

上海工搪化工设备有限公司简介

上海工搪化工设备有限公司前身为国营上海耐酸搪瓷厂，成立于1955年，后更名为上海工业搪瓷厂，于2000年改制为民营企业。公司曾是中国化工装备协会的常务理事之一，搪玻璃专业委员会副主任单位。同时还是搪玻璃设备标准化委员会主要成员，参加了各项行业标准产品的制订与审定工作。公司拥有特种设备设计许可证TS1231036-2018；特种设备制造许可证TS2231035-2017；ISO9001:2008 ANAB13Q20472R2M，质量管理体系认证证书。本公司设有工程设计部门，从事研发性能优良的瓷釉及世界先进的制作工艺，并承担一、二类压力容器及搪玻璃压力容器设计和产品开发业务。公司主导的产品是搪玻璃设备：反应釜、贮罐、蒸发器、蒸馏罐、聚合釜、热交换器、塔节、配件等，此外，还承担非标搪玻璃及碳钢、不锈钢设备的设计开发、制造业务。并能提供各种标准的50L~50000L的搪玻璃反应釜及搪玻璃贮罐。

Brief Introduction of SGT Glass-Lined Equipment Co., Ltd

The SGT Glass-Lined Equipment Co., Ltd was established in 1955. (hereafter referred to as SGT Company in 2000). The SGT Company is one of the executive directors of Chinese Chemical Industry Equipment Society, the deputy director unit of Porcelain Glass Specialized Committee, and a main member of Porcelain Enamel Equipment Standardization Committee. The SGT company participated in preparation and validation work of the national professional standards related to glass-lined products. Our company has the Design License of Special Equipment TS2231036-2018, Manufacture License of Special Equipment TS2231035-2017 and Quality management system certification ISO9001:2008 ANAB13Q20472R2M. Besides, our company has an engineering and research department which engages research and development of the enamel with the excellent performance and the world advanced production technology ,and undertakes the designs for the first or second category of pressure vessels, glass lined pressure vessel and product development business . The main products of the company are the glass-lined equipment: reactor, storage tank, evaporator, distiller, polymerization kettle, heat exchanger, tower and auxiliaries. We also undertake the design, development and manufacture of non-standard glass-lined, carbon steel and stainless steel equipment, and provide various standard sizes of glass-lined rectors, kettles and storage tanks from 50L to 50000L.



我们的客户



Engineering Corporation : Technip、Bechtel、Fluor、Kvaerner、Toyo、Samsung、CBI、JGC、MEC、CTCI、Wison、Baye



Enamel 瓷釉

瓷釉性能比较 Enamel Performance Comparison

测试标准 Test Std.	GB7987-87	GB7990-2002	GB7989-87	GB7988-2002
釉药牌号 Enamel Style	耐温差急变性 °C	耐机械冲击性 X10 ⁻³ J	耐酸 20%HCL 微沸 168h	耐碱 0.1N NaoH 80°C 24h
国产JT瓷釉 Domestic Style JT	通过200 °C	284.07	0.59 g/(m ² ·d) 即: 0.08 mm/year	3.38 g/(m ² ·d) 即: 0.48 mm/year
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9000#	通过200 °C	287.4	0.2 g/(m ² ·d)	2.0 g/(m ² ·d)
进口配方 STC-1	通过200 °C	302.06	0.23 g/(m ² ·d) 即: 0.03 mm/year	2.35 g/(m ² ·d) 即: 0.29 mm/year
日本HAKKO (八光) 瓷釉862-200B	通过185 °C	249.8	0.29 g/(m ² ·d)	2.01 g/(m ² ·d)

实验数据 仅供参考使用 Test results are for reference in use

国内领先的瓷釉研磨技术 leading technology for enamel polishing in China



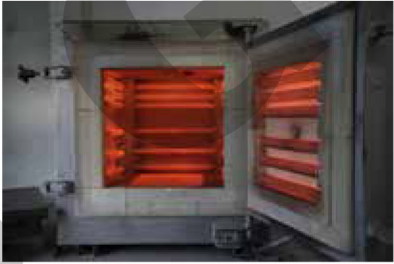
球磨机
ball mill



搪玻璃底釉釉块
The frits for ground coat enamel



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The frits for surface coat enamel



1000°C实验电炉
1000°C Experimental Electric Furnace



1600°C高温实验电炉
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测试试件
Testing specimens

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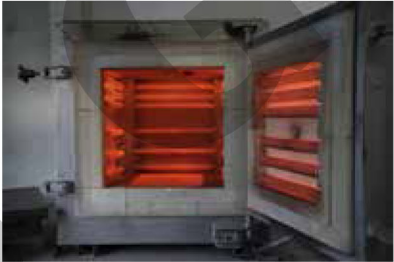
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1000℃实验电炉
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1600℃高温实验电炉
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测试试件
Testing specimens

碱性 Alkalies

在室温下, STC-1和9000#, 862-200B#瓷釉可耐任何PH值的化学介质。然而, 随温度升高, 瓷釉对碱的耐腐蚀性降低。在使用PH值为14或更高的氢氧化钠和氢氧化钾介质时, 不同浓度的最高使用温度分别为: 温度为66°C时, 浓度10%; 温度为60°C时, 浓度20%; 温度为57°C时, 浓度30%; 温度为45°C时, 浓度50%。

在中和反应中, 当PH值为13时, 最高温度为100°C。液态碱或固态碱置于容器中, 需妥善放置于反应罐中央并小心搅拌, 防止反应物黏着于搪玻璃内壁使局部温度过高。

有机金属化合物(除氟化物)在常态下不腐蚀搪玻璃。

At room temperature, STC-1 and 9000#, 862-200B# enamels is fully resistant to chemical media in any PH values. But with the rise of temperature, the resistance of the enamels to alkali decreases. For the service to the caustic soda and caustic potash at PH 14 or more, the maximum operation temperatures at the different concentrations are: 66°C at 10%, 60°C at 20%, 57°C at 30%, 54°C at 50% respectively.

For operation of neutralization, maximum allowable temperature is 100°C at PH 13. When liquid alkaline or solid alkaline is charged into a vessel, care should be taken to put the material into the center of the vessel and agitating should be carefully so that it may not cause either sticking of the material to the surface of enamel or overheating on the local area in the vessel.

Organometallic compounds except fluorides do not influence the enamels under the normal condition.

盐酸 Hydrochloric acid

在化学工业使用的所有酸性物质中, 盐酸是最常见的, 但是它和设备材料的腐蚀也最强。STC-1和9000#, 862-200B# 瓷釉对此种液体具有很强的耐腐蚀性, 如图中所示, 耐腐蚀性在低浓度区域变化明显, 在1%时达到一个高峰, 在10%时降到最低谷。但是当浓度大于10%时, 耐腐蚀性迅速提高。此图同样适用于氢溴酸, 氢碘酸, 氯乙酸。

Among all kinds of acids for the chemical industry, hydrochloric acid is used most popularly, but it corrodes the materials of equipment most severely. STC-1 and 9000#, 862-200B# enamels have very excellent resistance to this corrosive acid.

As shown in this chart, corrosion resistance changes in the low concentration area, showing a peak at 1% and a minimum at 10%, but beyond 10%, it increases rapidly. This chart is also applicable to hydrobromic acid, hydriodic acid and chloroacetic acid.

磷酸 Phosphoric acid

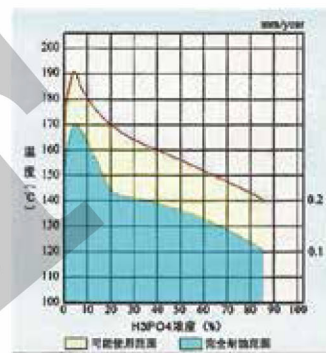
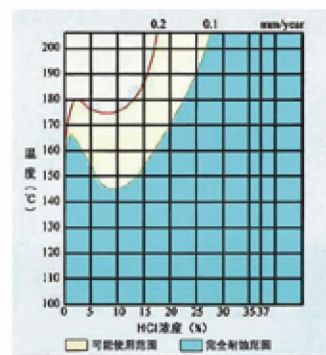
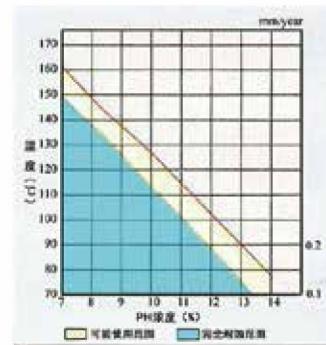
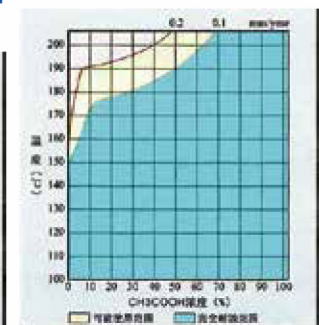
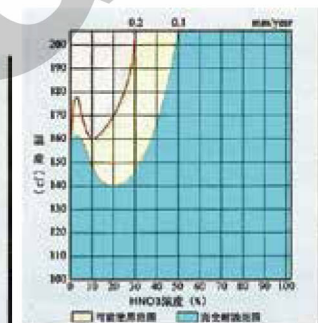
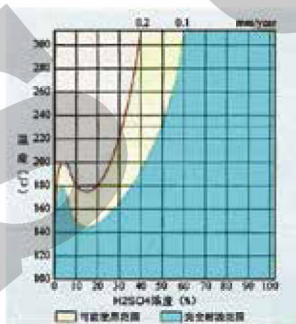
搪玻璃的耐腐蚀性在磷酸溶液中变化与在其他酸液中的变化大不相同。耐腐蚀性一般随着酸液浓度的增加而增加, 但在磷酸溶液中, 耐腐蚀性随着浓度的增加而降低。由于磷酸溶液常常含有氟杂质, 因此腐蚀性实验应达到一个星期以上。

The corrosion resistance of enamels to phosphoric acid changes in a much different way from that to other kinds of acids. Usually corrosion resistance of enamels increases with the increase of concentration of the acids, but in case of phosphoric acid, corrosion resistance decreases with the increase of concentration. As phosphoric acid often contains fluorine as a impurity, the corrosion test for a period as long as more than one week is necessary.

硫酸、硝酸、醋酸 Sulfuric acid, Nitric acid, Acetic acid

在低浓度时, 搪玻璃对这些酸的耐腐蚀性到达一个高峰, 当浓度达到20%时, 耐腐蚀性降到最低。当浓度超过20%时, 耐腐蚀性随着浓度的增加而提高。此图同样也适用于亚硫酸和亚硝酸。

The corrosion resistance to these acids show a peak at a low concentration and a minimum at a concentration around 20%. When concentration exceeds 20%, corrosion resistance increases with the increases of concentration. This chart is also applicable to sulphurous acid and nitrous acid.



水 Water

低于水沸点时, STC-1, 9000#, 862-200B# 对液态及气态水都具有高度耐腐蚀性, 而在液态和气态水中最高使用温度为150°C。需注意, 高耐酸的瓷釉并不一定同时具有优秀防水性能。

At temperatures lower than the boiling point of water, STC-1 and 9000#, 862-200B# enamels have perfect corrosion resistance to water both in the states of liquid and gas. However, maximum service temperature is 150°C in both states.

Attention should be paid to the fact that the enamel with high acid resistance has not always good water resistance.

盐 Salts

盐(含氟除外)的腐蚀性与其溶液中PH值密切相关。例如, 氯化钠为中性, 而它的水溶液具有腐蚀性, 其中水充当了媒介。另, 氯离子溶于水, 溶液中便含有氯离子。关于STC-1和9000#, 862-200B# 瓷釉对上述盐溶液的耐腐蚀性, 请参照相关图表。

The corrosiveness of salts (except those containing fluorine) is closely related to the PH values of the aqueous solutions. For an example, sodium chloride is neutral, but in its aqueous solution has corrosiveness to the enamel because water acts as a corrosive agent. Also, aluminium chloride dissolves in water and gives chloric ion in the solution. For the corrosion resistance of STC-1 and 9000#, 862-200B# enamels to the solutions of those salts, please refer to the related corrosion charts.

氟化物 Fluoride

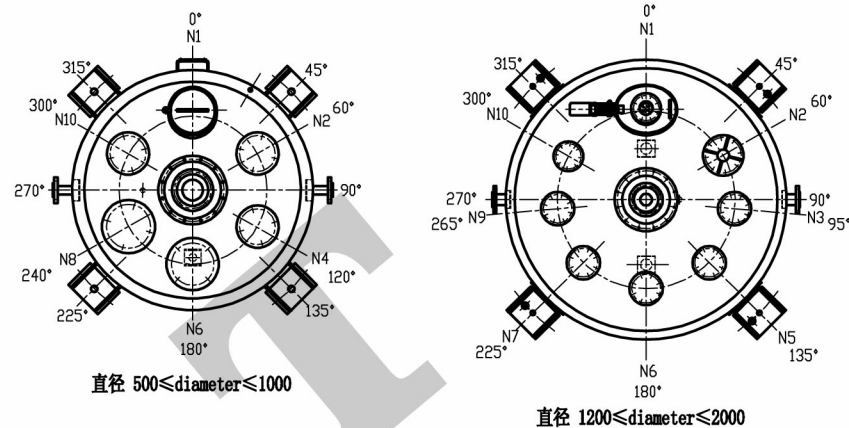
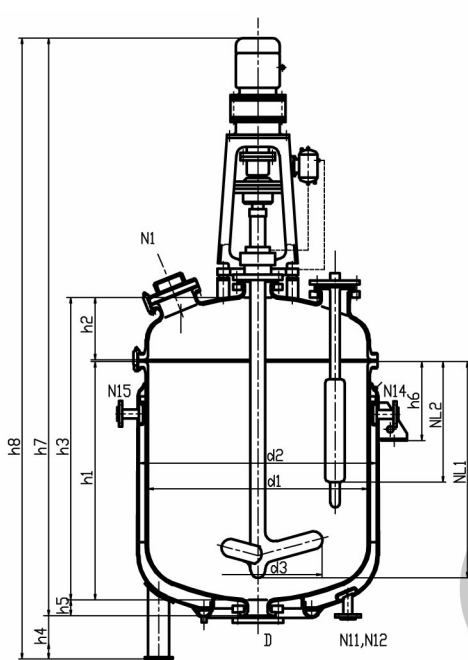
若溶液中仅有氟化物, 操作须足够谨慎。通常, 氟化物存在于磷酸、含磷混合物、盐酸和硫酸再生物当中。因此, 在使用上述溶剂中, 须在操作前做好腐蚀度测试。

If only traces of fluoride is found in the solution, sufficient care should be taken in the operation. Often fluorine is contained in phosphoric acid and, phosphoric compounds, and regenerated products of hydrochloric acid and sulfuric acid. Therefore for the service of the enamel in the solutions of those materials, corrosion test should be conducted before the operation.

有机溶剂 Organic solvents

对于有机溶剂, STC-1和9000#, 862-200B# 瓷釉在搪玻璃设备允许的最高使用温度下具有高度耐腐蚀性。然而低导电性液体, 如己烷、二甲苯、甲苯、苯、庚烷, 单独使用或其他固、液态混合物使用时, 不同溶液之间, 液体与气体间、液体与容器壁或其配件之间、会释放出静电。产生的静电火花可能点燃可燃性蒸汽, 或导致搪玻璃表面爆裂或产生针孔, 因此在使用上述溶剂时, 须谨慎。

For organic solvents, STC-1 and 9000#, 862-200B# enamels have perfect corrosion resistance up to the maximum operating temperature of the glass-lined steel equipment. But the liquids with low dielectric constant such as the liquids of hexane, xylene, toluene, benzene and heptane, when used single or mixed with other liquids or solids, discharge static electricity between different liquids, liquids and gases, liquids and vessel wall or accessories. The sparks caused by such electricity may ignite combustible vapors, or cause cracks or pinholes on the enamel surface, and so sufficient cares are necessary in handling those solvents said above.

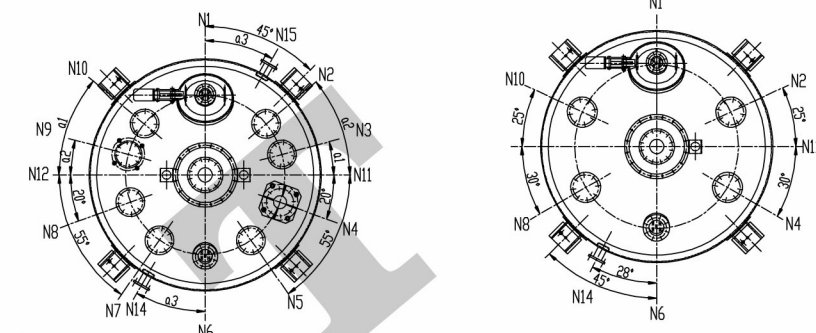
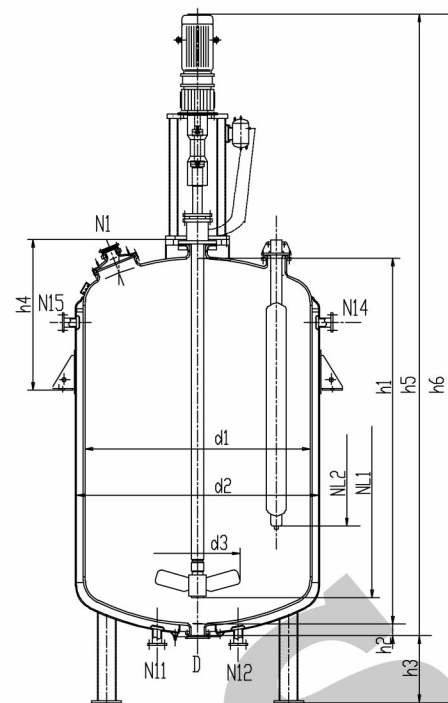


标准设计
压力：罐内-1/6 bar
夹套-1/6 bar
温度：> -20 °C ~ +200 °C
材料：
罐体：Q245R
卡子：35, 35CrMoA, 表面处理
垫片：PTFE 夹包垫片

Standard Design
Pressure : Inside Vessel: -1/6 bar
Jacket: -1/6 bar
Temperature: > -20 °C ~ +200 °C
Materials:
Vessel: Q245R
Clamp bolts: 35, 35CrMoA, surface — treated
Gaskets: PTFE— enveloped flat seal

Nominal	Total capacity			Main dimensions尺寸 (mm)											Total
Capacity	vessel	jacket	surface	d1	d2	d3	h1	h2	h3	h4	h5	h6	h7	h8	weight
公称容积	罐体	夹套	换热面积	d1	d2	d3	h1	h2	h3	h4	h5	h6	h7	h8	总重
L	L	L	m²										approx.	approx.	≈kg
63	95	29	0.55	508	600	300	400	180	590	300	68	—	—	2110	430
100	130	40	0.9	508	600	300	600	180	790	300	68	—	—	2310	520
160	210	60	1.25	600	700	360	700	200	910	300	68	—	—	2430	640
250	330	75	1.7	700	800	420	800	220	1030	300	68	340	2355	2655	850
400	535	116	2.5	800	900	480	1000	250	1260	500	78	365	2595	3095	1040
630	860	150	3.2	1000	1100	600	1000	300	1310	500	78	380	2790	3290	1400
1000	1470	210	4.6	1200	1300	720	1200	350	1560	500	74	410	3040	3540	2250
1600	2340	285	6.3	1400	1500	840	1400	400	1810	500	74	420	3455 (3765)*	3955 (4265)*	3100
2500	3480	370	8.2	1600	1700	960	1600	460	2070	500	70	450	3830 (4140)*	4330 (4525)*	3900
4000	5430	520	11.6	1800	1900	1100	2000	500	2510	500	70	480	4505 (4840)*	5005 (5340)*	5300
6300	8390	685	16	2000	2100	1100	2500	550	3060	500	86	545	5170 (5505)*	5670 (6005)*	7800

Nominal	Nozzles管口 (DN)												Drive驱动		
Capacity	N1	N2	N3	N4	N5	N6	N8	N11	N12	D	NL1	NL2	total headroom	Mt扭矩	Pn功率
公称容积	N10	N9	N4	N7	N6	N8	N11	N14	N15				type型号	max.	
63	100	40	—	80	—	80	50	40	—	80	970	475	125K	330	0.55
100	100	40	—	80	—	80	50	40	—	80	1170	675	125K	330	0.55
160	100	50	—	80	—	80	80	40	—	80	1290	750	125K	330	0.55
250	150	50	—	80	—	80	80	40	—	80	1450	830	200K	550	1.5
400	200	80	—	80	—	100	80	40	—	100	1655	1020	200K	550	1.5
630	2550	100	—	100	—	150	100	50	—	100	1720	1040	250K	550	3
1000	350*450	100	100	—	200	100	—	50	—	100	1970	1200	250K	550	3
1600	350*450	100	100	—	200	100	—	50	50	100	2285	1200	300K (S)*	1100	4
2500	350*450	100	100	—	200	100	—	50	50	100	2540	1420	300K (S)*	1100	5.5
4000	500	150	150	—	250	150	—	50	50	100	3075	1800	400K (S)*	2100	7.5
6300	500	150	150	—	250	150	—	80	80	150	3595	2320	500K (S)*	2100	11

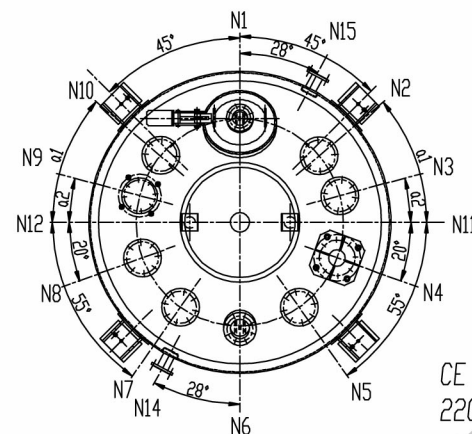


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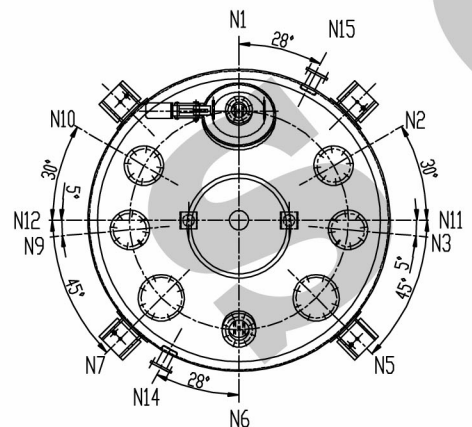
Standard Design
Pressure : Inside Vessel: -1/6 bar
Jacket: -1/6 bar
Temperature: > -20 °C ~ +200 °C
Materials:
Vessel: Q245R
Clamp bolts: 35, 35CrMoA, surface — treated
Gaskets: PTFE— enveloped flat seal

Nominal	Total capacity			Main dimensions尺寸 (mm)											Total
Capacity	vessel	jacket	surface	d1	d2	d3	h1	h2	h3	h4	h5	h6	h7	h8	weight
公称容积	罐体	夹套	换热面积	d1	d2	d3	h1	h2	h3	h4	h5	h6	h7	h8	总重
L	L	L	m²										approx.	approx.	≈kg
630	838	164	3.7	1000	1100	650	1310	78	500	650	3030 (-)	3530 (-)	2778 (-)	3278 (-)	1560
1000	1470	220	5.1	1200	1300	720	1550	76	500	670	3030 (-)	3530 (-)	3395 (3705)*	3895 (4205)*	2200
1600	2330	330	6.9	1400	1500	825	1800	74	500	745	3835 (4145)*	4335 (4645)*	3395 (3705)*	3895 (4205)*	3000
2500	3500	420	9.3	1600	1700	1025	2060	72	500	745	3835 (4145)*	4335 (4645)*	3835 (4145)*	4335 (4645)*	4300
4000	5400	555	13.2	1800	1900	1100	2500	70	500	830	4510 (4845)*	5010 (5345)*	4510 (4845)*	5010 (5345)*	5800
6300	8200	750	17.8	2000	2100	1200	3050	86	500	935	5175 (5510)*	5675 (6005)*	5175 (5510)*	5675 (6005)*	8200
8000	9320	750	18	2200	2300	1200	3000	86	500	1160	5125 (5460)*	5625 (5960)*	5125 (5460)*	5625 (5960)*	9300
10000	11715	875	20.7	2400	2500	1400	3180	84	500	1240	5705 (6045)*	6205 (6545)*	5705 (6045)*	6205 (6545)*	11100
12500	14300	1050	25.2	2400	2500	1400	3780	84	500	1265	6345 (6625)*	6845 (7125)*	6345 (6625)*	6845 (7125)*	13100
16000	18160	1145	29.5	2600	2700	1400	4080	82	500	1350	6715 (6995)*	7215 (7495)*	6715 (6995)*	7215 (7495)*	15850
16000	18200	1170	30.1	2800	2900	1600	3750	82	500	1415	6340 (6620)*	6840 (7120)*	6340 (6620)*	6840 (7120)*	16200
20000	22600	1345	34	2800	2900	1600	4385	82	500	1465	7080 (7360)*	7580 (7860)*	7080 (7360)*	7580 (7860)*	17800
25000	28280	1520	39.7	2800	2900	1600	5235	82	500	—	79820 (8260)	8480 (8760)*	79820 (8260)*	8480 (8760)*	21000
25000	28310	1550	40.5	3000	3100	1700	4755	80	500	—	7495 (7775)	7995 (8275)*	7495 (7775)*	7995 (8275)*	21500
32000	36600	2695	45.4	3200	3350	1700	5280	80	500	—	8385 (8670)	8885 (9170)*	8385 (8670)*	8885 (9170)*	28400
32000	36670	2750	46.2	3400	3550	1700	4875	80	500	—	7980 (8265)	8480 (8765)*	7980 (8265)*	8480 (8765)*	28650
40000	44650	3285	55.2	3400	3550	1700	5795	80	500	—	8975 (9260)	9475 (9760)*	8975 (9260)*	9475 (9760)*	34500
40000	44700	3320	55.6	3600	3750	1800	5365	80	500	—	8545 (8830)	9045 (9330)*	8545 (8830)*	9045 (9330)*	34900

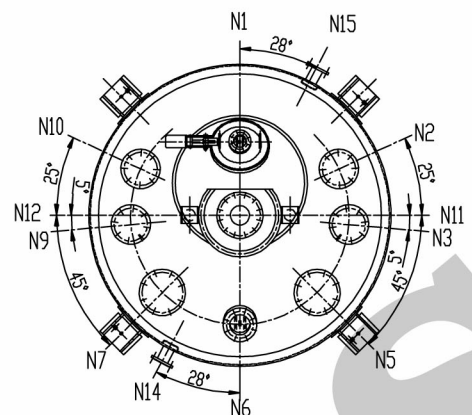
Nominal	Nozzles管口 (DN)												Drive驱动		
Capacity	N1	N2	N3	N4	N5	N6	N8	N11	N12	D	NL1	NL2	total headroom	Mt扭矩	Pn功率
公称容积	N10	N9	N4	N7	N6	N8	N11	N14	N15				type型号	max.	
630	320/420	100	—	100	—	100	50	—	100	1720	1040	—	250	490	3
1000	350/450	100	100	100	200	—	50	—	100	1970	1200	22.5°	250K	550	
1600	350/450	100	100	100	200	—	50	50	100	2285	1200	30°	300K (S)*	1100	
2500	500	100	100	100	200	—	50	50	100	2540	1420	25°	300K (S)*	1100	
4000	500	150	150	150	250	—	50	50	100	2980	1800	25°	400K (S)*	2100	
6300	500	150	150	150	250	—	80	80	150	3595	2320	30°	500K (S)*	2100	
8000	600	150	150	150	300	150	80	80	150	3515	2500	12.5°	500K (S)*	2100	
10000	600	200	200	250	250	200	80	80	150	3790	2500	7.5°	700K (S)*	6000	
12500	600	200	200	250	250	200	80	80	150	4390	3100	7.5°	700K (S)*	6000	
16000	600	200	200	250	250	200	80	80	150	4690	3400	7.5°	700K (S)*	6000	
16000	600	200	200	300	300	200	80	80	150	4310	3100	12.5°	700K (S)*	6000	
20000	600	200	200	300	300	200	80	80	150	4990	3700	12.5°	700K (S)*	6000	
25000	600	200	200	300	300	200	80	80	150	5840	4550	12.5°	700K (S)	6000	
25000	600	200	200	300	300	200	80	80	150	5360	4000	12.5°	700K (S)	6000	
32000	600	200	200	400	400	200	100	100	150	5955	4550	12.5°	900K (S)	9100	
32000	600	200	200	400	400	200	100	100	150	5545	4000	12.5°	900K (S)	9100	
40000	600	200	200	400	400	200	100	100	150	6465	4900	12.5°	900K (S)	9100	
40000	600	200	200	400	400	200	100	100	150	6035	4500	12.5°	900K (S)	9100	



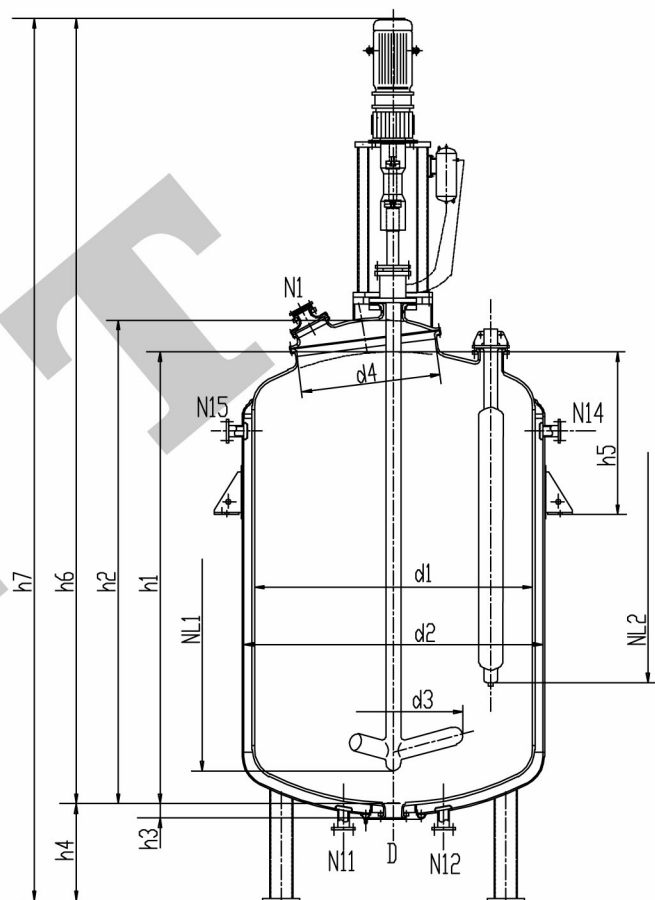
CE 8000-CE40000
2200≤d1≤3600
plan view



CE 6300
d1=2000 plan view
CE 6300,
d1 = 2000, plan view



CE 1600-CE 2500
1400≤d1≤1600
plan view

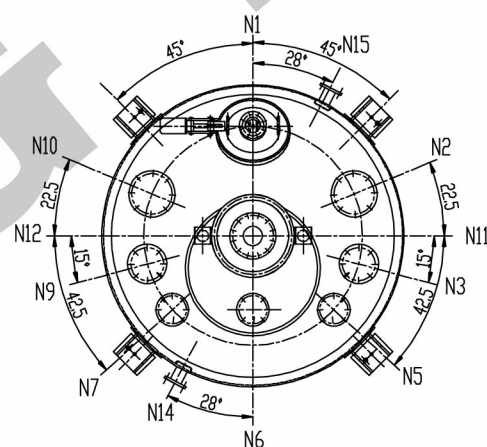


标准设计
压力：罐内-1/6 bar
夹套-1/6 bar
温度：> -20 °C ~ +200 °C

材料：
罐体：Q245R
卡子：35, 35CrMoA, 表面处理
垫片：PTFE 夹包垫片

Standard Design
Pressure : Inside Vessel: -1/6 bar
Jacket: -1/6 bar
Temperature: > -20 °C ~ +200 °C

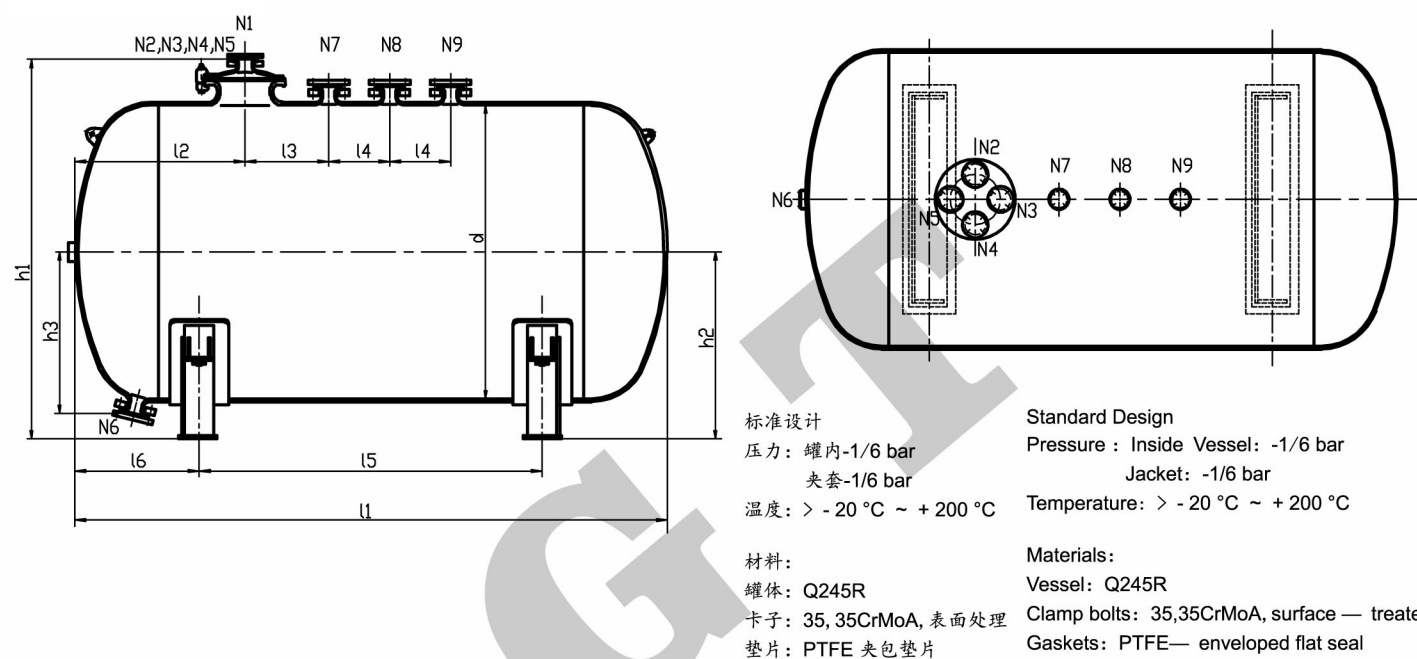
Materials:
Vessel: Q245R
Clamp bolts: 35, 35CrMoA, surface — treated
Gaskets: PTFE— enveloped flat seal



CE 4000
d1=1800, plan view

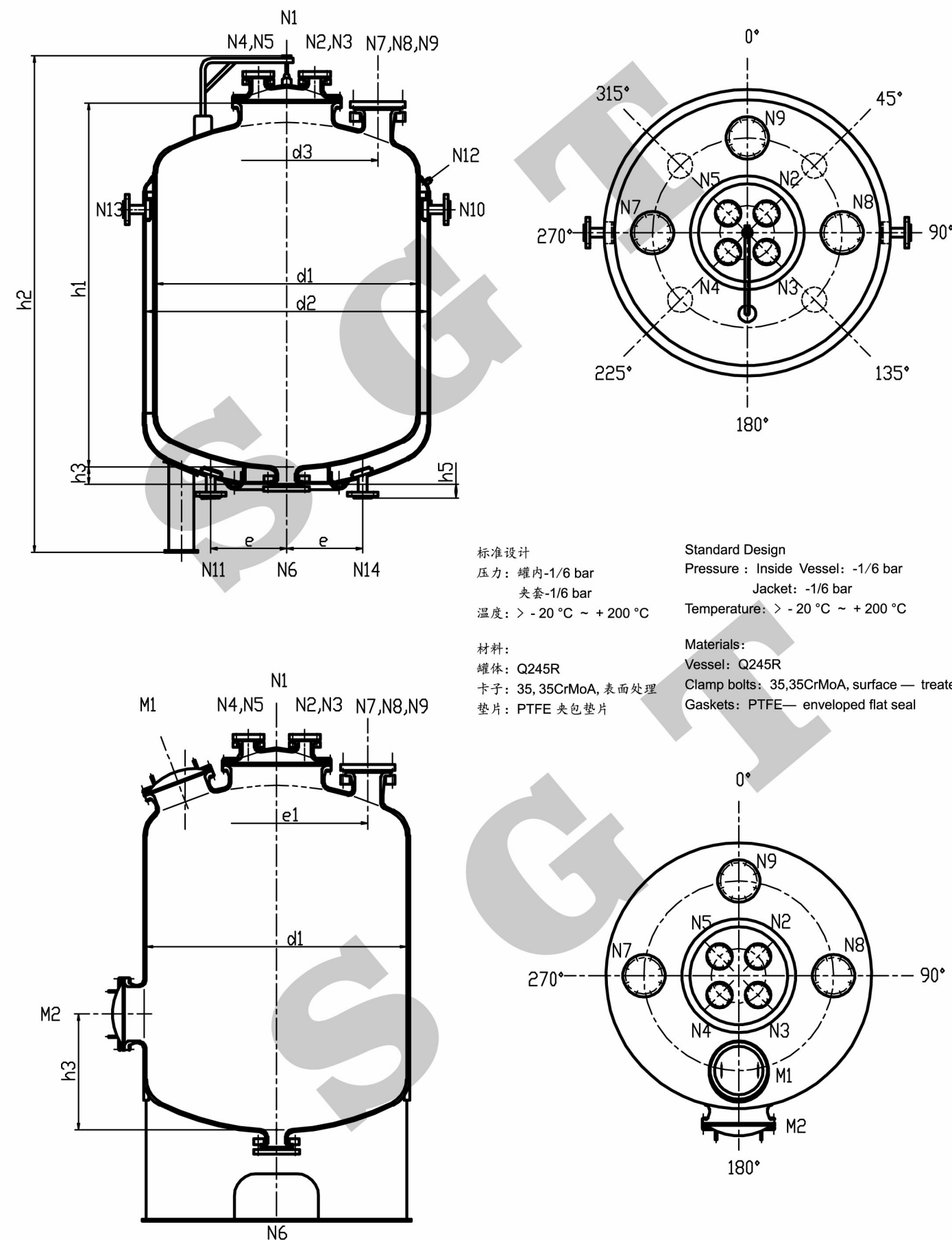
Nominal	Total capacity		Exchange	Main dimensions尺寸（mm）										Total	
Capacity	vessel	jacket	surface	d1	d2	d3	d4	h1	h2	h3	h4	h5	H6*	H7*	weight
公称容积	罐体	夹套	换热面积										approx.	approx.	总重
L	L	L	m²												≈kg
1600	2035	310	6.5	1400	1500	840	770	1611	1800	74	500	633	3460(3770)	3960(4270)	3100
2500	3105	390	8.6	1600	1700	960	770	1859	2060	72	500	708	3835(4145)	4335(4645)	4000
4000	4910	525	12	1800	1900	1100	770	2297	2500	70	500	783	4510(4875)	5010(5345)	5600
6300	7570	705	16.6	2000	2100	1100	770	2840	3050	86	500	895	5175(5510)	5675(6010)	7900
8000	9320	750	18	2200	2300	1100	770	3000	3200	86	500	1110	5325(5660)	5825(6160)	8700
10000	11715	875	20.7	2400	2500	1300	965	3180	3400	84	500	1175	5925(6205)	6425(6705)	10550
12500	14300	1050	25.2	2400	2500	1300	965	3780	4000	84	500	1200	6565(6845)	7065(7345)	12800
16000	18160	1145	29.5	2600	2700	1350	965	4080	4300	82	500	1285	6935(7215)	7435(7715)	16700
16000	18200	1170	30.1	2800	2900	1500	1160	3705	3950	82	500	1350	6585(6865)	7085(7365)	16900
20000	22680	1345	34	2800	2900	1500	1160	4385	4630	82	500	1400	7325(7606)	7825(8105)	17900
*25000	28280	1520	39.7	2800	2900	1500	1160	5235	5480	82	500	—	8225(8505)	8725(9005)	21100
*25000	28310	1550	40.5	3000	3100	1600	1160	4755	5000	80	500	—	7740(8020)	8240(8520)	21350
*32000	36600	2695	45.4	3200	3350	1600	1350	5280	5550	80	500	—	8655(8940)	9155(9440)	28400
*32000	36670	2750	46.2	3400	3500	1700	1350	4875	5150	80	500	—	8255(8540)	8755(9040)	29800
*40000	44650	3285	55.2	3400	3500	1700	1350	5795	6070	80	500	—	9250(9535)	9750(10035)	33000
*40000	44700	3320	55.6	3600	3750	1800	1350	5365	5640	80	500	—	8820(9105)	9320(9605)	33590

Nominal	Nozzles管口 (DN)														Drive驱动		
Capacity	N1	N2	N3	N4	N5	N6	N11	N12	D	NL1	NL2	α1	α2	α3	total headroom	Mt扭矩	Pn功率
公称容积		N10	N9	N8	N7		N14	N15							type型号	max.	KW
L																Nu	
1600	350/450	—	100	—	200	100	50	50	100	2285	1200	—	—	—	300K (S)	1100	
2500	350/450	100	100	—	200	100	50	50	100	2540	1420	—	—	—	300K (S)	1100	
4000	500	250	150	—	100	100	50	50	100	2980	1800	—	—	—	400K (S)	2100	
6300	500	150	150	—	250	150	80	50	100	3595	2320	—	—	—	500K (S)	2100	
8000	500	150	150	150	300	150	80	80	150	3745	2500	40°	12.5°	28°	500K (S)	2100	
10000	500	200	200/250	250/200	300	200	80	80	150	4040	2500	35°	7.5°	28°	700K (S)	6000	
12500	500	200	200/250	250/200	300	200	80	80	150	4640	3100	35°	7.5°	28°	700K (S)	6000	
*6000	500	200	200/250	250/200	300	200	80	80	150	4940	3400	35°	7.5°	62°	700K (S)	6000	
16000	500	200	200/300	300/200	400	200	80	80	150	4585	3100	40°	12.5°	62°	700K (S)	6000	
20000	500	200	200/300	300/200	400	200	80	80	150	5265	3700	40°	12.5°	62°	700K (S)	6000	
*25000	500	200	200/300	300/200	400	200	80	80	150	6115	4550	40°	12.5°	62°	700K (S)	6000	
*25000	600	200	200/300	300/200	400	200	80	80	150	5635	4000	40°	12.5°	62°	700K (S)	6000	
*32000	600	200	200/400	400/200	400	200	100	100	150	6255	4500	40°	12.5°	62°	900K (S)	9100	
*32000	600	200	200/400	400/200	400	200	100	100	150	5850	4000	40°	12.5°	62°	900K (S)	9100	
*40000	600	200	200/400	400/200	400	200	100	100	150	6770	4900	40°	12.5°	62°	900K (S)	9100	
*40000	600	200	200/400	400/200	400	200	100	100	150	6340	4500	40°	12.5°	62°	900K (S)	9100	



Nominal Capacity 公称容积	Total capacity 全容积	Nominal diameter 公称直径	I1	I2	I3	I4	I5	I6	I7	h1	h2	h3	weight 重量
m ³		d											kg
1	1260	1000	1800	750	-	-	1000	400	50	1525	700	550	2500
1.6	1770	1200	1800	800	-	-	1700	450	85	1725	800	655	3900
2.5	2650	1400	2000	850	500	250	1900	500	120	1925	800	655	5100
4	4460	1600	2500	900	550	300	2200	600	160	2175	1050	860	7300
6.3	7300	1800	3200	950	600	350	2500	700	210	2400	1150	945	9900
8	9240	2000	4000	1000	650	400	2700	750	240	2600	1250	1045	12000
10	11310	2200	4500	1050	700	450	3000	800	280	3000	1350	1150	14300
12.5	13620	2400	5000	1100	750	500	3300	850	320	3300	1450	1250	16800
16	17115	2600	5600	1200	800	550	3600	900	360	3600	1550	1350	19500
20	21330	2800	6400	1250	850	600	4000	950	400	4000	1650	1450	23000
25	27535	3000	7200	1300	900	650	4400	1000	440	4400	1750	1550	26800
32	35675	3200	8000	1400	950	700	4800	1050	480	4800	1850	1650	31800
40	45495	3400	8800	1450	1000	750	5200	1100	520	5200	1950	1750	37200
50	57785	3600	9600	1500	1050	800	5600	1150	560	5600	2050	1850	43000
63	65925	3800	10400	1550	1100	850	6000	1200	600	6000	2150	1950	49200
80	93815	4000	11200	1600	1150	900	6400	1250	640	6400	2250	2050	55800
100	115250	4200	12000	1650	1200	950	6800	1300	680	6800	2350	2150	62800

Nominal Capacity 公称容积	Nominal diameter 公称直径	Nozzle 管 (DN)						
m ³	d	N1	N2	N3, N5	N4	N6	N7, N8	N9
1	1000	-	-	-	-	-	-	-
1.6	1200	-	-	-	-	-	-	-
2.5	1400	500	100	50	80	100	80	-
4	1600	-	-	-	-	-	-	-
6.3	1800	-	-	-	-	-	-	-
8	2000	-	-	-	-	-	-	-
10	2200	-	-	-	-	-	-	-
12.5	2400	-	-	-	-	-	-	-
16	2600	-	-	-	-	-	-	-
20	2800	600	150	80	100	150	100	100
25	3000	-	-	-	-	-	-	-
32	3200	-	-	-	-	-	-	-
40	3400	-	-	-	-	-	-	-
50	3600	-	-	-	-	-	-	-
63	3800	-	-	-	-	-	-	-
80	4000	-	-	-	-	-	-	-
100	4200	-	-	-	-	-	-	-





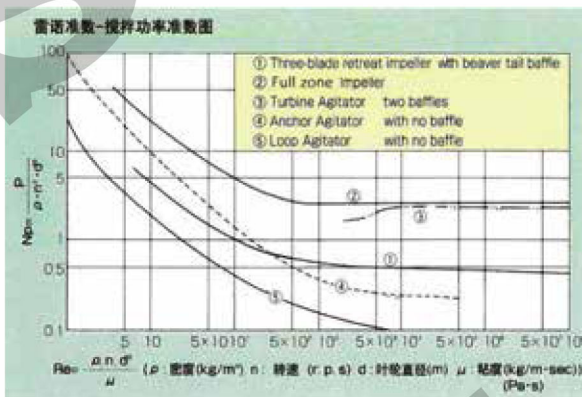
在设计反应器和聚合釜时非常重要的事情是选择一种能最优化的满足预期使用要求（混合、分散、传质、传热等等）的搅拌系统。

上工塘建立了工程设计部门，经过多年的研究、实验和搅拌器制造，在搅拌过程操作中积累了丰富的经验，从而能满足客户的各种要求。不仅提供化学工程方面问题的解决方案，包括搅拌器型号选择，搅拌功率估算，流动型态，材料，剪切力等等。还包括机械方面问题的解决方案，包括搅拌器强度设计，减速器，由小试验装置的规模放大设计等等。

It is very important to select the optimum agitation system which meets the intended purposes (mixing, dispersion, mass transfer, heat transfer, and the like) when designing reactors and polymerizers. SGT has established the engineering department which meets all needs with respect to agitation through years of research experiments and a wealth of experiences in manufacture such as chemical engineering problems including the selection of agitator pattern, estimation of agitation power, flow pattern, discharge, shearing force and the like, as well mechanical problems including the strength of agitator, speed reducer, seal and scale-up of a pilot unit to a large unit and the like.

搅拌功率 Agitation Power

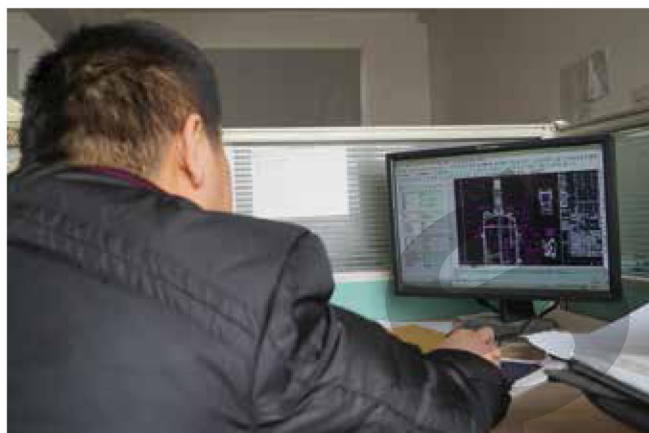
- ①配有海狸尾状折流板的三叶后弯式搅拌器
- ②全区域搅拌器
- ③带有折流翅片的涡轮搅拌器
- ④锚框式搅拌器
- ⑤环式搅拌器



搅拌作用的效果受液体流动状态的影响很大，而由于液体性质，搅拌系统的形状和尺寸和搅拌速度的不同，液体流动状态也不同。

在一个给定的搅拌系统中，液体流动状态是由雷诺准数和单位容积需要的搅拌功率来决定。在用来计算搅拌功率的一般方程式 $P = N_p \cdot \rho \cdot n^3 \cdot d^5 / gc$ 中， N_p 是搅拌功率准数，它的变化与雷诺准数关联，并取决于搅拌器的类型。图表中的曲线表示了以下五种典型的搪玻璃搅拌器的 $Re-N_p$ （雷诺数-搅拌功率准数）的关系。

Although the agitation effect is influenced greatly by the state of the liquid flow which varies with liquid properties, configuration and size of the agitation system and agitation speed. In the case of a given agitation system, the state of the liquid flow is governed by both Reynolds number and required agitation power per unit volume. In the general equation $P = N_p \cdot \rho \cdot n^3 \cdot d^5 / gc$ for calculation of agitation power, N_p is agitation power number which varies in relation with Reynolds number (Re), depending on types of agitator. The curve given below shows the $Re-N_p$ relation of typical glass agitators.

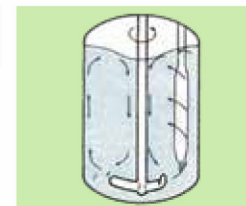


三叶后弯式搅拌器（配有海狸尾状折流板）

这是一种广泛使用于各种用途的搅拌器，能通过调整折流板的安装角度来控制流动模式和搅拌性能。

Three-blade retreat impeller (with beaver tail baffle)

This is an all-purpose agitator, which can control the flow pattern and agitation performance by adjusting the installation angle of a baffle.

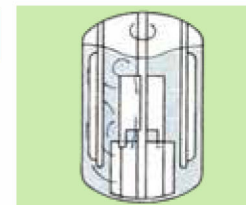


全区域搅拌器

全区域搅拌器是一种适用于气体吸收和乳化反应的多用途高效搅拌装置，它是由两个宽叶搅拌叶轮垂直交叉构成，通过产生三维全方位的流动模式，使液体粘度较大的制品能够获得有效的混合。

Full zone Impeller

This is a high efficient multi-purpose agitator that is suitable for gas absorption and emulsification reaction by which efficient mixing over a substantially wide range of viscosity by means of an epoch-making flow pattern produced by a three dimensional form of two wide paddle impellers arranged vertically crosswise.

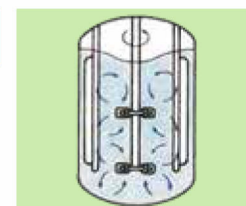


涡轮搅拌器（带有折流翅片）

这种搅拌器与翅片式折流板一起共同使用于低粘度制品的强力搅拌，这种搅拌器特别适用于气体吸收和乳化。

Turbine Agitator (with fin baffle)

Used together with fin baffles for a powerful agitation of low viscosity products, this type of agitator is especially suitable for gas absorption and emulsification.



锚框式搅拌器

这是一种低速，大跨距的搅拌器，适用于高粘度液体和结晶过程的混合和提高传热效果。

Anchor Agitator

This is a low-speed large-span agitator, suitable for mixing and promoting heat exchange of high viscosity liquids and crystallization process.

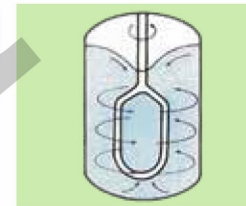


环式搅拌器

这种搅拌器工作时，将液体制品从液面和容器底部两个方向抽吸送往容器中部，再将它们由径向送出，以此在整个容器里获得一个比较均匀的搅拌作用。

Loop Agitator

This type of agitator achieves a relatively uniform agitation throughout the vessel, since a product is sucked in from both the liquid level and the vessel bottom, and then delivered in the radial direction from the intermediate section.



轴流式搅拌器

这种类型的搅拌器泵送能力强，能形成理想的轴向流动，有利于物料的充分混合。剪切力的作用比较均匀，桨叶的功率准数比较小，能耗低。适用于固体悬浮液或互溶溶液的快速混匀，还适用于消除设备内操作介质浓度和温度的不均匀等过程。

Axial Flow Agitator

This type of agitator has a strong pumping ability and can form the ideal axial flow, which are in favor of mixing sufficiently. The effect of shearing force produced by agitating is more uniform. The impeller has lower agitation power number so that it is an energy saving type of agitator. It is suitable for quick blending of suspension or miscibility solution. It is also applicable in the processes such as to eliminate the unevenness of concentration and temperature of the operation media contained in equipment etc..





搪玻璃快速测温仪

1. 概述

• 由于搪玻璃导热系数低，套管式温度计测温有严重滞后现象；快速测温仪用防腐金属做测温头，直接与介质接触有效克服了温度测量的滞后现象，具有反映即时温度的能力。

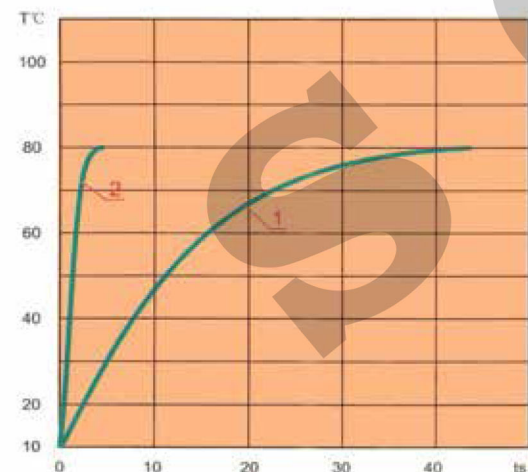
2. 优点

- 测温显示快，温度滞后小，精度高
- 可采用数字显示，可记录，可报警
- 可防腐
- 可根据温度计套长短分别测容器上、中、底部的温度
- 与阀相配，可测低液位温度

3. 技术参数

- 热电阻：Pt100
- 测温范围：0-200℃

电阻温度装置（RTD）装在此挡板上对容器内的温度提供快速和准确的测量。



曲线1为套管式温度计时间-温度关系
曲线2为快速测温仪时间-温度关系

Glass-lined Quick Response Thermowell

1. Description

• There is certain delay in displaying the temperature from a normal glass-lined thermowell as the temperature sensing element is within the glass-lined thermowell. A quick response thermowell has the corrosion resistant metal made temperature sensor outside the thermowell in direct contact with the operation media and hence ability to respond quicker to temperature changes.

2. Advantages

- Quick response, more accurate
- Accommodate digital display, temperature recorder or alarming system
- Corrosion resistant
- Bottom Outlet Valve with temperature tip is also available

3. Technical Data

- Thermo resistance: PT 100
- Range: 0-200℃

弹簧平衡入孔盖 Spring-Balanced Manhole Cover



通过弹簧平衡器的作用，打开和关闭人孔盖将变得简单安全，这个人孔盖将很容易被装在现存设备上。

The opening and closing operation of a manhole cover can be handled easily and safely by means of the spring force. This cover can also be easily installed to existing equipment.

无石棉垫片 Asbestos-free Gaskets

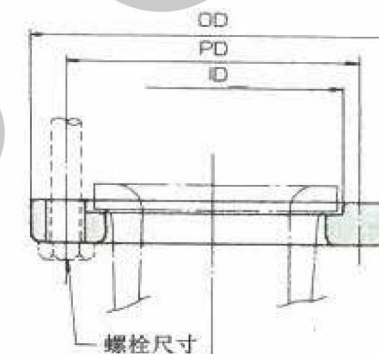
聚四氟乙烯包覆垫片中用芳纶纤维板取代石棉材料。

Compressible aramid fiber sheets inserted into PTFE envelope instead are of asbestos sheets.

品名	形状	适用范围
G-1	PTFE envelope 聚四氟乙烯包裹层 Aramid sheet 芳纶纤维板	MAX 200 °C MAX 0.85 MPa (8.5 bar)
G-2	PTFE envelope 聚四氟乙烯包裹层 Corrugated metal core 波纹金属板 Aramid sheet 芳纶纤维板	MAX 200 °C MAX 2.0 MPa (20 bar)

分离式法兰 Split Flanges

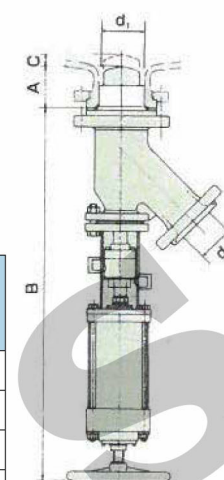
公称直径 Nominal Dia (mm)	ID (mm)	PD (mm)	OD (mm)	螺栓数量 N-Bolt
25A	72	90	125	4-M16
40A	87	105	140	4-M16
50A	104	120	155	4-M16
80A	132	150	185	8-M16
100A	157	175	210	8-M20
125A	187	210	250	8-M20
150A	218	240	280	8-M20
200A	267	290	330	12-M20



自动冲洗阀 Automated Flush Valve

除了标准型，紧凑型的高度大约是标准型的三分之二也同样适用。

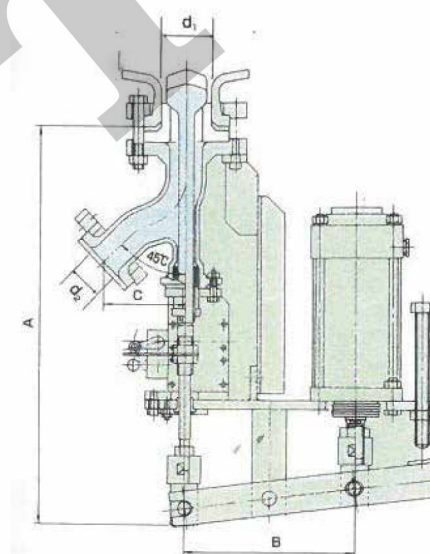
公称直径 Nominal Dia (d1-d2) (mm)	A (mm)	B (mm)	C (mm)
80-50	67	810	15
100-80	88	940	20
150-100	88	1220	40



自动开关型 Automatic Closing and Opening Type

In addition to the standard type, the compact type having approximately 2/3 of a total height of the standard type is also available.

公称直径 Nominal Dia (d1-d2) (mm)	CAS型		
	A	B	C
50-40	510	220	103
80-50	590	250	126
100-80	610	280	145



紧凑型自动冲洗阀
Compact automatic flush valve