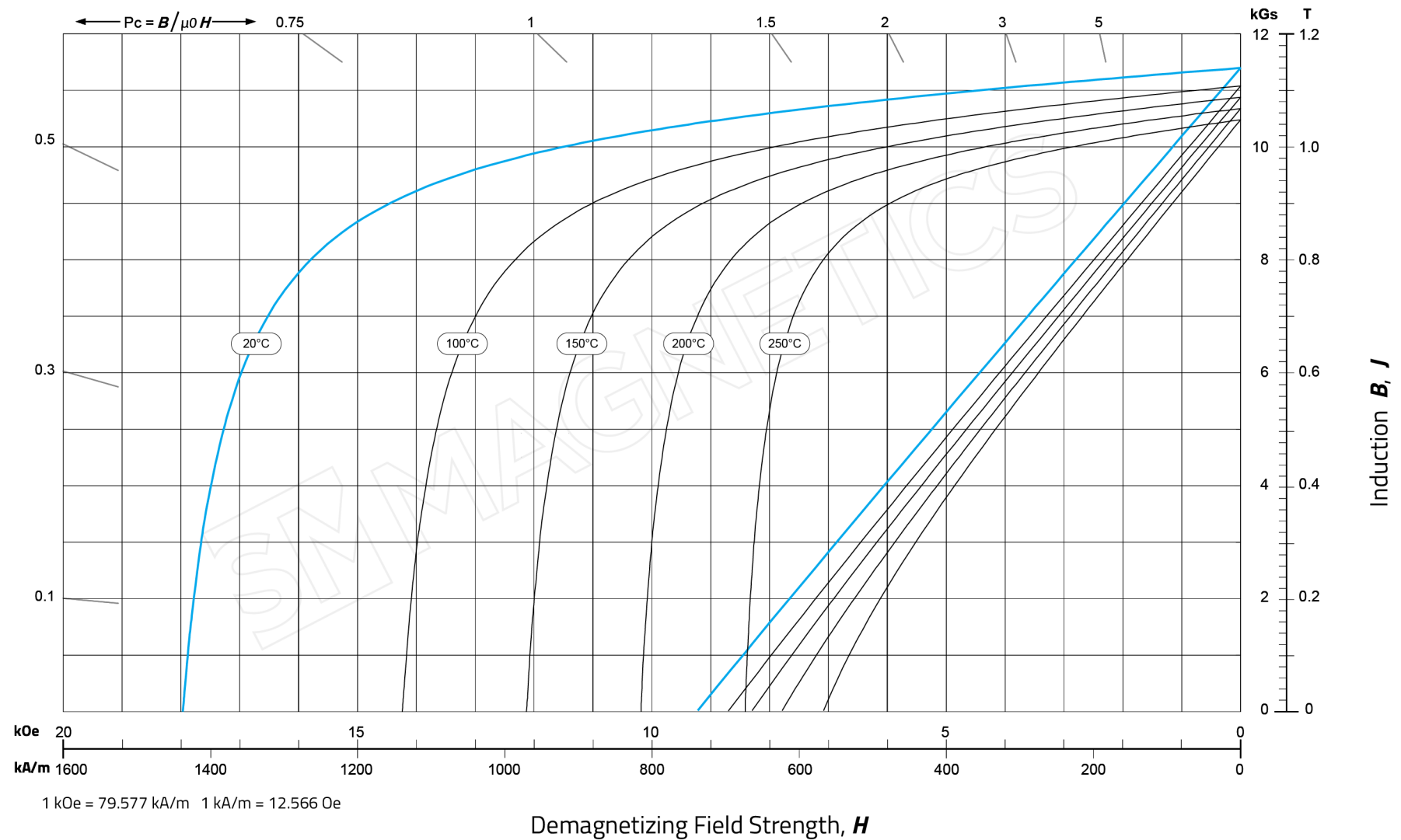
**$H_{cJ}$**  (Intrinsic Coercivity):

12 - 18 kOe  
955 - 1433 kA/m

**$(BH)_{max}$**  (Max Energy Product):

28 - 30 MGOe  
223 - 239 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-32M**

**$B_r$**  (Remanence):

11.0 - 11.5 kGs  
1.10 - 1.15 T

**$H_{cB}$**  (Normal Coercivity):

8.5 - 10.7 kOe  
676 - 852 kA/m

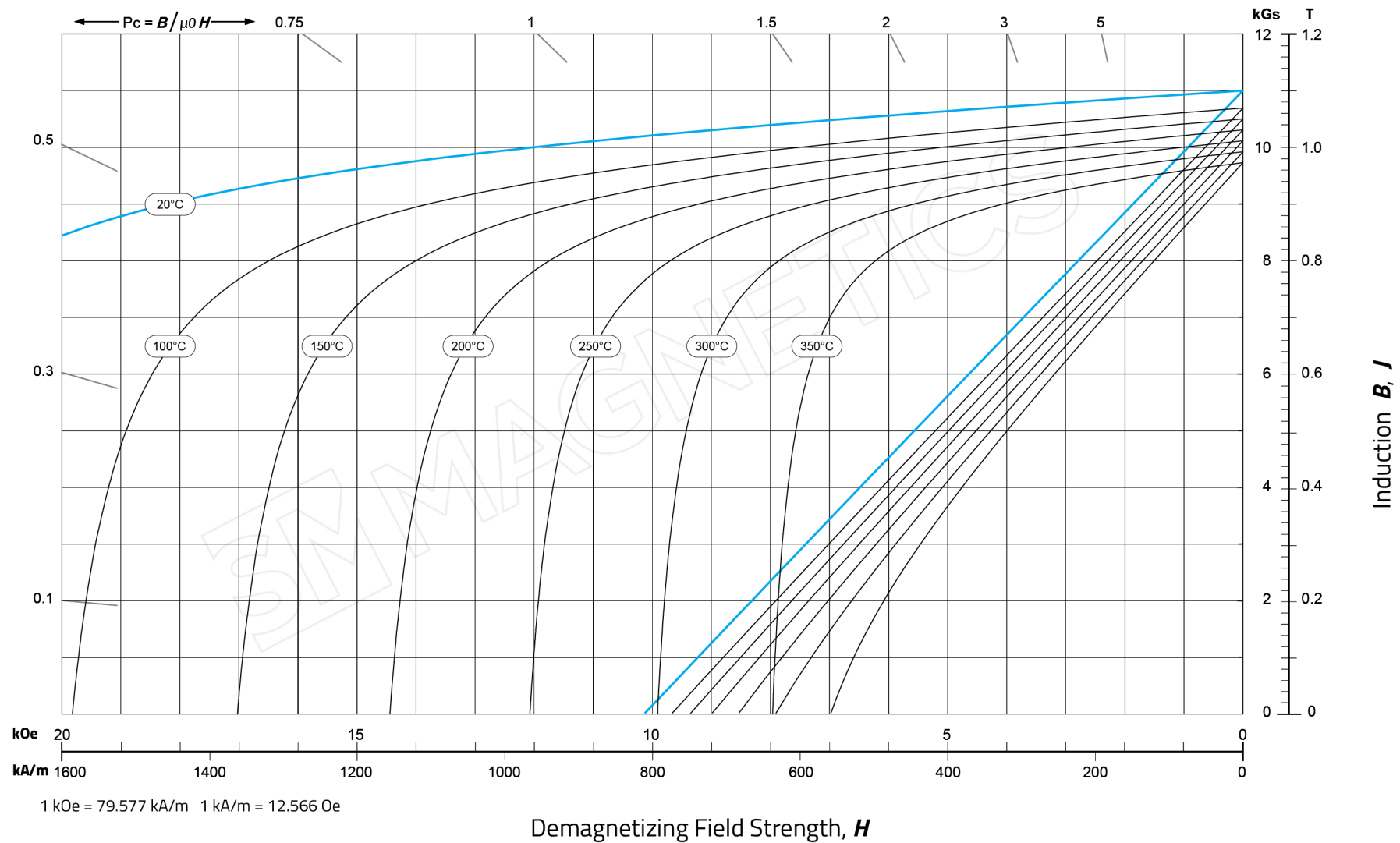
**$H_{dI}$**  (Intrinsic Coercivity):

12 - 18 kOe  
955 - 1433 kA/m

**$(BH)_{max}$**  (Max Energy Product):

29 - 32 MGOe  
231 - 255 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17-28</sub>**

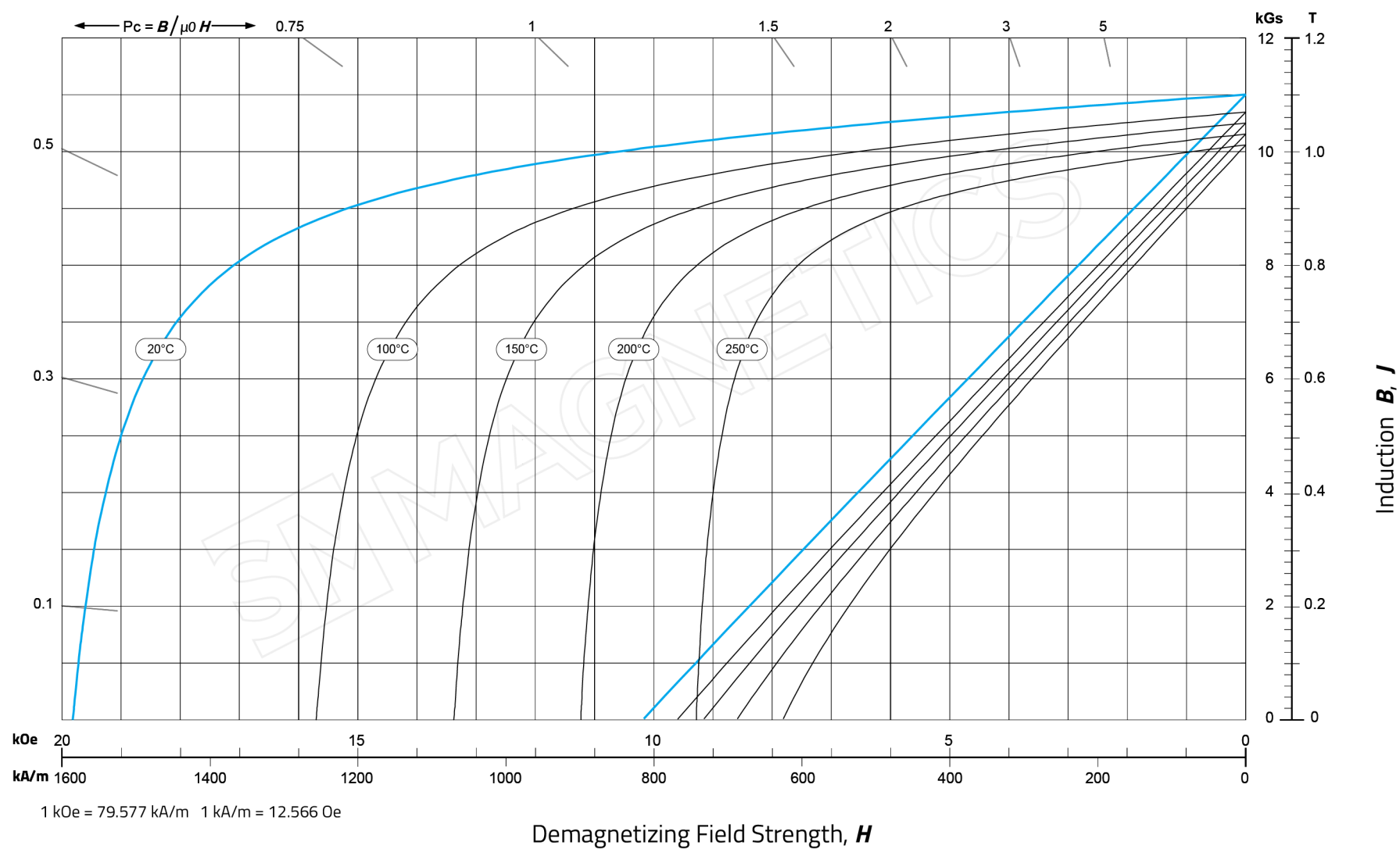
**$B_r$**  (Remanence):  
10.3 - 10.8 kGs  
1.03 - 1.08 T

**$H_{cB}$**  (Normal Coercivity):  
9.5 - 10.2 kOe  
756 - 812 kA/m

**$H_d$**  (Intrinsic Coercivity):  
≥ 18 kOe  
≥ 1433 kA/m

**$(BH)_{max}$**  (Max Energy Product):  
26 - 28 MGOe  
207 - 223 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-30**

**$B_r$**  (Remanence):

10.8 - 11.0 kGs  
1.08 - 1.10 T

**$H_{cB}$**  (Normal Coercivity):

9.9 - 10.5 kOe  
788 - 835 kA/m

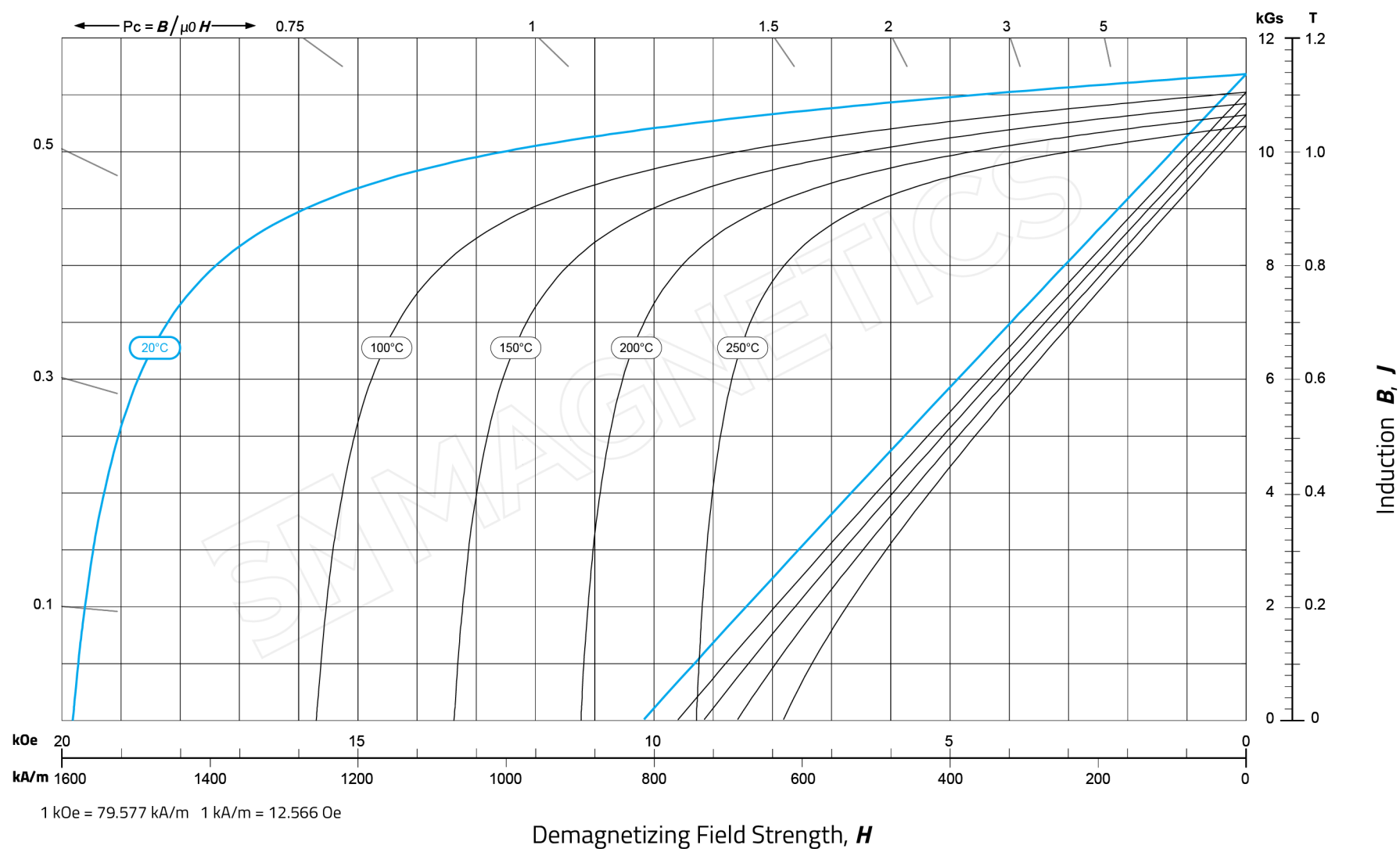
**$H_{ci}$**  (Intrinsic Coercivity):

≥ 18 kOe  
≥ 1433 kA/m

**$(BH)_{max}$**  (Max Energy Product):

28 - 30 MGOe  
223 - 239 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C):

**Sm<sub>2</sub>Co<sub>17</sub>-32**

**$B_r$**  (Remanence):

11.0 - 11.5 kGs  
1.10 - 1.15 T

**$H_{cB}$**  (Normal Coercivity):

10.2 - 10.8 kOe  
812 - 860 kA/m

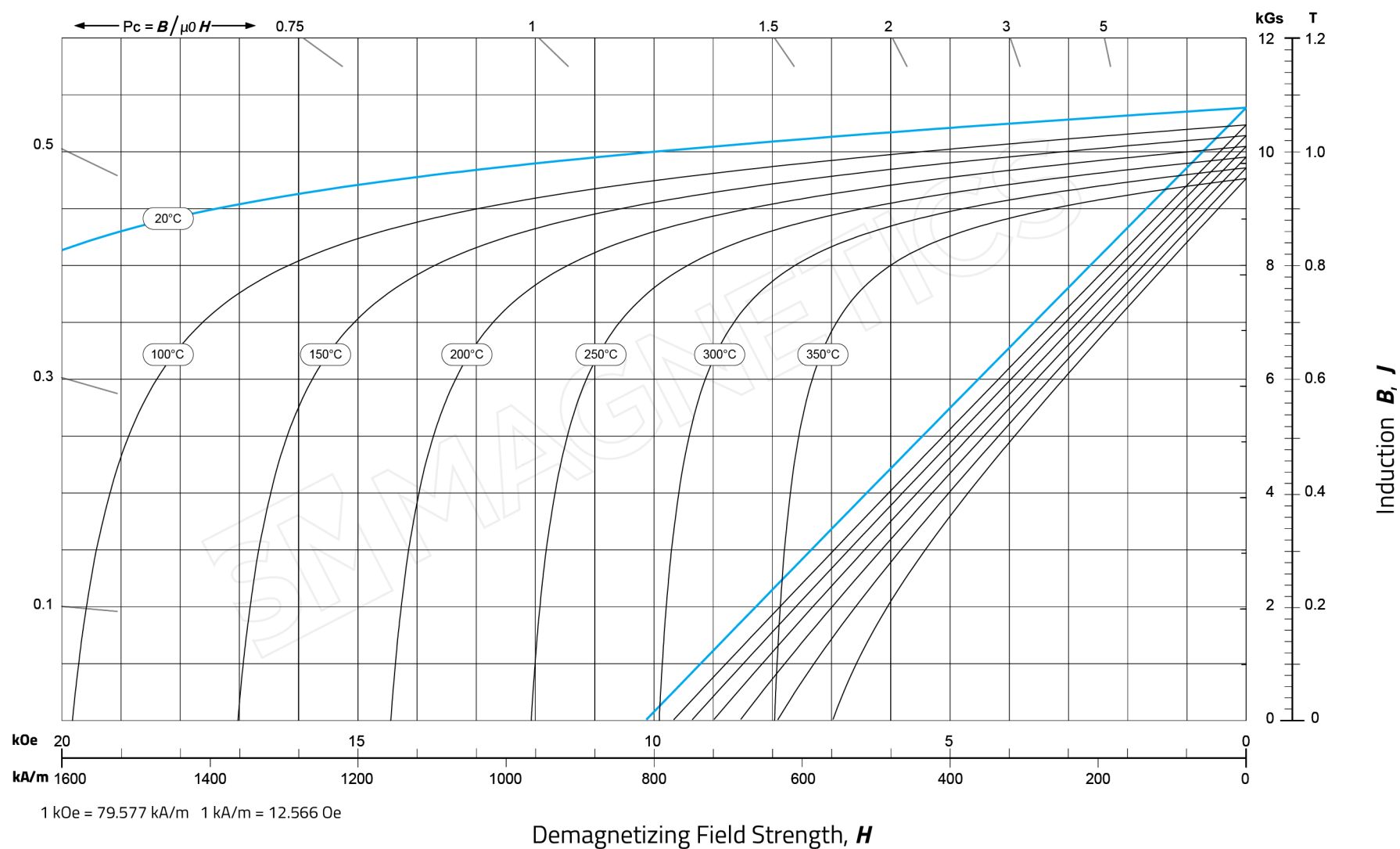
**$H_d$**  (Intrinsic Coercivity):

≥ 18 kOe  
≥ 1433 kA/m

**$(BH)_{max}$**  (Max Energy Product):

29 - 32 MGOe  
231 - 255 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-28H**

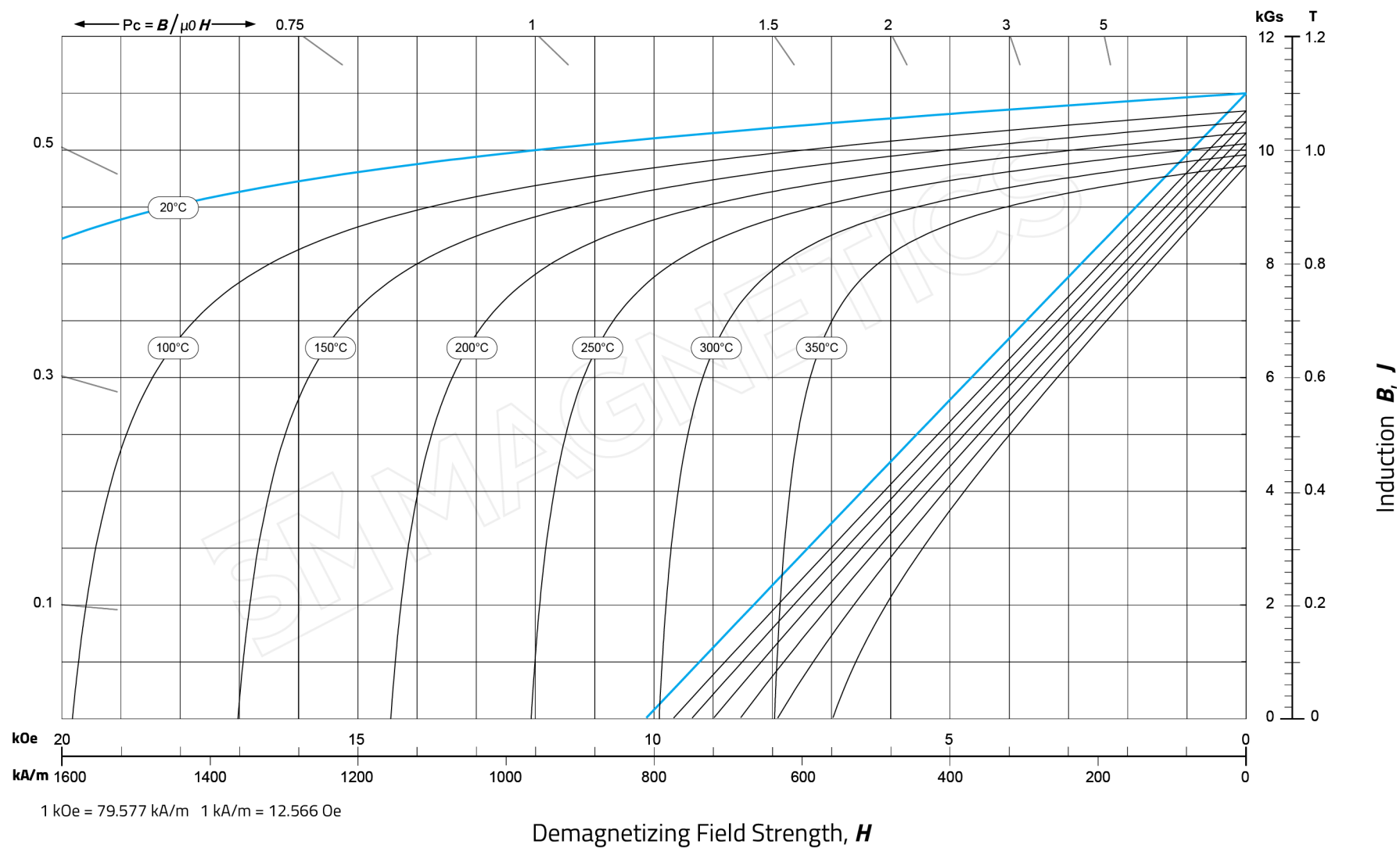
**$B_r$**  (Remanence):  
10.3 - 10.8 kGs  
1.03 - 1.08 T

**$H_{cB}$**  (Normal Coercivity):  
9.5 - 10.2 kOe  
756 - 812 kA/m

**$H_d$**  (Intrinsic Coercivity):  
≥ 25 kOe  
≥ 1990 kA/m

**$(BH)_{max}$**  (Max Energy Product):  
26 - 28 MGOe  
207 - 223 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-30H**

**$B_r$**  (Remanence):

10.8 - 11.0 kGs  
1.08 - 1.10 T

**$H_{cB}$**  (Normal Coercivity):

9.9 - 10.5 kOe  
788 - 835 kA/m

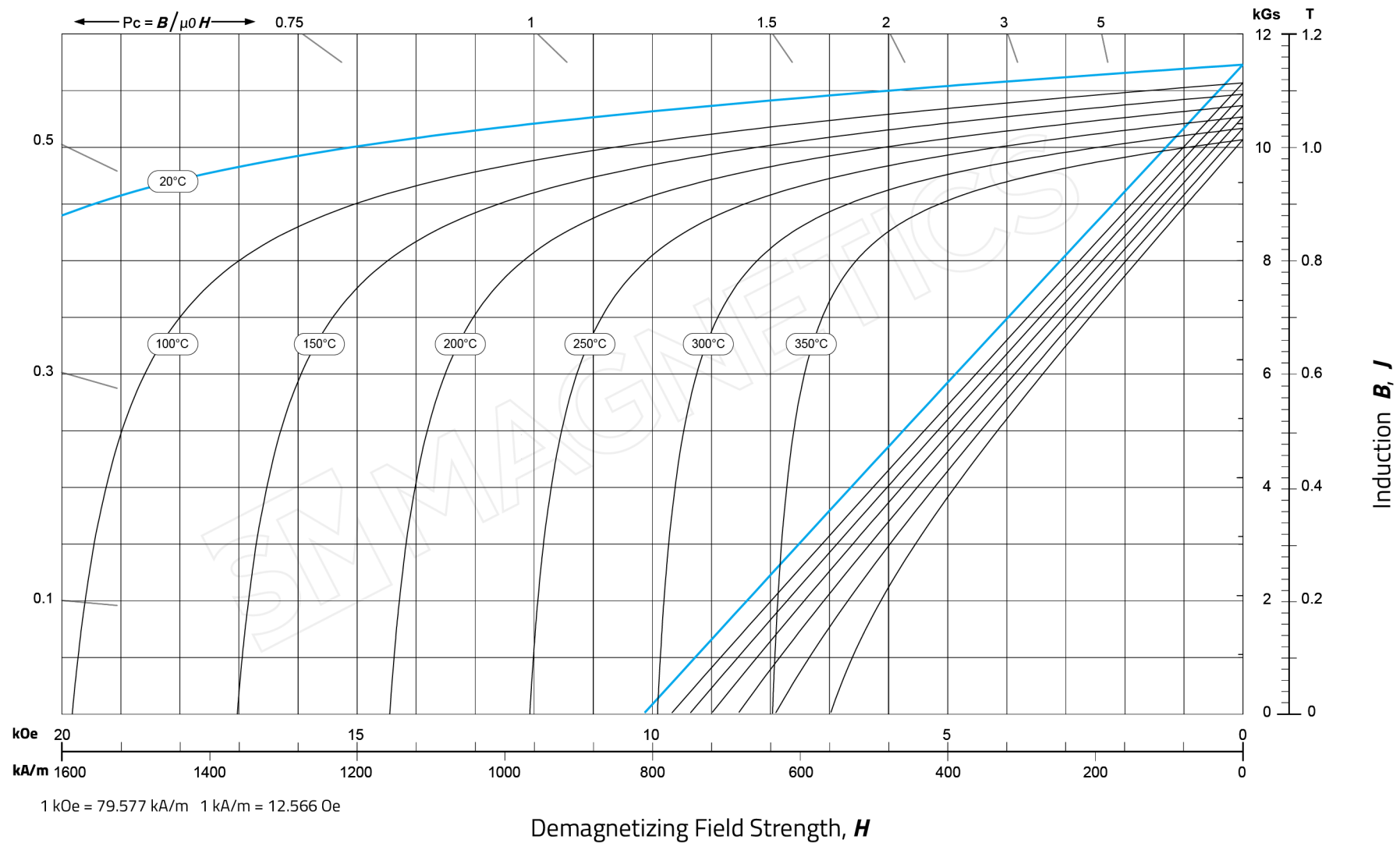
**$H_d$**  (Intrinsic Coercivity):

≥ 25 kOe  
≥ 1990 kA/m

**$(BH)_{max}$**  (Max Energy Product):

28 - 30 MGOe  
223 - 239 kJ/m<sup>3</sup>

# Demagnetization Curves for Sintered SmCo



Magnetic Properties (20°C) :

**Sm<sub>2</sub>Co<sub>17</sub>-32H**

**$B_r$**  (Remanence):

11.0 - 11.5 kGs  
1.10 - 1.15 T

**$H_{cB}$**  (Normal Coercivity):

10.2 - 10.8 kOe  
812 - 860 kA/m

**$H_d$**  (Intrinsic Coercivity):

$\geq 25 \text{ kOe}$   
 $\geq 1990 \text{ kA/m}$

**$(BH)_{\max}$**  (Max Energy Product):

29 - 32 MGOe  
231 - 255 kJ/m<sup>3</sup>