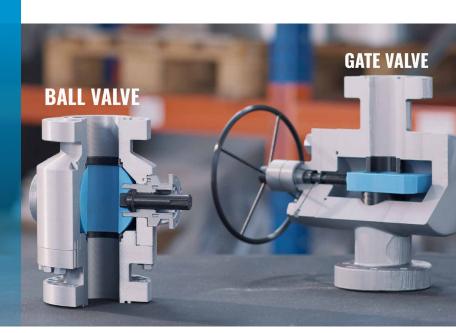




Metallic sealing ball valves for wellheads

Safe. Low maintenance. Gas-tight.

WHY BALL VALVE INSTEAD OF GATE VALVE



(B)

HIGHER OPERATIONAL SAFETY

- · Gas-tight for large dimensions at low and high pressure
- · No tendency to lock or jam
- · Multiple sealing barriers



MINIMAL MAINTENANCE

- · Light function check maintenance only
- No grease injection nor shaft seal replacement

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HIGHER PLANT AVAILABILITY

- · No contamination from grease
- No downtime due to maintenance or failure

(€)

REDUCED COSTS

- · Higher plant productivity
- · Lower maintenance costs for planning, service and spare parts



ENVIRONMENTALLY FRIENDLY

- Sealing fulfils threshold values for fugitive emissions acc. ISO 15848
- No grease or sealant necessary



TECHNICAL EXPLANATORY VIDEO:

Why ball valves instead of gate valves at the wellhead? www.6Aballvalves.com

TECHNICAL CHARACTERISTICS

DESIGN FEATURES

- 2-piece housing
- Type AST with trunnion mounted ball ≥ 2 1/16"
- Type ASF with floating ball for $10,000psi \le 2 \frac{1}{16}$ "
- Metallic sealing system with tungsten carbide hard-faced coating
- Triple shaft seals (type AST)
- Fugitive emission acc. ISO 15848-1 up to +200°C
- Anti-blowout shaft /anti-static design
- Conforms DIN/ISO standard gear mounting
- Position indicator for open position on all ball valves ≥4 1/16"
- Drain port NPT or ISO incl. bleeder plug
- DIB-2 design* (type AST)

*Double Isolation and Bleed 2 (DIB-2) design: has upstream seat equipped with a standard seat ring to ensure pressure relief of valve cavity in the direction of the well. The downstream seat ring is equipped with split seat ring to provide a "Double Piston effect" and seals in both directions.

Double barrier against well pressure.

CLASSIFICATION API 6A

- Material class EE-NL
 Also, AA, BB, DD; EE-NL (H2S no limit), EE-1.5
- Quality class PSL3 or PSL3G
- Performance level PR1 (PR2 on request)
- Temperature class L/X L/X also includes N, P, S, T, U and V
- All wetted parts acc. API 6A ductility
- All wetted parts with hardness values acc. ISO 15156 (NACE)

COLOUR SYSTEMS

- Light protection primer C2 in acc. DIN ISO 12944-5, RAL 1013 (HV 2)
- Medium protection C3 in acc. DIN ISO 12944-5, RAL 5012 (HV 3)
- High protection C5-M in acc. DIN ISO 12944-5, RAL 5012 (HV 4)
- High temperature resistant aluminium (HV 6)

Other colour systems on request



STANDARD SUPPLY RANGE

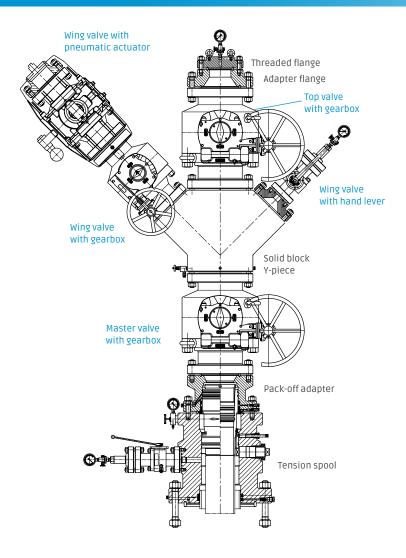
| ТҮР | Pressure rating [psi] | 3K | 5K | 10K | Drift- Ø [mm] | Hartmann ball valve overall length [mm] | Comparison with stan- dard overall length as per API 6A [mm] | | Ring nut | Article number | Adaption | | Drainage [inch] |
|-----|----------------------------|----|----|-----|---------------------|---|--|------------|----------|----------------------|------------|-------------|-------------------------|
| | Nominal bore [inch] | | | | | | Ball valve | Gate Valve | | | | | ٥ |
| ASF | 1 - 13/16 x 1 (reduced) | | | | 25,4 | 464 | - | - | BX151 | 10078274 10082606 | - F12 | SW15 Ø30 | - |
| | 1 - 13/16 | | | | 46 | 464 | 464 | 464 | BX151 | 10078264 10082605 | - F16 | SW32 Ø60 | |
| AST | |) | | | | 295 | 295 | 295 | R23 | 10078300 | - F12 | SW19 Ø25 | |
| | 2 - 1/16 | | | | 52,5 | 371 | 371 | 371 | R24 | 10078302 | - F14 | SW27 Ø35 | |
| | | | | | | | 521 | 521 | BX152 | 10082600 | F16 | Ø40 | |
| | | | | | | 359 | 359 | 359 | R31 | 10078235 | - | SW27 | |
| | | | | | | | | | | 10082599 | F12 | Ø30 | |
| | 3 - 1/8 | | | | 79,5 | 384 | 384 | 435 | R31 | 10078230 | - | SW27 | - ½ NPT |
| | | | | | | | | | | 10082598 | F12 | Ø30 | |
| | - | | | | | 473 | 473 | 473 | R35 | 10078205 | - | SW27 | |
| | 3 - 1/16 | | | | 78 | 619 | 619 | 619 | BX154 | 10082597 | F14 F25 | Ø35 Ø60 | |
| | 3-1/16 |) | | | 70 | 453 | 435 | 435 | R37 | 10078203 | F16 | Ø40 | |
| | | | | | 103,2 | 460 | 460 | 511 | R37 | 10078192 | F16 | Ø40 Ø40 | |
| | 4 - 1/16 | | | | | 549* | 549 | 549 | R39 | 10080584 | F16 | Ø60 | |
| | | | | | ,_ | 683** | 549 | 549 | R39 | 10078095 | F16 | Ø60 | |
| | | | | | | 670 | 670 | 670 | BX155 | 10076954 | F25 | Ø70 | |
| | 5 - 1/8 |) | | | | 562 | - | 562 | R41 | 10078146 | F16 | Ø50 | |
| | | | | | 130,2 | 613 | - | 613 | R41 | 10076956 | F16 | Ø50 | |
| | | | | | | 727 | - | 727 | R44 | 10078090 | F25 | Ø60 | |
| | 7 - 1/16 |) | | | | 613 | - | - | R45 | 10078103 | F25 | Ø70 | |
| | x 6 - 3/8 | | | | 162,1 | 613 | - | - | R45 | 10078092 | F25 | Ø70 | 2/ NDT |
| | (reduced) | | | | | 737 | - | 737 | R46 | 10078089 | F25 | Ø70 | - 34 NPT - - - |
| | |) | | | | 664 | - | 664 | R45 | 10078074 | F25 | Ø60 | |
| | 7 - 1/16 | | | | 179,4 | 714 | - | 714 | R45 | 10078076 | F25 | Ø60 | |
| | 7 - 1/10 | | | | | 813 | - | 813 | R46 | 10080585 | F25 | Ø80 | |
| | | | | | | 840** | - | 813 | R46 | 10078088 | F25 | Ø80 | |
| | | | | | | 787 | - | - | R49 | 10078118 | F30 | Ø100 | _ - _ 1 NPT - |
| | 9 — | | | | 228,6 | 787 | - | - | R49 | 10076916 | F30 | Ø100 | |
| | | | | | | 972** | - | 1041 | R50 | 10076934 | F30 | Ø100 | |
| | | | | | | 1041 | - | 1041 | R50 | 10077098 | F30 | Ø100 | |
| | 11 × 10 | | | | | 841 | - | - | R53 | 10078133 | F30 | Ø100 | |
| | 11 x 10 (reduced) | | | | 254 | 841 | - | - | R53 | 10078087 | F30 | Ø100 | |
| | | | | | 1092 | - | - | R54 | 10078067 | F35 | Ø100 | | |

^{*} Housing side with block flange (studded design)

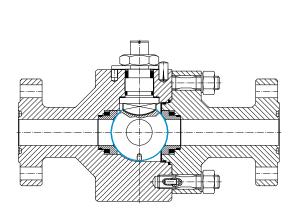
LEAD TIME: 12 weeks. Shorter delivery upon request

^{**} Customs dimensions— can also be supplied on request

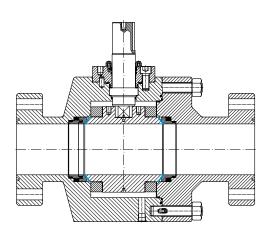
EXAMPLES



API 6A BALL VALVES ON A WELLHEAD FOR GAS STORAGE OPERATION



TYPE ASF (FLOATING BALL)



TYPE AST (TRUNNION MOUNTED BALL)

APPLICATION EXAMPLES



GAS STORAGE

Natural gas storage wellhead incl. API 6A ball valves, gas-tight at high pressures and large diameters.



OIL STORAGE

Wellhead with integrated API 6A ball valves to minimize flange connections and large 13 5/8" full bore top valve.



DEEP GEOTHERMAL ENERGY

Deep geothermal energy wellhead incl. API 6A ball valves, resistant to temperature, corrosion and scaling.



GAS STORAGE

Wellhead for gas storage in solid block design with integrated API 6A ball valves, two master valves in one block.





HARTMANN VALVES & WELLHEADS

We start where others stop: Hartmann develops custom-build performance components of the highest quality.

Hartmann Valves is a leading manufacturer of ball valves, pigging valves and wellheads. Our worldwide experience lies in the fields of crude oil, natural gas, petrochemicals, power stations, geothermal and emerging renewables such as hydrogen. Our customers value and endorse our pure metallic sealing system. Design, assembly and tests are carried out solely in our facilities in Celle and Burgdorf-Ehlershausen, Germany.

Founded in 1946, this family-owned and managed company is in its third generation and continues to evolve as an international operating organization now with 200 employees.





INDIVIDUAL DESIGN

Our project sales and engineering teams are eager to engage and collaborate with you in developing high performance solutions.



SOLUTIONS FOR EXTREME CONDITIONS

Hartmann ball valves and wellheads are designed for pressure ratings up to 690 bar, temperatures from -200 to +550°C (-328 to 1022 °F) as well as high cycle applications.



A long lasting product with low maintenance will fundamentally reduce the lifecycle cost of your plant. German product excellence through innovative engineering and excellence.



You benefit from more than 75 years' experience across all project phases. We offer support from early project development through engineering, build, installation and maintenance.

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