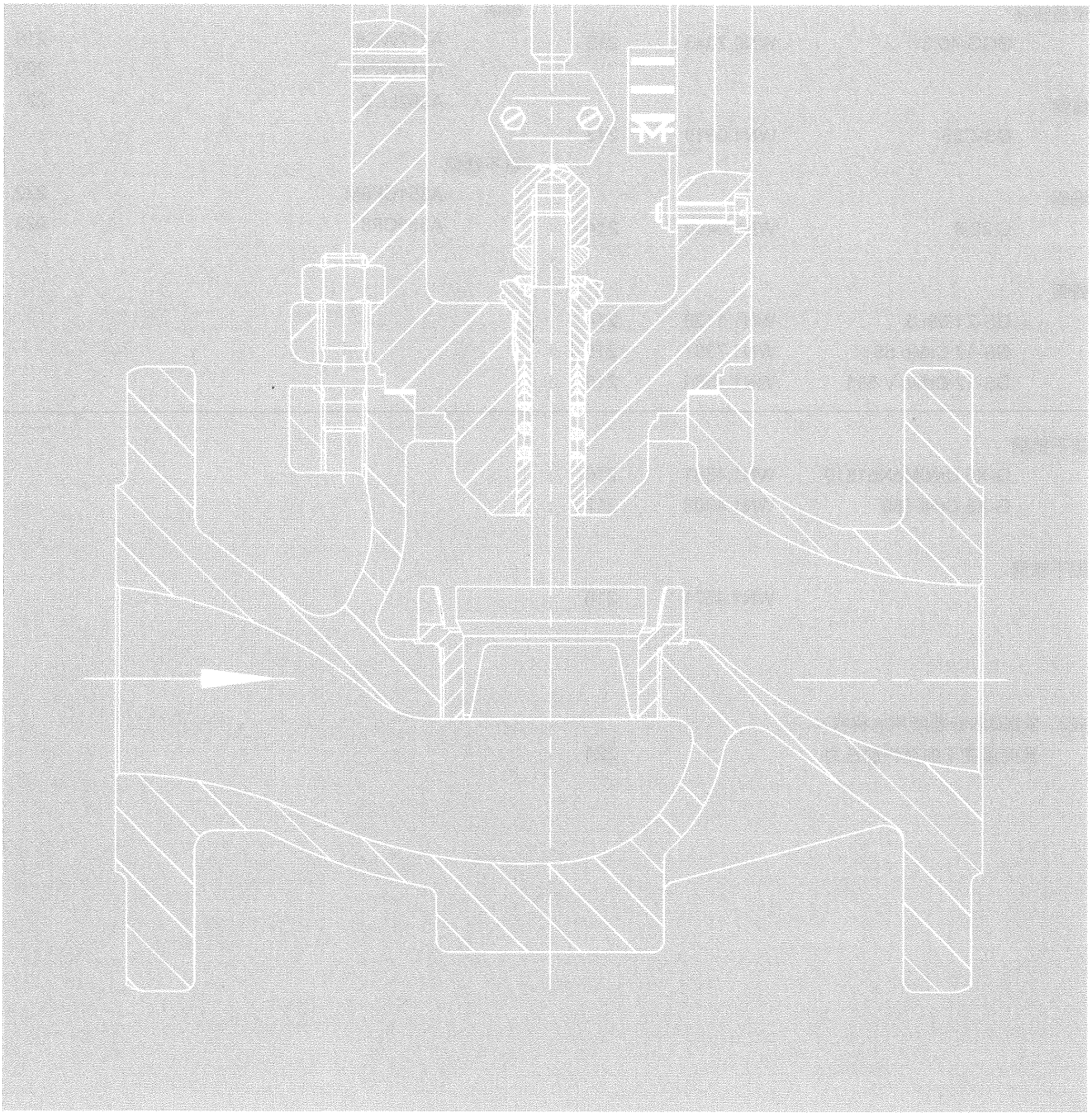
信息表第2部分
材料和温度-压力曲线

DN 15 ... 400	PN 10 ... 400	–200 ... 500℃
1/2" ... 16"	125 ... 2500 级	–325 ... 930 °F
DN 15A ... 250A	JIS 10K/20K	–200 ... 500℃



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材料概况

温/压曲线及按DIN标准的材料

温/压曲线 · 按ASTM标准的材料

按DIN和ANSI/ASME标准的材料

根据温度上限以及公称压力的额定值**SAMSON**主要用的阀体材料均列于下表。

这些材料的应用上限可从后面几页相应的温-压曲线中查得。按要求可提供特殊材料的资料。

表1 · 按DIN标准类型240(·),和250,280(x)系列阀的材料和额定公称压力

材料	代号码/材料号	温度范围[℃]	PN 10/ 16	25	40	63	100	160	250	320	400
铸铁	GG-25 WN 0 .6025	–10 ... 300	•								
球墨铸铁	GGG-40.3 WN 0 .7043	–10 ... 350	•	•							
铸钢	GS-C25 WN 1 .0619	–10 ... 400[1)]	•	•	• X	X	X	X	X	X	X
锻钢	C 22.8 WN 1 .0460	–10 ... 400[1)]	•	•	•						
铸钢	GS-21 Mn 5 WN 1 .1138	–50 ... 300	•	•	• X	X	X	X			
	GS-17 CrMo 55 WN 1 .7357	–10 ... 500			X	X	X	X	X	X	X
	GS-12 CrMo 910 [2)] WN 1 .7380	–10 ... 600			X	X	X	X	X	X	X
铸不锈钢	G-X5CrNiMoNb 1810 WN 1 .4581	–10 ... 450	•	•	• X	X	X	X	X		
	G-X6CrNi 189 WN 1 .4308	–200 ... 300	•	•	• X	X	X	X	X		
锻不锈钢	WN 1. 4571	–200 ... 450	•	•	•						

1) 用于pmax ⩽ 75%PN最高-60℃(按AD W10)　　2) 替代GS-17CrMo V511

表2 · 按ANSI类型240(·)和250,280(x)系列阀的材料和额定公称压力

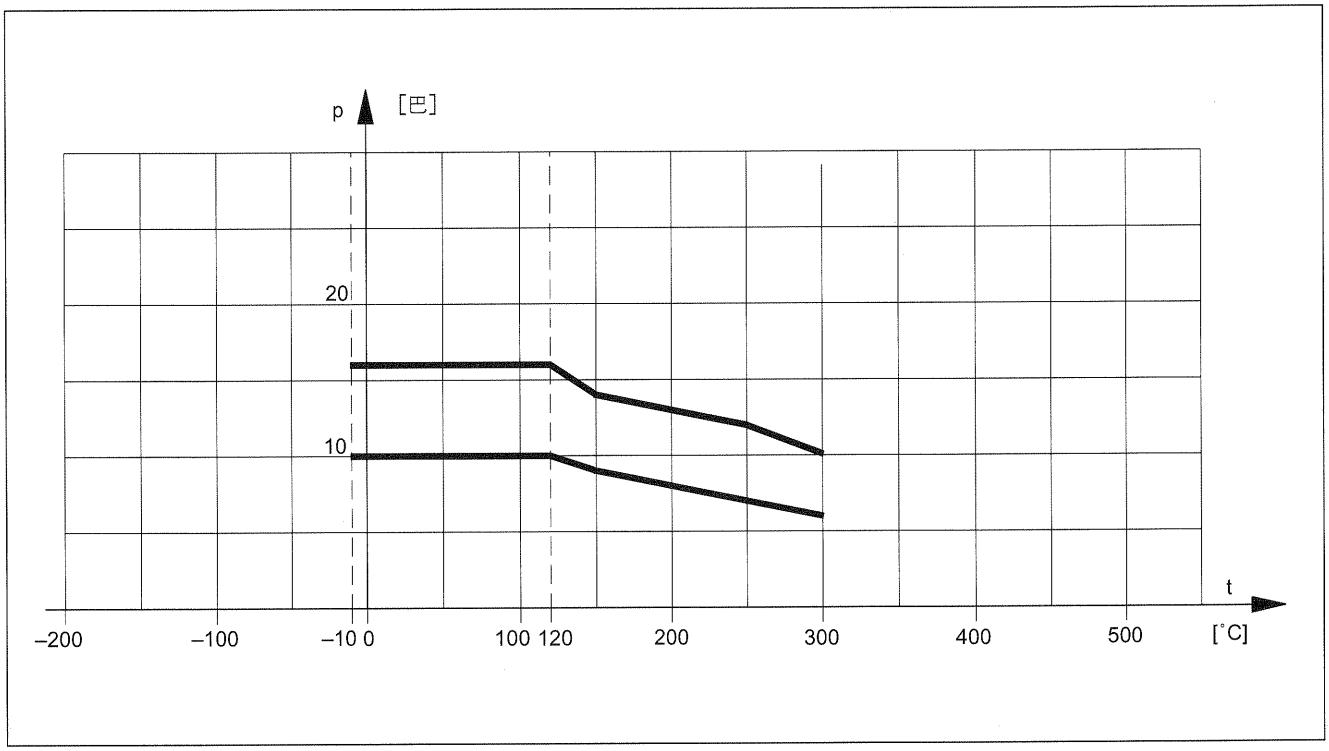
材料	代号码	温度范围[℃]	分级 125	250	150	300	600	900	1500	2500
铸铁	A 126 B	–29 ... 232	•	•						
碳钢	A 217 WC6	–29 ... 550				X	X	X	X	X
	A 216 WCB	–29 ... 427			•	• X	X	X	X	X
	A 217 WC9	–29 ... 550				X	X	X	X	X
	A 352 LCB	–46 ... 343			•	• X	X	X	X	X
不锈钢	A 351 CF8M	–200 ... 450			•	• X	X	X	X	
	A 351 CF8	–200 ... 300			•	• X	X	X	X	

1. 按DIN标准的各种材料 · 温度-压力曲线

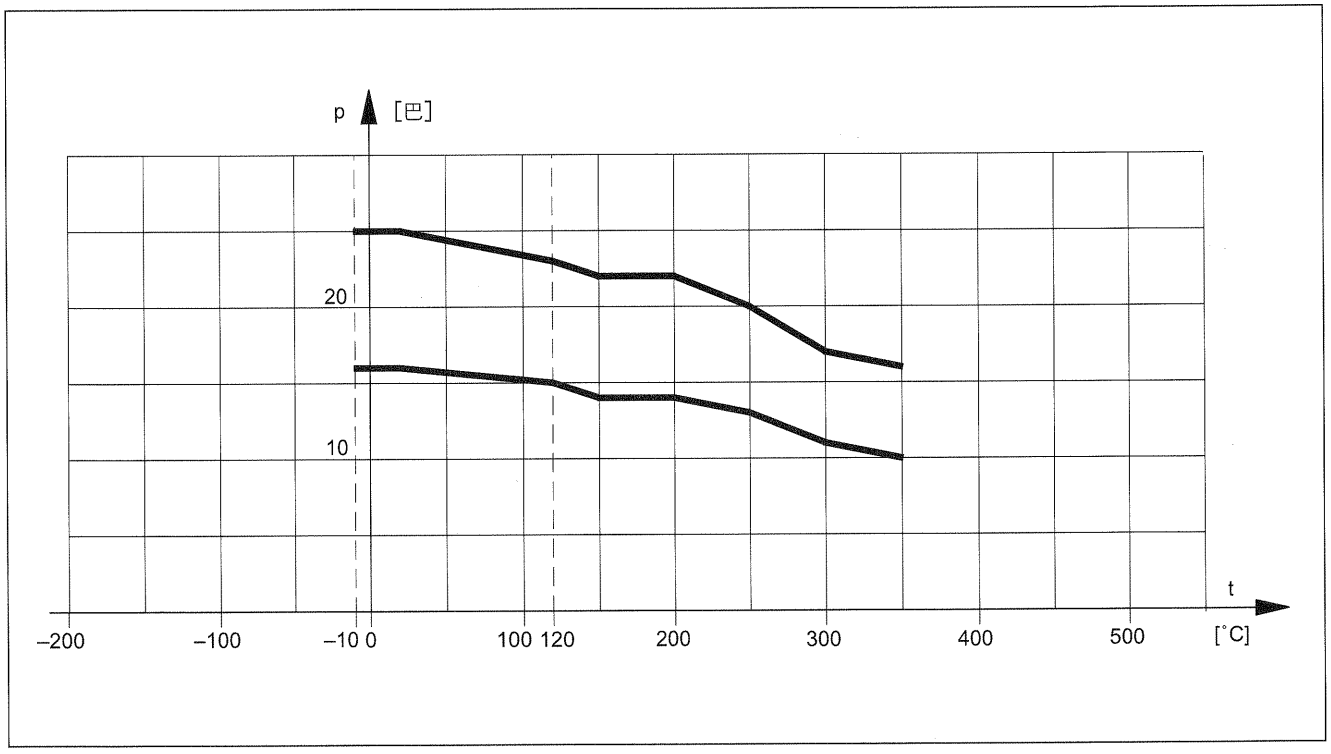
温度-压力曲线和在相关的数据表中所列的压力和温度值决定了调节阀的最大允许应用上限。这些上限还受阀座和阀芯设计，例行试验类型以及安全规范的限制。

详细的叙述见相关的技术数据表。
然而,对于介质温度降低至0℃以下,阀体和阀芯杆可能结冰的状况没有考虑,对于-10℃以下情况请注意AD规格表W10中数据。

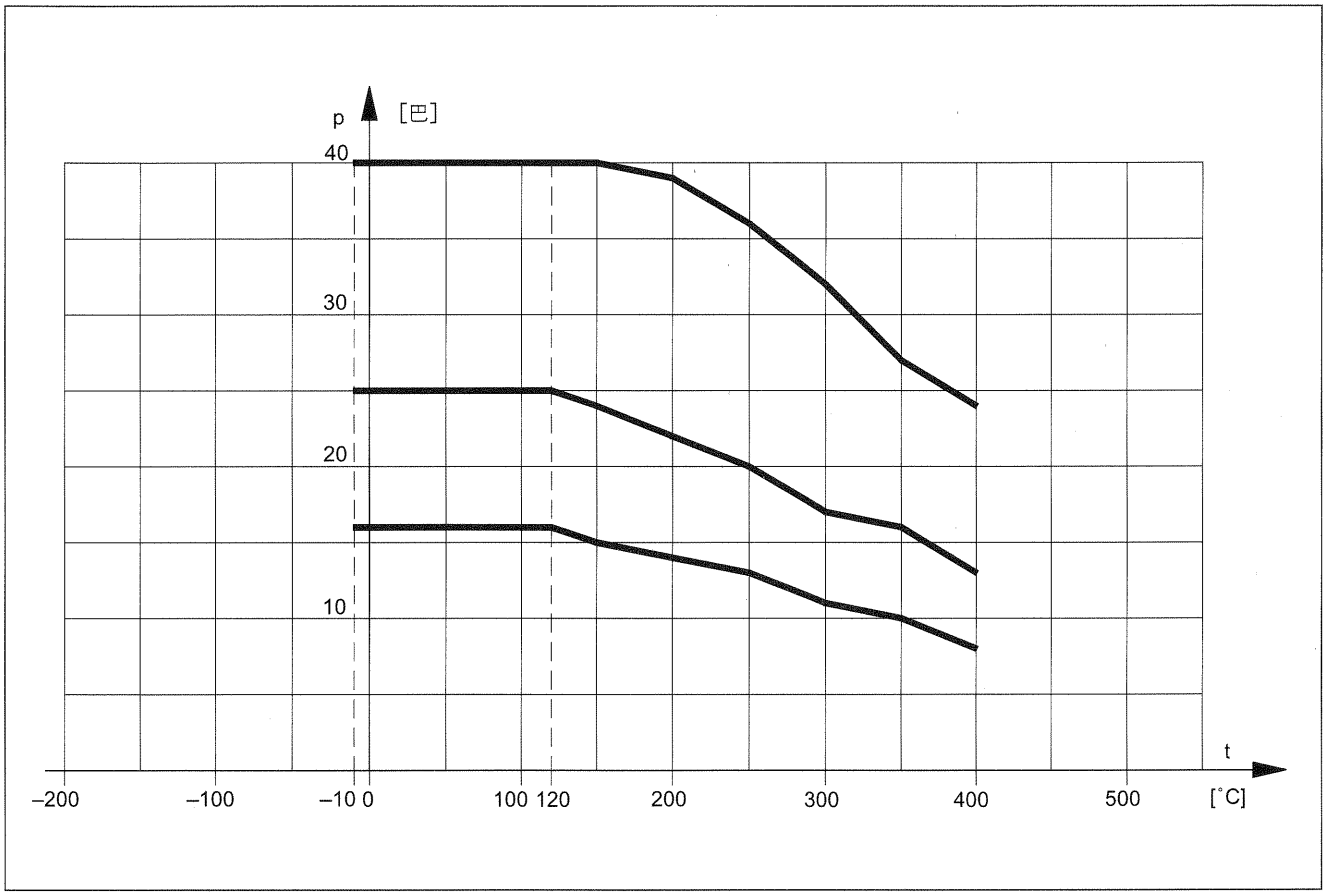
1.1 铸铁GG-25 · WN0.6025(PN10,16)



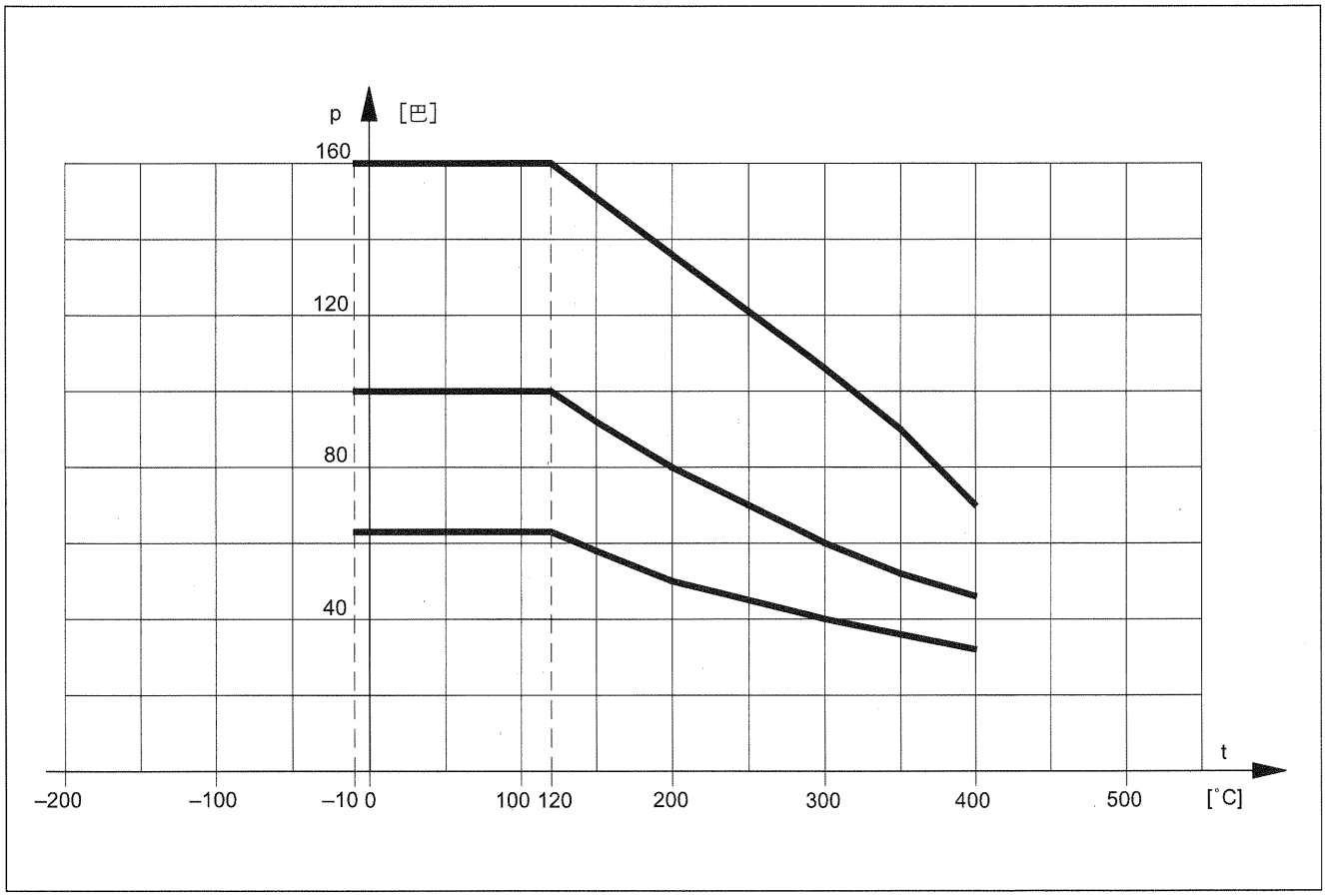
1.2 球墨铸铁GGG-40.3 · WN0.7043(PN16,25)



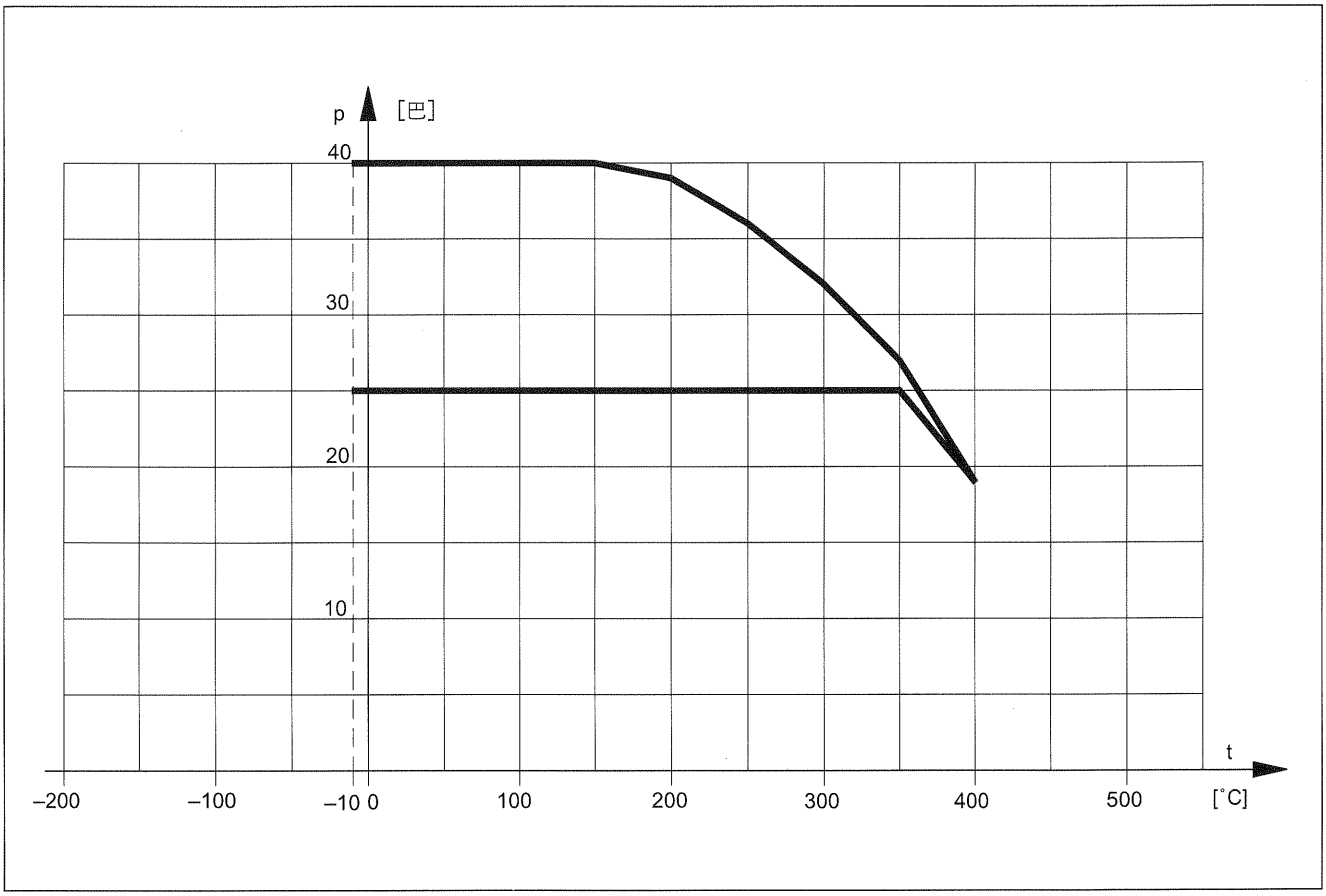
1.3.1 铸钢GS-C25 · WN1.0619(PN16,25,40)



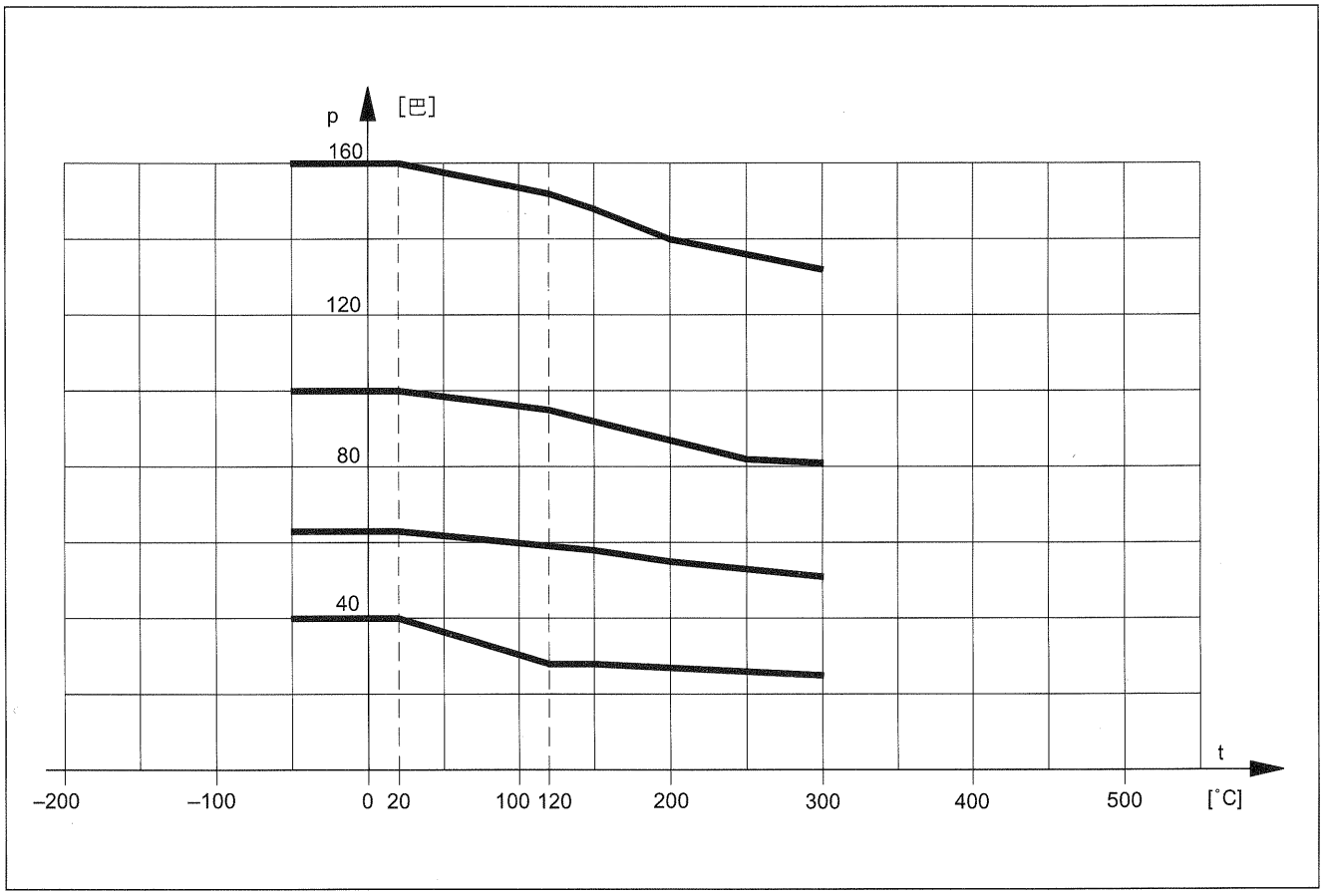
1.3.2 铸钢GS-C25 · WN1.0619(PN63,100,160)



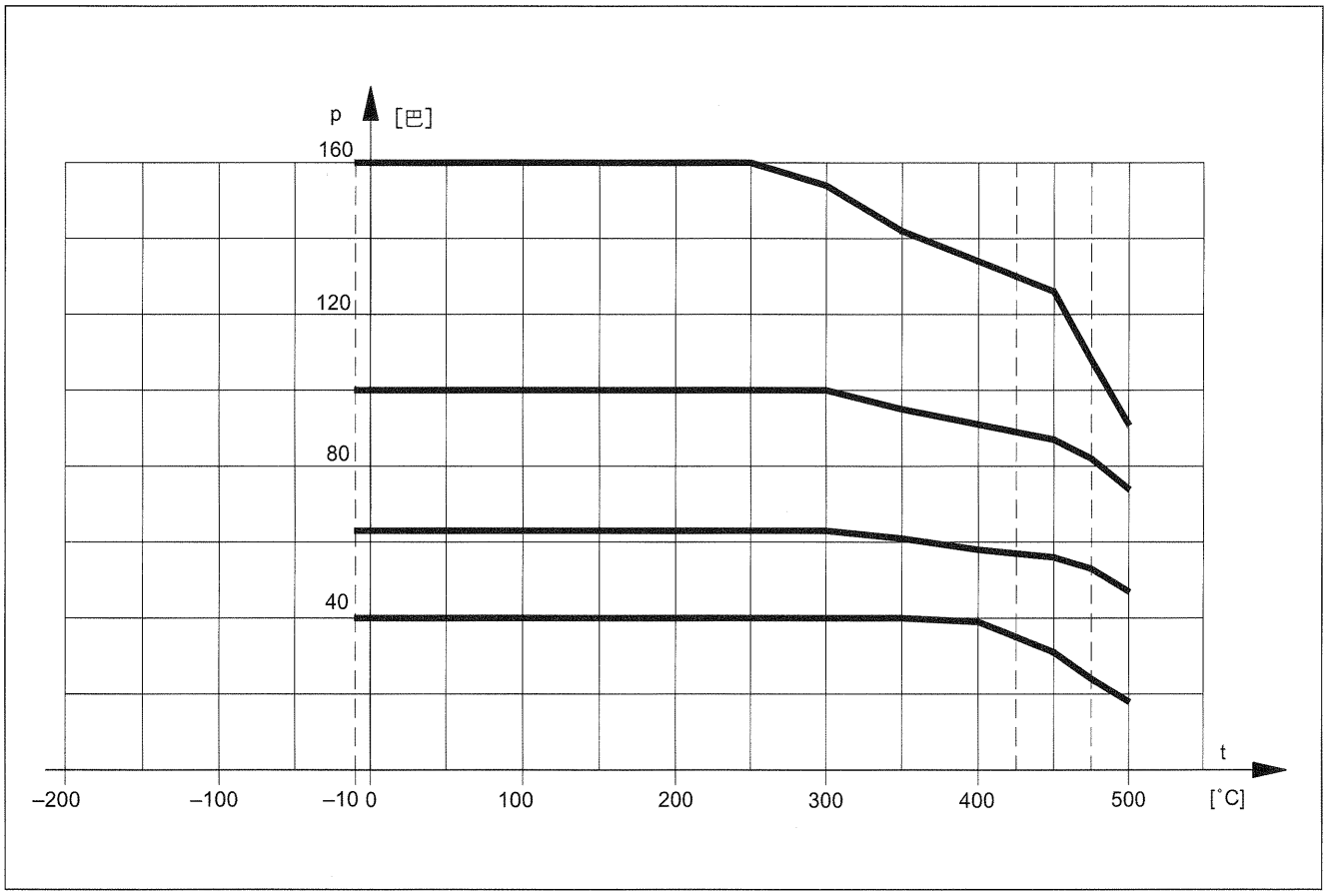
1.4 锻钢C22.8 · WN1.0460(PN25,40)



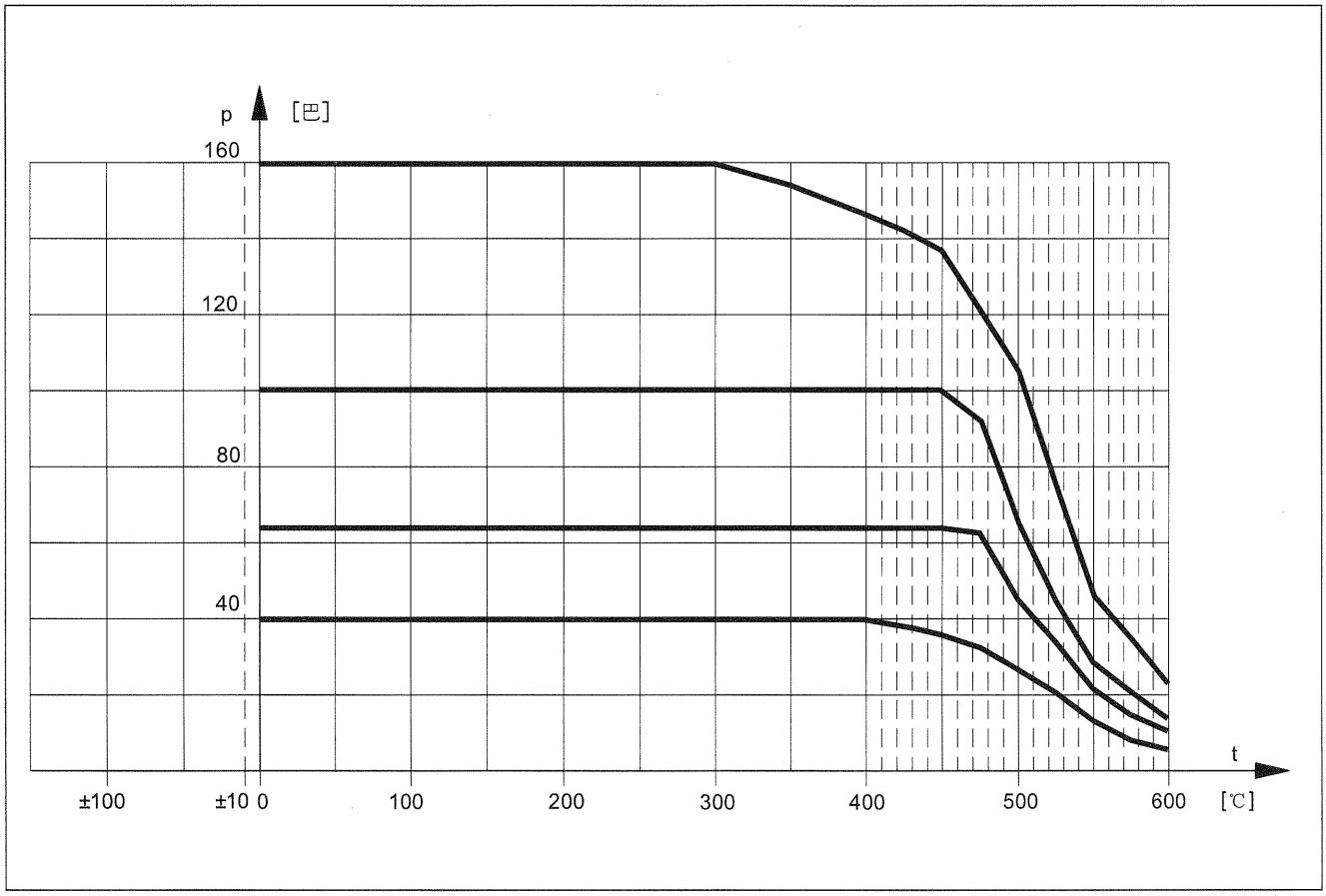
1.5 铸钢GS-21Mn5 · WN1.1138(PN40,63,100,160)



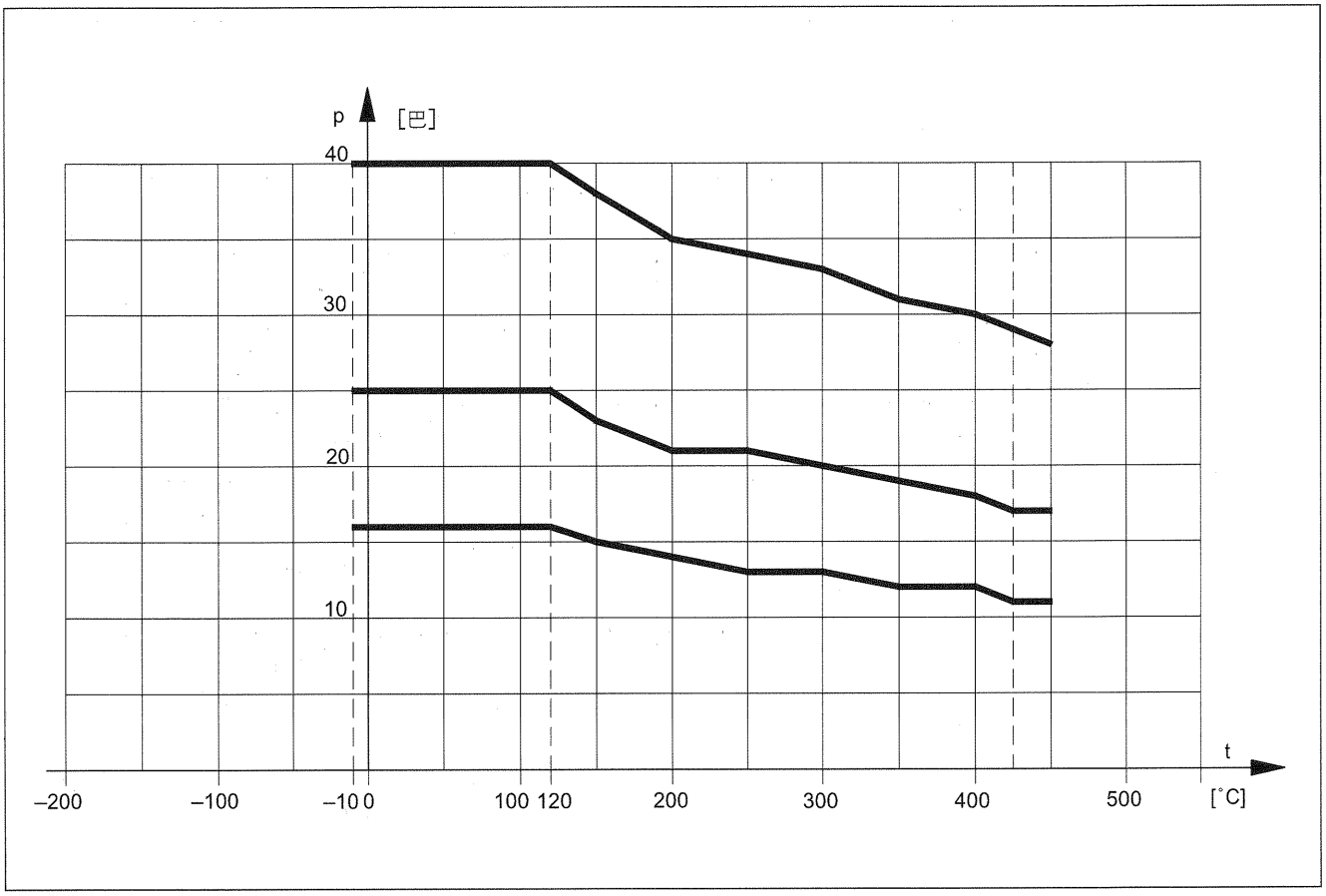
1.6 铸钢GS-17CrMo55 · WN1.7357(PN40,63,100,160)



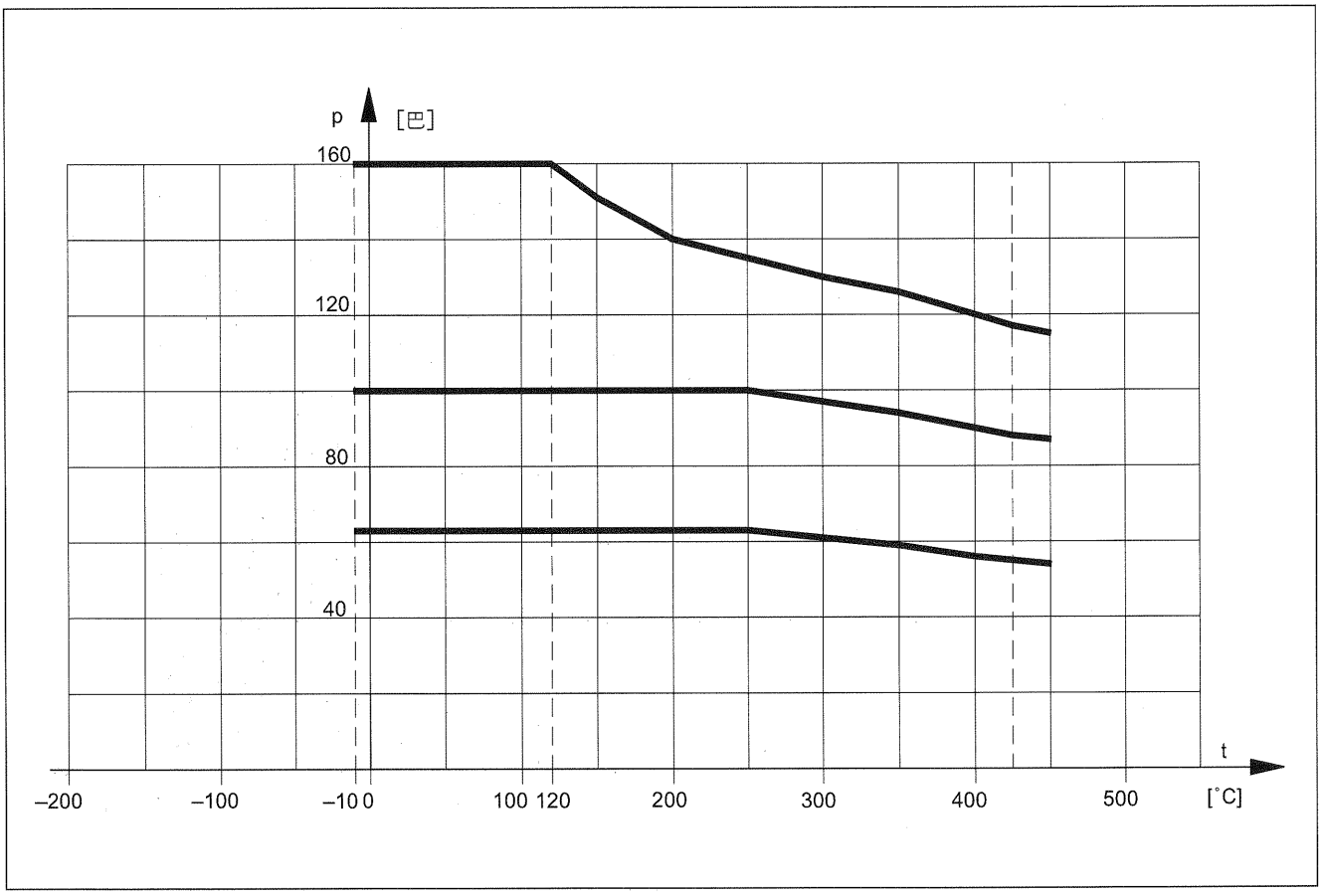
1.7 高温铸钢GS-12CrMo910 · WN1.7380(PN40,63,100,160)



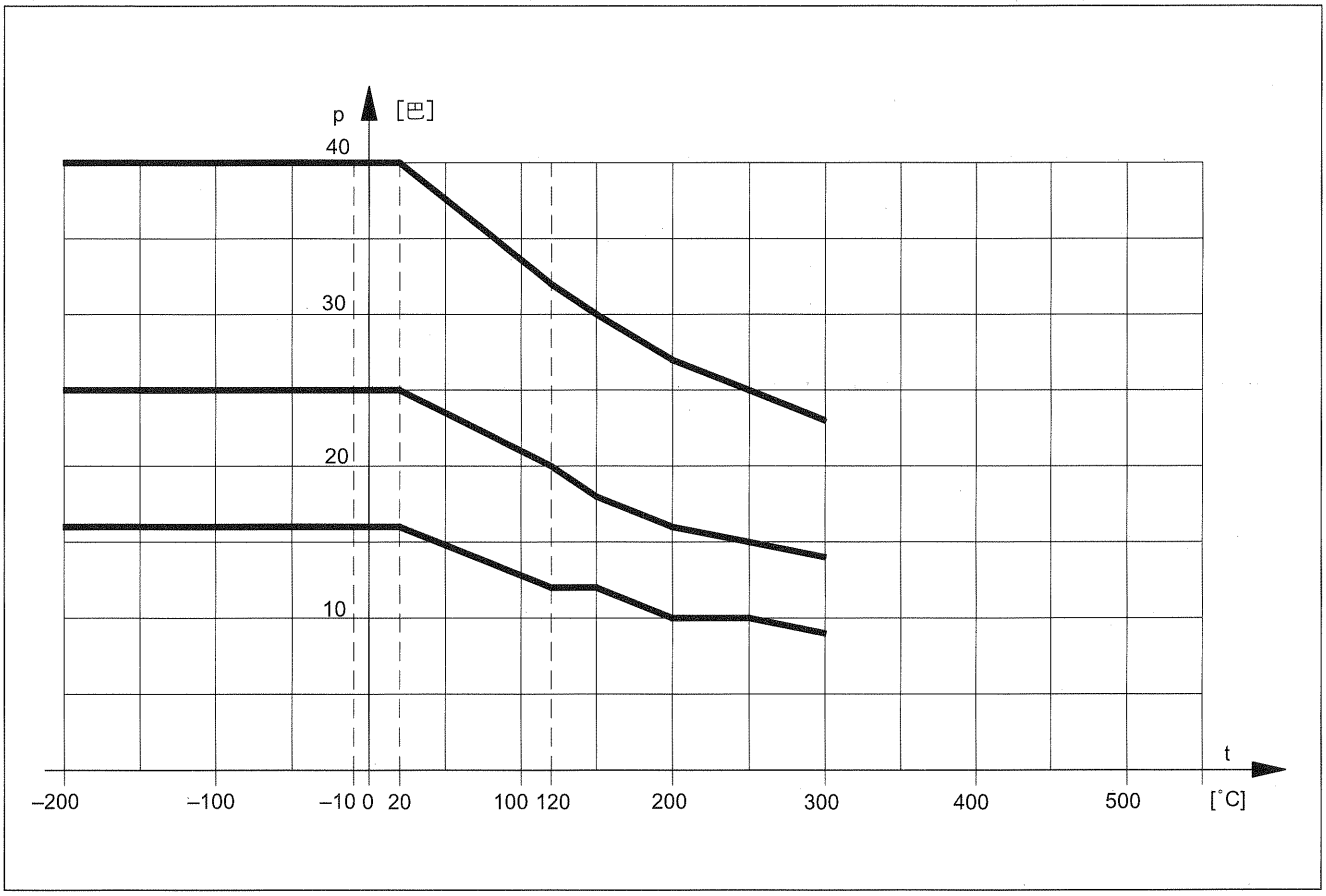
1.8.1 铸不锈钢G-X5CrNiMoNb1810 · WN1.4581(PN16,25,40)



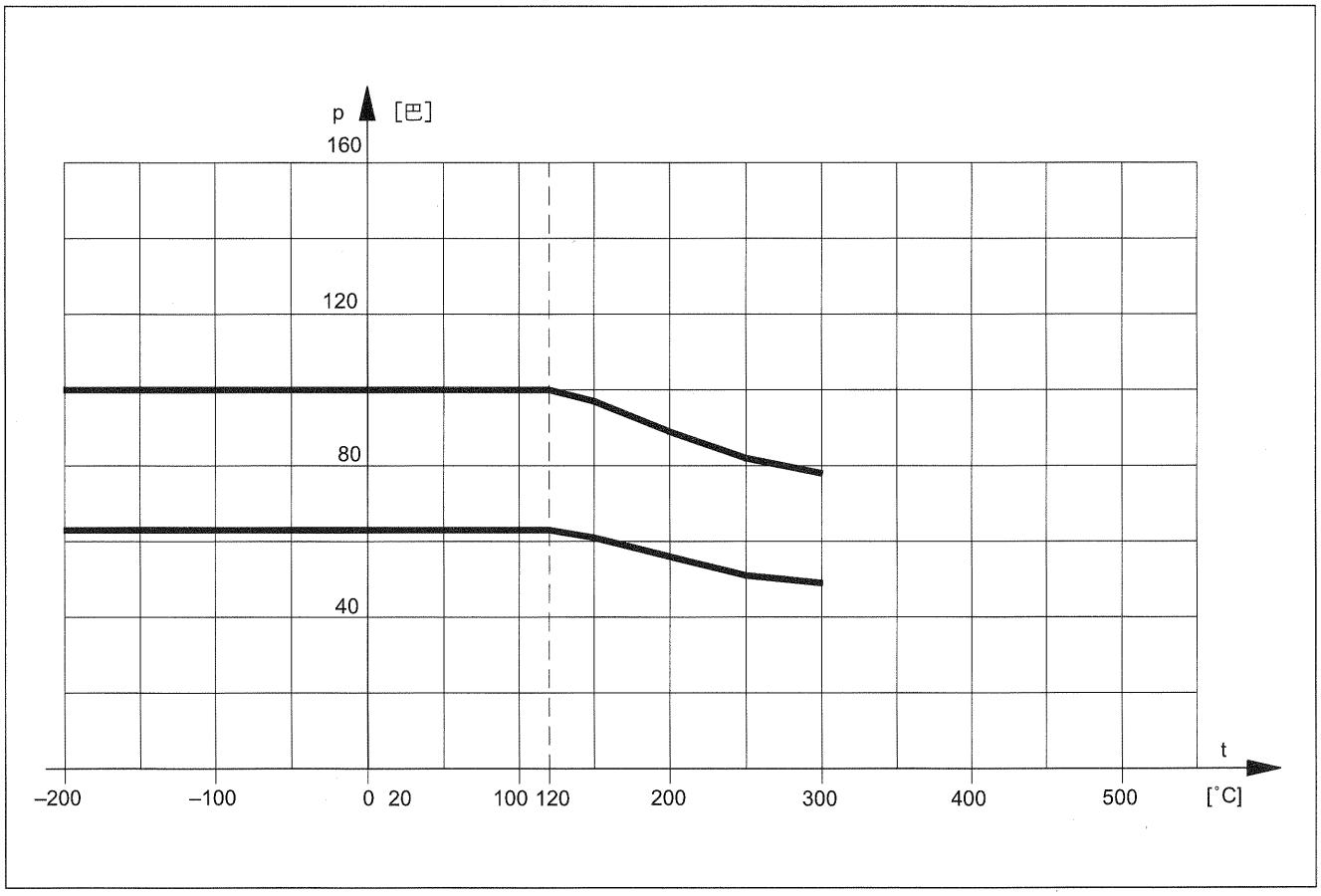
1.8.2 铸不锈钢G-X5CrNiMoNb1810 · WN1.4581(PN63,100,160)

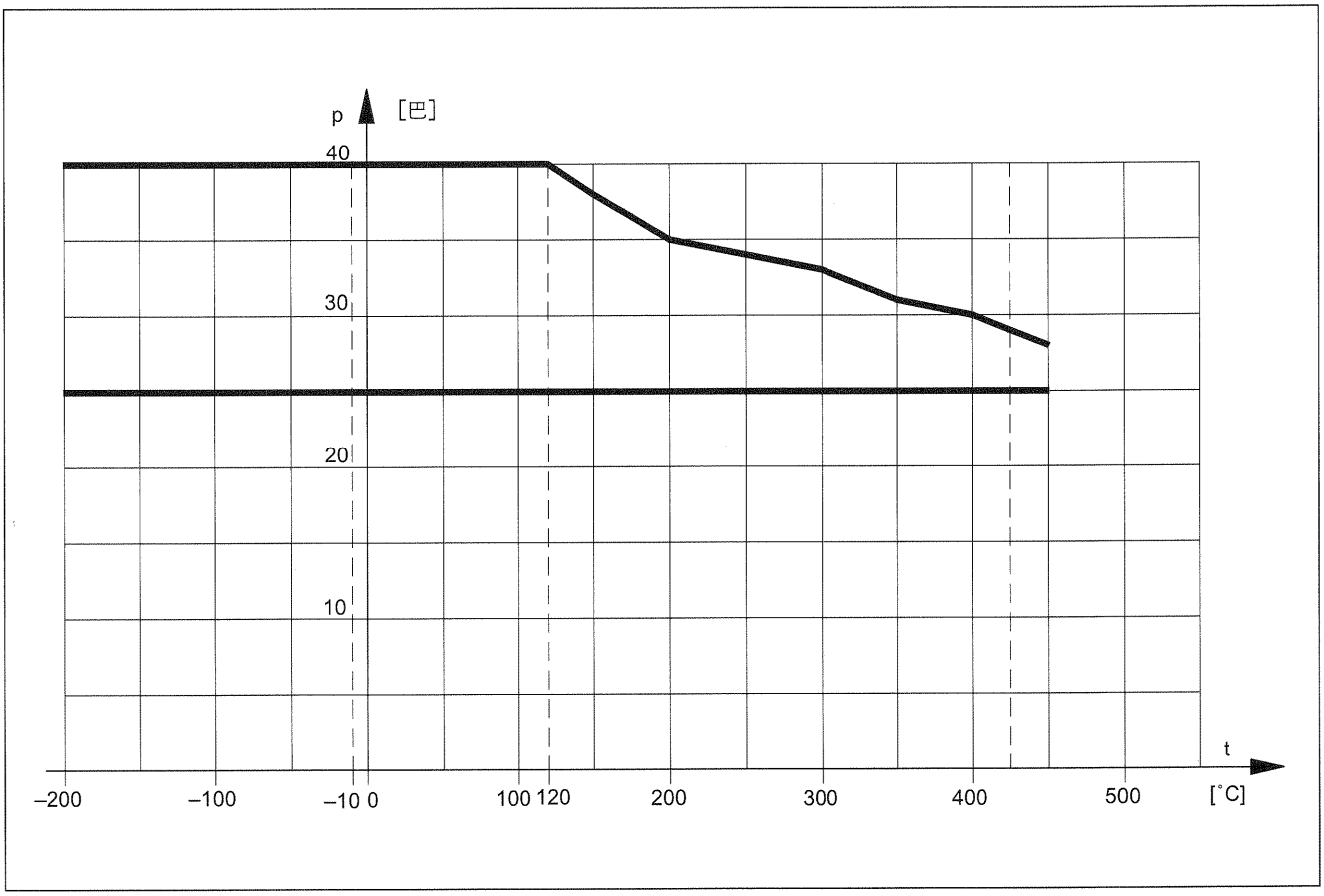


1.9.1 铸不锈钢G-X6CrNi189 · WN1.4308(PN16,25,40)



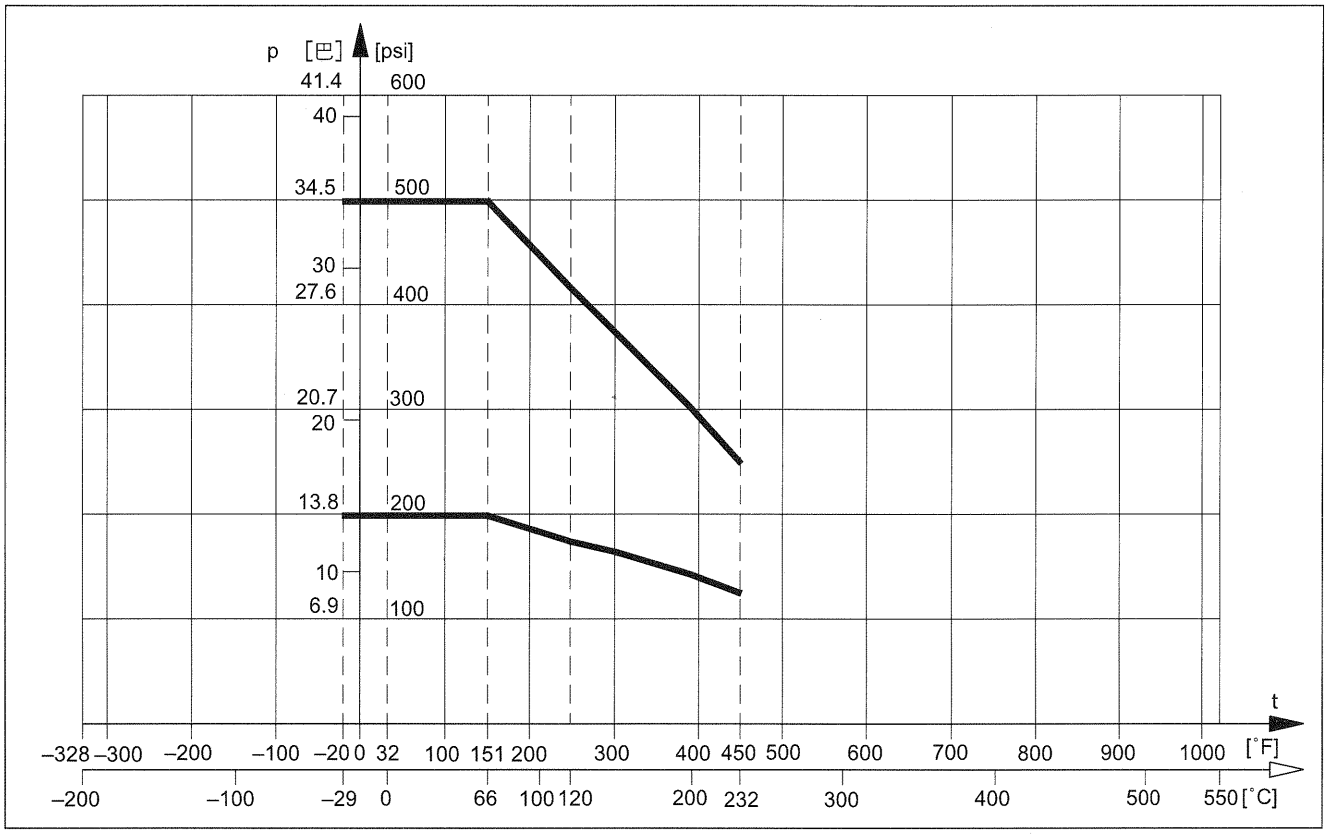
1.9.2 铸不锈钢G-X6CrNi189 · WN1.4308(PN63,100)



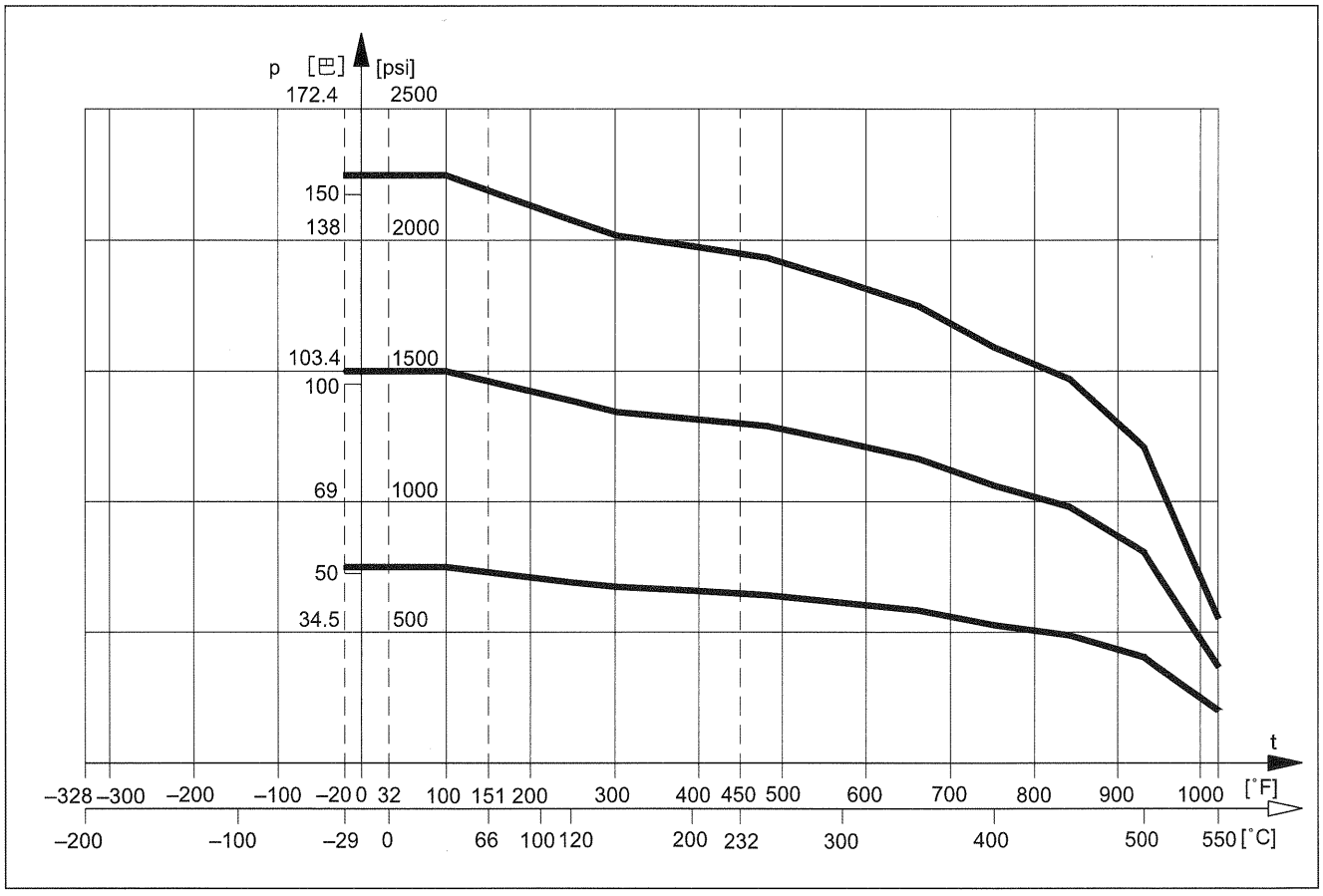

p
[巴]
40
30
20
10
t
–200
–100
–10 0
100 120
200
300
400
500
[°C]

2. 按ASTM标准的材料

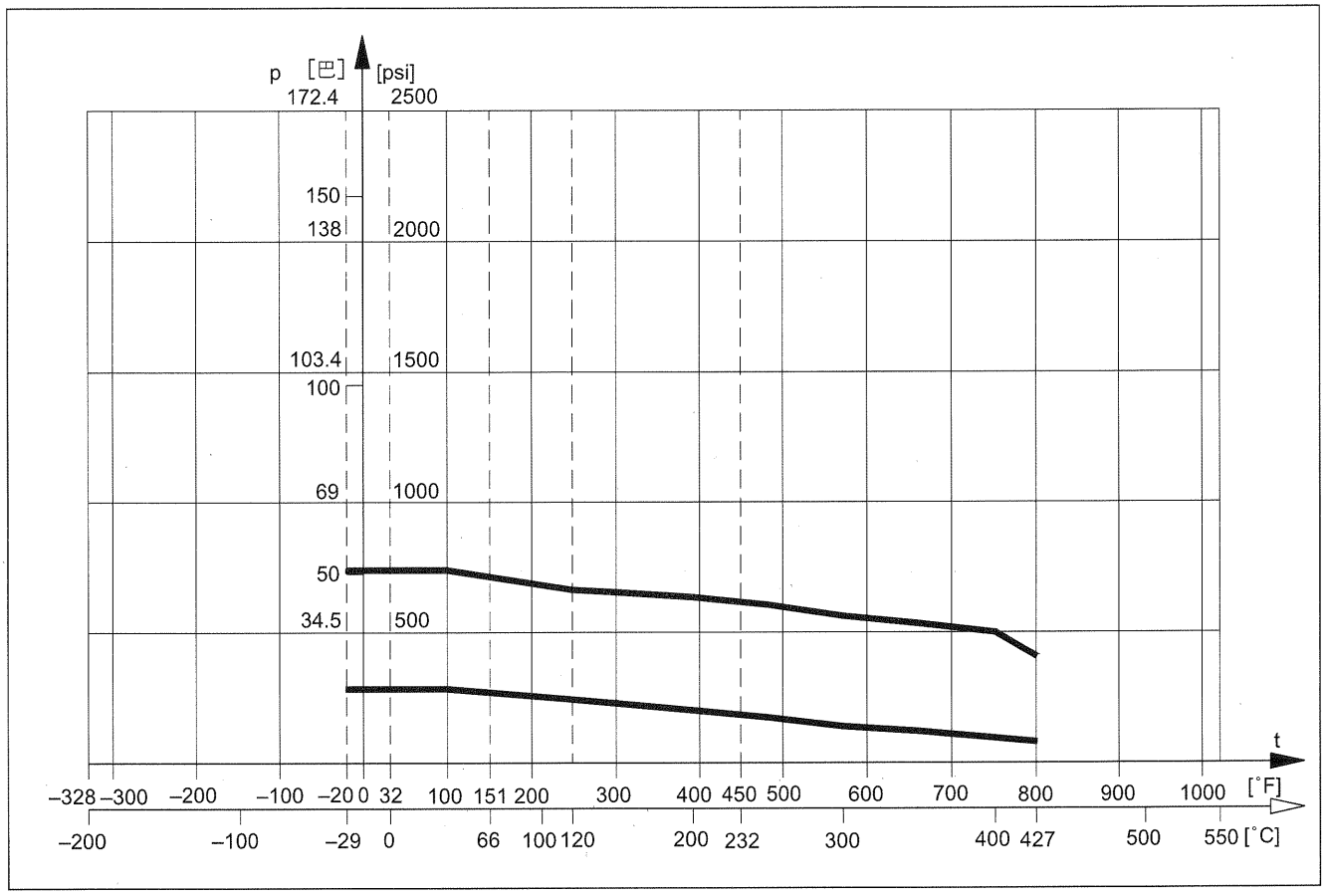
2.1 铸铁 · A126B(Cl125,250)



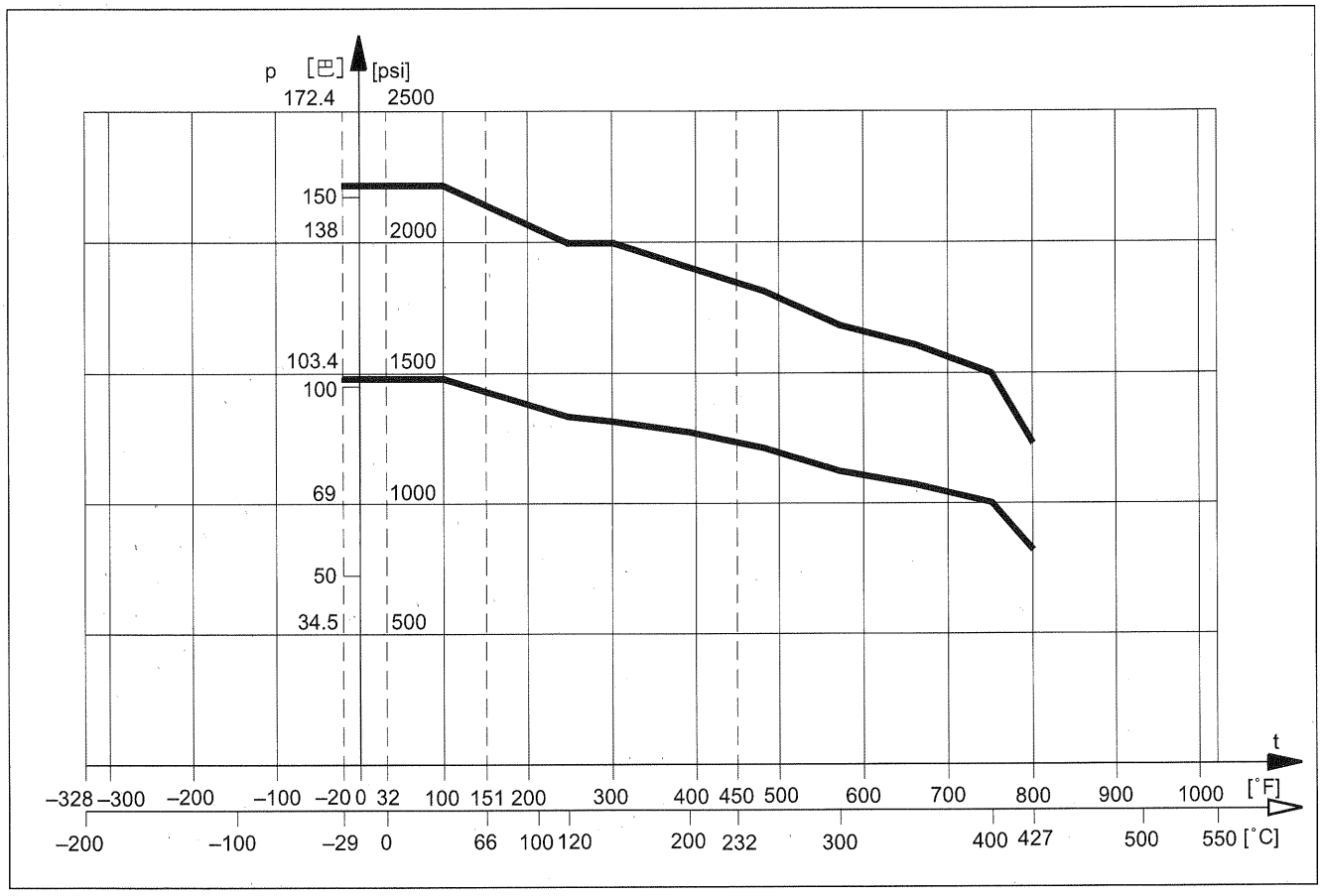
2.2 碳钢 · A217WC6(Cl300,600,900)



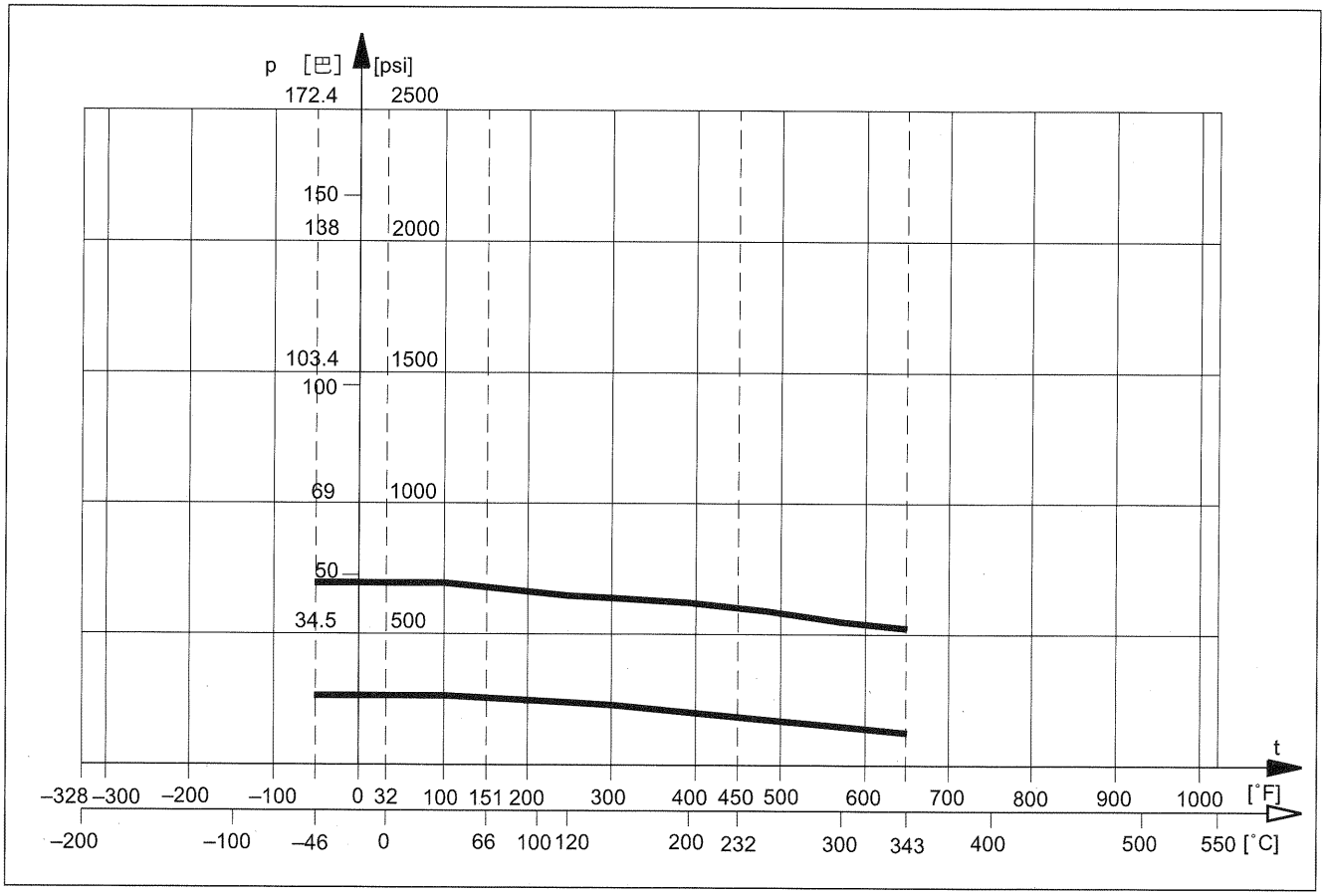
2.3.1 碳钢 · A216WCB(Cl150,300)



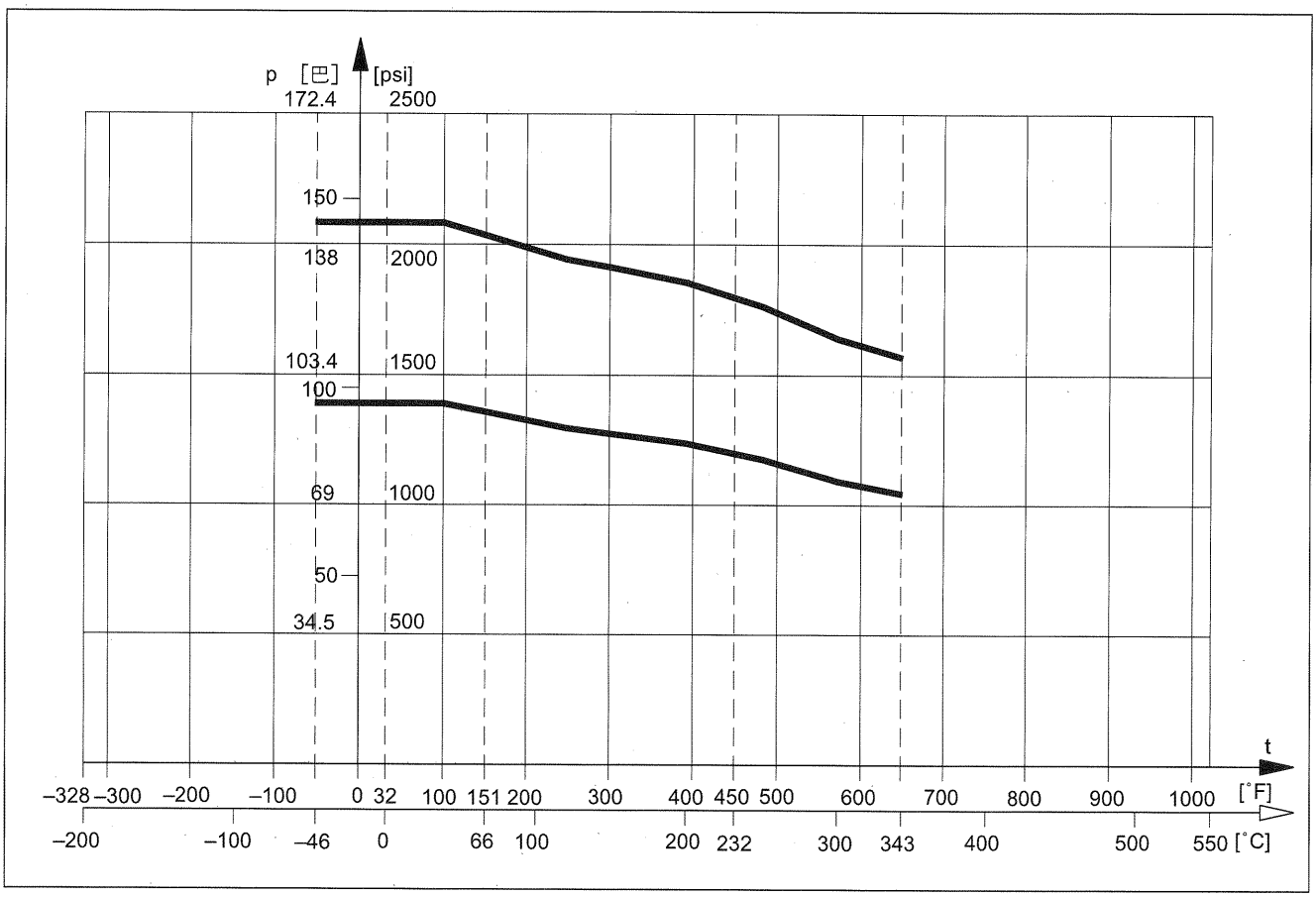
2.3.2 碳钢 · A216WCB(Cl600,900)



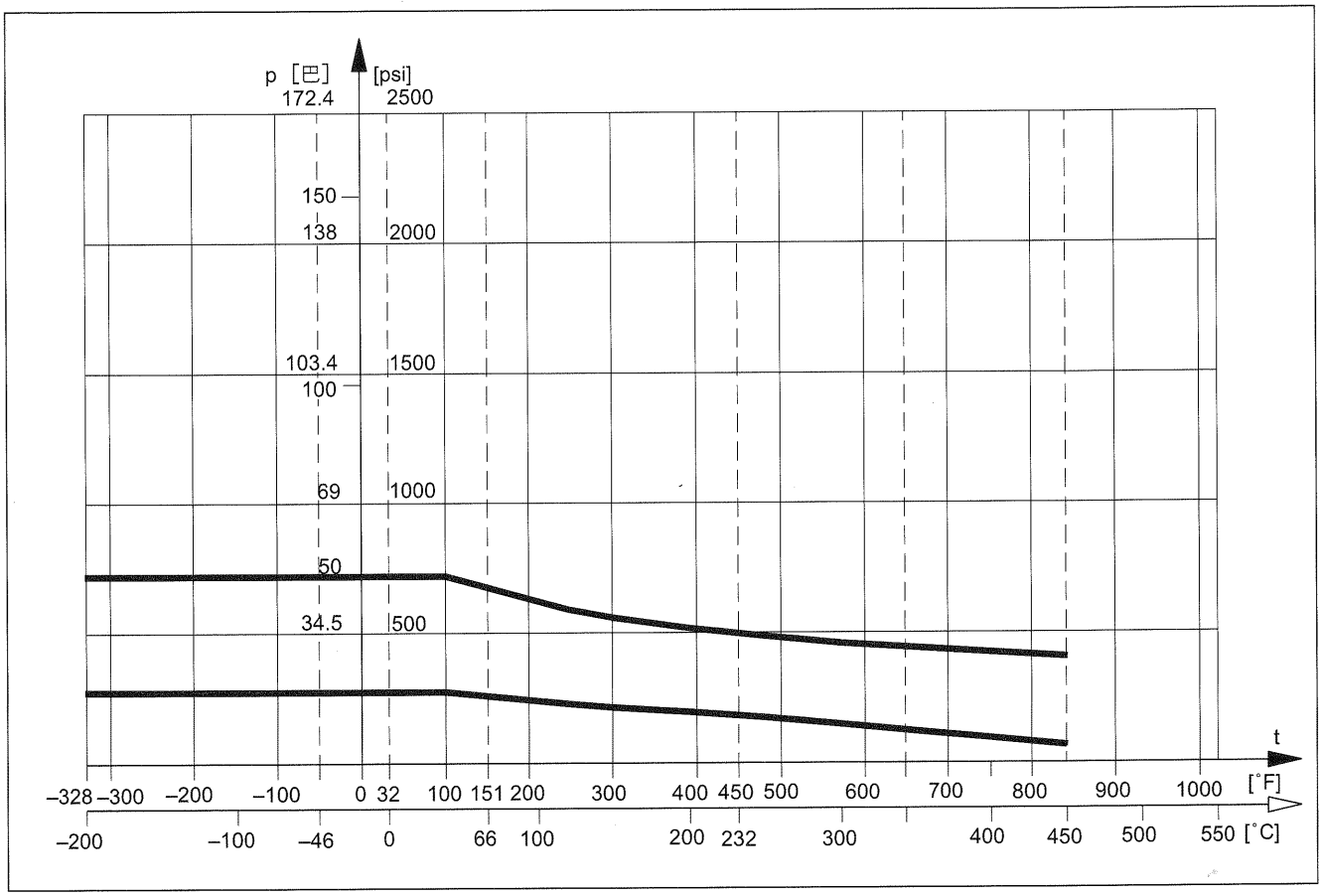
2.4.1 碳钢 · A352LCB(Cl150,300)



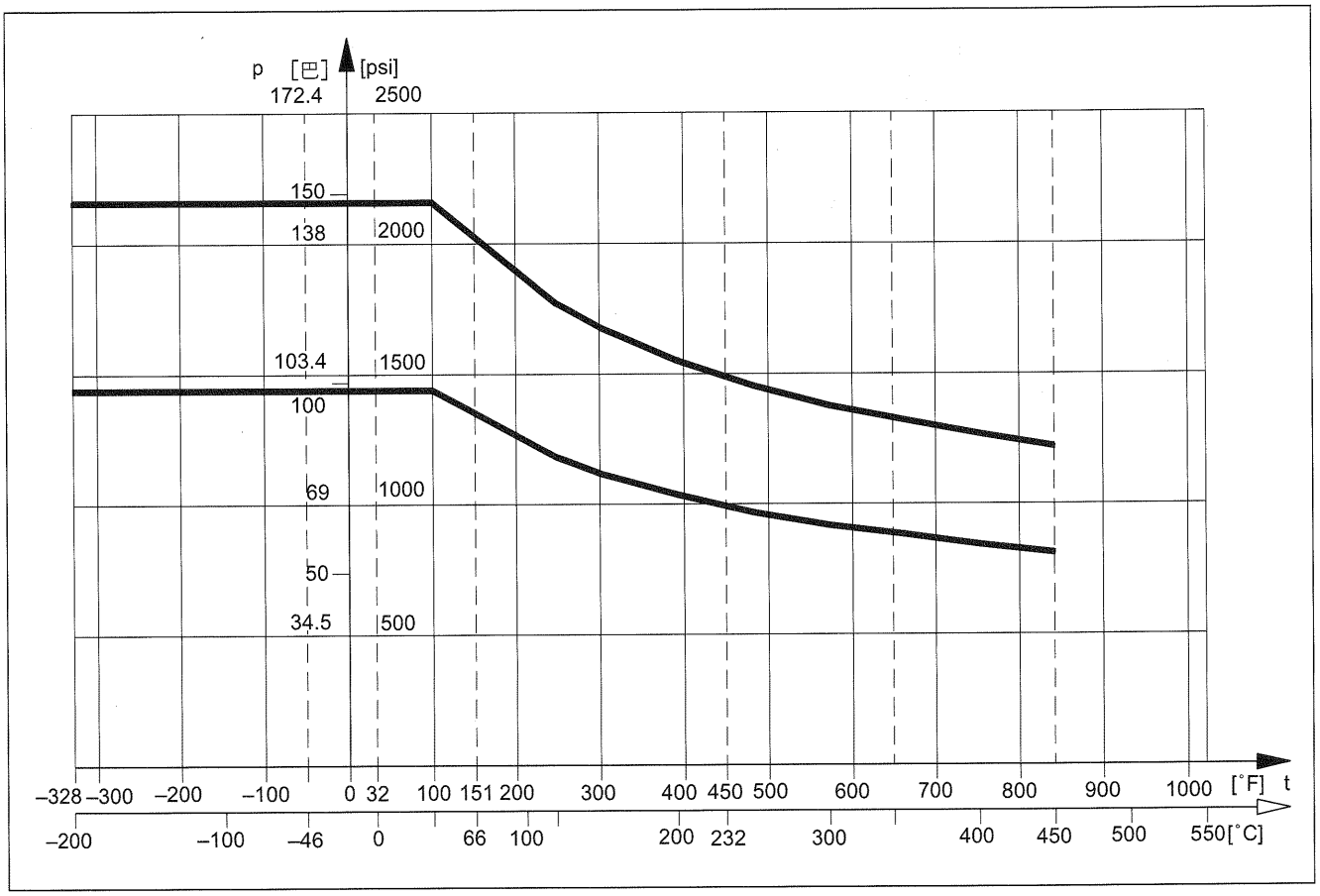
2.4.2 碳钢 · A352LCB(Cl600,900)



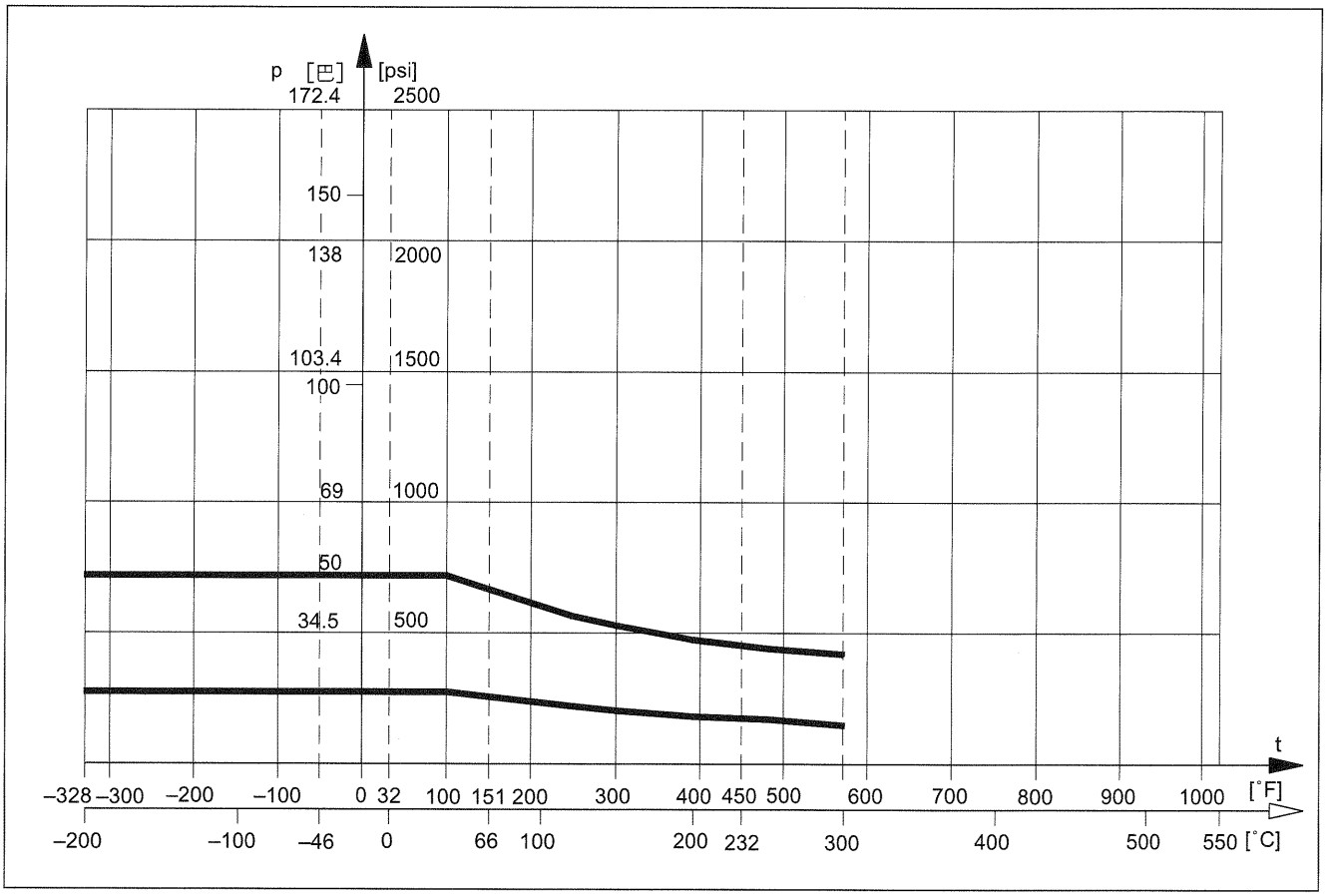
2.5.1 碳不锈钢 · A351CF8M(Cl150,300)



2.5.2 碳不锈钢 · A351CF8M(Cl600,900)



2.6.1 碳不锈钢 · A351CF8(Cl150,300)



2.6.2 碳不锈钢 · A351CF8(Cl600,900)

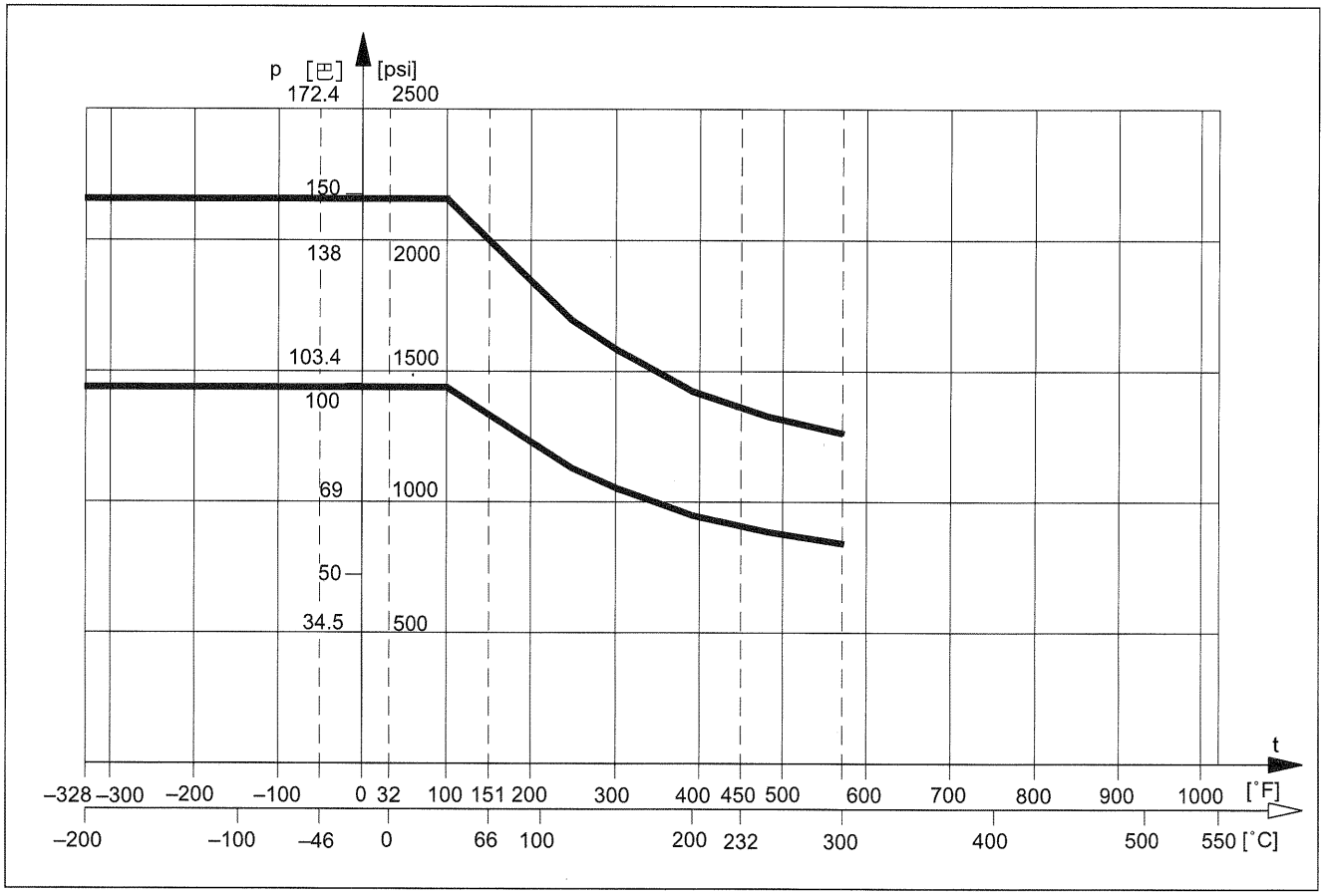


表3 · 按DIN标准材料,根据使用温度决定允许的压力

材料	PN	PN 温度(℃)和允许操作压力(巴)															
		/ 20	120	150	200	250	300	350	400	425	450	475	500	525	550	575	600
GG-25 WN 0.6025 –10 ... 300℃	10	10	10	9	8	7	6										
	16	16	16	14	13	11	10										
GGG-40.3 WN 0.7043 –10 ... 350℃	16	16	15	14	14	13	11	10									
	25	25	23	22	22	20	17	16									
GS-C25 WN 1.0619 –10 ... 400℃	16	16	16	15	14	13	11	10	8								
	25	25	25	24	22	20	17	16	13								
	40	40	40	40	39	36	32	27	19								
	63	63	63	58	50	45	40	36	32								
	100	100	100	92	80	70	60	56	50								
	160	160	160	151	136	121	106	90	70								
	250	250	250	231	200	175	150	140	125								
	320	320	320	303	272	249	226	210	192								
	400	400	400	381	343	314	284	245	192								
C 22.8/WN 1 .0460 –10 ... 400℃	25	25	25	25	25	25	25	25	19								
	40	40	40	40	39	36	32	27	19								
GS-21Mn 5 WN 1.1138 –50 ... 300℃	40	40	28	28	27	26	25										
	63	63	59	58	55	53	51										
	100	100	95	92	87	85	82										
	160	160	152	148	140	136	132										
GS-17 CrMo 55 WN 1.7357 –10 ... 500℃	40	40	40	40	40	40	40	40	39	35	31	24	18				
	63	63	63	63	63	63	63	61	58	57	56	53	47				
	100	100	100	100	100	100	100	95	91	89	87	82	74				
	160	160	160	160	160	160	154	142	134	130	126	108	91				
	250	250	250	250	250	250	250	238	227	223	217	206	184				
	320	320	320	320	320	320	320	320	319	307	296	239	182				
	400	400	400	400	400	400	400	386	365	354	343	281	220				
GS-12 CrMo 910 WN 1.7380 –10 ... 600℃	40	40	40	40	40	40	40	40	40	39	37	32	27	20	13	9	6
	63	63	63	63	63	63	63	63	63	63	63	62	46	33	21	15	10
	100	100	100	100	100	100	100	100	100	100	100	92	66	47	29	21	14
	160	160	160	160	160	160	160	154	146	142	138	121	105	76	47	34	22
	250	250	250	250	250	250	250	250	250	250	250	230	164	118	73	53	34
	320	320	320	320	320	320	320	320	320	320	320	294	212	153	94	69	44
	400	400	400	400	400	400	400	400	397	386	376	322	268	193	119	87	56
G-X5 CrNiMoNb 1810 WN 1.4581 –10 ... 450℃	16	16	16	15	14	13	13	12	12	11	11						
	25	25	25	23	21	21	20	19	18	17	17						
	40	40	40	38	35	34	33	31	30	29	28						
	63	63	63	63	63	63	61	59	56	55	54						
	100	100	100	100	100	100	97	94	90	88	87						
	160	160	160	151	140	135	130	126	120	117	115						
	250	250	250	236	220	212	204	197	189	185	181						
G-X5 CrNi 189 WN 1.4308 –200 ... 300℃	16	16	12	12	10	10	9										
	25	25	20	18	16	15	14										
	40	40	32	30	27	25	23										
	63	63	63	61	56	51	49										
	100	100	100	97	89	82	78										
X6 CrNiMoTi 17 12 2 WN 1.4571 –200 ... 450℃	25	25	25	25	25	25	25	25	25	25	25						
	40	40	40	38	35	34	33	31	30	29	28						