

# Shanghai Guanghui Instrument Co., LTD

# Paper Document

# (Version 2023)



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# Company profile

Shanghai Guanghui Instrument Co.,LTD was founded in 1985, specializing in the production of various types of pneumatic and electric control valves, is a key backbone enterprise in the actuator industry, a national second-level enterprise, a high-tech enterprise in Shanghai, a member of China Petrochemical material resources market, and a material supplier access unit of China National Petroleum Corporation. The company has passed the National Ministry of Machinery Industry production license acceptance, ISO9001:2000 quality system certification, the People's Republic of China special equipment Manufacturing License (pressure pipeline components) acceptance and enterprise environmental management system certification and occupational health and safety management certification.

The company has always been with the brilliant spirit of "science and technology Xing factory", constantly pioneering and innovative, and has made gratifying achievements. Zhu Rongji, Wu Bangguo and other leaders of the Party and state at that time have visited the company many times. In the new situation of reform and opening up

Next, the company continues to optimize the combination, absorb scientific and technological talents, the introduction of foreign advanced technology, has developed BFS company S series quick disassembly single-seat regulating valve, C series balanced sleeve single-seat regulating valve, H series of honeycomb regulating valve, TG series balanced three-way combination/diverter regulating valve and ER eccentric rotary regulating valve and other high-tech products. Its technical performance indicators have reached the advanced level of foreign countries, and it can fully meet the needs of high-quality regulating valves for large-scale engineering projects such as petrochemical, chemical, power station and metallurgy.

The company's products have been successfully applied to CNOOC Tianye Chemical Group, Inner Mongolia Boyuan United Chemical Co., LTD., Inner Mongolia Yili Chemical Co. ., LTD., Datang Heilongjiang Power Generation Co., LTD. Harbin First Thermal Power Plant, Liaoning Panjin North Asphalt Fuel Co., LTD., Henan Zhongyuan Dahua Group, Henan Yongcoal Group, Hebei Xinguan Coking Co., LTD., Hebei Huanghua Xinlong Chemical Co., LTD Department, Shandong Binhua Binyang Burnishing Chemical Co., LTD., Shandong Weifang Hongrun Petrochemical Auxiliary Co., LTD., Shandong Zhanhua Luyuan Chemical Co., LTD., Shandong Chenxi Petrochemical Co., LTD., Shandong Dongying Hulian Petrochemical Co., LTD., Shandong Jingbo Petrochemical Co., LTD., Lijin Petrochemical Co., LTD., Shanghai Shidongkou Power Plant, Shanghai Steam Turbine Co., LTD., Shanghai Electric Power Station Equipment Co., LTD., Jiangsu Huaian Qingjiang Petrochemical Co., LTD., Zhejiang Jinju Chemical Co., LTD., Zhejiang Hesheng Silicon Industry Co., Ltd. and other hundreds of domestic enterprises. In the first phase of Qinshan Nuclear Power Plant and Chashma Nuclear Power Plant in Pakistan, the company's nuclear secondary and nuclear tertiary control values have also been successfully applied. More gratifying is that the company' s nuclear secondary regulator has been successfully applied to naval equipment in many batches.

The company spirit of "manufacturing quality integrity service" business philosophy, widely make friends in the world, in the competition to survive, in the continuous efforts to be strong, we with quality and character, integrity and sincerity to shape our product culture and corporate image.

# Manufacturer qualification statement

- 1. Name and other information
  - a. Manufacturer's name: Shanghai Guanghui Instrument Co., LTD

b.Company address: Shanghai Chongming City Renmin Road No. 600

Tel: 021-5961 5472 Fax: 021-5962 3487

Website: www.sh-gy.com

E-mail: ghgroup@163.com

- c. Company establishment (registration) time: 1985
- d. Company registered capital: 50 million RMB
- e. Financial position (as at 31 December 2022)
  Fixed assets: 47.82 million yuan
  Working capital: 83.39 million yuan
  Current liabilities: 17.55 million yuan
  Net asset value: 101.4 million yuan
- f. Legal representative name: Shi Jianxing.

Number of employees: 151

#### 2. About the manufacturer's production

Serial num	Product name	Annual production capacity		
1	BFS joint venture products SG/SA series quick release single seat valves	3000 sets		
2	BFS joint venture CG/CA Balanced sleeve single-seat regulator	3000 sets		
3	BFS joint venture products TG series balanced three-way combination/shunt regulating valves	2000 sets		
4	ER eccentric rotary control valve	2000 sets		
5	ZHT(L)S single-seat valve, ZHCB cage valve and other CV3000 series	5000 sets		
6	35/70-35003 Eccentric rotary control valve	2000 sets		
7	ZSHR ball valve, ZSHWG butterfly valve	2000 sets		
8	ZJHP(M) fine small series, through single, two-seat and other traditional products	2000 sets		
9	Power plant valves, devices and others	1000 sets		
10	Electro-pneumatic valve positioner	6000 sets		
11	Temperature reducer and pressure reducer, bypass valve	100 sets		

#### 3. Manufacturer's experience in producing bid goods (years) : 38 years

#### 4. Trading volume in the past three years (RMB 10,000)

A given year	home	abroad	Sales (total)
The year 2020	12325	240(OEM)	12565
The year 2021	11092	115(OEM)	11207
The year 2022	13175	100(OEM)	13275

#### 5, performance

序 号	user company	specification	quantity	At delivery between	Project profile
1	Lianyi Group Lijin Petrochemical Co., LTD	DN20~600	1694	03~~21 year	Hydrogenation, hydrogen production, catalytic transformation; Butanoctyl alcohol; Phenolacetone, neopentyl glycol, carbon IV, fire station, oil quality upgrade, isobutan, sulfur Sulfonic acid, coal hydrogen production, residual oil hydrogenation, catalytic hydrogenation, continuous reforming
2	Shandong Binhua Binyang burnishing Co., LTD	DN20~600	753	07~~19 year	Atmospheric and vacuum pressure, coking, hydrogenation, sulfur, reforming, extraction; rush the
3	Shandong Binhua Dongrui Chemical Co., LTD	DN15~500	984	07~~19 year	Ionic membrane, PVC, granular alkali, hydrochloric acid, trichloroethylene, propylene oxide, VCM, hydrogen peroxide
4	Binhua Group Co., LTD. Chemical branch	DN25~300	380	13~~21 year	Relocation items: hydrogen chloride, PO, caustic soda, caustic soda tablets, ionic membrane, hydrochloric acid, liquid chlorine, propylene chloride
5	Sinochem Hongrun Petrochemical Co., LTD	DN20~600	320	04~~18 year	Catalysis, atmospheric and vacuum pressure, coking hydrogen sulfur (joint venture part), transformation
6	Shandong Jingbo Petrochemical Co. LTD	DN20~400	498	05~~21 year	Coking hydrogenation, reforming, extraction, methanol, liquefied gas tank farm, probiotic environmental protection, thermoelectric, hydrogenation transformation
7	Anhui Fengyuan Chemical equipment Co., LTD	DN25~300	938	12~~18 year	Thailand Citric acid project, Tiger Biological VE project
8	Hebei Zhongjie Petrochemical Co., LTD	DN20~200	323	03~~18 year	MTBE, atmospheric and vacuum pressure, butadiene hydrogenation, gasoline etherification, catalytic transformation
9	Shandong Haihua Group	DN20~350	320	06~~22 year	Catalysis, sulfur, tank farm, overhaul
10	Jinan branch of Blue Star Petroleum Co., LTD	DN20~200	275	08~~18 year	Hydrogenation, sulfur, energy transformation
11	Shandong Dongming Petrochemical Group Co., LTD	DN20~200	750	02~~21 year	Three atmospheric decompression, two gas separation, two, three catalysis; Xinhai Coking hydrogenation, Runchang Catalysis, Lishu Chemical, Shengyuan Chemical 80, 000 tons/year catalytic dry gas to styrene project energy-saving renovation project
12	Shandong Shida Technology Group Co., LTD	DN20~200	230	1991~21 year	South distillation, north distillation, catalysis, transformation, overhaul
13	Shandong Shida Shenghua Chemical Co., LTD. / Shenghua New Energy Technology (Dongying Co., LTD Department)	DN20~110 0	413	03~~22 year	Gas separation, catalysis, new materials, acetonitrile, C4, dimethyl
14	Shandong Binong Technology Co., LTD	DN20~300	1167	05~~18 year	Binbei New Area project, Zhanhua Guochang project
15	Shandong Qiaochang Chemical Co ., LTD	DN20~300	678	03~~18 year	Old area, Binbei New Area project
16	Shandong Asde Chemical Co., LTD	DN20~300	189	04~~18 year	Formic acid, synthetic ammonia, overhaul
17	Hebei Xinquan Coking Co., LTD	DN20~400	277	06~~18 year	Coking, hydrogenation, sulfur, atmospheric and decompression
18	Huanghua Xinlong Chemical Co., LTD	DN20~200	150	07~12 year	Catalysis, hydrogen production
19	Qingdao Anbang Refinery Co., LTD	DN20~900	213	04~~18 year	Catalysis, overhaul, etherification
20	Sinopec Qilu branch plastic factory	DN80~150	54	07~~19 year	High pressure polyethylene, pilot test repair
21	Shandong Zhanhua Land Source Chemical Co., LTD	DN20~200	222	09~~18 year	Naphtha hydrogenation, solvent oil separation

22	Dongying Hualian Petrochemical Co., LTD	DN20~200	422	07~~19 year	Coking transformation, reforming hydrogenation project, methanol hydrogen production, benzene extraction, hydrogenation transformation
23	Shandong Yuhuang Shengshi Chemical Co., LTD	DN20~150	73	08~~18 year	Catalytic transformation
24	Shandong Dongyue Shenzhou New Material Co., LTD	DN15~100	41	09~18 year	New material project, transformation
25	Zibo Wanchang Technology development Co., LTD	DN20~200	334	09~~18 year	DCS renovation, new projects
26	Dongying Mingyuan Chemical Co., LTD	DN20~200	103	10~~18 year	Catalytic relocation transformation, gas points
27	Panjin North asphalt fuel Co., LTD	DN20~700	2252	09~~21 year	Coking sulfur acid water project, catalytic gas separation MTBE, hydrocondensate reduction, lubricating oil hydrogenation, residual oil hydrogenation, tail oil hydrogenation, dock, relocation, propane deasphalting, continuous reforming, ketone benzene dewaxing, environmental protection device relocation, 70,000 tons/year sulfur recovery unit, 2 million tons/year residual oil hydrogenation unit, 2.6 million tons/year solvent extraction and distillate separation combined unit
28	Panjin Tiance Petrochemical Co., LTD	DN20~200	41	13~~18 year	Viscosity reduction, loading, solvent oil
29	Shibo Industry Qianjiang Co., LTD	DN20~600	372	13~~18 year	Styrene, PSA, aromatization, tank farm
30	Qingzhou Tianan Chemical Co., LTD	DN20~200	106	10~~18 year	Aromatization project, MTBE
31	Shandong Chenxi Petrochemical Co., LTD	DN20~350	58	10~~18 year	Hydrogenation, hydrogen production
32	Shandong Jinling New Material Co.	DN20~400	65	10~11 year	Ionic membrane, aniline project
33	Shandong Zhonghe Chemical Co.,	DN20~100	126	10~11 year	Pesticide project
34	Dongying Runbo Petrochemical Co	DN20~200	55	10~11 year	Aromatization, air separation
35	Shandong Zhonghai Fine Chemical Co., LTD	DN25~200	48	10~11 year	Normal pressure, maintenance
36	Lijin County Guangyuan asphalt Co., LTD	DN25~100	28	11~12 year	Gas content, MTBE
37	Kenli Huidong new energy Co., LTD	DN20~200	311	11~~18 year	Aromatization, hydrogenation of anthracene oil, transformation
38	Shandong Li Fengda Biotechnology Co., LTD	DN25~200	185	11~13 year	Aromatization, C4 deep processing
39	Kenli Petrochemical Group Co., LTD	DN20~300	447	11~~22 year	Coking transformation, benzene extraction, DCC project
40	Shandong Dongchen Group Co., LTD	DN20~250	263	11~~18 year	Aromatics complex
41	Wudi Huicheng Chemical Co., LTD	DN20~DN 400	428	11~~18 year	Liquefied gas deep processing project
42	Dongming Oriental Chemical Co., LTD	DN25~200	48	19~21 year	Safety instrument system renovation project
43	Dongying Qirun Chemical Co., LTD	DN25~200	58	2012 year	coking
44	Dongying Jiahao Chemical Co., LTD	DN25~200	18	12~16 year	C4, hydrogenation project
45	Shandong Ruitai new energy Co. LTD	DN25~125	18	2012 year	MTBE Project
46	Hebi City BMW fertilizer factory	DN25~250	86	11~~18 year	Dimethyl ether, synthetic, conversion gas

47	Shandong Dongda Yi Norway Polyurethane Co., LTD	DN25~100	77	12~~18 year	prepolymer
48	Shandong Xianda agricultural chemical Co., LTD	DN25~200	283	11~~18 year	Nitrile butyramide, PDE automatic transformation, overhaul
49	Hebei New Qiyuan Energy Technology development Co., LTD	DN25~250	351	11~~18 year	Anthracene oil hydrogenation, tail gas recovery, iso-octane
50	Puyang Shengyuan Chemical Co.,	DN25~200	220	11~18 year	Aromatization, maleic anhydride
51	Dongying Huanyu oil industry Co.,	DN25~200	84	13 year	N-butane purification
52	Kenli Sanhe New material Technology Co., LTD	DN25~200	120	13 year	Oligomer cracking
53	Shandong Huasheng Chemical Co., LTD	DN25~200	70	13 year	hydrogenation
54	Dongying Shengxing Chemical Co., LTD	DN25~200	113	10~~18 year	Sewage treatment, atmospheric and vacuum pressure, 1.8 million tons/year hydrocracking project
55	Yulin City Yushen industrial zone Hua Hang energy Co., LTD	DN25~300	233	~22 year	Coal tar produces needle coke
56	Weifang stone great prosperity energy technology Co., LTD	DN25~300	122	~18 year	Rectification, hydrogenation, tank farm
57	Heze Hengyou Chemical Co., LTD	DN25~150	92	$\sim \! 18$ year	Carbon five petroleum resin
58	Shandong Shangshun Chemical	DN25~300	187	~18 year	Hydrogen production, rubber antioxidant
59	Xinjiang Wanying Chemical energy Co., LTD	DN25~300	115	~18 year	Methanol aromatization, road asphalt
60	Shandong Linfeng Chemical Technology Co., LTD	DN25~300	86	~18 year	Normal butane
61	Juhua Group company materials and equipment branch	DN20~600	3857	03~21 year	Juxin 10kt/a HFC-245fa project, HCL discharge, Low carbon refrigeration, emergency pool alkali tank, calcium chloride flow regulation, steam feed, jacking steam, gas phase discharge, temperature regulation, circulating water regulation, condensate water regulation, inlet waste liquid, Flow regulation, incineration increase methanol storage tank project regulation, liquid chlorine project, methane chloride, carbon tetrachloride, mixed gas, trichloromethane venting, nitrogen regulation, sulfuric acid regulation, tetrafluoroethylene gas regulation, 30,000 tons/year tetrachloroethylene, 30, 000 tons/year liquid phase method methane chloride project, Ninghua 35, 000 / year hydrocarbon refrigerant project
62	Zhejiang Jinju Chemical Co., LTD	DN20~600	263	03~22 year	Tannin extract, ammonia water, ammonia gas, boiler feed water, synthetic ammonia, urea, etc
63	Anhui Jinmei Zhongzheng Chemical Co., LTD	DN20~600	161	03~22 year	Drum blowdown, flue gas desulfurization regulation, low pressure ammonium ammonium condenser level tank pressure regulating valve, liquid nitrogen wash fuel gas regulating valve, hydrogen peroxide, air, sewage
64	Zhejiang Huakang Pharmaceutical Co., LTD	DN20~600	538	03~22 year	Sugar liquid, syrup liquid regulation, 20,000 tons of refined crystalline xylose workshop, an annual output of 30,000 tons of sorbitol technical transformation project, an annual output of 30,000 tons of high purity crystalline erythritol construction project
65	Green Biotechnology Co., LTD	DN20~600	235	03~21 year	Acetaldehyde, chloromethane, xylene, acetic anhydride, cyclohexanone, m-pentadiene and other regulation
66	Hesheng Silicon Industry Co., LTD	DN20~600	1126	03~~22 year	Methanol discharge, high-boiling cracking HCL feed, circulating hydrochloric acid regulation, PP tank/hydrolyzed oil storage tank nitrogen filling, carbon black technical improvement, copper powder automatic replenishing system project, annual output of 200,000 tons of sealant project, silicone sealant acid permeation/medium permeation project
67	Dexing Debang Chemical Co., LTD	DN20~600	150	03~~18 year	Discharge valve, hydrogen adjustment project

68	Guangxi Yuchai Petrochemical Co., LTD	DN20~600	150	03~~21 year	300,000 tons/year isooctane project, nitrogen, liquid -MTEB
69	Hubei Six countries Chemical Co., LTD	DN20~600	70	03~~18 year	Dilute phosphoric acid, hydrofluoric acid, industrial air emission projects
70	Wuhan Engineering automation equipment engineering Co., LTD	DN20~600	40	03~~18 year	Ammonia recovery, nitric acid, sulfuric acid regulation project
71	Huaian Qingjiang Petrochemical Co., LTD	DN20~600	500	03~~18 year	Kerosene, solvent oil, steam, lean liquid, 30,000 tons of fractionation, national V gasoline upgrade, acid gas and odor treatment, desulfurization and other projects
72	Jiaxing Xinta Automation Technology Co., LTD	DN20~600	30	03~~18 year	Post-halogenation fluidized bed project
73	Zhenjiang Jiangnan Chemical Co., LTD	DN20~600	1181	03~~22 year	Sodium pyrophosphate comprehensive utilization device, dilute mother liquor, slurry discharge project, glyphosate mother liquor concentration energy-saving transformation project, glyphosate energy-saving emission reduction project, silicone monomer chlorine resource comprehensiveut ilization project
74	Zhejiang Jiangshan Chemical Co., Ltd.	DN20~600	80	03~~18 year	Water softener treatment, methanol tank area empouting, organic amine SIS system project
75	Jiangsu Huawei Longjiu Environmental protection Technology Co., LTD	DN20~600	200	03~~18 year	Gypsum slurry, process water treatment project, furnace desulfurization SCR denitration
76	Jiangsu town titanium chemical Co., LTD	DN20~600	358	03~~22 year	Strong corrosive acid water, steam treatment, continuous acid hydrolysis valve: 98% sulfuric acid, mineral acid mixture, 55% sulfuric acid, process water, acid titanium liquid, low pressure steam, desalted water
77	Jiangxi Ruilin Engineering Technology Co., LTD	DN20~600	22	03~~22 year	Ruilin Rare and precious Metal (Phase I) project
78	Bluestar Spark Chemical new Materials Co., LTD	DN20~600	100	03~~18 year	Gas and silica mixture of on-off valve project
79	Zhejiang Juhua Co., LTD	DN20~600	50	03~~18 year	500t/a fluororubber pilot test (expansion test) project, by-product C318 technical transformation project
80	Juhua Group Technology Center Co. LTD	DN20~600	230	03~~18 year	Alkanes solvent, air, nitrogen, vacuum and other small flow valve regulation
81	Zhejiang Juhua Thermoelectric Co. , LTD	DN20~600	100	03~~18 year	Dilute acid, 20% ammonia water regulation
82	Liyang Dewei Turbine Machinery Co., LTD	DN20~600	300	03~~18 year	Ammonium sulfate wastewater, steam, air
83	Guangxi Liuzhou Chemical Co., LTD	DN20~600	100	03~~18 year	Saturated steam, 45% nitric acid, high pressure steam
84	Taizhou Risite New material Co., LTD	DN20~600	70	03~~18 year	1000 tons/year stannous caprylate, 2000 tons/year V6, 5000 tons/year TEP technical transformation project
85	Zhejiang Xin 'an Chemical Group Co., LTD	DN20~600	2277	03~~22 year	100,000 tons/year silicone supporting cogeneration project (II) Jiande Thermal Power Plant Mamu thermal power Phase II project Chemical plant relocation project
86	Zhejiang Bo Rui electronic Technology Co., I TD	DN20~600	150	03~22 year	High purity electronic gas project, C318 (gas), heat medium
87	Fujian Gaobao Mining Co., LTD	DN20~600	35	03~21 year	Hydrofluoric acid, brine regulation, etc
88	Hubei Junshang Technology Co.,	DN20~600	100	03~18 year	2500 tons/year pharmaceutical intermediates,
89	Zhejiang Engineering Design Co. LTD	DN20~600	150	03~~18 year	5kt/a fluorine-chemical co-production Project (EPC) project
90	Quzhou Beidouxing Chemical new material Co., LTD	DN20~600	350	03~~18 year	Annual output 2600T lithium hexafluorophosphate project

	Zhejiang Juhua Jian 'an			03~~18	23.5kt/a Fluorine-containing new material project Phase I (1.5kt/a perfluoroalkyl iodide A section 750t/a) and other 100kt/a polyvinylidene
91	Petrochemical Engineering Co., LTD	DN20~600	200	year	chloride high-performance barrier material project (Phase I)C section 100Kt/a new fluorine refrigerant added R23 project
92	Jiaxing Pan Cheng chemical Co., LTD	DN20~600	100	03~~18 year	65,000 tons/year phosphorus trichloride technical transformation project
93	Shanghai Huaxi Chemical Design Co., LTD	DN12~400	243	15~~22 year	Hydrogen production and hydrogenation
94	Panjin Yijiu Petrochemical Co., LTD	DN20~DN 400	96	19~21 year	100,000 tons/year bio-solvent oil and 150,000 tons bio-fuel oil product projects
95	Hebei Industrial Gas Co., LTD	DN25~DN 400	120	18 year	Thermoelectric, heat exchange station
96	Sinopec Jinling Branch	DN20~300	250	04~~19 year	Sulfur, continuous reforming, atmospheric and vacuum technical transformation project
97	Northeast Electric Power Design Institute	DN25~100 0	462	17~22 year	Thermal power plant flexibility transformation, biomass cogeneration project
98	Anhui Tongxin Chemical Co., LTD	DN20~200	198	15-18 year	C 9 hydrogenation etc
99	Hangzhou Hollysys Automation System Engineering Co., LTD	DN20~200	125	2018 year	Biological EUGMP project
100	Dongying Hualian Petrochemical Plant Co., LTD	DN20~300	85	2018 year	Hydrogenation, sulfur
101	Shandong Lanqiao Petrochemical	DN20~300	75	2018 year	Oil quality (Country V) upgrade project
102	Liaoning Baolai Chemical Co., LTD	DN25~DN 400	752	18~21 year	2.2 million tons/year heavy delivery road asphalt equipment, 350,000 tons /year SM joint equipment, 200,000 tons/year special white oil finishing equipment, light hydrocarbon comprehensive utilization project
103	Liaoning Baolai Bioenergy Co., LTD	DN25~DN 400	390	18~21 year	Bioenergy white oil project, 120,000 tons/year petroleum needle coke processing device, 1 million tons/year naphthenic distillate hydrofining device, bioenergy loading ball valve, solvent deasphalting device, mixed asphalt project, 500,000 tons/year oil slurry decementing device project.
104	Dalian Jinyuan Petrochemical Co.	DN20~300	74	2018 year	2.2 million tons/year heavy delivery road asphalt equipment renovation project
105	Zhejiang Qingshan Iron and Steel Co., LTD	DN25~DN 400	144	12~22 year	steelmaking
106	China First Heavy Machinery Group Dalian Hydrogenation reactor Manufacturing Co., LTD	DN20~400	95	2018 year	1.6 million tons/year solvent deasphalting plant expansion and renovation project
107	Shandong Youtai Technology Co., LTD	DN20~300	120	19~21 year	1.2 million tons/year aromatics project
108	Sinooverseas Energy Technology (Shandong) Co., LTD	DN20~300	90	19~22 year	Diesel quality upgrade project
109	Anhui Haoyuan Chemical Group Co., LTD	DN20~400	105	19~21 year	400,000 tons of synthetic ammonia 700,000 tons of urea raw material route transformation project
110	Zhejiang control system	DN20~400	105	19~21 year	EUGMP project
111	<u>Engineering Co., I TD</u> Jiangxi Betelli new material Co., LTD	DN20~400	299	19~21 year	Advanced material
112	Hubei Meitian Biotechnology Co ., LTD	DN20~400	86	19~21 year	Tank farm retrofit valve
113	Baoshan Iron and Steel Co., LTD	DN50~220 0	386	14-19 year	steelmaking
114	Beijing Shougang Jingtang Iron and Steel Union Co., LTD	DN20~DN 300	100	19~22 year	steelmaking

115	Chongqing Pengwei Petrochemical Co., LTD	DN20~400	45	19~21 year	Annual output of 600,000 tons PTA
116	Zhejiang Bo Rui Zhong nitrate Technology Co., LTD	DN25~DN 100	52	20~22 year	Anhydrous hydrofluoric acid, B5, nitrogen
117	Anyang Zhongying fertilizer Co., LTD	DN20~DN 300	95	18~21 year	Liquid ammonia, saturated vapor
118	Inner Mongolia Huangtolgoi Coal Co., LTD. Shilin Chemical branch	DN20~DN 450	34	20~22 year	Steam, desalinated water, abatement water, nitrogen, HP N2, crude methanol, Hydrogen rich, carbon rich methanol, high pressure boiler water
119	Huadian Zhengzhou Machinery Design and Research Institute Co., LTD	DN600	12	2020 year	Natural gas regulator station stainless steel ball valve
120	Shanghai Bangji electromechanical Equipment Co., LTD	DN300~D N1400	198	20~22 year	Large diameter butterfly valve, ball valve blast furnace gas , coke oven gas
121	Panjin Haoye Chemical Co., LTD	DN150~D N350	150	20~21 year	<ul> <li>3.6 million tons/year heavy oil hydrogenation integrated project: 92# gasoline, 95# gasoline, 98# gasoline, ethanol, gasoline oil and gas, black diesel, normal pressure stone</li> <li>Naphtha, alkylated oil, hydronaphtha, reformed gasoline</li> <li>3.6 million tons/year heavy oil hydrogenation comprehensive project</li> </ul>
122	Liaoning Haihua Petrochemical Co ., Ltd. port Haihua tank farm	DN100~D N250	66	2020 year	water
123	Maoming Guangdi Chemical Co., LTD	DN100~D N250	72	2020 year	Sodium hydroformate, sodium lesulfate, organic impuritie , water vapor, methanol
124	Zhejiang Juhua Chemical Materials Co., LTD	DN50~DN 150	267	20~22 year	Comprehensive technical transformation of chlorine gas system in ionic membrane caustic soda plant: Chlorine gas, liquid chlorine, gas-HF,HCL 142B, liquid-HF. 142B143A, liquid -AHF, methanol, water containing trace amounts of methanol, desalinated water
125	Fujian Yaxin electronic Materials Co., LTD	DN25~DN 150	112	20~21 year	Hydrofluoric acid ice water, nitric acid, steam
126	Jingdezhen coking energy Co., LTD	DN65~DN 150	33	21 ~22 year	Liquid - process water
127	Ningxia Xinan Technology Co., LTD	DN25~DN 150	235	21 ~22 year	6000t/ year phosphine oXalammonium, 20000t/ year diethyl methylphosphonate phase I project, liquid -7 water return water phosphine, liquid -80 hot water Feed water, circulating water feed water, 20 water return water, reaction liquid, ethanol, Isoctyl alcohol, phosgene, low pressure nitrogen, fresh water, tail gas
128	Xinjiang Yili copper foil Technology Co., LTD	DN25~DN 100	484	21 ~22 year	98% concentrated sulfuric acid, copper sulfate solution, superheated water Vapor, compressed air Gas, alkaline solution
129	Zhangjiagang Kepais Industrial equipment Co., LTD	DN20~DN 200	104	21 ~22 year	Gas - Water /THF/ non-condensing gas, liquid -BDO, circulating water
130	Zhongtian Oriental fluorosilicon Material Co., LTD	DN25~DN 100	200	21 ~22 year	330,000 tons/year silicone new material project
131	Guangxi Liuhua chlor-alkali Co., LTD	DN25~DN 200	230	12 ~22 year	New annual output of 50,000 tons of chlorinated polyethylene project, lye, hydrogen chloride
132	Zhejiang Kaihua Synthetic Material Co., LTD	DN25~DN 100	230	~22 year	Green silicon-based new material product development center incubation project
133	Hubei Xinyuan Haoke New Material Co., LTD	DN25~DN 50	142	22 year	High purity nitrogen, EC
134	China electronic system Engineering Fourth construction Co., LTD	DN25~DN 250	230	22 year	Zhongjuxin Qianjiang ultra-pure electronic chemicals project with an annual output of 196,000 tons

\* The above order is in no particular order

#### 6. Bank name and address

Icbc Chongming Branch Shanghai Chongming South Gate Road No. 158

#### 7. Other information (corporate nature, etc.)

Shanghai Guanghui Instrument Co., Ltd. is a joint-stock cooperative enterprise. In 1996, it passed ISO9002 international quality system certification, in 2002, it passed ISO9001:2000 international quality system certification, and in 2008, it passed ISO9001:2008 international quality system certification. In July 2004, it was granted the "Special Equipment Manufacturing License of the People's Republic of China (Pressure Pipeline)" by the General Administration of Quality Supervision, Inspection and Quarantine. In 2002, it was recognized as a high-tech enterprise in Shanghai by Shanghai Economic Commission. It is a member unit of China's instrumentation industry, a member unit of China Petrochemical material resources market, and a supplier access unit of China National Petroleum Corporation.

This is to certify that the above statement is true and correct and that all available information and data have been provided. We agree to produce documentation to substantiate your request at any time.

Shanghai Guanghui Instrument Co., LTD

### A list of the basic conditions of the company

Name		nai Guan ument Co		Nature of enterprise				Limited liab	oility	Busi ness I i cense	31	0230000010935	Tax number		31023013440	8650
Address		nmin Road , Shangha	I, Chongming i	Tel	59615472	5962	3485	Fax	59623487	E-mail	ghg	group@163.com	Date of establis hment	1985	Postal code	202150
	Total i people	number	151	Number person	of engineering nel	19		Seni or engi neer	5	Engi neer	15	Managerial personnel	30		Inspection personnel	7
- · · ·		Original value	47.8	2 million RM	1B	E. J. J.	Special manufac	equipment turing license	TS2710308-2	2025	lssuing department	General Administration of Quality Inspection and Quarantine of the	y Supervision, Pe <b>ba∉anewate</b> pu <b>til</b> ina	e	Septembe	r 2021
Enterpri se –si tuati on	Fi xed	Net wor	th 31.1	9 million RM	1B	Evi de nce		/ assurance syste	ISO9001:20	15	lssuing department	Beijing World Standard Certification Center	Renewal tim	е	May 2021	
	assets	Produc	tion floor a	area 12,00	00(m²)	colle ction	Technic enterpi	cal level of rise	Shanghai high- enterprises	tech	Rating department	Shanghai high-tech enterprises The (product) certification office	Renewal tim	e	Septembe	r 2009
	Total b	ousiness va	lue of the	13,275 (RN	1B Million)	Tax re	eturns co	mpleted by the previous ve	783(RMB Million)	Product ex	port mode	By rail or by automobile	Enterpri se	National	secondary	enterpri se
		,	cts and prod	duction ca	paci ty			, ,	capital and imported	Propri et		nology or patented	Main product	output perfo		enterprise in recer
	1. BFS SG	quick release	e single-seat valve A	NSI 150~4500 DI	N15~200	1.Wit	h the		es BFS company	1.Turbi ne		turning device	Shanghai Electric	,		D. (long-term support)
	2. BFSCG	palanced slee	eve single-seat valve	ANSI 150~4500	DN25~400	j oi n	t vent	ure producti	on BFS brand	2.Pneumatic h	nigh temperatu	ure and high pressure trap	Shanghai Steam	Turbine Co., LTD	. (long-term suppo	ort)
	3. BFSTG balanced three-way combination/diverter valve ANSI150, 300DN2						regulating valve			3.Automatic trap System (ZL 02 2 15598.8)			Cnooc Tiano Chemical Group			
	4. Cv3000 ZHT/LS single-seat valve ANSI 150~2500 DN20~200 2.Digest and absorb American Masoneilar								erican Masoneilan	4.Electric Va	alve Positio	ner (ZL 02 2 15600.3)	Inner Mongolia	a Boyuan Unite	d Chemical Co.,	LTD
	5. Cv3000ZHS/LC sleeve single-seat valve ANSI150-2500DN20-200							5.New flow	Control Va	lve (ZL 02 2 18138.5)	Datang Heilong	jiang power g	eneration Co.,	LTD. Harbin first		
Product situation	6. Cv3000 ZHCB sleeve valve ANSI 150-2500 DN40-200												Liaoning Panji	n North aspha	It fuel Co., L	٢D
	7. 35003 Eccentric rotary valve ANSI 150-600 DN25-300												Zhejiang Jinju	ı Chemical Co.	, LTD	
	<b>8.</b> High pe	rformance se	ealed butterfly valve	e PN0.6~ 4.0DN50	) ~1200							Lijin Petr	ochemi cal	Plant Co.,	LTD	
	<b>9.</b> O-shap	ed cut off ba	III valve, V-shaped a	djustment ball va	Ive PN1.6~ 6.3DI	V15 ~300	)						Shandong Binhua Dongrui Chemical Co., LTD			
	10.Self-op	perated press	sure and temperatu	re regulating valv	re PN1.6~ 4.0DN2	20~200							Shandong Jingbo Petrochemical Co., LTD			
	11.Fine sr	mall single-se	eat, sleeve regulating	g valve PN1.6~ 6	3DN20 ~200								Shandong Chenxi Petrochemical Co., LTD			
	12. Other	domestic re	gulating valves and	the above series	of electric regula	iting valv	es						Shandong E	Binhua Bin	yang burnis	hing Co., LTD
	Standard	s used in p	oroduct desig <b>nG</b>	B/T 4213-20	08、ANSI、	JIS⁄ JE	3			Check, n		nd test equipment uration	The company h variety of te		pratory, measur nt	ing room and a
Standard	Standa manufa	ards used i acture of p	n the GE	B、ANSI、JI	S√ JB					Quality	control o	f raw material	All incoming r	aw materials	are self-checke	ed and marked
specificatio	Standards used for product inspection         GB/T 4213-2008、ANSI、JIS、JB					Implem manufa	purch mentation acturing a	ase of standards in nd inspection	-		with enterpr ited standard	ise standards, s				
	Set the	product d	elivery cycle	0.5 (m	onth)			e annual enterpris ce capacity	e 60.00 million RMB		5	-sales service				uarantees, product
Capacity		ar (fixed) delivery c		1 (ma	onth)		rocessin	g rate of main	95%			nd ability	the day to re	ply, within 4	8 hours rushed	n responsible for to the scene
perform	Lead ti		ecial (non-	1.5 (m	nonths) Continuity of spare parts supply 5years Conditions and ability of external The outsourcing units meet the outsourcing supply capabilities		the conditions	and have various								
Major equipment configurati on	5. Copy					ts t	ypes of m	achine tools	ng machine 4. 45 other ector, spectrometer 1 set	9		lling unit	Shangh	ai Guang	ghui Instr LTD	ument Co.,

### List of main production and testing equipment

Serial number	Device name and model	speci fi cati on	quanti ty	manufacturer	Status quo
First, 7	CNC lathes				
1	CAK6150D	Ø500×890	2	Shenyang first machine tool factory	good
2	CAK6180B	Ø800×1500	2	Shenyang first machine tool factory	good
3	CAK40 100V1	Ø360×1000	1	Shenyang first machine tool factory	good
4	100S Vertical CNC	machining center	1	Shenyang first machine tool factory	good
5	CK5116Q	2700×2700×2950mm	1	Shenyang first machine tool factory	good
Second,	28 ordinary lathe	S			
1	CW61100E	Ø1000×3000	1	Tianshui Spark machine tool factory	good
2	Double column vertical latheC5525		1	Wuhu Hengsheng Heavy machine tool Co., LTD	good
3	Lathe CW61125B	Ø 1500	5	Shenyang Group Kunming Machine tool Co., LTD	good
4	C630-1B	Ø630×1400	1	Guangxi Liuzhou machine tool factory	good
5	Boring machine TX6	11B	1	Hanchuan	good
6	CW6163C	Ø630×3000	1	Dalian second machine tool Factory	good
7	C6150	Ø500×1500	8	Shanghai second machine tool Factory	good
8	C620-1B	Ø400×1000	1	Guizhou Lixin machine tool factory	good
9	C6246	Ø450×1500	1	Maanshan machine tool Factory	good
10	SK360	Ø360×1000	1	Shenyang third machine tool factory	good
11	G32A	Ø320×750	2	Jiangxi machine tool Factor <b>y</b>	good
12	HG28	Ø280×750	3	Shanghai Jiangning machine tool factory	good
13	CA6136	Ø280×750	1	Shenyang first machine tool factory	good
14	CA6140A	Ø400×1000	1	Shenyang first machine tool factory	good

Thi rd,	, one copying lath	ne				
1	CE7112	Ø200×810	)	1	Great Wall Machine Tool Factory	good
Fourt	h, instrument shaf	ft lathe 1				
1	C0820	Ø200×300	)	1	Shanghai 12th Machine Tool Factory	good
Fifth	, desktop lathe 2	sets				
1	C0630	Ø300×550	)	2	Shanghai 12th Machine Tool Factory	good
Sixth	, 3 vertical drill	ling machine	S			
1	H5-3C	Ø25		1	Shanghai Xinhai machine tool Factory	good
2	Z535	Ø35		2	Jiangsu Changzhou machine tool factory	good
Seven	th, radial drillir	ng machine 2	sets			
1	Z32K	Ø25		1	Guilin machine tool Factory	good
2	Z3040	Ø40		1	China-czech Friendship factory	good
Eightl	h, 4 grinding mach	nines		·	· · · · · ·	
1	M1432A Extern	al grinding	Ø320×1000	1	Shanghai Machine Tool Factory	good
2	Circular grind	derMW1332B	Ø 1500	1	Wuxi grinding machine Co., LTD	good
3	M7120A Flat g	rinding	630×200	1	Shanghai Machine Tool Factory	good
4	M7130 Flat gr	i ndi ng	1000×300	1	Nantong second machine tool factory	good
Ninth	, 4 milling machir	nes				
1	X6132A		Ø320×1320	1	Qiqihar first machine tool factory	good
2	57-3C		400×810	1	Shanghai 7th machine tool Factory	good
3	X6325		Ø250×1120	2	Nantong Machine tool Factory	good
Tenth	, a horizontal bro	baching mach	i ne			
1	L6140B		40×2000	1	Changsha Machine Tool Factory	good
Elever	nth, 1 wire rollir	ng machine				
	Z28-40		Ø40	1	Qingdao Shengjian machine tool factory	good

Twelft	n. Two shaper machines				
	B665-3	665×320	2	Lian Tang machine tool factory	good
thirte	enth, other production equip	ment 9		·	
1	Automatic suspension chain		1	self-control	good
2	Automatic spring winding mac	ni ne	1	self-control	good
3	Spring wire heating transform	ner	1	self-control	good
4	Box resistance RX2-45-12	45KW	1	Shanghai electric furnace Fact	<sup>ory</sup> good
5	Box resistance RJX-15-9	15KW	1	Shanghai Xinhua furnace factor	y good
6	Ultrasonic cleaning	YC-1090	1	Shanghai Yuancheng Industrial	good
7	Electric thermostatic air drying	TCW-32B	1		good
8	Pressure equipment	YF-C250	2		good
Fourtee	enth, 31 testing equipment		-		
1	Withstand pressure test bench	ו	2	self-control	good
2	Hydraulic valve test bench		1	Deli electromechanical hydraulic industrial company	good
3	Regulator valve calibration table	YFSZ-150	3	sel f-control	good
4	Regulating valve flow test device		1	self-control	good
5	Hydraulic valve testing machine	YFC-D YFC-H	2	Seven star machinery manufacturing Co., LTD	good
7	Hydraulic valve testing machine	YFC	1	manufacturing Co., ĹTD Seven star machinery manufacturing Co., LTD	good
8	Pneumatic valve testing machine		11	Homemade, imported from Korea	good
10	Flaw detector	CTS-22A	1	Shanghai Xianchao Instrument Co., LTD	good
11	spectrograph	SPECTROTEST	1	Speck Analytical Instruments, Germany	good
12	Actuator testing machine		1	Homemade	good
13	UItrasonic thickness gauge	TUM100	1	Shanghai Precision Instrument Co., LTD	good
14	100KN Universal servo material testing machine	JVJ-100S	1	Shanghai Jujing Precision Instrument Manufacturing Co., LTD	good
15	Portable spectroscope	WX-5	1	Shanghai Precision Instrument Co., LTD	good
16	Special pneumatic marking machine for nameplate	WM2-A	1	Shanghai Wanmuchun electromechanical Equipment Co., LTD	good
17	PTA plasma surfacing welding machine	PW-3	1	Shanghai Kaimeijie welding equipment Co., LTD	good
18	Multifunctional gas shielded welding ZX7-500 machine	ZX7-500	1	Signal fire	good
19	Inverter type DC argon arc welding machine	WS-250	1	Signal fire	good

#### Enterprise three certificates in one



#### IS09001 international standard certification



Special equipment manufacturing license

	中华人民	共和国	
失	种设备生产	产许可	证
Produ	ction License of S		
	People's Republi	ic of China	ı
		编号:	TS2710308-2025
单位名称: 上海头	化辉仪器仪表有限公司	司	
主 所: 上海市	5崇明区城桥镇人民	格600号	
制造地址: 上海市	5崇明区城桥镇人民	格600号	
经审查,获准/	从事以下特种设备生活	产活动:	
许可项目	许可子项目	许可参数	备注
压力管道元件制造	压力管道阀门(金属 门)(A1、A2、B)	阀	具体产品范围见型式 试验证书
			此政
分汇和大 回点子!	乙胺教练进业品	1	加监督。
<b>立证机关:</b> 国家市均	<b>汤监督管理总局</b>	HE NY	

TS certificate for temperature and pressure reduction device

			副本
	中华人	民共和国	E
ţ	, 持种设备		
	luction License		
	People's Re	epublic of Chi	na
		编	号: TS2731I04-2026
单位名称:上海	导光辉仪器仪表码	有限公司	
住 所:上海市	5崇明区城桥镇)	人民路600号	
制造地址:上海	日市崇明区城桥银	真人民路600号	
经审查,获准从	《事以下特种设备	备生产活动:	
许可项目	许可子项目	许可参数	备注
压力管道元件 制造	元件组合装置		限减温减压装置;

发证机关:上海市市场监督管理局 有效期至:2026年01月24日



Environmental management system certification



Occupational health and safety management system certification



### Account opening permit



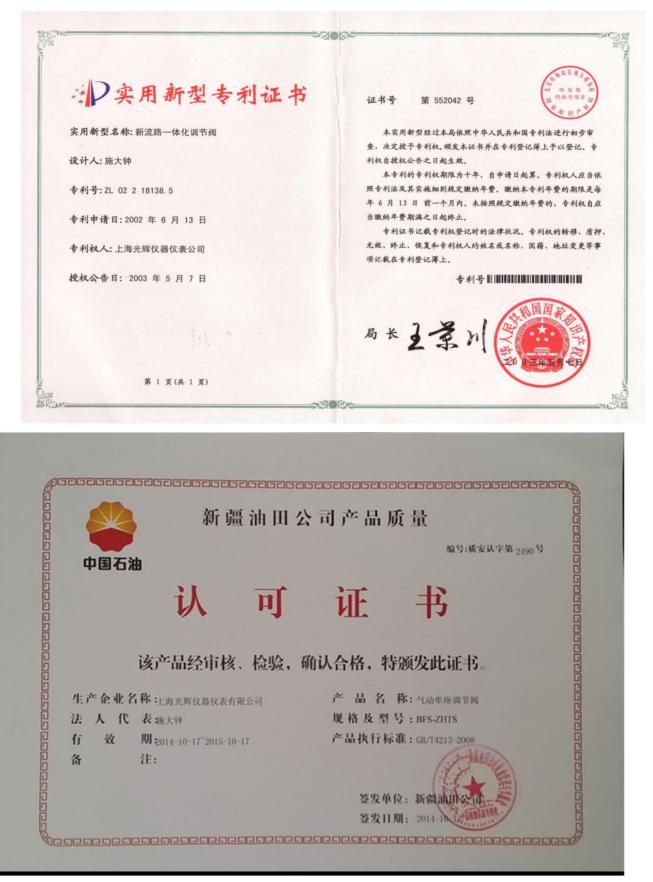
Credit rating



Safety production standardization level three enterprises



#### patent



证书	
	实用新型专利证书
实	用新型名称: 一种角形调节阀
发	明 人: 施大钟
专	利 号: ZL 2007 2 0198900.7
专	利申请日: 2007年12月5日
专	利 权 人:施大钟
授	权公告日: 2008年9月3日
木	本实用新型经过本局依照中华人民共和国专利法进行初步审查,决定投予专利权, 颁发 亚书并在专利登记簿上予以登记,专利权自授权公告之日起生效,
定	本专利的专利权期限为十年,自申请日起算。专利权人应当依照专利法及其实施细则规 数纳年费。撤纳本专利年费的期限是每年12月 5日前一个月内。未按照规定撤纳年费的, 利权自应当撤纳年费期满之日起终止。
वर्षत	专利证书记载专利权登记时的法律状况,专利权的转移。质押、无效、终止、恢复和专 3人的姓名或名称、国辅、地址变更等事项记载在专利登记簿上。
	局长 (司力善)
3.	<b>第1</b> 页(株1页)

# Certificate of Compliance

No. 1N190121.SHGHI22 Technical Construction File no.CLK(19)-06

Certificate's Holder: Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road, Chengqiao Town Chongming County Shanghai, People's Republic of China

IFICAZION

Certification ECM Mark:

Product: Model(s):



BALL VALVE Description of Test Valve: Type Designation of tested Valve(s): BA-300LB-8" Description of Test Valve: BALL VALVE Nominal Size(s): 8" Pressure rating(ANSI Class): 300 Valve Body/Bonnet Material: A216 WCB

Verification to:

Standard(s): API STANDARD 607 Sixth edition, September 2010 Qualified Range of Test Valve: Qualified Pressure Rating (Class): 300, 600 (according to API 607 Table 5) Qualified Sizes(NPS): ≥ 8" (according to API 607 Table 3) Qualified Marking: Qualified valves shall be permanently marketed: (according to API 607 Para. 7) Remark: the technical data of test valve see back of this certificate Annex I

**Remark:** The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it

This verification doesn't imply assessment of the production of the product(s).

Date of issue 21 January 2019

hief Manager

Deputy Manager

Expiry date 20 January 2024

Ente Certificazione Macchine Srl Via Ca' Bella, 243 – Loc. Castello di Serravalle – 40053 Valsamoggia (BO) - ITALY 2 +39 051 6705141 = +39 051 6705156 info@entecerma.it www.entecerma.it

### Annex I

No. 1N190121.SHGHI22 Technical Construction File no.CLK(19)-06

Technical Data Form		
Type of Test Valve:	BA-300LB-8"	
Description of Test Valve:	BALL VALVE	
Details of Valve:		
Part Name/Valve Size	8"	
Body	A216 WCB	
Ball	ASTM A182 F304	
Bonnet	A216 WCB	
Stem	17-4PH	
Seat	PTFE	
Stem Packing	Flexible Graphite	
Body Gasket	304+Flexible Graphite	
Body Bolt	ASTM A193 B7	
Nut	ASTM A194 2H	
Design Drawing No.:	BA-300LB-8"	





# Certificate of Compliance

No. 1N190121.SHGHI21 Technical Construction File no.CLK(19)-05

Certificate's Holder: Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road, Chengqiao Town Chongming County Shanghai, People's Republic of China

Certification ECM Mark:

Product: Model(s):



BALL VALVE Description of Test Valve: Type Designation of tested Valve(s):BA-300LB-4" Description of Test Valve: BALL VALVE Nominal Size(s): 4" Pressure rating(ANSI Class): 300 Valve Body/Bonnet Material: A216 WCB

Verification to:

Standard(s): API STANDARD 607 Sixth edition, September 2010 Qualified Range of Test Valve: Qualified Pressure Rating (Class): 300, 600 (according to API 607 Table 5) Qualified Sizes(NPS): ≤ 4", 5", 6", 8" (according to API 607 Table 3) Qualified Marking: Qualified valves shall be permanently marketed: (according to API 607 Para. 7) Remark: the technical data of test valve see back of this certificate Annex I

**Remark:** The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it

This verification doesn't imply assessment of the production of the product(s).

Date of issue 21 January 2019



Expiry date 20 January 2024

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## Annex I

No. 1N190121.SHGHI21 Technical Construction File no.CLK(19)-05

Technical Data Form		
Type of Test Valve:	BA-300LB-4"	
Description of Test Valve:	BALL VALVE	
Details of Valve:		
Part Name/Valve Size	4"	
Body	A216 WCB	
Ball	ASTM A182 F304	
Bonnet	A216 WCB	
Stem	17-4PH	
Seat	PTFE	
Stem Packing	Flexible Graphite	
Body Gasket	304+Flexible Graphite	
Body Bolt	ASTM A193 B7	
Nut	ASTM A194 2H	
Design Drawing No.:	BA-300LB-4"	
	1	



# Certificate of Compliance

No. 1N190121.SHGHI20 Technical Construction File no.CLK(19)-04

Certificate's Holder: Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road, Chengqiao Town Chongming County Shanghai, People's Republic of China

Certification ECM Mark:

Product: Model(s):



BALL VALVE Description of Test Valve: Type Designation of tested Valve(s):BA-300LB-2" Description of Test Valve: BALL VALVE Nominal Size(s): 2" Pressure rating(ANSI Class): 300 Valve Body/Bonnet Material: A216 WCB

Verification to:

Standard(s): API STANDARD 607 Sixth edition, September 2010 Qualified Range of Test Valve: Qualified Pressure Rating (Class): 300, 600 (according to API 607 Table 5) Qualified Sizes(NPS): ≤ 2", 2 1/2 ", 3", 4" (according to API 607 Table 3) Qualified Marking: Qualified valves shall be permanently marketed: (according to API 607 Para. 7) Remark: the technical data of test valve see back of this certificate Annex I

**Remark:** The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it

This verification doesn't imply assessment of the production of the product(s).

Date of issue 21 January 2019

Deputy Manager Arp

Expiry date 20 January 2024

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### Annex I

No. 1N190121.SHGHI20 Technical Construction File no.CLK(19)-04

Technical Data Form		
Type of Test Valve:	BA-300LB-2"	
Description of Test Valve:	BALL VALVE	
Details of Valve:		
Part Name/Valve Size	2"	
Body	A216 WCB	
Ball	ASTM A182 F304	
Bonnet	A216 WCB	
Stem	17-4PH	
Seat	PTFE	
Stem Packing	Flexible Graphite	
Body Gasket	304+Flexible Graphite	
Body Bolt 🔹	ASTM A193 B7	
Nut	ASTM A194 2H	
Design Drawing No.:	BA-300LB-2"	

CAZIONA

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E I



# Certificate of Compliance



No. 1N190121.SHGAF62 Technical Construction File no.CLK(19)-10

Certificate's Holder: Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road, Chengqiao Town Chongming County Shanahai, People's Republic of China

Certification ECM Mark:

Product: Model(s):



Butterfly Valve Description of Test Valve: Type Designation of tested Valve(s):BR-300LB-2" Description of Test Valve: Butterfly Valve Nominal Size(s): 2" Pressure rating (ANSI Class): 300 Valve Body/Bonnet Material: ASTM A216 WCB

Verification to: Standard: API SPEC 6FA Third Edition, April 1999 (the testing results of valves)

Qualified Range of Test Valve: Qualified Pressure Rating(Class): 300, 600 (according to API 6FA Table3) Qualified Sizes(NPS): ≤2", 2 1/2 ", 3", 4" (according to API 6FA Table2) Qualified Marking: Qualified valves shall be permanently marketed: 6FA (according to API 6FA Para.7)

(the technical data of test valve see back of this certificate Annex I)

**Remark:** The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it

This verification doesn't imply assessment of the production of the product(s).

Date of issue 21 January 2019



Expiry date 20 January 2024

Deputy Manager

 Ente Certificazione Macchine Srl

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 = +39 051 6705141

 = +39 051 6705156

# Annex I



No. 1N190121.SHGAF62 Technical Construction File no.CLK(19)-10

Technical Data Form			
BR-300LB-2"			
Butterfly Valve			
2"			
ASTM A216 WCB			
CF8+Graphite			
17-4PH			
WCB+STL6			
304 + Flexible Graphite			
304 + Flexible Graphite			
ASTM A193 B7			
ASTM A194 2H			
BR-300LB-2"			

# Certificate of Compliance

No. 1N190121.SHGAF63 Technical Construction File no.CLK(19)-11

Certificate's Holder: Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road, Chengqiao Town Chongming County Shanahai, People's Republic of China

FICAZIO

Certification ECM Mark:

Product: Model(s):



Butterfly Valve Description of Test Valve: Type Designation of tested Valve(s):BR-300LB-4" Description of Test Valve: Butterfly Valve Nominal Size(s): 4" Pressure rating (ANSI Class): 300 Valve Body/Bonnet Material: ASTM A216 WCB

Verification to:

Standard: API SPEC 6FA Third Edition, April 1999 (the testing results of valves)

Qualified Range of Test Valve: Qualified Pressure Rating(Class): 300, 600 (according to API 6FA Table3) Qualified Sizes(NPS): ≤4", 5", 6", 8" (according to API 6FA Table2) Qualified Marking: Qualified valves shall be permanently marketed: 6FA (according to API 6FA Para.7)

(the technical data of test valve see back of this certificate Annex I)

**Remark:** The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it

This verification doesn't imply assessment of the production of the product(s).

Date of issue 21 January 2019

hief Manager

Deputy Manager

Expiry date 20 January 2024

 Ente Certificazione Macchine Srl

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 = +39 051 6705141

 = +39 051 6705156

# Annex I

No. 1N190121.SHGAF63 Technical Construction File no.CLK(19)-11

Technical Data Form				
Type of Test Valve: Description of Test Valve: Details of Valve:	BR-300LB-4'' Butterfly Valve			
Part Name \ Valve Size	4"			
Body	ASTM A216 WCB			
Disc	CF8+Graphite			
Stem	17-4PH			
Seat	WCB+STL6			
Seat Packing	304 + Flexible Graphite			
Body Gasket	304 + Flexible Graphite			
Body Bolt	ASTM A193 B7			
Nut	ASTM A194 2H			
Design Drawing No.:	BR-300LB-4"			



# Certificate of Compliance



No.1N190121.SHGAF65 Technical Construction File no.CLK(19)-13

Certificate's Holder:

#### Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road, Chenggiao Town Chongming

County Shanghai, People's Republic of China

Certification FCM Mark:



Product: Model(s): Butterfly Valve Description of Test Valve: Type Designation of tested Valve(s): BR-300LB-16" Description of Test Valve: Butterfly Valve Nominal Size(s): 16" Pressure rating (ANSI Class): 300 Valve Body/Bonnet Material: ASTM A216 WCB

Verification to: Standard: API SPEC 6FA Third Edition, April 1999 (the testing results of valves)

Qualified Range of Test Valve: Qualified Pressure Rating(Class): 300, 600 (according to API 6FA Table3) Qualified Sizes(NPS): 16" and larger (according to API 6FA Table2) Qualified Marking: Qualified valves shall be permanently marketed: 6FA (according to API 6FA Para.7)

(the technical data of test valve see back of this certificate Annex I)

**Remark:** The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it

This verification doesn't imply assessment of the production of the product(s).

Date of issue 21 January 2019

Chief Manage

Deputy Manager PaiseFindth

Expiry date 20 January 2024

 Ente Certificazione Macchine Srl

 Via Ca' Bella, 243 – Loc. Castello di Serravalle – 40053 Valsamoggia (BO) - ITALY

 2 +39 051 6705141
 +39 051 6705156
 Info@entecerma.it
 www.entecerma.it

# Annex I



No.1N190121.SHGAF65 Technical Construction File no.CLK(19)-13

Technical Data Form				
Type of Test Valve: Description of Test Valve: Details of Valve:	BR-300LB-16'' Butterfly Valve			
Part Name \ Valve Size	16"			
Body	ASTM A216 WCB			
Disc	CF8+Graphite			
Stem	17-4PH			
Seat	WCB+STL6			
Seat Packing	304 + Flexible Graphite			
Body Gasket	304 + Flexible Graphite			
Body Bolt	ASTM A 193 B7			
Nut	ASTM A194 2H			
Design Drawing No.:	BR-300LB-16"			

# Certificate of Compliance



No.1N190121.SHGAF64 Technical Construction File no.CLK(19)-12

Certificate's Holder:

#### Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road, Chengqiao Town Chongming County Shanghai, People's Republic of China

Certification ECM Mark:

Product: Model(s):



Butterfly Valve Description of Test Valve: Type Designation of tested Valve(s):BR-300LB-8" Description of Test Valve: Butterfly Valve Nominal Size(s): 8" Pressure rating (ANSI Class): 300 Valve Body/Bonnet Material: ASTM A216 WCB

Verification to:

Standard: API SPEC 6FA Third Edition, April 1999 (the testing results of valves)

Qualified Range of Test Valve: Qualified Pressure Rating(Class): 300, 600 (according to API 6FA Table3) Qualified Sizes(NPS): ≤8",10",12",14",16" (according to API 6FA Table2) Qualified Marking: Qualified valves shall be permanently marketed: 6FA (according to API 6FA Para.7)

(the technical data of test valve see back of this certificate Annex I)

**Remark:** The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecerma.it. This Certificate of Compliance can be checked for validity at www.entecerma.it

This verification doesn't imply assessment of the production of the product(s).

Date of issue 21 January 2019

f/Manaae





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# Annex I



No.1N190121.SHGAF64 Technical Construction File no.CLK(19)-12

Technical Data Form				
Type of Test Valve:	BR-300LB-8"			
Description of Test Valve:	Butterfly Valve			
Details of Valve:				
Part Name \ Valve Size	8"			
Body	ASTM A216 WCB			
Disc	CF8+Graphite			
Stem	17-4PH			
Seat	WCB+STL6			
Seat Packing	304 + Flexible Graphite			
Body Gasket	304 + Flexible Graphite			
Body Bolt	ASTM A193 B7			
Nut	ASTM A194 2H			
Design Drawing No.:	BR-300LB-8"			

SIL



## Functional Safety Certificate

No.

Technical Construction File no. SIL-GHY(16)-05

Certificate's Holder:	Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road,Chengqiao Town Chongming County Shanghai, People's Republic of China
Product: Model(s):	Ball valve BA series
Standard:	Standard: Has been assessed per the relevant requirements of: IEC 61508:2010 Parts 1-7 And meets requirements providing a level of integrity to: Systematic Capability: SC 3 (SIL 3 Capable) Random Capability: Type A Element SIL 2 @ HFT= 0; SIL 3@ HFT=1; Route 2 <sub>0</sub> PFD <sub>AVG</sub> and Architecture Constraints must be verified each application * Safety Function: The valve will open and close the pipe or equipment as required The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements. * Is suitable to be safety function according to the description and the configuration defined in Annex I.
Verification	The Verification Mark can be

Ve Mark:



affixed on the product. It is NOT permitted to alter the Verification Mark in any way

Remark: This SIL Verification of Compliance has been issued on a voluntary basis. ECM confirms that a Test Report is existent for the above listed product(s) and found to meet the requirements of above standards for application in safety related system up to Safety Level of SIL 3.

The unit must be properly designed into a Safety instrument Function as per the requirements in the Safety Manual. The Verification Mark shown above can be affixed on the product. It is NOT permitted to alter the Verification Mark in any way. In addition the Vertication's Holder is NOT allowed to transfer the Vertication to third parties. This certificate can be checked for validity at www.entecerna.it

Date of issue 14 October 2018

Chief Manager Marco Morina

Expiry date 13 October 2023

Deputy Manager Amanda Payne

## Annex I



#### No.

Technical Construction File no. SIL-GHY(16)-05

 The use of the product must obey the required rules to conservation of SIL3 properties, These rules are recalled in the §6 of the Assessment Report reference: [SIL Capability assessment report]

2. The product version of	f hardware components used for validation and type tests are the following:
Component	Model
Ball valve	BA series

- Acceptable environmental constraints for the system are recalled in the safety Manual (Ref:[SIL-SM-02]). These elements must be checked for each integration operation of the product.
- The SIL 3 capable certified Safety Instrumented Function of the product is the following: 1. SF1:To Close on demand. 2. SP2:To Open on demand.
- Hypothesis used for calculations are presented here under: The mode of operation is Low demand, which means less than 1 trip demand each year;

Component architecture	SIL Capability	Demand frequency	PFD
lool configuration	SIL2	Low	9.95E-04
1002 configuration	SIL3	Low	2.26E-04

Safety function	Failure rate	Undetected dangerous failure rate	Tests intervals	MTTR
SF1	4.87E-05	4.69E-07	11months .	48h
SF2	4.86E-05	4.67E-07	11months	48h

The Safety Integrated Level of the safety function using the product shall be calculated taking into account the characteristics of the whole system.

S be your part





Functional Safety Certificate

No.

Technical Construction File no. SIL-GHY(17)-02

Certificate's Holder:	Shanghai Guanghui Instrument Co., Ltd No. 600 People 's Road,Chengaiao Town Chongming County Shanghai, People's Republic of China
Product: Model(s):	Butterfly valve BR series
Standard:	Standard: Has been assessed per the relevant requirements of: IEC 61508:2010 Parts 1-7 And meets requirements providing a level of integrity to: Systematic Capability: SC 3 (SIL 3 Capable) Random Capability: Type A Bernent SIL 2 @ HFT= 0; SIL 3@ HFT=1; Route 2 <sub>N</sub> PFD <sub>AVG</sub> and Architecture Constraints must be verified each application * Safety Function: The opening and closing in the valve body revolves around its own axis, so as to achieve the purpose of opening or closing or regulating. * Application Restrictions: The unit must be properly designed into a Safety Instrumented Runction per the Safety Manual requirements. * Is suitable to be safety function according to the description and the configuration defined in Annex.

#### Verification Mark:



The Verification Mark can be affixed on the product. It is NOT permitted to alter the Verification Mark in any way

Remark: This SIL Verification of Compliance has been issued on a voluntary basis. ECM confirms that a Test Report is existent for the above listed product(s) and found to meet the requirements of above standards for application in safety related system up to Safety Level of SIL 3.

The unit must be property designed into a Safety instrument Function as per the requirements in the Safety Manual. The Verification Mark shown above can be affixed on the product. It is NOT permitted to alter the Verification Mark in any way. In addition the Verification's Holder is NOT allowed to transfer the Verification to third parties. This certificate can be checked for validity at www.entecerma.it

Date of issue 14 October 2018

Chief Manager Marco Morina Expiry date 13 October 2023

Deputy Manager Amanda Payne

## Annex I



#### No.

Technical Construction File no. SIL-GHY(17)-02

The use of the product must obey the required rules to conservation of SIL3 properties, These rules
are recalled in the §6 of the Assessment Report reference: [SIL Capability assessment report]

2. The j	product w	ersion of hardware components used for validation and type tests are the following:
Compo	pnent	Model
Butterfly	y Valve	BR series

 Acceptable environmental constraints for the system are recalled in the safety Manual (Ref:[SIL-SM-03]). These elements must be checked for each integration operation of the product.

EC 61508 Failure Rates:

4. IDO OTOOD FOIDIO	4. IEC 61 avo rature kates:					
Failure Rate Data	Per 10º Hour	-11	17101			
Clean Service	Close On Trip			Open On Trip		
	Full Stroke		Tight Shutoff			
	Normal	Pvst	Normal	Pvst	Normal	Pvst
Fail Dangerous Detected	4	309		308	21	305
Fail Dangerous Undetected	658	3497	1497	11895	487	179

- The SIL 3 capable certified Safety Instrumented Function of the product is the following: 1.SF1:To Close on demand.
   2.SF2:To Open on demand.
- Hypothesis used for calculations are presented here under: The mode of operation is Low demand, which means less than 1 trip demand each year;

Component architecture	SIL Capability	Demand frequency	PFD
lool configuration	SIL2	Low	9.93E-03
1002 configuration	SIL3	Low	1.97E-04

The Safety Integrated Level of the safety function using the Series shall be calculated taking into account the characteristics of the whole system.

## **bFS**上海光辉仪器仪表有限公司

User usage report As follows

## 中海石油天野化工公司

### 关于 BFS 产品的使用报告

中国海洋石油总公司天野化工集团油改气联产甲醇于 2004 年利用內蒙古天然气的优势,投资 6.7 亿元人民币对 30 万吨合 成氨进行原料改造,并新建年生产 20 万吨甲醇项目,该项目 90% 的调节阀均选用 BFS 公司的进口和 BFS 中国合资产品 258 台,运 行工况既有高温高压差也有小流量高压差,其产品类型有单座 阀、套筒阀、球阀、蝶阀等产品。该产品具有外观美观、维护成 本很抵、运行非常平稳、调节精度高等特点。经过一年的实际运 行考核,BFS 公司产品能够适用于大型化工装置上且使用良好。



自 2007 年至今, 我公司在新建及改造项目中使用上海光辉仪器仪表有限 公司所生产的各类调节阀、切断阀共计 524 台。口径从 DN20 到 DN600, 种类 有 CV3000 系列/BFS 系列单座阀及套筒阀、蝶阀、球阀, 材质有碳钢、不锈钢、 衬 F46 及 PFA 等。该公司产品性能稳定,调节品质优良,故障率低,现场维 护量小。尤其是在老区聚醚装置的反应釜夹套蒸汽和冷却水调节阀的改造过程 中,依靠 BFS 合资调节阀优良的切断性能和先进的阀内件结构,使原来 1~3 个月的使用周期提高到 2 年以上,克服了困扰我们多年的老大难问题。通过近 三年的使用,证明该公司产品能够保证各装置的长周期安稳运行。

附: 各装置使用数量一览

1. 25 万吨/年离子膜装置 88 台

2. 10 万吨/年粒碱装置 33 台

3. 4万吨/年三氯乙烯装置 45 台

4. 12 万吨/年制氯乙烯副产硫化氢装置 81 台

5. 15 万吨/年聚氯乙烯装置 183 台

6. 盐酸装置 53 台

7.6万吨/年环氧丙烷装置 41 台

特此证明

山东滨化东瑞化工有限公司 上主任 联系电话:山8305439261

2010年5月15日

2003年3月至今, 我公司在100万吨/年加氢制氢项目和检修、改造项目 上使用了上海光辉仪器仪表有限公司生产的调节阀和切断阀共计270台, 其 中包括 CV3000 系列调节阀 (DN20<sup>-</sup>200)、BFS 合资调节阀 (DN15<sup>-</sup>300)、35003 系列偏心旋转阀 (DN25<sup>-</sup>300)、ZSHWG 系列三偏心蝶阀 (DN100<sup>-</sup>600), 还有球阀、 闸阀等。该公司产品性能稳定、维护量小, 保证了生产装置的长周期安稳运 行。

我公司 50 万吨/年催化装置外取热器上有一台汽包水排污阀,位号为 EV2601X, DN80, P1=1.4MPa, P2=0, T1=250℃。当初上项目时按照设计要求 选用硬密封球阀,在运行过程中发现经常卡滞,让原厂家加大执行机构规格, 最后阀杆都被拧成麻花状,仍不能解决卡滞和内漏的问题。后请上海光辉工 程师帮助分析,找到了问题的根本原因在于选型不当。政用 BFS CG 系列低噪 音快开阀,彻底解决了困扰我们多年的老大难问题。现该产品已经运行将近 2 年,切断性能和动作稳定性都非常出色。

该装置油浆系统偏心阀在项目建设时所选为吴忠仪表的 VPR 系列,结果 不到半年大部分阀内件就被磨坏无法使用。后上海光辉采用 35003 系列偏心 阀,并在阀芯阀座表面喷涂碳化钨,使偏心阀的使用寿命普遍延长到 2<sup>-</sup>3年。 特此证明

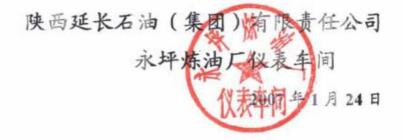


我公司在 80 万吨/年催化装置上有一台 DN200 蒸汽超压放空阀(位号: PV11909),介质为 450℃蒸汽,阀前压力 2.5MPa,阀后放空。原使用的"0"型球阀经常出现卡死现象,且关闭时泄漏量和放空时噪音都很大,给装置平稳运行和操作环境造成很大影响。后选用上海光辉仪器仪表公司与美国 BFS 公司的合资产品: 多级降噪音套筒阀,彻底解决了以上问题。

该产品具有以下特点: <u>1. 泄漏量达到 V 级, 实际运行为切断</u> 效果。(2) 在介质压差较大、温度经常从常温冷凝水到 450℃蒸 汽的剧烈变化、大口径调节阀经常小开度工作的情况下, 保持了 优良的控制性能。(3) 噪音低,大大改善人工操作环境。

经过一年多的运行实践,证明该产品具有国产常规调节阀无 可比拟的技术优势,达到一流进口产品的水平。

特此证明



#### 关于上海 BFS 调节阀的使用报告

我公司自 2005 年 10 月起在 1#、2#锅炉主给水和主蒸汽系统中 使用了上海光辉仪器仪表公司的 BFS 合资产品: CG 系列套筒调节 阀和 SG 系列单座调节阀,共 12 台,其中最大口径为 DN200,最高 压力等级为 ANSI 1500LB,最高温度为 360℃。经过一年多的使用, 证明该产品具有以下特点: 1.密封性能好。无外漏和内漏,达到切断 阀等级。2.嗓音低。在 8MPa 压差情况下产生的嗓音<85dBA,符合国 家标准要求,大大改善了现场的操作环境。3. 抗冲刷能力好。大检修 时发现,经过一年的使用后,阀内件仍完好无损。4. 控制效果好。动 作平稳而且灵敏,无卡滞现象,也没有振荡的情况发生。

综上所述,与我们以前使用的单、双座阀、套筒阀相比较,上 海 BFS 调节阀技术先进、性能可靠,实际控制效果明显改善,值得在 同类场合推广使用。

青岛碱业股份有限公司



上海光辉仪器仪表公司喷涂碳化钨处理调节阀应用情况

我公司烯烃事业部于2001年7月在催化裂化装置高温循环油浆系 统全部调节阀采用了上海光辉仪器仪表公司喷涂碳化钨处理调节阀共 7台。目前装置已运行2年多,未出现冲刷磨蚀现象,与以往选用的 316L 材质调节阀比较,耐冲刷磨蚀性能明显改善,运行周期显著延长, 在同类装置上具有推广价值。



#### 致富海集团 2010 年度优秀供应商感谢信

上海光辉仪器仪表有限公司:

首先衷心地感谢贵公司在过去的一年给予我们的支持和帮助! 并借此机会向贵公司致以新春的祝福!

欢声歌去岁, 欣语迎新春。转眼间, 2010 年已成历史。回望 去岁, 富海集团上下齐心努力下, 2010 年我们又取得了辉煌的骄人 成绩。集团始终秉承"每天超越自我, 时刻追求卓越"的企业理念, 不断做强做大。集团下辖东营华联石油化工厂有限公司、东营富海 房地产开发有限公司、东营富海建筑安装有限公司、东营富海物流 有限公司、菏泽富海能源发展有限公司、东营市河口区和润小额贷 款股份有限公司等九家子公司正以磅礴之势稳健发展。

2010年是我们相互合作,快速发展,实现我们共同目标的一年。 展望未来,我们信心百倍,将继续与贵公司相互支持与协作,进一步构建互利共赢的合作伙伴关系。在此,我们也真诚地期望贵公司 能一如既往地对我公司给予关注和支持,与我公司保持长期的、良 好的、更加紧密的合作关系,不断促进我们之间业务的增长,共同 获得长足持久的发展。让我们同舟共济,携手共进,乘势而上,共 同缔造更加美好的明天!



我公司自2006年气分改造开始使用上海光辉仪器仪表有限公司生产的 CV3000调节阀产品;2007年在加氢检修中选用了一台该公司 BFS 合资调 节阀,用于氢气放空场合,成功解决了原阀内漏及振荡的老大难问题,消 除了安全隐患;在重整加氢联合装置中全部选用了该公司合资及国产产品。 近两年我们又在苯抽提和甲醇制氢项目中选用了该公司 BFS 合资产品,全 部应用在关键位置。

该公司 BFS 调节阀具有如下优势:

1. 泄漏量小。从一些放空场合来看, BFS 硬密封调节阀的泄漏等级可以与一般软密封相媲美。

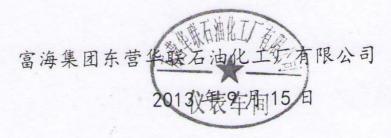
2. 检修便利。在装置开工初期,因管道吹扫效果不佳,有几台阀内进 焊渣把阀座卡坏,在拆阀处理过程中,发现 BFS 产品的快拆式结构非常利 于检修,特别是垫片可以重复使用,比其他厂家产品都便于维护。

3. 控制性能优良。南区重整加氢装置工艺指标的控制精度比以前老装 置都有明显提高,这和 SEPP4000 智能定位器也有关系。

重整加氢装置所配定位器为乐清市自动化仪表九厂的 SEPP4000 型智能定位器,放大器采用数字技术,稳态时几乎不耗气,节能效果显著;具备一键通全自动校验功能,现场调试便利性超过了我们用过的多家原装进口产品;内置自动优化功能,自动整定后即可达到非常理想的运行效果。只要控制好气源含水量,该产品性能可以达到许多同类进口产品水平。

经过多年运行,证明该公司产品性能稳定,技术先进,是可以信赖的 合作伙伴。

特此证明



#### 关于上海光辉仪器仪表公司调节阀

#### 使用说明

我公司于 08 年建成 100 万吨/年重油焦化联合装置,该装置 大部分调节阀使用的是上海光辉仪器仪表公司产品,通过一年多 的使用情况来看,该公司生产的调节阀完全达到双方签订的技术 协议要求,到目前为止,没有出现过任何质量问题。而且,该公 司技术支持较为完善,能够做到随叫随到,服务态度很好。特此 说明!



我公司 50 万吨/年重油催化装置于 2005 年 5 月份投产,该 装置油浆系统偏心旋转阀全部采用上海光辉仪器仪表有限公司的 35003 系列,阀内件用碳化钨喷涂工艺进行硬化处理。至今该装 置已运行 5 年多,偏心阀全部使用正常,没有一台被冲刷坏的, 比我们 1997 年所上第一套催化装置时所用的偏心阀寿命延长了 约 10 倍。

2005 年~2007 年间,我公司在常减压和焦化加氢制氢硫磺 装置使用了56台上海光辉仪器仪表有限公司生产的BFS系列调节 阀,主要用于高温及高压差等关键场合。运行以来效果优良,稳 反如此 定性、维护量方面都比国产常规产品提高很多。

特此证明

潍坊弘润石化助剂有限公司 2010年11月10日

### 关于上海 BFS 调节阀的使用报告

我公司自 2009 年 2 月开始在高压醇化烷化氨合成技改项目中使 用上海光辉仪器仪表有限公司的 BFS 合资产品,共 21 台,其中最大 口径为 DN200,最高压力等级为 PN32.0Mpa,最高温度 196℃。

经过将近一年的使用,证明该产品有以下优点:

1、密封性能好。无外漏和内漏,达到切断阀标准。

2、噪音低。在 21.8MPa 压差下,产生的噪音低于 85 分贝,大大改善了现场的操作环境。

抗冲刷能力好。检修时发现,经过将近1年的使用后,阀内件仍然完好无损。

4、控制效果好。动作平稳而且灵敏,无卡滞现象,也没有振荡的情况发生。

综上所述,与我们以前所用的单、双座、套筒阀相比较,上海光 辉的 BFS 产品技术先进、性能可靠,实际控制效果明显改善,值得在 同类场合推广使用。



我公司 40 万吨/年加氢精制装置共选用上海光辉仪器仪表有限公司调节阀 37 台,其中 8 台 PN16.0MPa 的高压角形阀和所有氢气介质的中压阀都选用该公 司 BFS 合资产品。自 2010 年 5 月试车投运以来,整体运行情况良好。几个关键 位置的调节阀如高分顶部放空阀、返回氢压力控制阀、高分油液位控制阀、含油 污水和轻污油控制阀等,工作压差都在 6<sup>-8MPa</sup> 左右,该阀仍保持了良好的稳定 性和控制性能。

由于生产需要,高分顶部放空阀、返回氢压力控制阀两台实际工况为间歇运行,正常工作流量与设计数据差异很大。为减轻小开度冲刷,延长调节阀使用寿命,经过光辉公司与我公司技术人员现场核对,认为需要减小流量系数。由于 BFS 阀内件是快拆式结构,我们在现场更换阀芯阀座时,不需要专用工具即可完成,而且阀内的高压垫片可重复使用,给我们的维护提供了极大便利。

加氢制氢装置 11 台自保阀都是关系到装置安全的最关键位置,我们也选用 了光辉公司产品,其中进转化炉原料气阀、中变气自保阀、饱和水排污和两台过 热蒸汽联锁阀压差都在 2.3<sup>-3</sup>.55MPa,型式有球阀、蝶阀、BFS 套筒阀等,使用 效果都很好。特别是 430℃过热蒸汽紧急放空联锁阀,正常运行和联锁切换时, 温度有剧烈变化,原设计硬密封球阀有可能出现卡死现象,在光辉公司建议下, 我们选用了 BFS 套筒阀,实践证明该产品具有良好的动作性能和切断效果。

经过开工以来的使用,我们感到上海光辉的产品与服务都是国内一流的。特别是在重要回路中,BFS调节阀的安全性和使用效果都能够令人放心和满意。



我公司从 2005 年至今在甲醇扩建、热电项目、尿素和合成氨装 置大检修中使用上海光辉仪器仪表有限公司生产的国产、合资调节 阀,共计 148 台。有腐蚀性很强的尿液控制阀;有 450℃的高温蒸 汽阀;有 PN32.0MPa、DN100/125 的高压角形阀。以上调节阀投用时 间大部分在 3 年以上,使用效果都非常好,确保了装置的安稳运行, 大大降低了我们在现场维护的工作量。

其中应用于合成车间氨分离器上的一台 DN25 高压差角形阀,介 质为液氨,阀前压力 28MPa,阀后压力 2.4MPa。原使用的国产高压角 形阀寿命基本上在半年到一年时间,且泄漏量、振动、嗓音都较大, 给装置平稳运行和操作环境造成很大影响。2007 年 12 月起使用上 海光辉的 BFS 合资产品: SA 系列迷宫型多级降嗓音高压角形阀,彻 底解决了以上问题。

该产品具有以下特点: (1)泄漏量达到 V 级。(2) 耐冲刷,在 25.5MPa 压差下长期运行,至今保持着优良的切断性能,给工艺操 作提供了很大便利。(3) 动态和静态性能控制性能优良,嗓音低, 大大改善人工操作环境。

经过三年半的运行实践,证明该产品具有常规调节阀无可比拟的技术优势,达到一流进口产品水平。

特此证明



我公司第一套聚醚装置 2003 年投产,其核心生产设备为 3 台夹套式反应釜, 借助向夹套内通蒸汽及冷却水实现对釜内物料的加热和冷却。由于反应为间歇过 程,且需要根据运行负荷调节蒸汽和冷却水的流量,对调节阀的动作稳定性和切 断能力要求较高。前几年先后使用过多家国内知名调节阀企业的产品,但效果都 不理想。尤其是冷却水上水调节阀,使用寿命基本上在 2~3 个月之间。最短的正 常运行不到一个月,最长的也没有超过半年,便会因为阀芯脱落或振荡造成损坏。 同时对临近的设备、管道、阀门甚至平台都会产生一系列影响,给装置运行带来 了很大困扰,维修工人劳动强度也非常大。

2008 年初,上海光辉仪器仪表有限公司派工程师到我公司交流技术,经过双 方现场诊断,确认问题主要是在冷水和蒸汽刚刚接触时,因汽化形成水击,阀芯 产生剧烈振荡及旋转,造成调节阀和关联设备的损坏。针对装置运行状况,他们 建议我们选用该公司的 BFS 合资产品—CG 系列套筒调节阀:其线密封技术能达到 V 级泄漏等级,避免因内漏影响反应过程;平衡型阀芯可减轻水击对阀芯的垂直冲 击力;开缝螺母上的防转动指针可避免阀芯旋转脱落;执行机构的高刚度可使动 作更平稳;下部填料和密封环两点导向使阀芯行程线性度更好,阀杆不易折断。 另外所配乐清九厂 SEPP4000 智能定位器可以设置速关范围,在信号进入小开度时 可迅速关闭调节阀。通过以上措施,调节阀抵御水击的能力大大增强。

经过小批量试用,完全消除了阀芯振荡和脱落现象。后来我们将该装置其它 调节阀也换成了 BFS 产品,运行平稳程度大大提高,最长的已正常使用 4 年,没 有发生过一例损坏。近几年聚醚装置扩建和东瑞化工+多套装置其产调节阀全部 采用了该公司产品,运行效果也都非常理想。

联系人:张主任 联系电话: 13305430385

山东海北集团股份有限公司

2011年12月22日

#### 溶脱装置溶剂分离罐 V104 液控阀

#### LIC2201 使用情况说明

在 2011 年 10 月装置停工大检修期间,四联合车间对溶脱装置高压溶剂分离罐 V104 液控阀 LIC2201 进行了更换,新阀采用上海光辉仪器仪表有限公司生产的 BFS 合资调节阀,该阀投用后,使用情况稳定,控制效果好,V104 运行情况大大改善。

新换调节阀具有以下几个特点:1、泄漏量小,设计泄漏量为硬密封 V 级,实际运行可达到完全切断。2、调节灵敏度高,运行稳定性好,克服了 原控制阀在高温、高压差工况下,出现的灵敏差,阀杆变形卡滞问题。3、 嗓音低,在压差达 4.5MPa 时,嗓音保持在<85dBA 以下。4、阀内件结构为 快拆式,无需专用工具即可在线轻松拆卸,且垫片可重复使用,为后期检 修维护降低了劳动量。

另该阀所配定位器为乐清市自动化仪表九厂的 SEPP4000 型智能定位器,采用了目前国际领先的数字式技术,稳态时几乎没有耗气量,非常有利于节能减排工作;而且采用一键通全自动整定程序,现场调试便利、快捷;内置自动优化功能,自动整定后即可达到非常理想的运行效果。

经过近一年的运行使用,证明 BFS 系列调节阀和 SEPP4000 型智能定位器均具备国际先进技术,可满足多种严酷工况条件的使用要求。



我公司在自备电厂汽轮机主蒸汽旁路管线上有一台 DN200 调节阀, P1=3.8MPa, P2=0.49MPa, T=420℃,用于在紧急情况下将进入汽轮机的蒸 汽切到旁路,确保汽轮机安全。但因以前所用调节阀泄漏量大,汽轮机负 荷始终无法达到理想状态,每天损失的蒸汽成本在1000元以上,而且噪音 较大。2009 年底更换了上海光辉仪器仪表有限公司的 BFS 合资产品—CG 系列多级低噪音套筒调节阀,彻底解决了以上问题,每年为公司节约成本 30 多万元。

经过三年的使用,我们认为 BFS 产品有以下显著特点: 1、泄漏量小,即使在现场拆开取出焊渣,复位后也能保持切断性能。2、稳定性好,灵敏度高,在高温及高压差工况下,没有出现卡滞现象,调节曲线非常平稳,克服了以前因稳定性差导致的控制波动。3、噪音低,在压差达 3.3MPa 时,噪音保持在<85dBA 以下。4、阀内件结构为快拆式,无需专用工具即可在线轻松拆卸,且垫片可重复使用,为后期检修维护降低了劳动量。

后我公司又在蒸汽减压等关键位置使用了多台 BFS 合资阀,均取得了 良好的使用效果,今年我公司乙二醇项目也全部选用了该公司产品。

#### 特此证明

宝马山 鹤壁市宝马化肥川 2012年9月28日

公司于 2009 年二月开始建设至今,已完成三期共 18 套装置建设,其中 80%的调节阀、开关阀都选用了上海光辉仪器仪表有限公司的产品,共计 860 余台套。包括 BFS 系列合资阀、CV3000 系列调节阀、硬密封球阀、三偏心蝶 阀、偏心旋转阀、平行双闸板闸阀等,最高工作压力为 11MPa,最大压差 10MPa, 最高温度 450℃, 蝶阀最大口径 1.2m。其中在 95 万吨/年焦化装置,60 万吨/ 年催化装置,60 万吨降凝装置中的高温高压、高压差、炉子进料等重要场合, 选用了 230 余台套 BFS 合资系列调节阀。经过三年的对比使用,发现 BFS 系列调节阀具有以下技术优势:

密封性能好,调节品质优秀,性能稳定可靠。在硬密封情况下可达到
 V级泄漏标准,尤其适用于压力高、压差大,需要兼顾调节和切断性能的间歇工况;在炉子进料等关键回路,调节平稳、控制曲线无锯齿波动。

2. 抗冲刷、噪音低: 在 10MPa 的高压差工况下,因为采用了多级降压套筒,投用两年多阀内件依然完好无损;并且噪音均低于 85 分贝,符合国家标准。

3. 维护便利。该系列阀门为快拆式内件,结构设计合理,垫片可重复使用。在焊渣异物进入等意外情况发生后,拆装便利,减少库存备件压力。

装置已连续运行三年,该公司的产品技术先进、性能稳定、质量可靠。 且售前技术支持、售后现场服务等措施到位,为用户免去很多后顾之忧。



### 产品使用情况反馈表

使用产品 描述	德士古气化炉高压黑水角阀			
供货时间	2017年7月			
项目名称	中天合创鄂尔多斯煤炭深加工示范项目			
用户名称	中天合创能源有限责任责任公司化工分公司			

承蒙贵单位使用我公司的产品,为了更好地为用户服务,并一步提高我公司的产品质量及售后服务,恳请贵公司对我公司产品的质量、工期、售后服务等提出宝贵的建议和意见!

用户意见:

我公司拥有14台德士古气化炉,2016年开车投料生产,2017年8月采用 上海光辉仪器仪表有限公司(上海莱史丽控制设备有限公司)生产的1台高压 黑水角阀(洗涤塔至高闪罐黑水调节角阀,介质温度242℃,阀前/阀后压力 6.3/0.93 mPa),从2017年8月5日安装使用至2018年7月28日,阀门一直 运行稳定、控制顺畅、无卡塞现象,无故障维修记录。阀门拆检检查:阀芯、 阀座、扩散段等阀内件外观目测无明显冲刷痕迹,手感触摸无明显凹凸痕迹, 表面平整,极大减轻阀门的维护维修工作量。



## 产品使用情况反馈表

用户名称	中天合创能源有限责任责任公司化工分公司
项目名称	中天合创鄂尔多斯煤炭深加工示范项目
供货时间	2017年7月
使用产品 描述	德士古气化炉高压黑水角阀

承蒙贵单位使用我公司的产品,为了更好地为用户服务,并一步提高我公司的产品质量及售后服务,恳请贵公司对我公司产品的质量、工期、售后服务等提出宝贵的建议和意见!

用户意见:

我公司拥有 14 台德士古气化炉,2016 年开车投料生产,2017 年 8 月采用 上海光辉仪器仪表有限公司(上海莱史丽控制设备有限公司)生产的 1 台高压 黑水角阀(气化炉至高闪罐黑水调节角阀,介质温度 252℃,阀前/阀后压力 6.3/0.93 mPa),从 2017 年 8 月 5 日安装使用至 2018 年 10 月,阀门一直运行 稳定、控制顺畅、无卡塞现象。阀门拆检检查:阀体、阀座和扩散段等外观目 测无明显冲刷痕迹,手感触摸无明显凹凸痕迹,表面平整;阀芯有轻微冲刷, 不影响使用,属正常现象。

该公司售后服务意识强、态度好,积极配合用户分析、解决实际问题,极 大减轻阀门的维护维修工作量。

