

Certificate

**Certificate of Conformity with Fugitive Emission
Testing Acc. to
EN ISO 15848-1:2006**

Certificate no.: **01 202 CHN/Q-15 0575**

Name and address of the
applicant / license holder : **Boteli Valve Group Co., Ltd.
Boteli Industrial Park, Sanqiao Industrial Zone, Oubei
Town, Yongjia County, Zhejiang Province, P.R. China.**

We hereby certify that the results of Valve Stem Assembly Sealing System tests carried out under our witness on the industrial valve(s) below meeting the requirements in the standard mentioned above. This certificate does not imply assessment of the product production. It reflects only our witness findings to tested valve described herein at the time and the place of test, and does not refer to any other matters. This certificate only includes the external leakage test to the stem assembly, excluding any valve body part or sealing leak rate measurement.

Detail valve technical data and manufacturer Information refer to Appendix and Test Report Measurement, construction and position tolerance acc. to drawing. Surface roughness acc. to drawing. To keep the certificate valid, please follow the instruction manual.

Model/ Type identification **Z40Y-CL900 NPS6, Gate Valve, NPS6, CL900, Body: A216 WCB,**
Description of tested valve: **Stem: A182 F6a, Stem packing: Braided-Graphite.**

Test Report No.: **委 FM201412090**

Performance Class: **ISO FE BH-CO1-t(-29°C to 200°C)-CL900-ISO15848-1**

Nominal Pressure/Pressure
Qualified : **CL900 / The valve Class or PN designation is equal or lower**
Stem Size/Stem Size
Qualified: **Ø42mm / from Ø 21mm to Ø 84mm(50% lower and 200% higher of
those tested valve)**

Name, Address of
Manufacturer : **Boteli Valve Group Co., Ltd.
Boteli Industrial Park, Sanqiao Industrial Zone, Oubei Town,
Yongjia County, Zhejiang Province, P.R. China.**

Certificate valid until: **November, 2024.**

**TÜV Rheinland (China) Ltd.
Industrial Services**

Zhang Yi

Zhang Yi



**Beijing, China,
2015/1/21**

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 **TÜVRheinland®**
Precisely Right.

Appendix to Certificate 01 202 CHN/Q-15 0575

Construction & Test Data

Name and address of the applicant / license holder : **Boteli Valve Group Co., Ltd.**
Boteli Industrial Park, Sanqiao Industrial Zone, Oubei Town, Yongjia County, Zhejiang Province, P.R. China.

Name, Address of Manufacturer : **Boteli Valve Group Co., Ltd.**
Boteli Industrial Park, Sanqiao Industrial Zone, Oubei Town, Yongjia County, Zhejiang Province, P.R. China.

Test Report No.: **委 FM201412090**

Product Identification :	Z40Y-CL900 NPS6
Nominal Diameter :	NPS6
Nominal Pressure/Pressure Qualified :	CL900, The valve Class or PN designation is equal or lower
Type of Valve:	Gate Valve
Stem Size/Stem Size Qualified:	Ø42mm / from Ø 21mm to Ø 84mm(50% lower and 200% higher of those tested valve)
Gland Packing/Stem material:	Braided-Graphite/ A182 F6a
Body Sealing:	F304
Assembly Drawing:	6"Z40H-900Lb-00, Rev.0.00
Test Gas:	Helium
Tightness Class:	B; Leakage Rate $\leq 10^{-4} \text{ mg} \cdot \text{s}^{-1} \cdot \text{m}^{-1}$
Endurance Class:	CO1; 500 mechanical cycles
Temperature Class:	200°C
Temperature qualified:	-29°C to 200°C

The Valve Sealing System is in compliance with the above mentioned requirements. The test and the classification is based on a type approval and does not include the factory inspection.

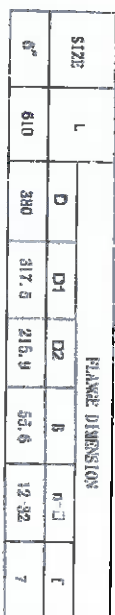
TÜV Rheinland (China) Ltd.
Industrial Services

Beijing, China,
2015/1/21

Zhang Yi



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PROPERTY SPECIFICATION

1. DESIGN & MANUFACTURE ACCORDING TO API 620
2. PACE TO FACE DIMENSION IN ACCORDANCE WITH ASME B16.10
3. FLANGE ENDS DIMENSION COMPAT WITH ASME B16.5
4. VALVE INSPECTION & TEST ACCORDING TO API 598
5. TEMPERATURE & PRESSURE COMPAT WITH ASME B16.34

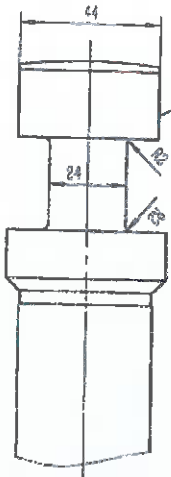
PERFORMANCE		ANALYSIS	
PROPOSED MIXTURE		GRAIN MOISTURE	
WATER	22.5		
DRIED SEED	16.5		
BULK SEED	30.5		
AIR SEED	48.00		
STORAGE TIME	-29.425		
WATER LOSS, 10% WET ETC.	-C		

9	Back Seat	A276 410			
8	Bonnet	A216 KCB	17	Handwheel	QT400-18
7	Seat Ring	A192 P304	16	Steer Nut	Cu Alloy
6	Nut	A194 2H	15	Pin	1035
5	Bolt	A193 B7	14	Hex Nut	A194 2H
4	Stem	A182 P3a	13	Wolt	A193 B7
3	Seat Ring	A105-13C+	12	Gland Flange	A216 KCB
2	Gate	A216 NCB-13C+	11	Packing Gland	A276 410
1	Body	A216 KCB	10	Packing	Irradiated Graphite
NO.	VALVE PART	MATERIAL.	NO.	VALVE PART	MATERIAL

P.O.	DATE	AMOUNT	DATE	AMOUNT

[illegible]

其
△

☐ inspected ☐ reviewed ☒ witnessed

1. Material conforms to ASTM A192 F6a.
2. Hardness after QT is 19200-275.
3. Unmarked thread tolerances conform to GB/T1804-m.
4. Unmarked geometric tolerances conform to GB/T1184-L.
5. Dimensions of some thread conform to GB/T1706.3.
6. Deviation of some thread conforms to GB/T5198.4.
7. Surface angle 20-25°.

[illegible]



2012003339Z



(2012)国认监认字(509)号



检测
CNAS L4638

检测报告

Test Report

报告编号:
Report No. 委FM201412090



☐ inspected ☒ reviewed ☒ witnessed

样品名称: 闸阀
Sample Name Gate Valve

委托单位: 伯特利阀门集团有限公司
Applicant / Client Boteli Valve Group Co.,Ltd.

生产单位: 伯特利阀门集团有限公司
Manufacturer Boteli Valve Group Co.,Ltd.

检验类别: 委托检验
Kind of Inspection Entrustment Inspection

浙江省泵阀产品质量检验中心
Quality Inspection Center of Pump and Valve Products of Zhejiang Province
国家阀门质量监督检验中心
National Quality Supervision and Inspection Center of Valve Products

浙江省泵阀产品质量检验中心
Quality Inspection Center of Pump and Valve Products of Zhejiang Province
国家阀门质量监督检验中心

National Quality Supervision and Inspection Center of Valve Products

检 测 报 告

Test Report

报告编号 Report No.: 委FM201412090

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样品名称 Sample Name	闸阀 Gate Valve	型号规格 Model	Z40Y-CL900 NPS6
委托单位 Applicant / Client	伯特利阀门集团有限公司 Boteli Valve Group Co.,Ltd.	地 址 Address	浙江省永嘉县瓯北镇三桥工业区伯特利工业园 Boteli industrial park. San qiao Industrial Zone . Oubei town, Yongjia, Zhejiang
生产单位 Manufacturer	伯特利阀门集团有限公司 Boteli Valve Group Co.,Ltd.	地 址 Address	浙江省永嘉县瓯北镇三桥工业区伯特利工业园 Boteli industrial park. San qiao Industrial Zone . Oubei town, Yongjia, Zhejiang
检验类别 Kind of Inspection	委托检验 Entrustment Inspection	商标 Trademark	/
生产日期 Production Date	2014.12	样品状况 Sample Conditions	合格品 Qualified
阀体材料 Body Material	WCB	炉号/锻打批号 Heat No. or Forging Lot No.	T4022
样品数量 Quantity of Samples	1台 1 pcs	样品编号 Sample No.	委FM201412090-1
抽样基数 Number of Sampling	/	抽样地点 Sampling Location	/
抽样单位 Sampling Unit	/	抽样日期 Sampling Date	/
送样单位 Delivery Unit	伯特利阀门集团有限公司 Boteli Valve Group Co.,Ltd.	到样日期 Reception Date	2014.12.15
检验地点 Inspection Location	检测中心 Inspection Center	检验日期 Inspection Date	2014.12.26~2014.12.31
检验依据 Inspection Standards	ISO 15848-1:2006 《Industrial valves — Measurement, test and qualification procedures for fugitive emissions — Part 1: Classification system and qualification procedures for type testing of valves》		
检验项目 Test Items	逸散性（微泄漏）试验。 Fugitive emission test.		
检验结论 Inspection Conclusions	该样品所检项目的检测结果见第 2~5 页。 The test result is shown in sheet 2~5.		
备 注 Remarks	/		

批准: 
Approver:

审核: 
Reviewer:

编制: 
Producer:



签发日期 Signature Date: 2014 年 (Year) 12 月 (Month) 31 日 (Day)

浙江省泵阀产品质量检验中心 Quality Inspection Center of Pump and Valve Products of Zhejiang Province 国家阀门质量监督检验中心 National Quality Supervision and Inspection Center of Valve Products 检测报告 Test Report	报告编号: 委FM201412090 Report No.
	共 4 页 第 2 页 (sheet 2 of 4)
样品主要参数 Data of Test Sample	
a) 公称压力PN (或压力级Class): <u>CL900</u> b) 公称尺寸DN (或公称管径NPS): <u>NPS6</u> c) 阀杆 (轴) 密封说明Stem or Shaft seal descriptions: 1) 密封结构Sealing system:填料、填料压套与填料压板 <u>Packing, Gland follower and Gland flange</u> 2) 阀杆直径Diameter of Stem or shaft (mm): <u>Φ42</u> 3) 阀杆密封材料Stem or Shaft Seal Material: <u>编织石墨 Braided-Graphite</u> d) 阀体密封说明Body Seal Descriptions: 1) 密封结构Sealing system: <u>法兰与八角密封环 Flange with Octagonal ring</u> 2) 阀体密封材料Body Seal Material: <u>F304</u> e) 样品出厂编号Sample No.: <u>Y14091822</u>	



浙江省泵阀产品质量检验中心 Quality Inspection Center of Pump and Valve Products of Zhejiang Province 国家阀门质量监督检验中心 National Quality Supervision and Inspection Center of Valve Products 检 测 报 告 Test Report						报告编号: Report No.		委FM201412090			
共 4 页 第 3 页 (sheet 3 of 4)											
检测结果 Test Result											
检验项目 Test Items	技术要求 Specifications					检测数据 Testing Data					
	机械循环 Mechanical Cycles (次Cycle)	试验压力 Test Pressure (bar)	试验温度 Test Temperature (℃)	阀杆密封 Stem or Shaft Seal Leakage (atm·cm ³ /s)	阀体密封 Body Seal Leakage (ppm)	机械循环 Mechanical Cycles (次Cycle)	试验压力 Test Pressure (bar)	试验温度 Test Temperature (℃)	阀杆密封 Stem or Shaft Seal Leakage (atm·cm ³ /s)	阀体密封 Body Seal Leakage (ppm)	
逸散性 (微泄漏) 试验介质: 氦气 Fugitive Emission Test (Test Fluid: Helium)	500	ASME B16.34-2013 中Class 900的 工作压力 Working pressure by Class 900 (ASME B16.34-2013)	室温~200℃	≤7.39×10 ⁻⁵	50	0	154	室温 Room temperature	1.4×10 ⁻⁶	9.6	
						0~125	125		9.2×10 ⁻⁶	/	
						126	132	196.5	203.4	196.3	/
						250		198.2	204.0	198.0	/
						251	154	室温 Room temperature	1.8×10 ⁻⁵	/	
						375	4.0×10 ⁻⁵		/		
						376	132	197.4	201.6	197.0	/
						500		198.3	202.4	198.6	/
						500	154	室温 Room temperature		5.6×10 ⁻⁵	15.0
						备注 Remarks: T ₁ 为流道 (关闭件) 温度, T ₂ 为阀体温度; T ₃ 为填料函温度。Flow path (temperature T ₁), Valve body (temperature T ₂), Stuffing box (temperature T ₃)					

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

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|---|--|--|-------------------|
| <div>浙江省泵阀产品质量检验中心
Quality Inspection Center of Pump and Valve Products of Zhejiang Province
国家阀门质量监督检验中心
National Quality Supervision and Inspection Center of Valve Products
检测报告
Test Report</div> | | <div>报告编号: 委FM201412090
Report No.</div> | |
| | | 共 4 页 第 4 页 (sheet 4 of 4) | |
| 逸散性(微泄漏)试验设备描述
Descriptions of Fugitive Emission Equipment | | | |
| 设备名称Test Equipment: SFJ-261氦质谱检漏仪 Helium Mass Spectrometer
漏率指示范围Range of Leakage Detection: (1×10 ⁻² ~1×10 ⁻¹³) Pa.m ³ /s或(10 ⁻¹ ~10 ⁶) ppm | | | |
| 逸散性(微泄漏)试验设备自校和标漏过程描述
Fugitive Emission Test Equipment Automatic Calibration and Standardization of Leakage Process Description | | | |
| 项目
Items | 技术要求
Specifications | 检查结果
Check Results | 结论
Conclusions |
| 仪器自校
Equipment Automatic Calibration | 仪器开机预热, 待本底漏率指示值为样品实际漏率指示值的1/10左右后, 连接工件进行检漏。
Firstly, switch on the Equipment to preheat it. When bottom leakage of the equipment is about one-tenth of the actual leakage rate of tested sample, then connect the sample and start leakage testing. | 正常Normal | 符合要求
Qualified |
| 标漏
Standardization of Leakage | 标漏工具
Tool for standardization of leakage | 仪器标漏值
Equipment Calibration Leakage Rate: 49.8 ppm | 符合要求
Qualified |
| | 工具名称: 真空检测标准混合气体
Tool Name: Standard gas mixture for vacuum inspection
工具编号、标准漏率/浓度:
Tool No., Standard Leakage /Concentration: AF05104 (50 ppm) | | |
| | 工具名称: 渗氢型真空校准漏孔
Tool Name: Permeability Helium Type Vacuum Standard Leak Hole
型号规格 Model and Specification: VCL-2
工具编号 Appliance No.: M11A-8-100
标准漏率/浓度 Standard Leakage /Concentration: 1.7×10 ⁻⁸ Pa.m ³ /s | 仪器标漏值
Equipment Calibration Leakage Rate: 1.6×10 ⁻⁸ Pa.m ³ /s | |
| 逸散性(微泄漏)试验描述
Descriptions of Fugitive Emission Test | | | |
| 1) 检测方法Testing Method: 阀杆密封泄漏率Stem or Shaft Seal Leakage 真空法 Vacuum Method, 阀体密封泄漏率Body Seal Leakage 吸气法 Sniffing Method | | | |
| 2) 测试条件Test Conditions: | | | |
| a) 环境条件Environment Conditions: 温度 (Temperature) 8~16℃, 相对湿度 (Relative Humidity) 68~70%RH; | | | |
| b) 试验介质Test Fluid: 氦气Helium, 纯度Purity≥99.99%; | | | |
| c) 阀杆密封调整次数Stem Seal Adjustments: 0次 (Cycle); | | | |
| d) 逸散性(微泄漏)性能等级Fugitive Emission Performance Class: Class BH; | | | |
| e) 试验持续类型Endurance Class: CO1; | | | |
| f) 机械循环频次Frequency of Mechanic Cycles: 1~2Cycles/min; | | | |
| g) 检漏时机When to start measuring leakage rate:被测件承受氦气试验压力并稳压 (时间) 10min 后测量的稳定值 The constant measured value obtained with an unchanged fluctuation range after at least 10min exposure of the test system to helium under the testing pressure. | | | |
| h) 漏率单位换算因子Leakage rate unit conversion factors: | | | |
| | Pa.m ³ /s | atm.cc/s or atm.cm ³ /s | mbar.l/s |
| Pa.m ³ /s | 1 | 9.78 | 10 |