

INFORMATION SHEET



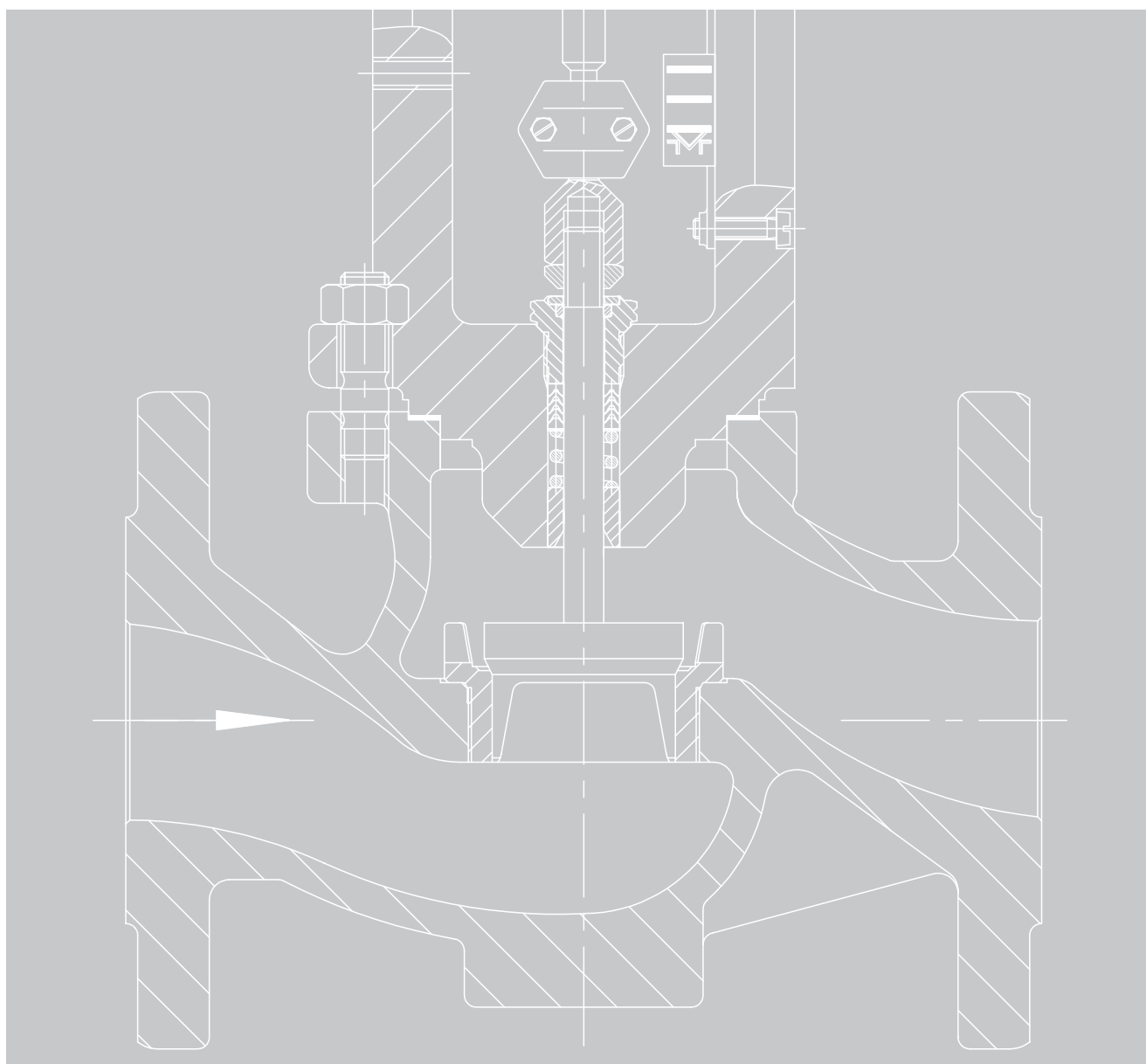
T 8000-2 EN

Electric and Pneumatic Control Valves

Series 240 • 250 • 280 • 290 • SAMSON PFEIFFER

Materials and pressure-temperature diagrams

DN 10 to 600 • PN 10 to 400 • -200 to +700 °C
NPS ¼ to 24 • Class 125 to 2500 • -328 to +1292 °F
DN 15A to 250A • JIS 10K/20K • -200 to +500 °C



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1 Materials according to DIN and ANSI/ASME

The table below lists the body materials that are most frequently used at SAMSON together with their temperature ranges and possible pressure ratings.

The limits of application of these materials are specified in the associated pressure-temperature diagrams on the following pages. Details on special materials are available on request.

The restrictions specified in the data sheets also apply in addition to the pressure-temperature diagrams in this Information Sheet.

Table 1: Valve materials and pressure ratings – DIN versions

For Series 240 (•) and Series 250, 280 and 290 (x)

| Material | Short name | EN material number | Temperature range in °C | PN | | | | | | | | |
|--------------------------|-------------------|-------------------------|-------------------------|----------|----|-----|----|-----|-----|-----|-----|-----|
| | | | | 10 16 | 25 | 40 | 63 | 100 | 160 | 250 | 320 | 400 |
| Cast iron | EN-GJL-250 | EN-JL1040 (GG 25) | -10 to +300 | • | | | | | | | | |
| Spheroidal graphite iron | EN-GJS-400-18U-LT | EN-JS1049 (GGG 40.3) | -10 to +350 | • | • | | | | | | | |
| Cast steel | GP240GH | 1.0619 | -10 to +400 | • | • | • X | X | X | X | X | X | X |
| | G9Ni14 | 1.5638 | -90 to +300 | • | • | • X | X | X | X | X | X | X |
| | G20Mn5 | 1.6220 | -50 to +300 | • | • | • X | X | X | X | X | X | X |
| | G17CrMo5-5 | 1.7357 | -10 to +500 | | | X | X | X | X | X | X | X |
| | G17CrMo9-10 | 1.7379 | -10 to +600 | | | X | X | X | X | X | X | X |
| Cast stainless steel | GX5CrNiMo19-11-2 | 1.4408 | -200 to +700 | • | • | • X | X | X | X | X | X | X |
| | GX5CrNi19-10 | 1.4308 | -200 to +300 | • | • | • X | X | X | X | X | X | X |
| Forged steel | P250GH | 1.0460 | -10 to +400 | • | • | • | | | | | | |
| Forged stainless steel | X2CrNiMo17-12-2 | 1.4404 | -200 to +500 | • | • | • | X | X | X | X | X | X |
| | X6CrNiMoTi17-12-2 | 1.4571 | -200 to +550 | • | • | • | | | | | | |

Table 2: Valve materials and pressure ratings – ANSI versions

For Series 240 (•) and Series 250, 280 and 290 (x)

| Material | Short name | Temperature range in °C | Class | | | | | | | | |
|------------------------|------------|-------------------------|-------|-----|-----|-----|-----|-----|------|------|---|
| | | | 125 | 150 | 250 | 300 | 600 | 900 | 1500 | 2500 | |
| Cast iron | A126B | -29 to +232 | • | | • | | | | | | |
| Cast steel | A216 WCC | -29 to +425 | | • | | • X | X | X | X | X | X |
| | A217 WC6 | -29 to +500 | | | | X | X | X | X | X | X |
| | A217 WC9 | -29 to +600 | | • | | X | X | X | X | X | X |
| | A352 LCC | -46 to +345 | | • | | • X | X | X | X | X | X |
| | A352 LC3 | -101 to +345 | | • | | • X | X | X | X | X | X |
| Cast stainless steel | A351 CF8M | -254 to +700 | | • | | • X | X | X | X | X | X |
| | A351 CF8 | -254 to +538 | | • | | • X | X | X | X | X | X |
| Forged stainless steel | A316L | -254 to +538 | | • | | • | X | X | X | X | X |

2 Pressure-temperature diagrams · DIN EN materials

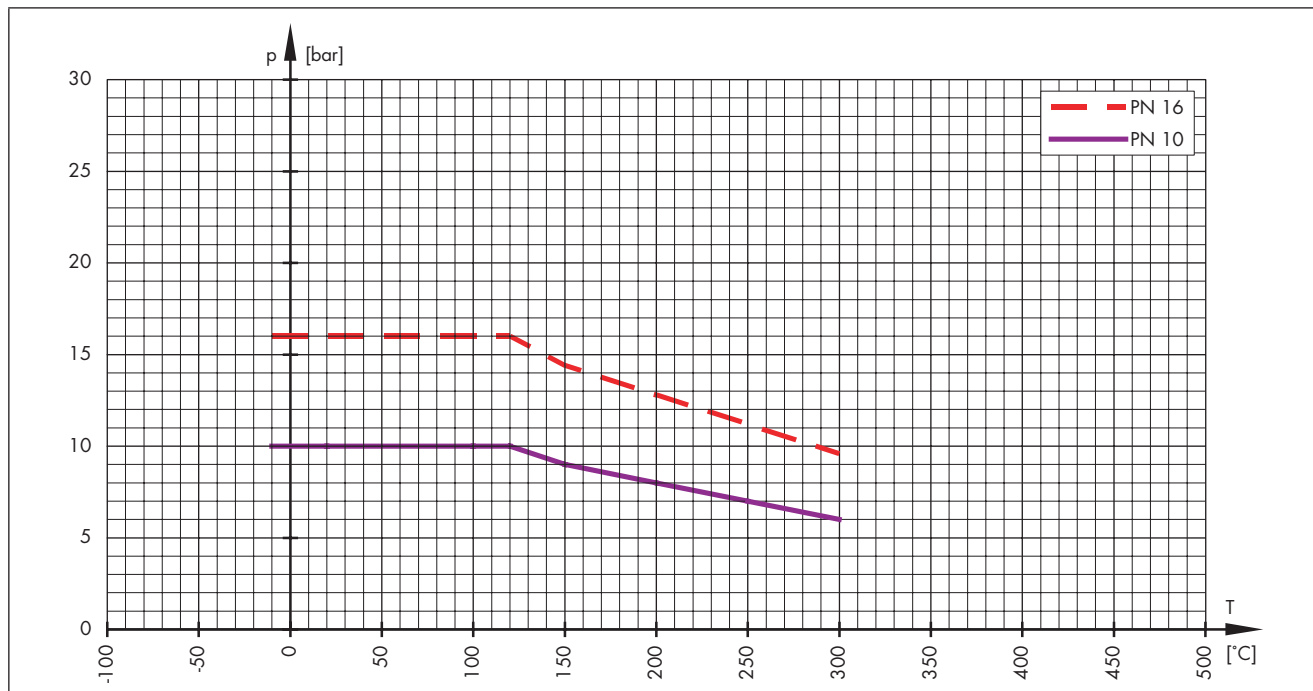
The pressure-temperature diagrams as well as the pressure and temperature specifications in the corresponding data sheets determine the maximum permissible limits of application of the valve. It is possible that these limits are restricted by factors, such as the design of the seat and plug. For typetested versions, the limits may be restricted by the applicable safety regulations.

Further details can be found in the technical data tables in the corresponding data sheet.

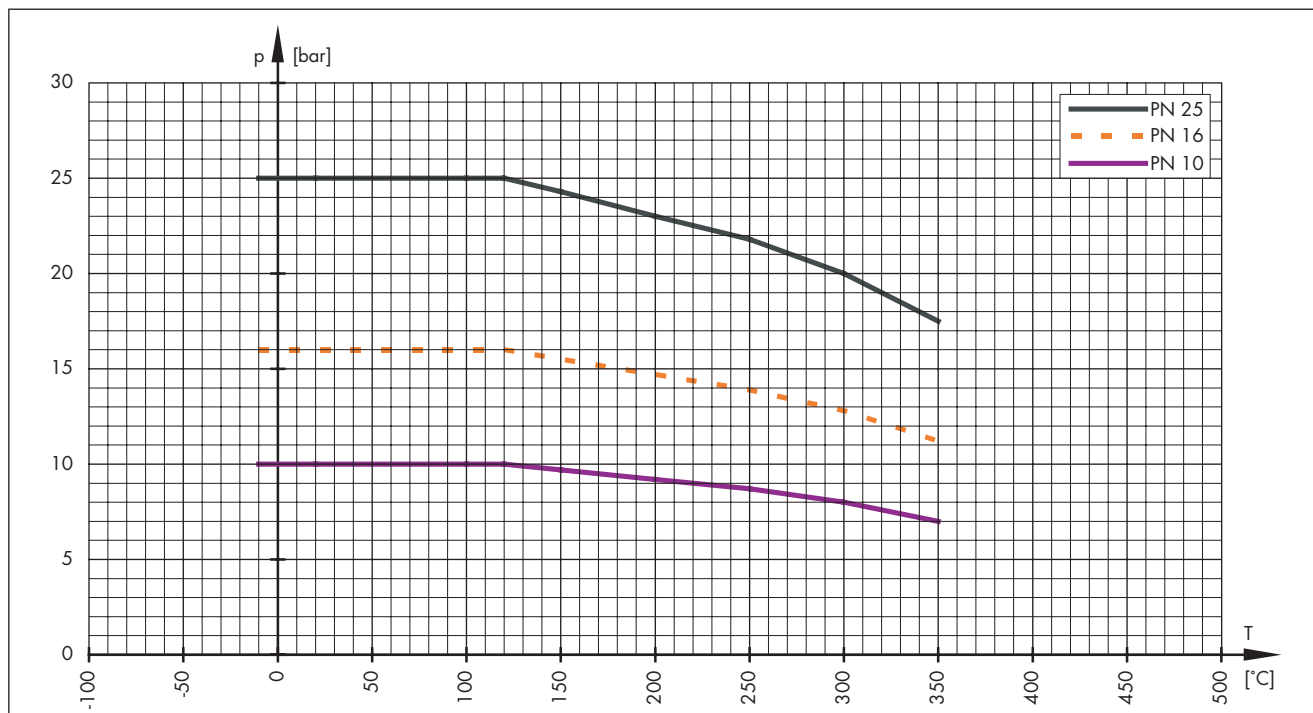
Note that the possible formation of ice on the valve body or plug stem when the medium temperature falls below 0 °C is not taken into account.

All pressures specified in bar/g.

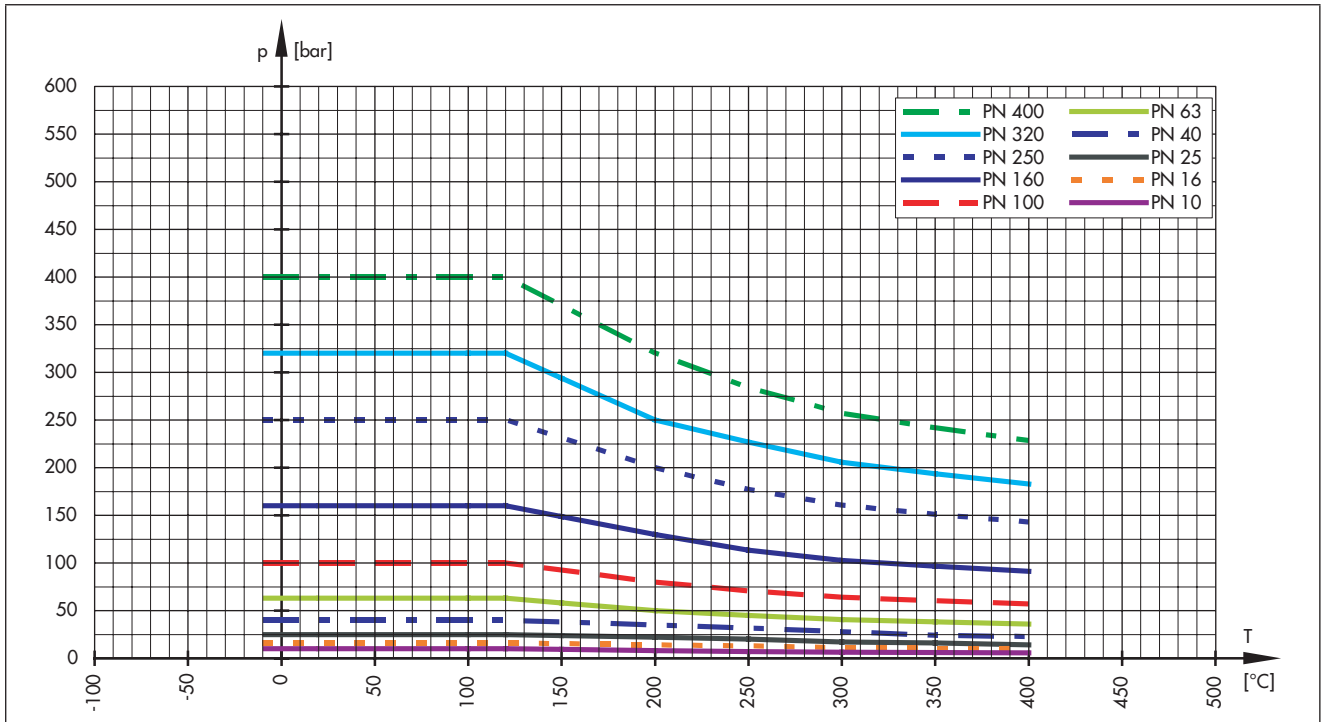
2.1 Cast iron EN-GJL-250 · EN-JL1040



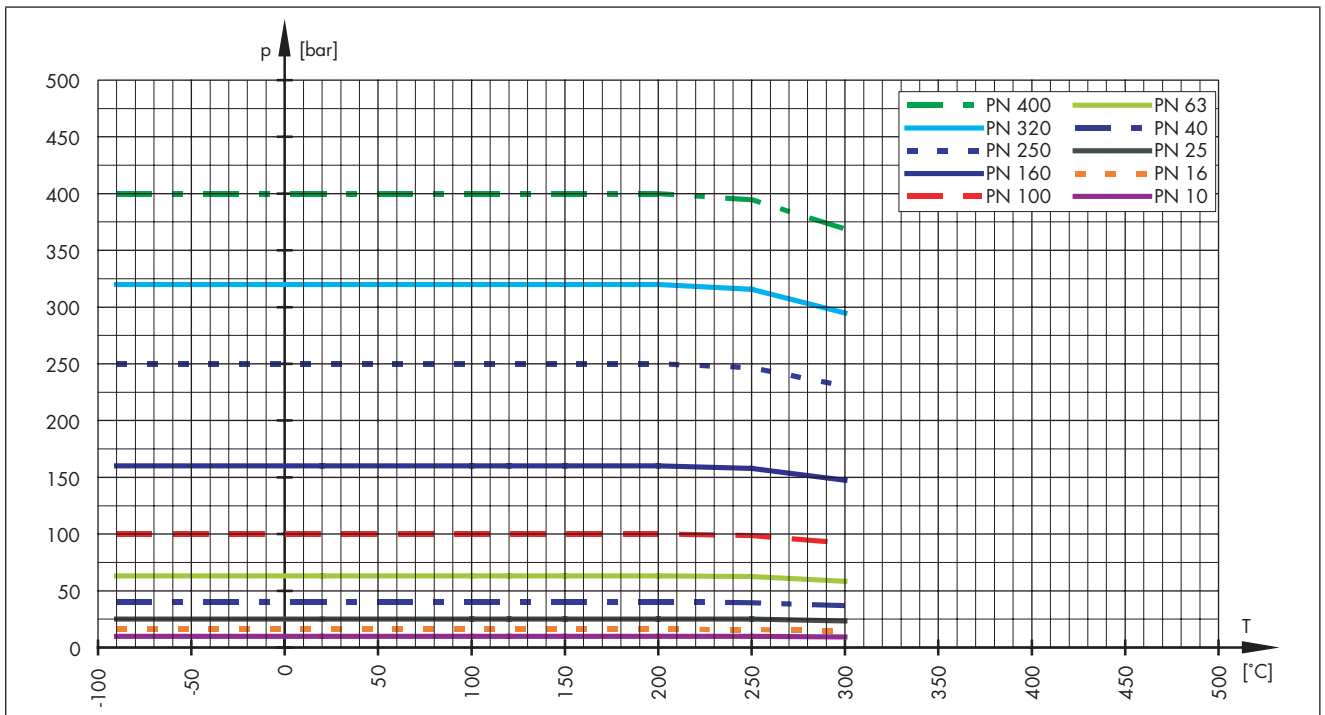
2.2 Spheroidal graphite iron EN-GJS-400-18U-LT · EN-JS1049



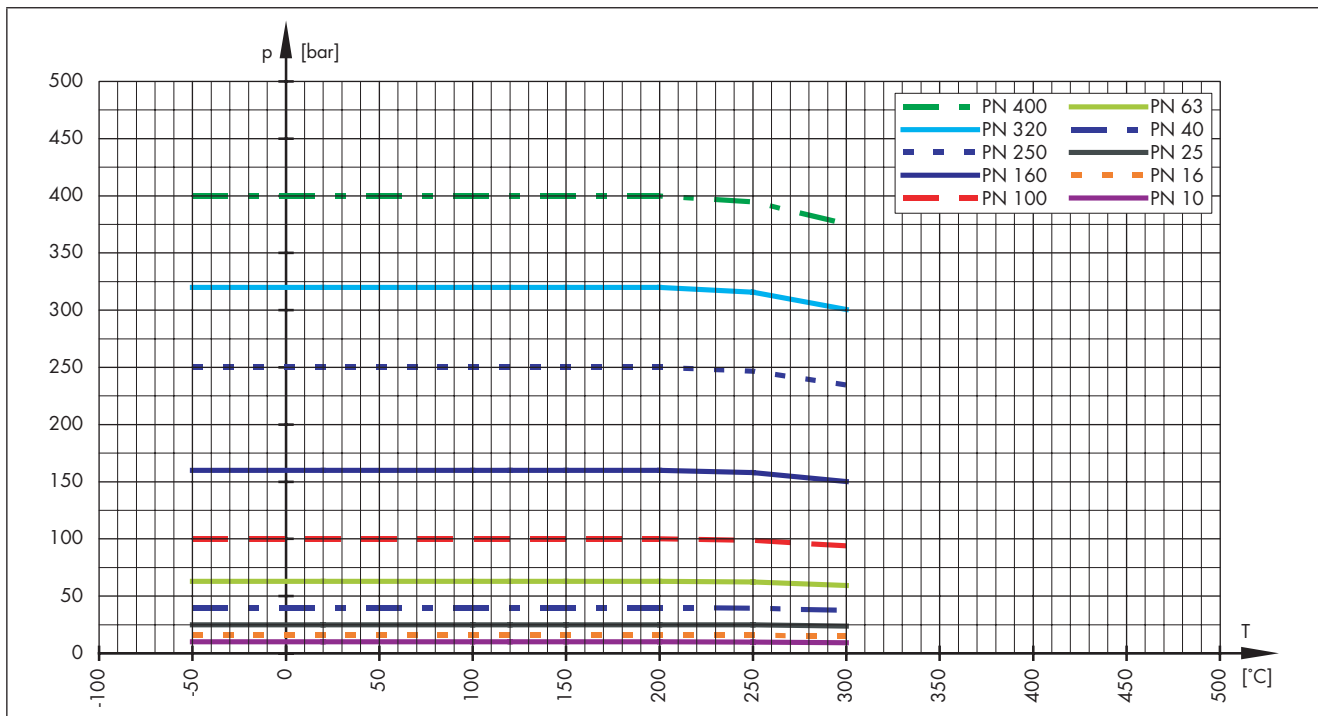
2.3 Cast steel GP240GH · 1.0619



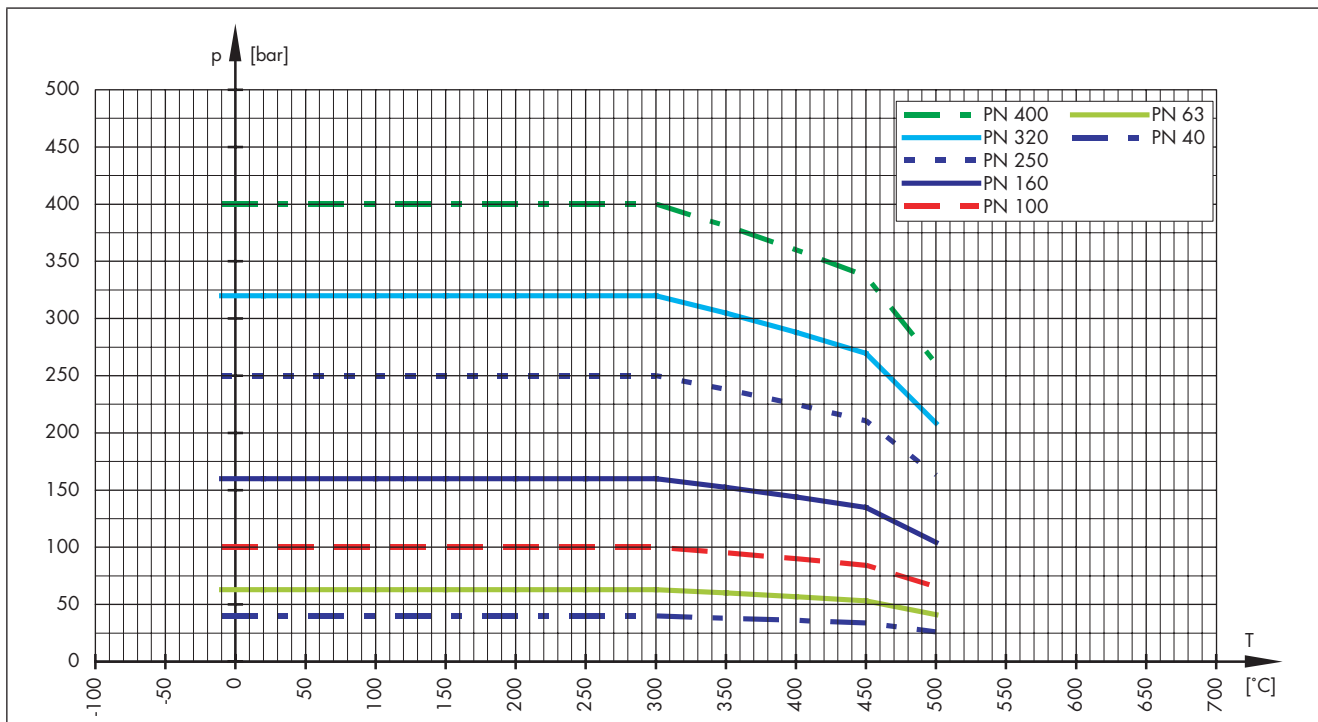
2.4 Cast steel G9Ni14 · 1.5638



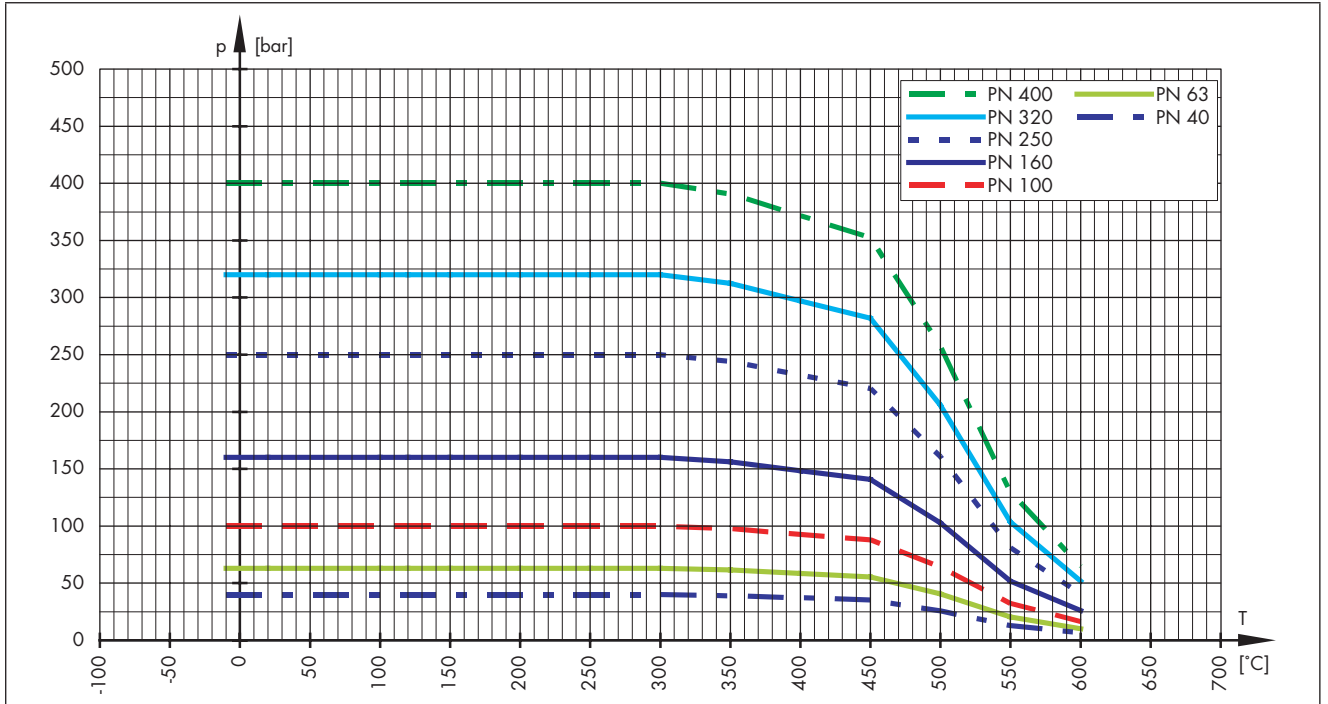
2.5 Cast steel G20Mn5 · 1.6220



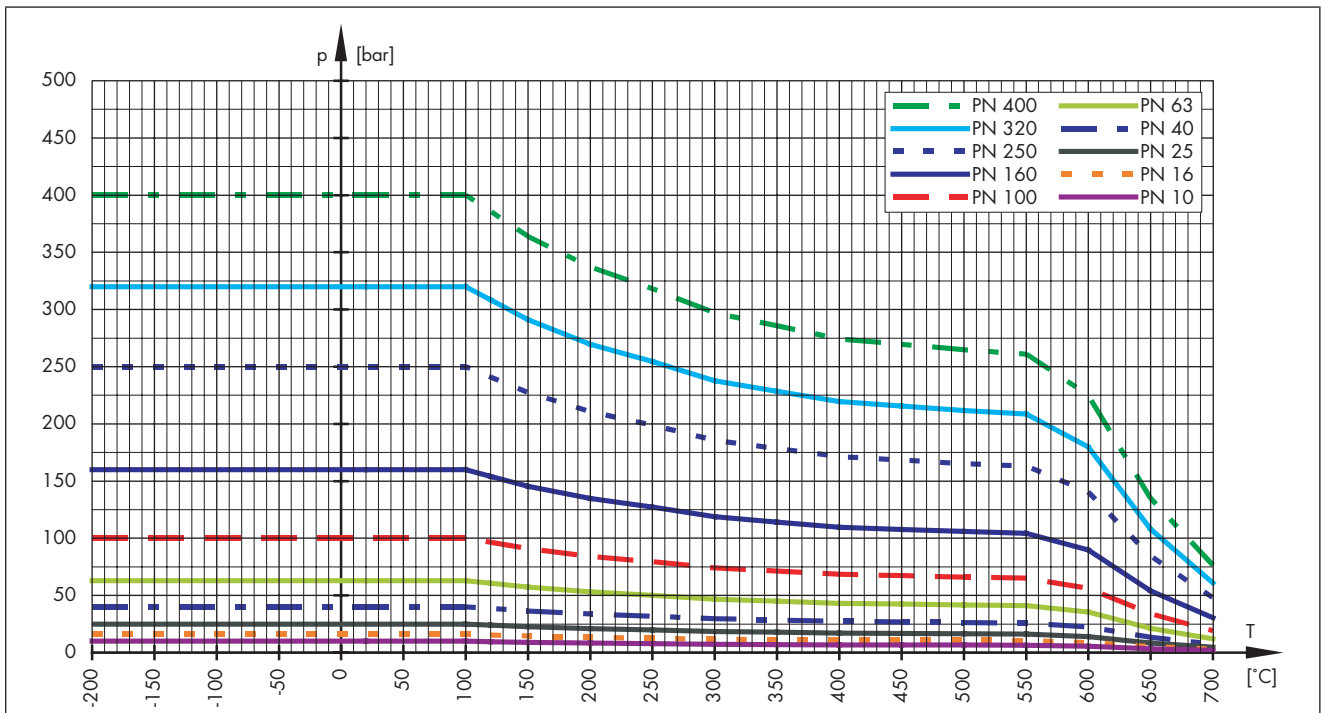
2.6 Cast steel G17CrMo5-5 · 1.7357



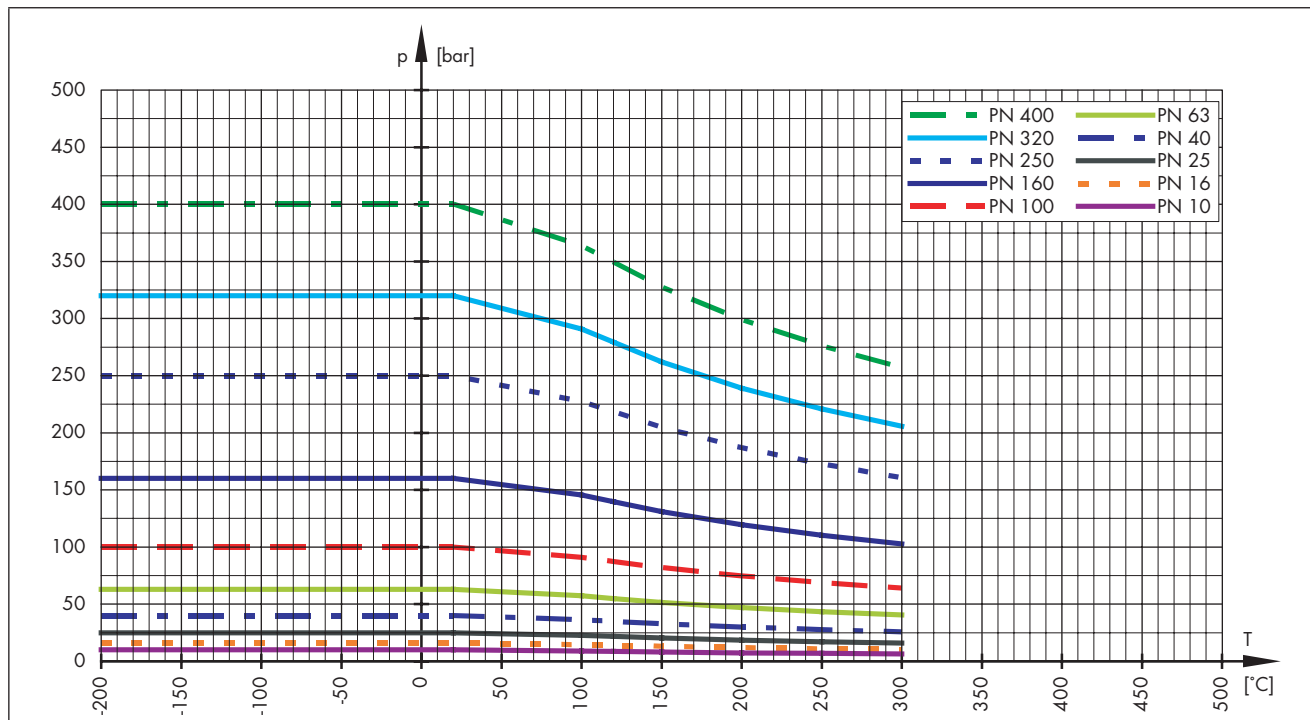
2.7 Cast steel G17CrMo9-10 · 1.7379



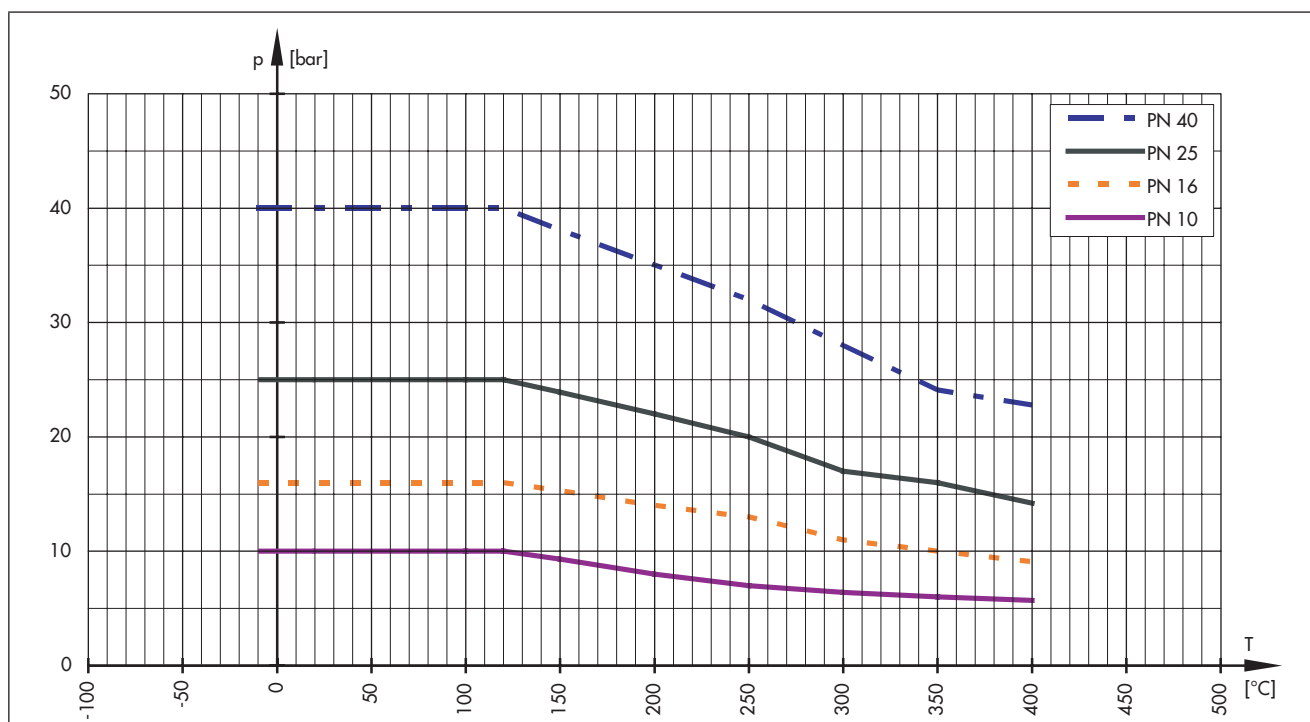
2.8 Cast stainless steel GX5CrNiMo19-11-2 · 1.4408



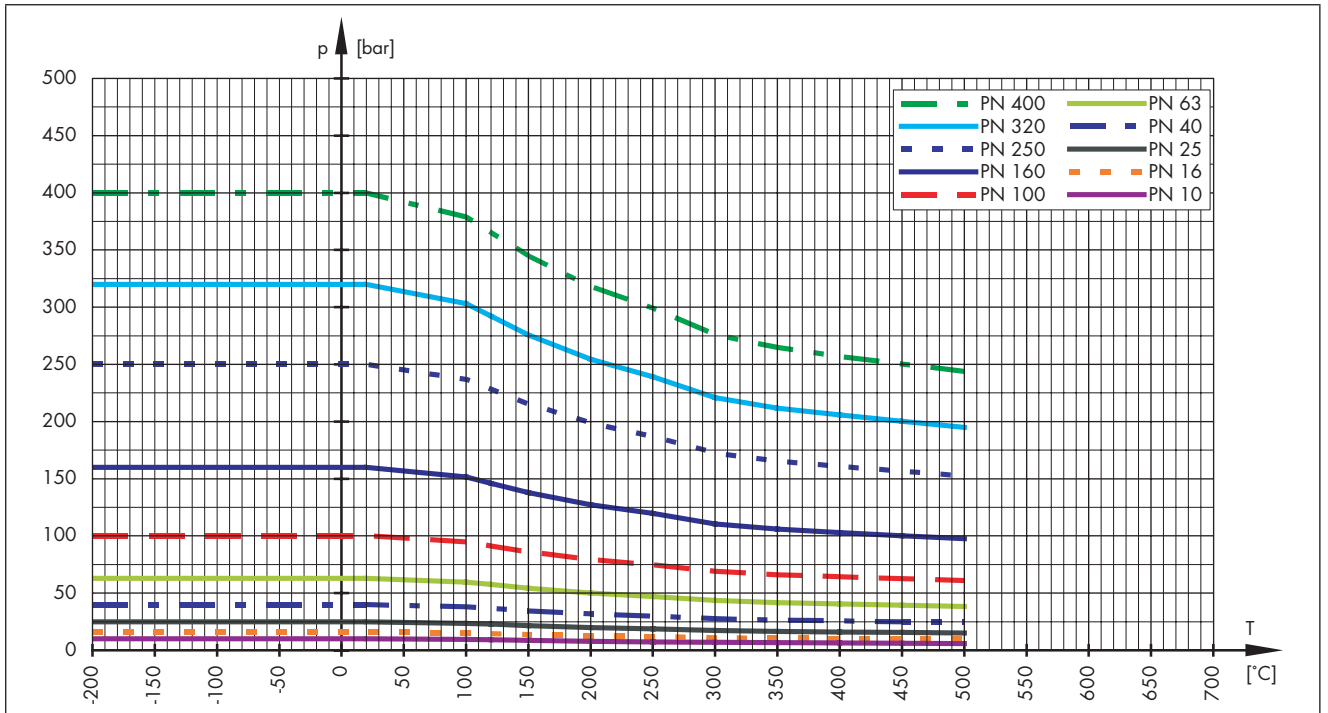
2.9 Cast stainless steel GX5CrNi19-10 · 1.4308



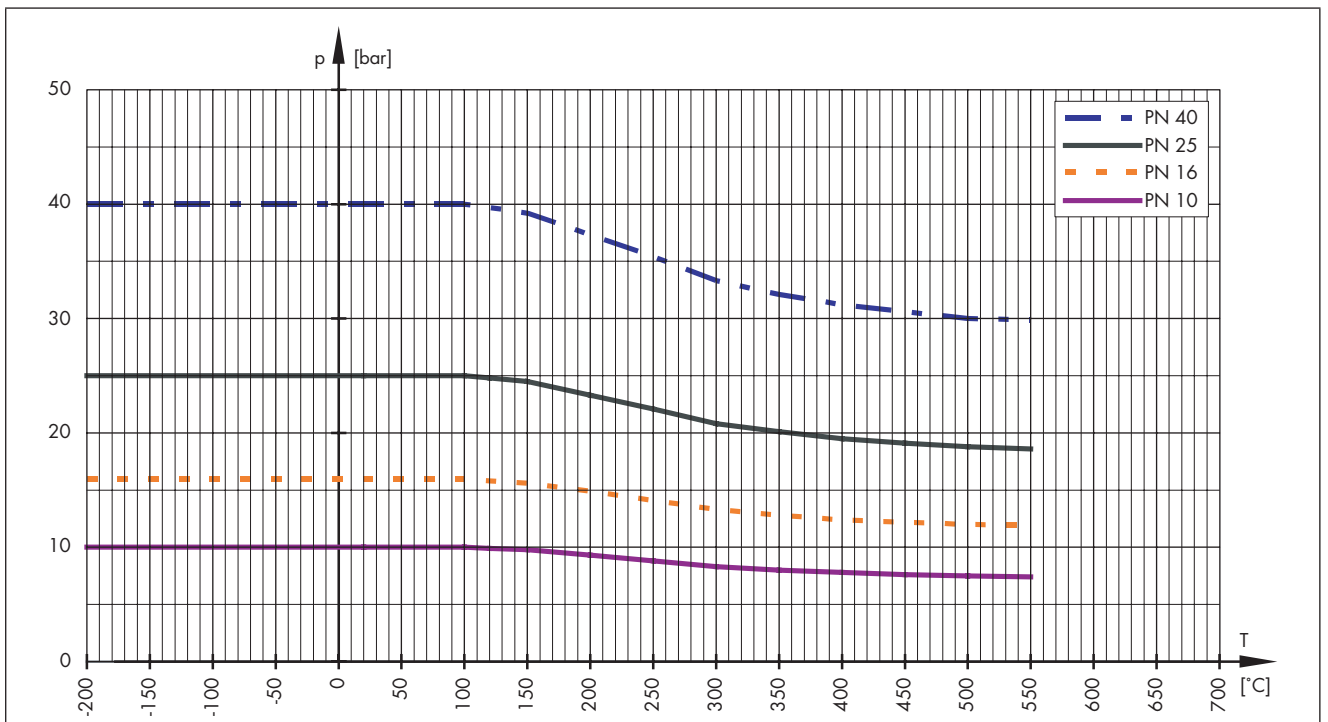
2.10 Forged steel P250GH · 1.0460



2.11 Forged stainless steel X2CrNiMo17-12-2 · 1.4404



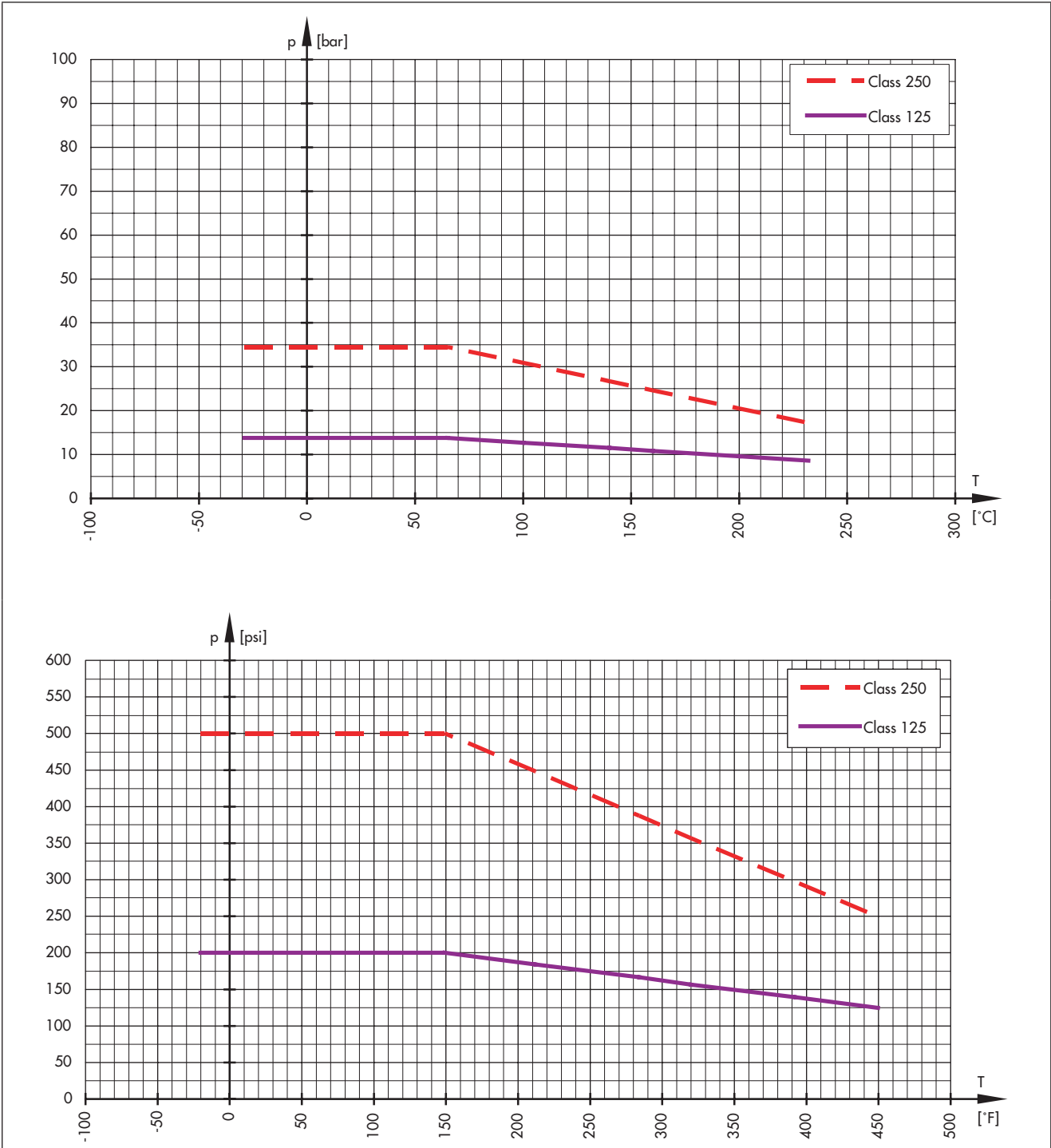
2.12 Forged stainless steel X6CrNiMoTi17-12-2 · 1.4571



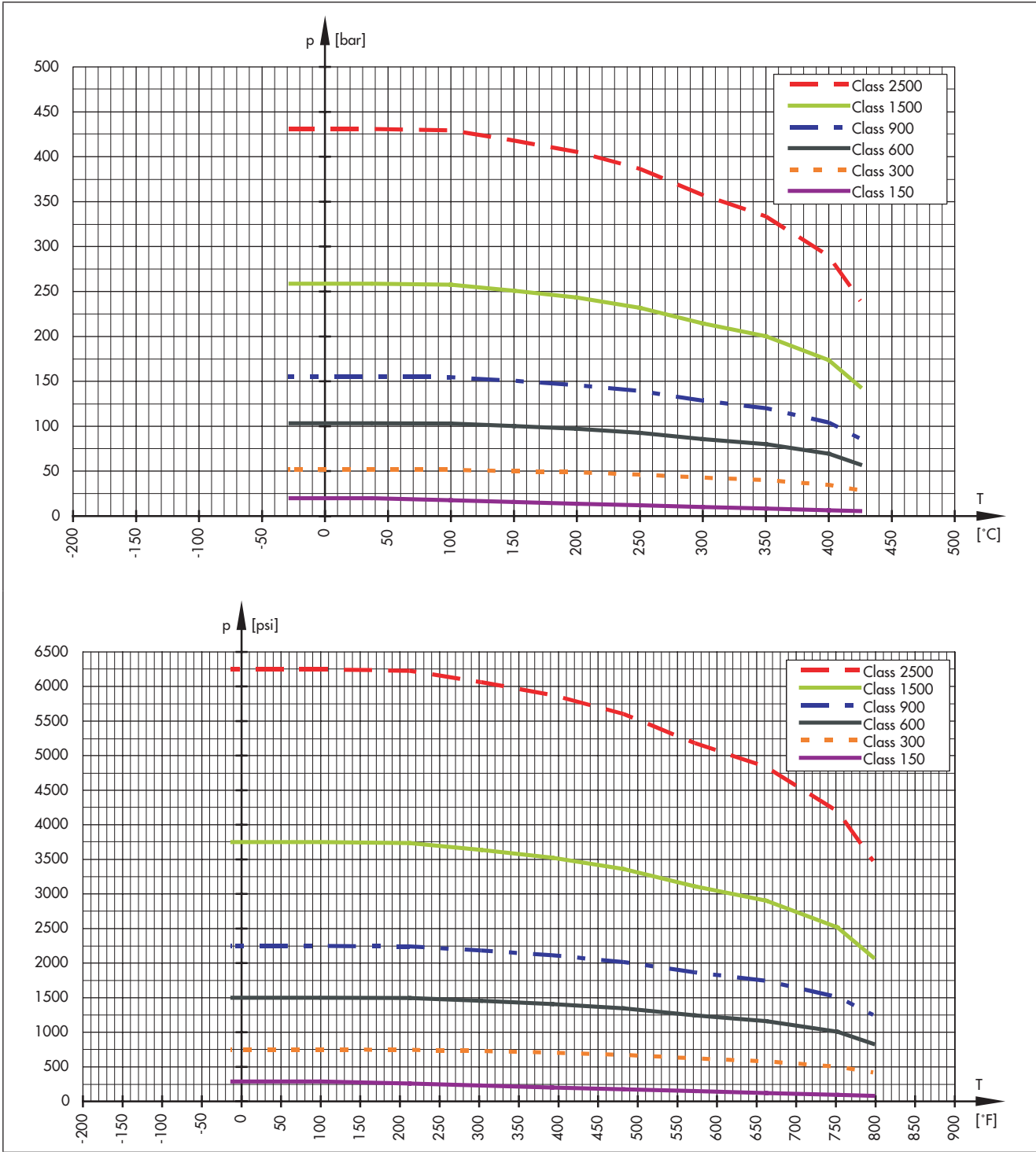
3 Pressure-temperature diagrams · ASTM materials

All pressures specified in bar/g.

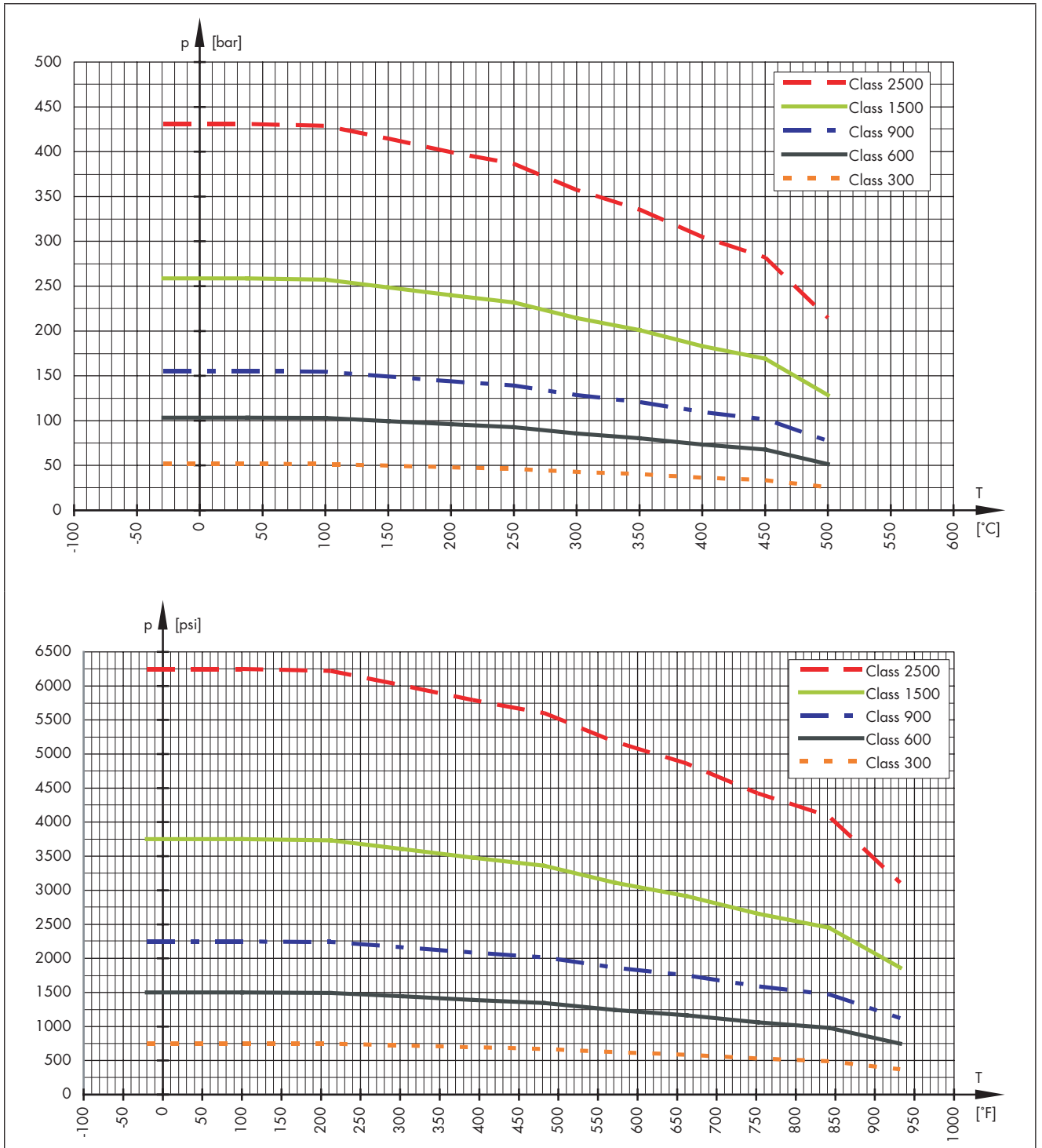
3.1 Cast iron · A126B



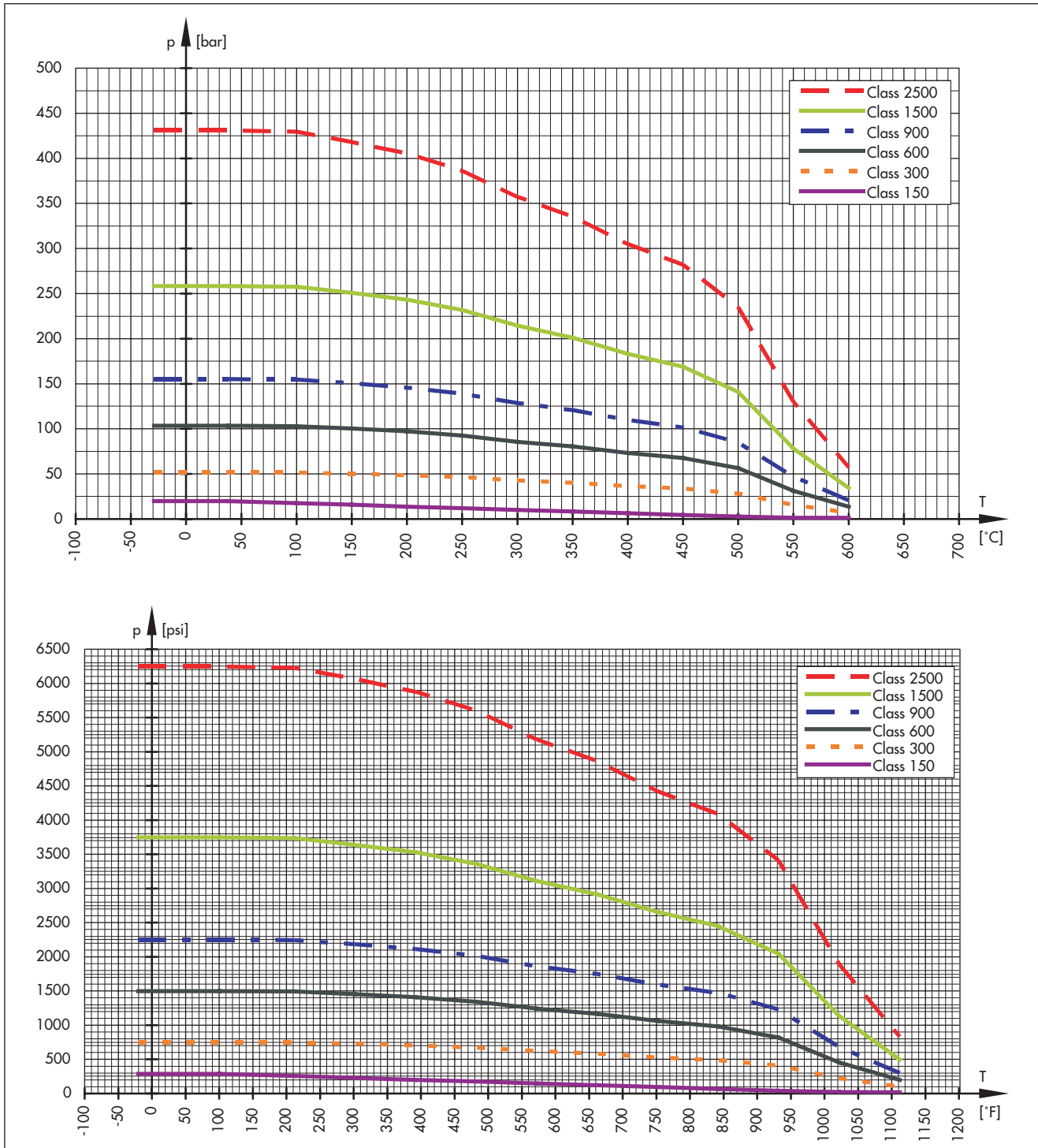
3.2 Cast steel - A216 WCC



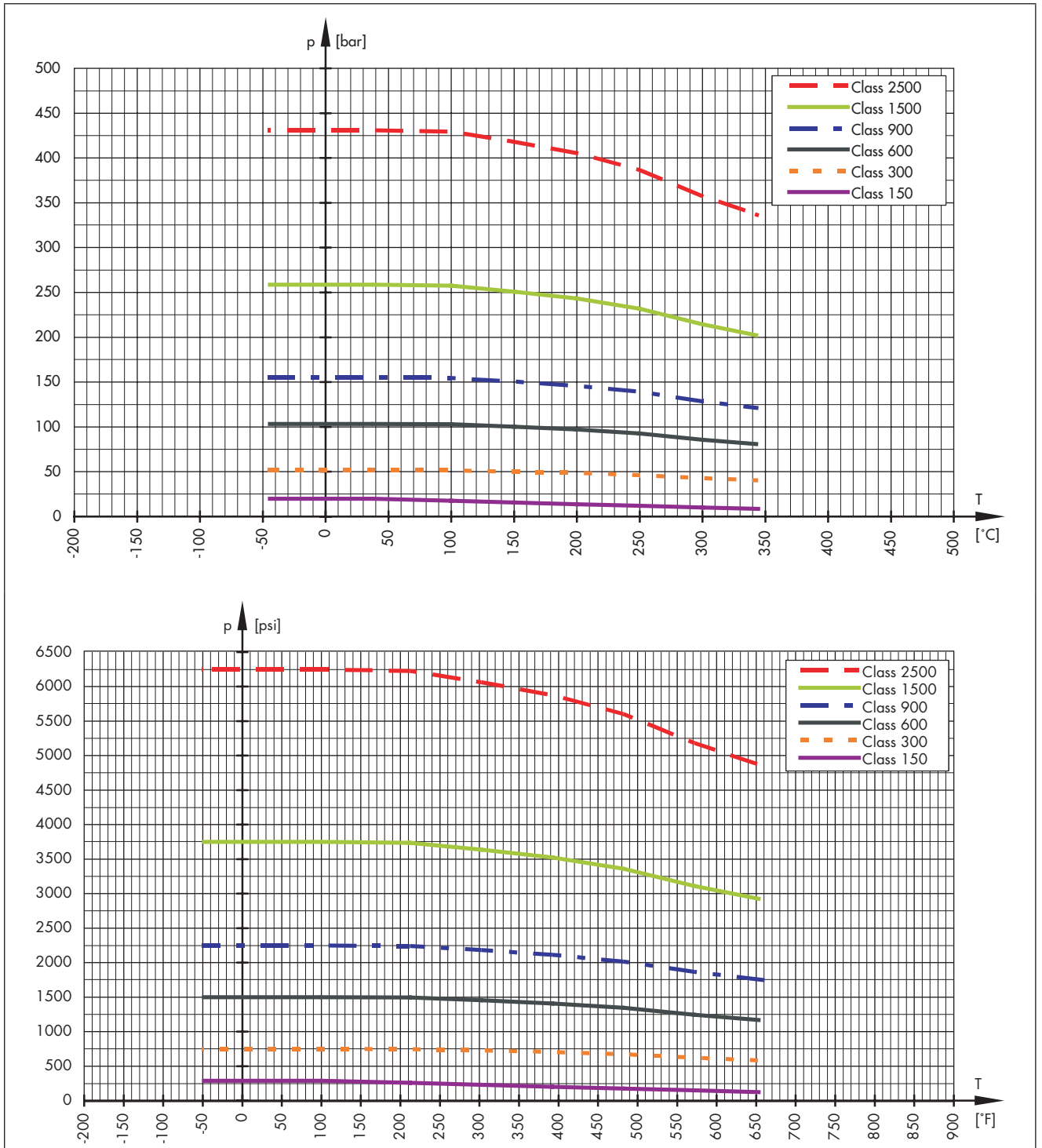
3.3 Cast steel · A217 WC6



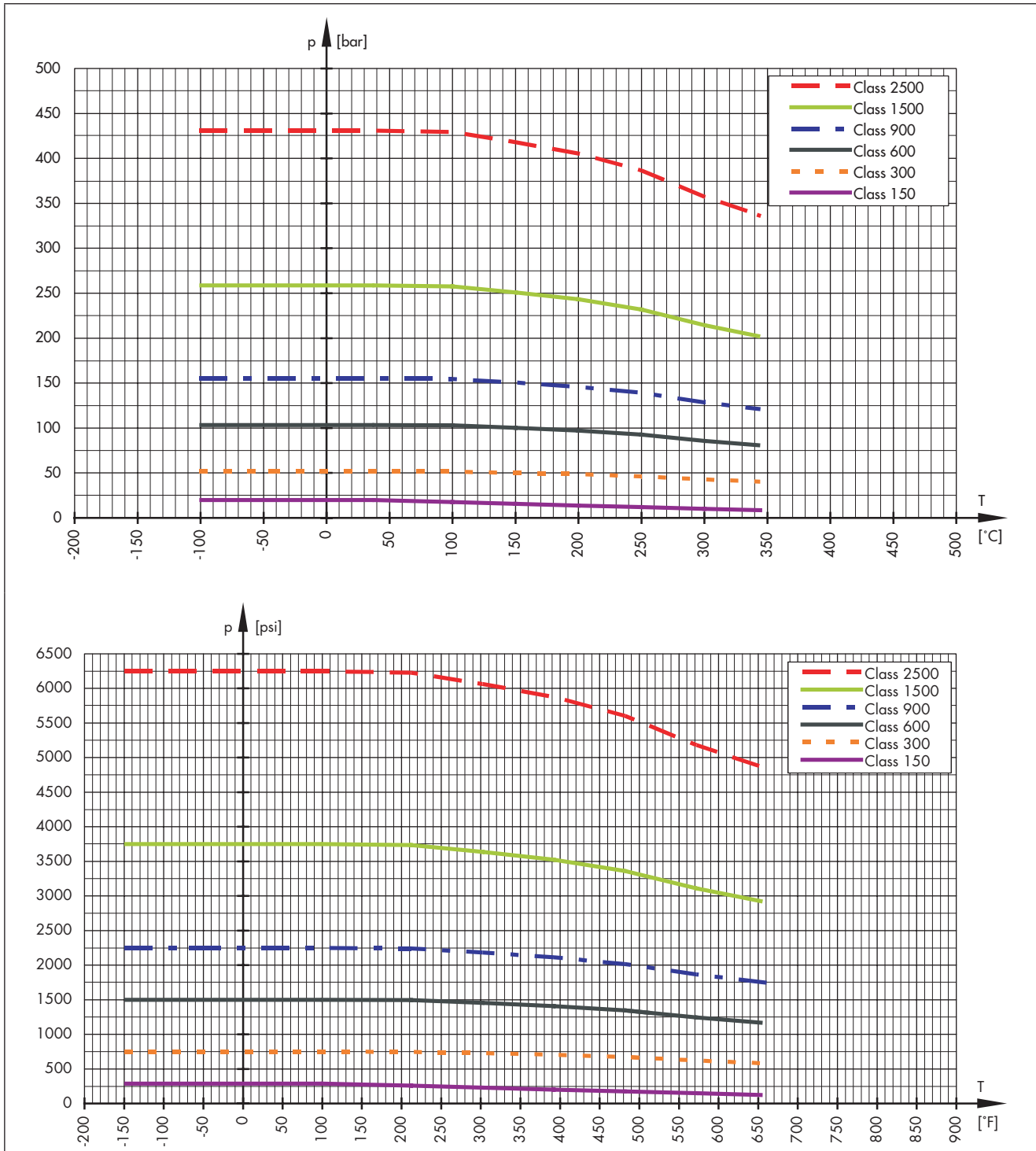
3.4 Cast steel - A217 WC9



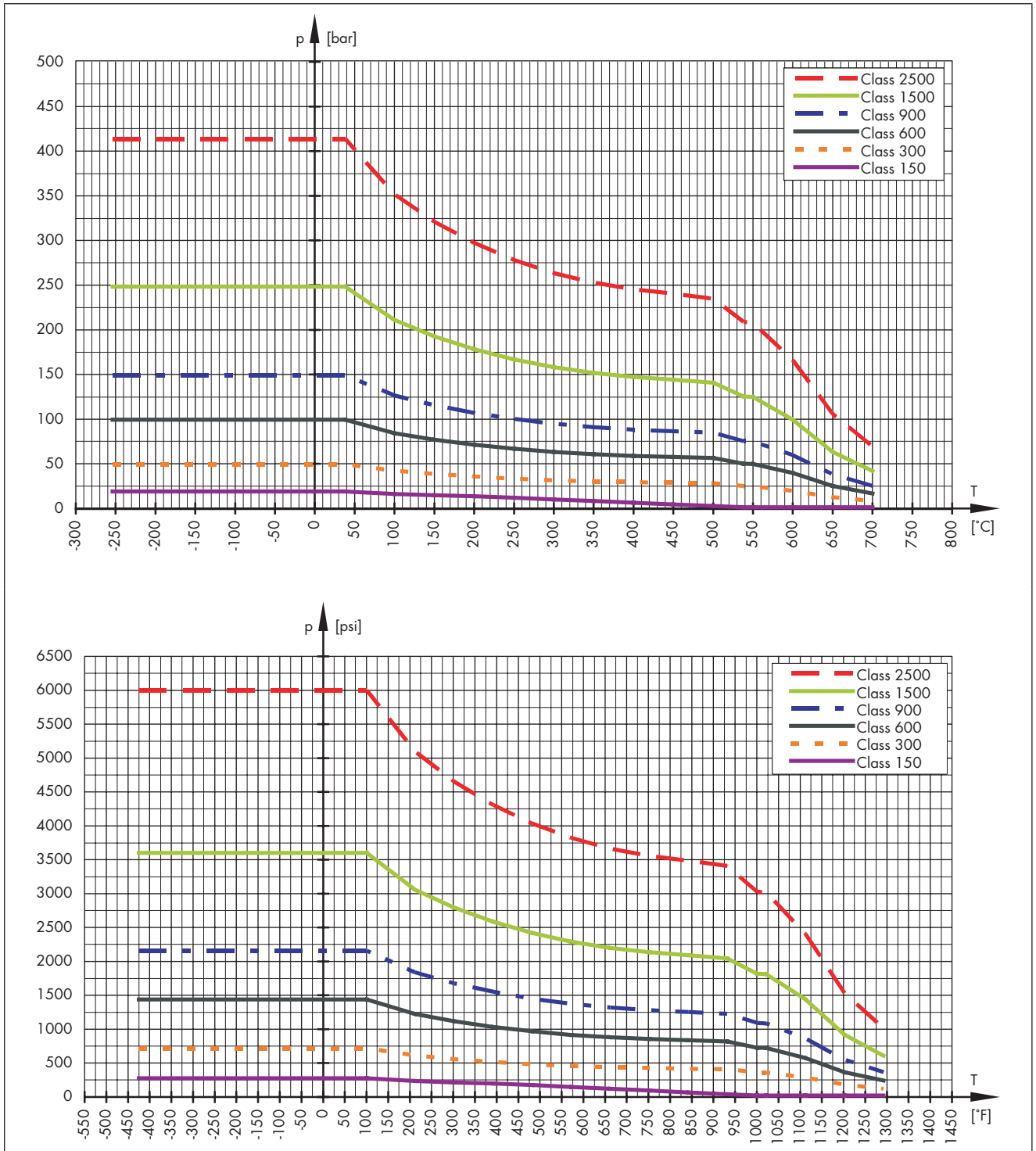
3.5 Cast steel · A352 LCC



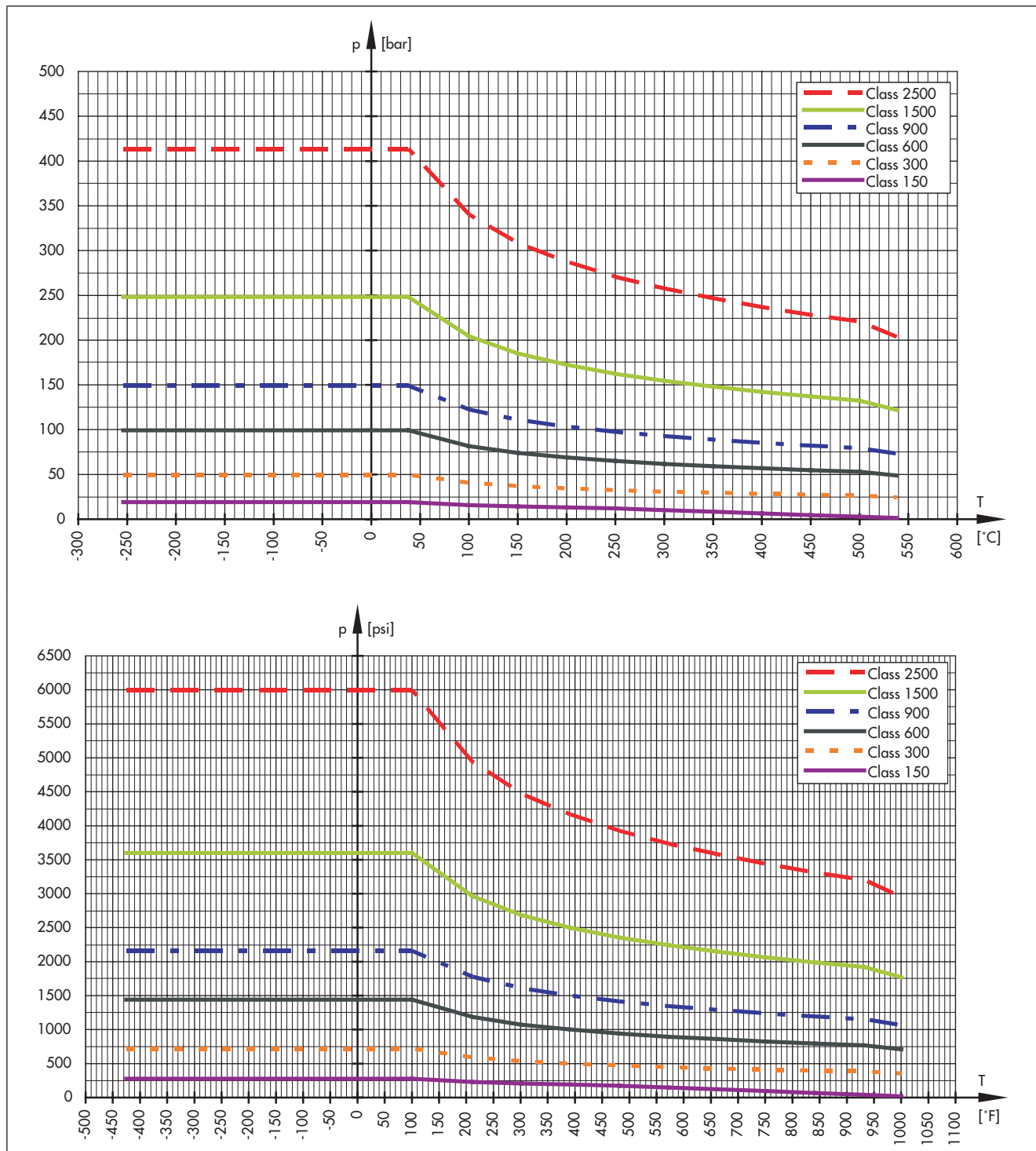
3.6 Cast steel - A352 LC3



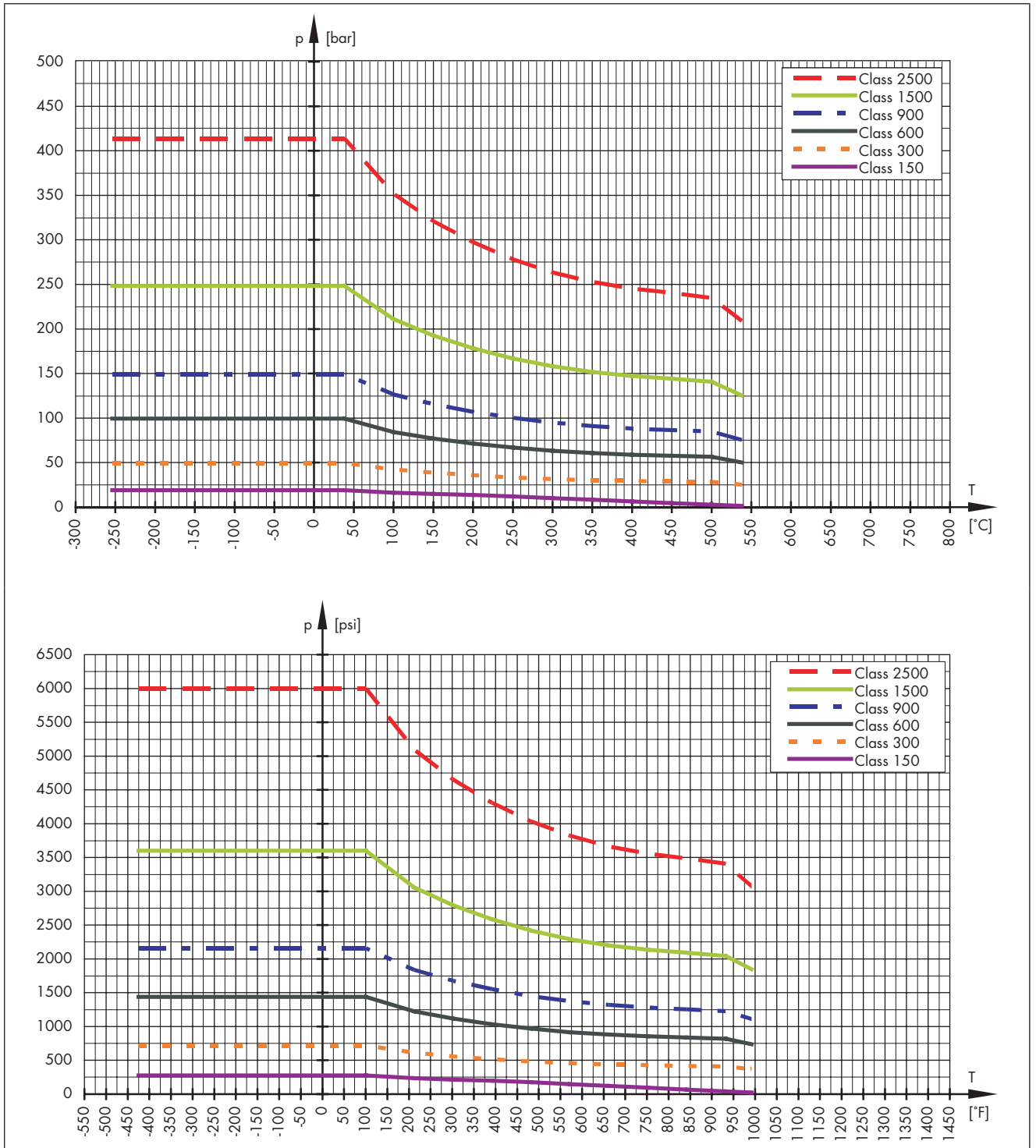
3.7 Cast stainless steel · A351 CF8M



3.8 Cast stainless steel · A351 CF8



3.9 Forged stainless steel · F316L



4 Permissible operating pressures

All pressures specified in bar/g.

Table 3: Permissible operating pressure depending on temperature · DIN versions

Pressures in bar

| Cast iron EN-GJL-250 · EN-JL1040 (–10 to +300 °C) | | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|
| Temp. in °C | –10 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 10.0 | 9.0 | 8.0 | 7.0 | 6.0 | – | | | | | | | |
| PN 16 | 16.0 | 16.0 | 16.0 | 16.0 | 14.4 | 12.8 | 11.2 | 9.6 | | | | | | | | |
| Spheroidal graphite iron EN-GJS-400-18U-LT · EN-JS1049 (–10 to +350 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | –10 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 10.0 | 9.7 | 9.2 | 8.7 | 8.0 | 7.0 | – | | | | | | |
| PN 16 | 16.0 | 16.0 | 16.0 | 16.0 | 15.5 | 14.7 | 13.9 | 12.8 | 11.2 | | | | | | | |
| PN 25 | 25.0 | 25.0 | 25.0 | 25.0 | 24.3 | 23.0 | 21.8 | 20.0 | 17.5 | | | | | | | |
| Cast steel GP240GH · 1.0619 (–10 to +400 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | –10 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 10.0 | 9.3 | 8.0 | 7.0 | 6.4 | 6.0 | 5.7 | – | | | | | |
| PN 16 | 16.0 | 16.0 | 16.0 | 16.0 | 15.3 | 14.0 | 13.0 | 11.0 | 10.0 | 9.1 | | | | | | |
| PN 25 | 25.0 | 25.0 | 25.0 | 25.0 | 23.9 | 22.0 | 20.0 | 17.0 | 16.0 | 14.2 | | | | | | |
| PN 40 | 40.0 | 40.0 | 40.0 | 40.0 | 38.1 | 35.0 | 32.0 | 28.0 | 24.1 | 22.8 | | | | | | |
| PN 63 | 63.0 | 63.0 | 63.0 | 63.0 | 58.1 | 50.0 | 45.0 | 40.5 | 38.1 | 36.0 | | | | | | |
| PN 100 | 100.0 | 100.0 | 100.0 | 100.0 | 92.5 | 80.0 | 70.9 | 64.2 | 60.4 | 57.1 | | | | | | |
| PN 160 | 160.0 | 160.0 | 160.0 | 160.0 | 148.8 | 130.0 | 113.5 | 102.8 | 96.7 | 91.4 | | | | | | |
| PN 250 | 250.0 | 250.0 | 250.0 | 250.0 | 231.3 | 200.0 | 177.3 | 160.7 | 151.1 | 142.8 | | | | | | |
| PN 320 | 320.0 | 320.0 | 320.0 | 320.0 | 293.8 | 250.0 | 227.0 | 205.7 | 193.5 | 182.8 | | | | | | |
| PN 400 | 400.0 | 400.0 | 400.0 | 400.0 | 370.0 | 320.0 | 283.8 | 257.1 | 241.9 | 228.5 | | | | | | |
| Cast steel G9Ni14 · 1.5638 (–90 to +300 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | –90 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.8 | 9.2 | – | | | | | | | |
| PN 16 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 15.7 | 14.7 | | | | | | | | |
| PN 25 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 23.3 | | | | | | | | |
| PN 40 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 39.4 | 36.8 | | | | | | | | |
| PN 63 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 62.5 | 58.3 | | | | | | | | |
| PN 100 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 98.6 | 92.1 | | | | | | | | |
| PN 160 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 157.9 | 147.4 | | | | | | | | |
| PN 250 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 246.7 | 230.4 | | | | | | | | |
| PN 320 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 315.8 | 294.9 | | | | | | | | |
| PN 400 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 394.7 | 368.6 | | | | | | | | |
| Cast steel G20Mn5 · 1.6220 (–50 to +300 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | –50 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.8 | 9.3 | – | | | | | | | |
| PN 16 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 15.7 | 15.0 | | | | | | | | |
| PN 25 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 23.7 | | | | | | | | |
| PN 40 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 39.4 | 37.5 | | | | | | | | |
| PN 63 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 62.5 | 59.4 | | | | | | | | |
| PN 100 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 98.6 | 93.9 | | | | | | | | |
| PN 160 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 157.9 | 150.2 | | | | | | | | |
| PN 250 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 246.7 | 234.7 | | | | | | | | |
| PN 320 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 315.8 | 300.5 | | | | | | | | |
| PN 400 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 394.7 | 375.6 | | | | | | | | |

| Cast steel G17CrMo5-5 · 1.7357 (-10 to +500 °C) | | | | | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Temp. in °C | -10 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 40 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 38.0 | 36.0 | 33.7 | 26.0 | - | | | |
| PN 63 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 60.0 | 56.7 | 53.1 | 41.1 | | | | |
| PN 100 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 95.2 | 90.0 | 84.2 | 65.2 | | | | |
| PN 160 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 152.3 | 144.0 | 134.8 | 104.3 | | | | |
| PN 250 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 238.0 | 225.0 | 210.7 | 163.0 | | | | |
| PN 320 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 304.7 | 288.0 | 269.7 | 208.7 | | | | |
| PN 400 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 380.9 | 360.0 | 337.1 | 260.9 | | | | |
| Cast steel G17CrMo9-10 · 1.7379 (-10 to +600 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | -10 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 40 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 39.0 | 37.1 | 35.2 | 25.7 | 12.9 | 6.4 | - | |
| PN 63 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 63.0 | 61.5 | 58.5 | 55.5 | 40.5 | 20.4 | 10.2 | | |
| PN 100 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 97.6 | 92.8 | 88.0 | 64.2 | 32.3 | 16.1 | | |
| PN 160 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 160.0 | 156.1 | 148.5 | 140.9 | 102.8 | 51.8 | 25.9 | | |
| PN 250 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 244.0 | 232.1 | 220.2 | 160.7 | 80.9 | 40.4 | | |
| PN 320 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 320.0 | 312.3 | 297.1 | 281.9 | 205.7 | 103.6 | 51.8 | | |
| PN 400 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 400.0 | 390.4 | 371.4 | 352.3 | 257.1 | 129.5 | 64.7 | | |
| Cast stainless steel GX5CrNiMo19-11-2 · 1.4408 (-200 to +700 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | -200 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 9.6 | 9.0 | 8.4 | 7.9 | 7.4 | 7.1 | 6.8 | 6.7 | 6.6 | 6.5 | 5.6 | 3.4 | 1.9 |
| PN 16 | 16.0 | 16.0 | 16.0 | 15.4 | 14.5 | 13.4 | 12.7 | 11.8 | 11.4 | 10.9 | 10.7 | 10.5 | 10.4 | 8.9 | 5.3 | 3.0 |
| PN 25 | 25.0 | 25.0 | 25.0 | 24.1 | 22.7 | 21.0 | 19.8 | 18.5 | 17.8 | 17.1 | 16.8 | 16.5 | 16.3 | 14.0 | 8.4 | 4.8 |
| PN 40 | 40.0 | 40.0 | 40.0 | 38.5 | 36.3 | 33.7 | 31.8 | 29.7 | 28.5 | 27.4 | 26.9 | 26.4 | 26.0 | 22.4 | 13.4 | 7.6 |
| PN 63 | 63.0 | 63.0 | 63.0 | 60.7 | 57.3 | 53.1 | 50.1 | 46.8 | 45.0 | 43.2 | 42.4 | 41.7 | 41.1 | 35.4 | 21.2 | 12.0 |
| PN 100 | 100.0 | 100.0 | 100.0 | 96.4 | 90.9 | 84.2 | 79.5 | 74.2 | 71.4 | 68.5 | 67.3 | 66.1 | 65.2 | 56.1 | 33.7 | 19.1 |
| PN 160 | 160.0 | 160.0 | 160.0 | 154.2 | 145.5 | 134.8 | 127.2 | 118.8 | 114.2 | 109.7 | 107.8 | 105.9 | 104.3 | 89.9 | 53.9 | 30.6 |
| PN 250 | 250.0 | 250.0 | 250.0 | 240.9 | 227.3 | 210.7 | 198.8 | 185.7 | 178.5 | 171.4 | 168.4 | 165.4 | 163.0 | 140.4 | 84.2 | 47.7 |
| PN 320 | 320.0 | 320.0 | 320.0 | 308.4 | 291.0 | 269.7 | 254.4 | 237.7 | 228.5 | 219.4 | 215.6 | 211.8 | 208.7 | 179.8 | 107.9 | 61.1 |
| PN 400 | 400.0 | 400.0 | 400.0 | 385.5 | 363.8 | 337.1 | 318.0 | 297.1 | 285.7 | 274.2 | 269.5 | 264.7 | 260.9 | 224.7 | 134.8 | 76.4 |

| Cast stainless steel GX5CrNi19-10 · 1.4308 (-200 to +300 °C) | | | | | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-----|-----|-----|
| Temp. in °C | -200 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 9.0 | 8.6 | 8.1 | 7.4 | 6.9 | 6.4 | | | | | | | | |
| PN 16 | 16.0 | 16.0 | 14.5 | 13.9 | 13.1 | 11.9 | 11.0 | 10.2 | | | | | | | | |
| PN 25 | 25.0 | 25.0 | 22.7 | 21.8 | 20.4 | 18.6 | 17.2 | 16.0 | | | | | | | | |
| PN 40 | 40.0 | 40.0 | 36.3 | 34.9 | 32.7 | 29.9 | 27.6 | 25.7 | | | | | | | | |
| PN 63 | 63.0 | 63.0 | 57.3 | 55.0 | 51.6 | 47.1 | 43.5 | 40.5 | | | | | | | | |
| PN 100 | 100.0 | 100.0 | 90.9 | 87.3 | 81.9 | 74.7 | 69.0 | 64.2 | | | | | | | | |
| PN 160 | 160.0 | 160.0 | 145.5 | 139.7 | 131.0 | 119.6 | 110.4 | 102.8 | | | | | | | | |
| PN 250 | 250.0 | 250.0 | 227.3 | 218.3 | 204.7 | 186.9 | 172.6 | 160.7 | | | | | | | | |
| PN 320 | 320.0 | 320.0 | 291.0 | 279.4 | 262.0 | 239.2 | 220.9 | 205.7 | | | | | | | | |
| PN 400 | 400.0 | 400.0 | 363.8 | 349.3 | 327.6 | 299.0 | 276.1 | 257.1 | | | | | | | | |
| Forged steel 1.0460 (-10 to +400 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | -10 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 10.0 | 9.3 | 8.0 | 7.0 | 6.4 | 6.0 | 5.7 | | | | | | |
| PN 16 | 16.0 | 16.0 | 16.0 | 16.0 | 15.3 | 14.0 | 13.0 | 11.0 | 10.0 | 9.1 | | | | | | |
| PN 25 | 25.0 | 25.0 | 25.0 | 25.0 | 23.9 | 22.0 | 20.0 | 17.0 | 16.0 | 14.2 | | | | | | |
| PN 40 | 40.0 | 40.0 | 40.0 | 40.0 | 38.1 | 35.0 | 32.0 | 28.0 | 24.1 | 22.8 | | | | | | |
| Forged stainless steel 1.4404 (-200 to +500 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | -200 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 9.4 | 9.1 | 8.6 | 7.9 | 7.4 | 6.9 | 6.6 | 6.4 | 6.2 | 6.0 | | | | |
| PN 16 | 16.0 | 16.0 | 15.1 | 14.5 | 13.7 | 12.7 | 11.9 | 11.0 | 10.5 | 10.2 | 10.0 | 9.7 | | | | |
| PN 25 | 25.0 | 25.0 | 23.6 | 22.8 | 21.5 | 19.8 | 18.6 | 17.2 | 16.5 | 16.0 | 15.6 | 15.2 | | | | |
| PN 40 | 40.0 | 40.0 | 37.9 | 36.5 | 34.4 | 31.8 | 29.9 | 27.6 | 26.4 | 25.7 | 25.0 | 24.3 | | | | |
| PN 63 | 63.0 | 63.0 | 59.7 | 57.5 | 54.3 | 50.1 | 47.1 | 43.5 | 41.7 | 40.5 | 39.4 | 38.4 | | | | |
| PN 100 | 100.0 | 100.0 | 94.7 | 91.3 | 86.1 | 79.5 | 74.7 | 69.0 | 66.1 | 64.2 | 62.6 | 60.9 | | | | |
| PN 160 | 160.0 | 160.0 | 151.6 | 146.1 | 137.9 | 127.2 | 119.6 | 110.4 | 105.9 | 102.8 | 100.1 | 97.5 | | | | |
| PN 250 | 250.0 | 250.0 | 236.9 | 228.3 | 215.4 | 198.8 | 186.9 | 172.6 | 165.4 | 160.7 | 156.5 | 152.3 | | | | |
| PN 320 | 320.0 | 320.0 | 303.2 | 292.2 | 275.8 | 254.4 | 239.2 | 220.9 | 211.8 | 205.7 | 200.3 | 195.0 | | | | |
| PN 400 | 400.0 | 400.0 | 379.0 | 365.3 | 344.7 | 318.0 | 299.0 | 276.1 | 264.7 | 257.1 | 250.4 | 243.8 | | | | |
| Forged stainless steel 1.4571 (-200 to +550 °C) | | | | | | | | | | | | | | | | |
| Temp. in °C | -200 | 20 | 100 | 120 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| PN 10 | 10.0 | 10.0 | 10.0 | 9.9 | 9.8 | 9.3 | 8.8 | 8.3 | 8.0 | 7.8 | 7.6 | 7.5 | 7.4 | | | |
| PN 16 | 16.0 | 16.0 | 16.0 | 15.8 | 15.6 | 14.9 | 14.1 | 13.3 | 12.8 | 12.4 | 12.2 | 12.0 | 11.9 | | | |
| PN 25 | 25.0 | 25.0 | 25.0 | 24.8 | 24.5 | 23.3 | 22.1 | 20.8 | 20.1 | 19.5 | 19.1 | 18.8 | 18.6 | | | |
| PN 40 | 40.0 | 40.0 | 40.0 | 39.7 | 39.2 | 37.3 | 35.4 | 33.3 | 32.1 | 31.2 | 30.6 | 30.0 | 29.9 | | | |

Table 4: Permissible operating pressure depending on temperature · ANSI versions

Table 4.1: Temperatures in °C · Pressures in bar

| Cast iron · A126B (–29 to +232 °C) | | | | | | | | | | | | | | | | | | | | |
|---|-------|-------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-------|------|-----|
| Temp. in °C | –29 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 125 | 13.8 | | 13.8 | 12.7 | 11.1 | 9.6 | 8.6 | | | | | | | | | | | | | |
| Class 250 | 34.5 | – | 34.5 | 30.9 | 25.6 | 20.5 | 17.2 | | | | | | | | | | | | | |
| Cast steel · A216 WCC (–29 to +425 °C) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °C | –29 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 150 | 19.8 | 19.8 | | 17.7 | 15.8 | 13.8 | | 12.1 | 10.2 | | 8.4 | 6.5 | 5.5 | | | | | | | |
| Class 300 | 51.7 | 51.7 | | 51.5 | 50.2 | 48.6 | | 46.3 | 42.9 | | 40.0 | 34.7 | 28.8 | | | | | | | |
| Class 600 | 103.4 | 103.4 | | 103.0 | 100.3 | 97.2 | | 92.7 | 85.7 | | 80.0 | 69.4 | 57.5 | | | | | | | |
| Class 900 | 155.1 | 155.1 | – | 154.6 | 150.5 | 145.8 | – | 139.0 | 128.6 | – | 120.1 | 104.2 | 86.3 | | | | | | | |
| Class 1500 | 258.6 | 258.6 | | 257.6 | 250.8 | 243.2 | | 231.8 | 214.4 | | 200.1 | 173.6 | 143.8 | | | | | | | |
| Class 2500 | 430.9 | 430.9 | | 429.4 | 418.1 | 405.4 | | 386.2 | 357.1 | | 333.5 | 289.3 | 239.7 | | | | | | | |
| Cast steel · A217 WC6 (–29 to +500 °C) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °C | –29 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 300 | 51.7 | 51.7 | | 51.5 | 49.7 | 48.0 | | 46.3 | 42.9 | | 40.3 | 36.5 | | 33.7 | 25.7 | | | | | |
| Class 600 | 103.4 | 103.4 | | 103.0 | 99.5 | 95.9 | | 92.7 | 85.7 | | 80.4 | 73.3 | | 67.7 | 51.5 | | | | | |
| Class 900 | 155.1 | 155.1 | – | 154.4 | 149.2 | 143.9 | – | 139.0 | 128.6 | – | 120.7 | 109.8 | – | 101.4 | 77.2 | | | | | |
| Class 1500 | 258.6 | 258.6 | | 257.4 | 248.7 | 239.8 | | 231.8 | 214.4 | | 201.1 | 183.1 | | 169.0 | 128.6 | | | | | |
| Class 2500 | 430.9 | 430.9 | | 429.0 | 414.5 | 399.6 | | 386.2 | 357.1 | | 335.3 | 304.9 | | 281.8 | 214.4 | | | | | |
| Cast steel · A217 WC9 (–29 to +600 °C) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °C | –29 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 150 | 19.8 | 19.8 | | 17.7 | 15.8 | 13.8 | | 12.1 | 10.2 | | 8.4 | 6.5 | | 4.6 | 2.8 | | | 1.4 | 1.4 | |
| Class 300 | 51.7 | 51.7 | | 51.5 | 50.3 | 48.6 | | 46.3 | 42.9 | | 40.3 | 36.5 | | 33.7 | 28.2 | | | 15.6 | 6.9 | |
| Class 600 | 103.4 | 103.4 | | 103.0 | 100.3 | 97.2 | | 92.7 | 85.7 | | 80.4 | 73.3 | | 67.7 | 56.5 | | | 31.3 | 13.8 | |
| Class 900 | 155.1 | 155.1 | – | 154.6 | 150.6 | 145.8 | – | 139.0 | 128.6 | – | 120.7 | 109.8 | – | 101.4 | 84.7 | | | 46.9 | 20.7 | |
| Class 1500 | 258.5 | 258.5 | | 257.6 | 250.8 | 243.4 | | 231.8 | 214.4 | | 201.1 | 183.1 | | 169.0 | 140.9 | | | 78.2 | 34.4 | |
| Class 2500 | 430.9 | 430.9 | | 429.4 | 418.2 | 405.4 | | 386.2 | 357.1 | | 335.3 | 304.9 | | 281.8 | 235.0 | | | 130.3 | 57.4 | |
| Cast steel · A352 LCC (–46 to +345 °C) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °C | –46 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 150 | 19.8 | 19.8 | | 17.7 | 15.8 | 13.8 | | 12.1 | 10.2 | 8.5 | | | | | | | | | | |
| Class 300 | 51.7 | 51.7 | | 51.5 | 50.2 | 48.6 | | 46.3 | 42.9 | 40.3 | | | | | | | | | | |
| Class 600 | 103.4 | 103.4 | | 103.0 | 100.3 | 97.2 | | 92.7 | 85.7 | 80.5 | | | | | | | | | | |
| Class 900 | 155.1 | 155.1 | – | 154.6 | 150.5 | 145.8 | – | 139.0 | 128.6 | 120.9 | | | | | | | | | | |
| Class 1500 | 258.6 | 258.6 | | 257.6 | 250.8 | 243.2 | | 231.8 | 214.4 | 201.5 | | | | | | | | | | |
| Class 2500 | 430.9 | 430.9 | | 429.4 | 418.1 | 405.4 | | 386.2 | 357.1 | 335.8 | | | | | | | | | | |
| Cast steel · A352 LC3 (–101 to +345 °C) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °C | –101 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 150 | 19.8 | 19.8 | | 17.7 | 15.8 | 13.8 | | 12.1 | 10.2 | 8.5 | | | | | | | | | | |
| Class 300 | 51.7 | 51.7 | | 51.5 | 50.2 | 48.6 | | 46.3 | 42.9 | 40.3 | | | | | | | | | | |
| Class 600 | 103.4 | 103.4 | | 103.0 | 100.3 | 97.2 | | 92.7 | 85.7 | 80.5 | | | | | | | | | | |
| Class 900 | 155.1 | 155.1 | – | 154.6 | 150.5 | 145.8 | – | 139.0 | 128.6 | 120.9 | | | | | | | | | | |
| Class 1500 | 258.6 | 258.6 | | 257.6 | 250.8 | 243.2 | | 231.8 | 214.4 | 201.5 | | | | | | | | | | |
| Class 2500 | 430.9 | 430.9 | | 429.4 | 418.1 | 405.4 | | 386.2 | 357.1 | 335.8 | | | | | | | | | | |

| Cast stainless steel - A351 CF8M (-254 to +700 °C) | | | | | | | | | | | | | | | | | | | | |
|--|-------|-------|----|-------|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-------|-------|-------|-------|------|
| Temp. in °C | -254 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 150 | 19.0 | 19.0 | - | 16.2 | 14.8 | 13.7 | - | 12.1 | 10.2 | - | 8.4 | 6.5 | - | 4.6 | 2.8 | - | 1.4 | 1.4 | 1.4 | 1.4 |
| Class 300 | 49.6 | 49.6 | - | 42.2 | 38.5 | 35.7 | - | 33.4 | 31.6 | - | 30.3 | 29.4 | - | 28.8 | 28.2 | - | 25.0 | 19.9 | 12.7 | 8.4 |
| Class 600 | 99.3 | 99.3 | - | 84.4 | 77.0 | 71.3 | - | 66.8 | 63.2 | - | 60.7 | 58.9 | - | 57.7 | 56.5 | - | 49.8 | 39.8 | 25.3 | 16.8 |
| Class 900 | 148.9 | 148.9 | - | 126.6 | 115.5 | 107.0 | - | 100.1 | 94.9 | - | 91.0 | 88.3 | - | 86.5 | 84.7 | - | 74.8 | 59.7 | 38.0 | 25.1 |
| Class 1500 | 248.2 | 248.2 | - | 211.0 | 192.5 | 178.3 | - | 166.9 | 158.1 | - | 151.6 | 147.2 | - | 144.2 | 140.9 | - | 124.9 | 99.5 | 63.3 | 41.9 |
| Class 2500 | 413.7 | 413.7 | - | 351.6 | 320.8 | 297.2 | - | 278.1 | 263.5 | - | 252.7 | 245.3 | - | 240.4 | 235.0 | - | 208.0 | 165.9 | 105.5 | 69.8 |
| Cast stainless steel - A351 CF8 (-254 to +538 °C) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °C | -254 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 150 | 19.0 | 19.0 | - | 15.7 | 14.2 | 13.2 | - | 12.1 | 10.2 | - | 8.4 | 6.5 | - | 4.6 | 2.8 | 1.4 | - | - | - | - |
| Class 300 | 49.6 | 49.6 | - | 40.9 | 37.0 | 34.5 | - | 32.5 | 30.9 | - | 29.6 | 28.4 | - | 27.4 | 26.5 | 24.4 | - | - | - | - |
| Class 600 | 99.3 | 99.3 | - | 81.7 | 74.0 | 69.0 | - | 65.0 | 61.8 | - | 59.3 | 56.9 | - | 54.8 | 53.0 | 48.9 | - | - | - | - |
| Class 900 | 148.9 | 148.9 | - | 122.6 | 111.0 | 103.4 | - | 97.5 | 92.7 | - | 88.9 | 85.3 | - | 82.2 | 79.5 | 73.3 | - | - | - | - |
| Class 1500 | 248.2 | 248.2 | - | 204.3 | 185.0 | 172.4 | - | 162.4 | 154.6 | - | 148.1 | 142.2 | - | 137.0 | 132.4 | 122.1 | - | - | - | - |
| Class 2500 | 413.7 | 413.7 | - | 340.4 | 308.4 | 287.3 | - | 270.7 | 257.6 | - | 246.9 | 237.0 | - | 228.4 | 220.7 | 203.6 | - | - | - | - |
| Forged stainless steel - A316L (-254 to +538 °C) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °C | -254 | 38 | 65 | 100 | 150 | 200 | 232 | 250 | 300 | 345 | 350 | 400 | 425 | 450 | 500 | 538 | 550 | 600 | 650 | 700 |
| Class 150 | 19.0 | 19.0 | - | 16.2 | 14.8 | 13.7 | - | 12.1 | 10.2 | - | 8.4 | 6.5 | - | 4.6 | 2.8 | 1.4 | - | - | - | - |
| Class 300 | 49.6 | 49.6 | - | 42.2 | 38.5 | 35.7 | - | 33.4 | 31.6 | - | 30.3 | 29.4 | - | 28.8 | 28.2 | 25.2 | - | - | - | - |
| Class 600 | 99.3 | 99.3 | - | 84.4 | 77.0 | 71.3 | - | 66.8 | 63.2 | - | 60.7 | 58.9 | - | 57.7 | 56.5 | 50.0 | - | - | - | - |
| Class 900 | 148.9 | 148.9 | - | 126.6 | 115.5 | 107.0 | - | 100.1 | 94.9 | - | 91.0 | 88.3 | - | 86.5 | 84.7 | 75.2 | - | - | - | - |
| Class 1500 | 248.2 | 248.2 | - | 211.0 | 192.5 | 178.3 | - | 166.9 | 158.1 | - | 151.6 | 147.2 | - | 144.2 | 140.9 | 125.5 | - | - | - | - |
| Class 2500 | 413.7 | 413.7 | - | 351.6 | 320.8 | 297.2 | - | 278.1 | 263.5 | - | 252.7 | 245.3 | - | 240.4 | 235.0 | 208.9 | - | - | - | - |

Table 4.2: Temperatures in °F · Pressures in psi

| Cast iron · A126B (–20 to +450 °F) | | | | | | | | | | | | | | | | | | | | | |
|---|--------|--------|-------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|--------|--------|--------|--------|
| Temp. in °F | –20 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 | |
| Class 125 | 200.1 | | 200.1 | 184.1 | 160.9 | 139.2 | 124.7 | | | | | | | | | | | | | | |
| Class 250 | 500.2 | – | 500.2 | 448.0 | 371.2 | 297.2 | 249.4 | | | | | | | | | | | | | | |
| Cast steel · A216 WCC (–20 to +797 °F) | | | | | | | | | | | | | | | | | | | | | |
| Temp. in °F | –20 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 | |
| Class 150 | 287.1 | 287.1 | | 256.6 | 229.1 | 200.1 | | 175.4 | 147.9 | | 121.8 | 94.2 | 79.9 | | | | | | | | |
| Class 300 | 749.6 | 749.6 | | 746.7 | 727.9 | 704.7 | | 671.3 | 622.0 | | 580.0 | 503.1 | 417.6 | | | | | | | | |
| Class 600 | 1499.3 | 1499.3 | – | 1493.5 | 1454.3 | 1409.4 | | 1344.1 | 1242.6 | | 1160.0 | 1006.3 | 833.7 | | | | | | | | |
| Class 900 | 2248.9 | 2248.9 | | 2241.7 | 2182.2 | 2114.1 | | 2015.5 | 1864.7 | | 1741.4 | 1510.9 | 1251.3 | | | | | | | | |
| Class 1500 | 3749.7 | 3749.7 | | 3735.2 | 3636.6 | 3526.4 | | 3361.1 | 3108.8 | | 2901.4 | 2517.2 | 2085.1 | | | | | | | | |
| Class 2500 | 6248.0 | 6248.0 | | 6226.3 | 6062.4 | 5878.3 | | 5599.9 | 5177.9 | | 4835.7 | 4194.8 | 3475.6 | | | | | | | | |
| Cast steel · A217 WC6 (–20 to +932 °F) | | | | | | | | | | | | | | | | | | | | | |
| Temp. in °F | –20 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 | |
| Class 300 | 749.6 | 749.6 | | 746.7 | 720.6 | 696.0 | | 671.3 | 622.0 | | 584.3 | 529.2 | | 488.6 | 372.6 | | | | | | |
| Class 600 | 1499.3 | 1499.3 | | 1493.5 | 1442.7 | 1390.5 | | 1344.1 | 1242.6 | | 1165.8 | 1062.8 | | 981.6 | 746.7 | | | | | | |
| Class 900 | 2248.9 | 2248.9 | – | 2238.8 | 2163.4 | 2086.5 | | 2015.5 | 1864.7 | | 1750.1 | 1592.1 | | 1470.3 | 1119.4 | | | | | | |
| Class 1500 | 3749.7 | 3749.7 | | 3732.3 | 3606.1 | 3477.1 | | 3361.1 | 3108.8 | | 2915.9 | 2654.9 | | 2450.5 | 1864.7 | | | | | | |
| Class 2500 | 6248.0 | 6248.0 | | 6220.5 | 6010.2 | 5794.2 | | 5599.9 | 5177.9 | | 4861.8 | 4421.0 | | 4086.1 | 3108.8 | | | | | | |
| Cast steel · A217 WC9 (–20 to +1099 °F) | | | | | | | | | | | | | | | | | | | | | |
| Temp. in °F | –20 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 | |
| Class 150 | 287.1 | 287.1 | | 256.6 | 229.1 | 200.1 | | 175.4 | 147.9 | | 121.8 | 94.2 | | 66.7 | 40.6 | | | 20.3 | 19.9 | | |
| Class 300 | 749.6 | 749.6 | | 746.7 | 729.3 | 704.7 | | 671.3 | 622.0 | | 584.3 | 529.2 | | 488.6 | 408.9 | | | 226.2 | 100.3 | | |
| Class 600 | 1499.3 | 1499.3 | | 1493.5 | 1454.3 | 1409.4 | | 1344.1 | 1242.6 | | 1165.8 | 1062.8 | | 981.6 | 819.2 | | | 453.8 | 199.5 | | |
| Class 900 | 2248.9 | 2248.9 | – | 2241.7 | 2183.7 | 2114.1 | | 2015.5 | 1864.7 | | 1750.1 | 1592.1 | | 1470.3 | 1228.1 | | | 680.0 | 299.9 | | |
| Class 1500 | 3748.2 | 3748.2 | | 3735.2 | 3636.6 | 3529.3 | | 3361.1 | 3108.8 | | 2915.9 | 2654.9 | | 2450.5 | 2043.0 | | | 1133.9 | 498.8 | | |
| Class 2500 | 6248.0 | 6248.0 | | 6226.3 | 6063.9 | 5878.3 | | 5599.9 | 5177.9 | | 4861.8 | 4421.0 | | 4086.1 | 3407.5 | | | 1889.3 | 831.9 | | |
| Cast steel · A352 LCC (–51 to +653 °F) | | | | | | | | | | | | | | | | | | | | | |
| Temp. in °F | –51 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 | |
| Class 150 | 287.1 | 287.1 | | 256.6 | 229.1 | 200.1 | | 175.4 | 147.9 | 123.2 | | | | | | | | | | | |
| Class 300 | 749.6 | 749.6 | | 746.7 | 727.9 | 704.7 | | 671.3 | 622.0 | 582.9 | | | | | | | | | | | |
| Class 600 | 1499.3 | 1499.3 | | 1493.5 | 1454.3 | 1409.4 | | 1344.1 | 1242.6 | 1167.2 | | | | | | | | | | | |
| Class 900 | 2248.9 | 2248.9 | – | 2241.7 | 2182.2 | 2114.1 | | 2015.5 | 1864.7 | 1753.0 | | | | | | | | | | | |
| Class 1500 | 3749.7 | 3749.7 | | 3735.2 | 3636.6 | 3526.4 | | 3361.1 | 3108.8 | 2921.7 | | | | | | | | | | | |
| Class 2500 | 6248.0 | 6248.0 | | 6226.3 | 6062.4 | 5878.3 | | 5599.9 | 5177.9 | 4869.1 | | | | | | | | | | | |
| Cast steel · A352 LC3 (–150 to +653 °F) | | | | | | | | | | | | | | | | | | | | | |
| Temp. in °F | –150 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 | |
| Class 150 | 287.1 | 287.1 | | 256.6 | 229.1 | 200.1 | | 175.4 | 147.9 | 123.2 | | | | | | | | | | | |
| Class 300 | 749.6 | 749.6 | | 746.7 | 727.9 | 704.7 | | 671.3 | 622.0 | 582.9 | | | | | | | | | | | |
| Class 600 | 1499.3 | 1499.3 | | 1493.5 | 1454.3 | 1409.4 | | 1344.1 | 1242.6 | 1167.2 | | | | | | | | | | | |
| Class 900 | 2248.9 | 2248.9 | – | 2241.7 | 2182.2 | 2114.1 | | 2015.5 | 1864.7 | 1753.0 | | | | | | | | | | | |
| Class 1500 | 3749.7 | 3749.7 | | 3735.2 | 3636.6 | 3526.4 | | 3361.1 | 3108.8 | 2921.7 | | | | | | | | | | | |
| Class 2500 | 6248.0 | 6248.0 | | 6226.3 | 6062.4 | 5878.3 | | 5599.9 | 5177.9 | 4869.1 | | | | | | | | | | | |
| Cast stainless steel · A351 CF8M (–425 to +1292 °F) | | | | | | | | | | | | | | | | | | | | | |
| Temp. in °F | –425 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 | |
| Class 150 | 275.5 | 275.5 | | 234.9 | 214.6 | 198.6 | | 175.4 | 147.9 | | 121.8 | 94.2 | | 66.7 | 40.6 | | | 20.3 | 20.3 | 20.3 | 20.3 |
| Class 300 | 719.2 | 719.2 | | 611.9 | 558.2 | 517.6 | | 484.3 | 458.2 | | 439.3 | 426.3 | | 417.6 | 408.9 | | | 362.5 | 288.5 | 184.1 | 121.8 |
| Class 600 | 1439.8 | 1439.8 | | 1223.8 | 1116.5 | 1033.8 | | 968.6 | 916.4 | | 880.1 | 854.0 | | 836.6 | 819.2 | | | 722.1 | 577.1 | 366.8 | 243.6 |
| Class 900 | 2159.0 | 2159.0 | – | 1835.7 | 1674.7 | 1551.5 | | 1451.4 | 1376.0 | | 1319.5 | 1280.3 | | 1254.2 | 1228.1 | | | 1084.6 | 865.6 | 551.0 | 363.9 |
| Class 1500 | 3598.9 | 3598.9 | | 3059.5 | 2791.2 | 2585.3 | | 2420.0 | 2292.4 | | 2198.2 | 2134.4 | | 2090.9 | 2043.0 | | | 1811.0 | 1442.7 | 917.8 | 607.5 |
| Class 2500 | 5998.6 | 5998.6 | | 5098.2 | 4651.6 | 4309.4 | | 4032.4 | 3820.7 | | 3664.1 | 3556.8 | | 3485.8 | 3407.5 | | | 3016.0 | 2405.5 | 1529.7 | 1012.1 |

| Cast stainless steel - A351 CF8 (-425 to +1000 °F) | | | | | | | | | | | | | | | | | | | | |
|--|--------|--------|-----|--------|--------|--------|-----|--------|--------|-----|--------|--------|-----|--------|--------|--------|------|------|------|------|
| Temp. in °F | -425 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 |
| Class 150 | 275.5 | 275.5 | - | 227.6 | 205.9 | 191.4 | - | 175.4 | 147.9 | - | 121.8 | 94.25 | - | 66.7 | 40.6 | 20.3 | - | - | - | - |
| Class 300 | 719.2 | 719.2 | - | 593.0 | 536.5 | 500.2 | - | 471.2 | 448.0 | - | 429.2 | 411.8 | - | 397.3 | 384.2 | 353.8 | - | - | - | - |
| Class 600 | 1439.8 | 1439.8 | - | 1184.6 | 1073.0 | 1000.5 | - | 942.5 | 896.1 | - | 859.8 | 825.0 | - | 794.6 | 768.5 | 709.0 | - | - | - | - |
| Class 900 | 2159.0 | 2159.0 | - | 1777.7 | 1609.5 | 1499.3 | - | 1413.7 | 1344.1 | - | 1289.0 | 1236.8 | - | 1191.9 | 1152.7 | 1062.8 | - | - | - | - |
| Class 1500 | 3598.9 | 3598.9 | - | 2962.3 | 2682.5 | 2499.8 | - | 2354.8 | 2241.7 | - | 2147.4 | 2061.9 | - | 1986.5 | 1919.8 | 1770.4 | - | - | - | - |
| Class 2500 | 5998.6 | 5998.6 | - | 4935.8 | 4471.8 | 4165.8 | - | 3925.1 | 3735.2 | - | 3580.0 | 3436.5 | - | 3311.8 | 3200.1 | 2952.2 | - | - | - | - |
| Forged stainless steel - A316L (-425 to +1000 °F) | | | | | | | | | | | | | | | | | | | | |
| Temp. in °F | -425 | 100 | 149 | 212 | 302 | 392 | 450 | 482 | 572 | 653 | 662 | 752 | 797 | 842 | 932 | 1000 | 1022 | 1112 | 1202 | 1292 |
| Class 150 | 275.5 | 275.5 | - | 234.9 | 214.6 | 198.6 | - | 175.4 | 147.9 | - | 121.8 | 94.2 | - | 66.7 | 40.6 | 20.3 | - | - | - | - |
| Class 300 | 719.2 | 719.2 | - | 611.9 | 558.2 | 517.6 | - | 484.3 | 458.2 | - | 439.3 | 426.3 | - | 417.6 | 408.9 | 365.4 | - | - | - | - |
| Class 600 | 1439.8 | 1439.8 | - | 1223.8 | 1116.5 | 1033.8 | - | 968.6 | 916.4 | - | 880.1 | 854.0 | - | 836.6 | 819.2 | 725.0 | - | - | - | - |
| Class 900 | 2159.0 | 2159.0 | - | 1835.7 | 1674.7 | 1551.5 | - | 1451.4 | 1376.0 | - | 1319.5 | 1280.3 | - | 1254.2 | 1228.1 | 1090.4 | - | - | - | - |
| Class 1500 | 3598.9 | 3598.9 | - | 3059.5 | 2791.2 | 2585.3 | - | 2420.0 | 2292.4 | - | 2198.2 | 2134.4 | - | 2090.9 | 2043.0 | 1819.7 | - | - | - | - |
| Class 2500 | 5998.6 | 5998.6 | - | 5098.2 | 4651.6 | 4309.4 | - | 4032.4 | 3820.7 | - | 3664.1 | 3556.8 | - | 3485.8 | 3407.5 | 3029.0 | - | - | - | - |

