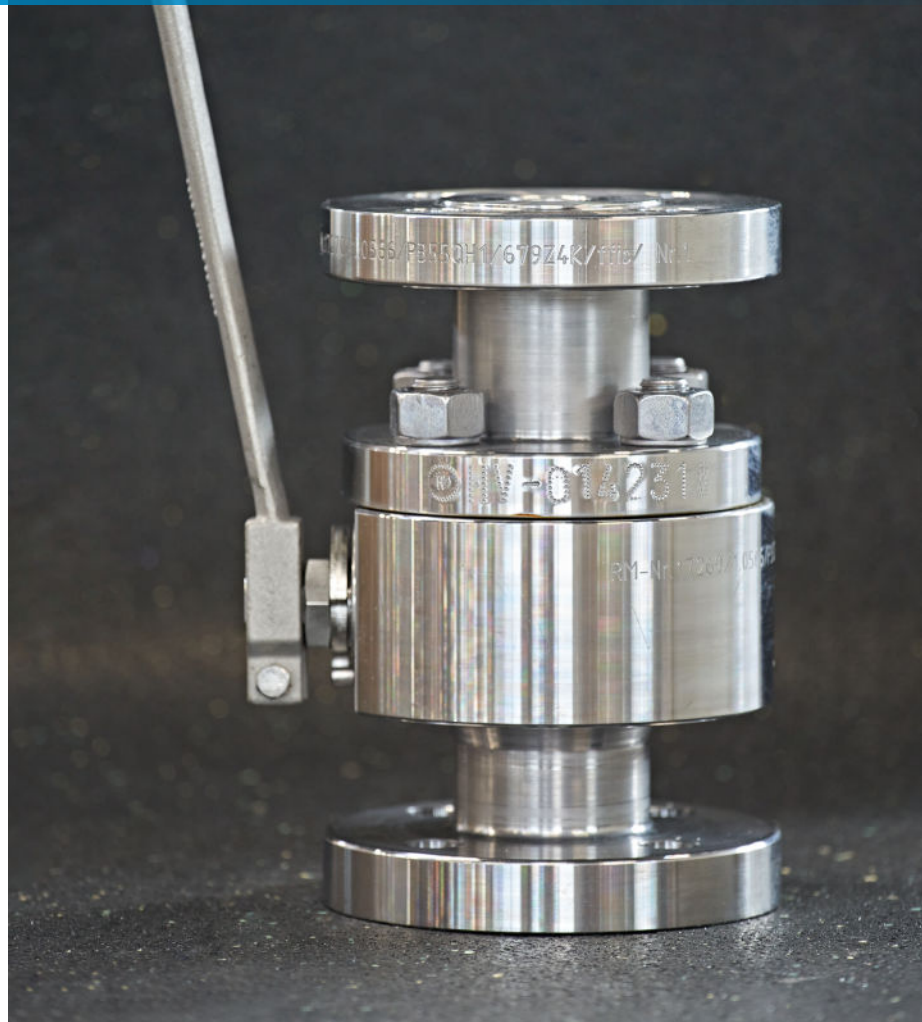


# METAL SEATED BALL VALVES FOR UNIVERSAL APPLICATIONS

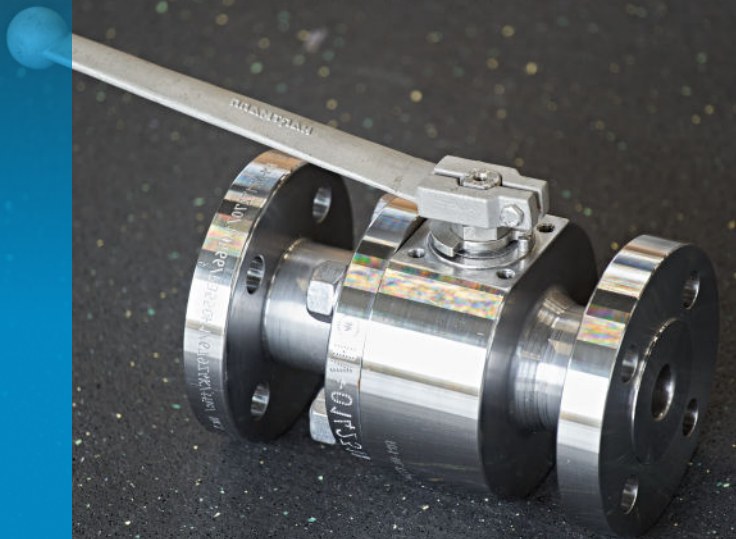


Metal seated  
ball valves,  
floating ball design.

Safe.  
Long-lasting.  
Low maintenance.



# BALL VALVES TYPE ASF/ASFG



In many applications in the oil and gas sector, the chemical and petrochemical industries and in general plant engineering, standard soft-seated valves in nominal sizes DN 15 (1/2") - DN 150 (6") are popular. With demanding media, however, or increasingly challenging conditions, the soft seals of these valves quickly reach their limits and functionality. To address these challenges, Hartmann Valves has developed purely metal-seated universal ball valves of the types ASF and ASFG.

These purely metal-seated ball valves with floating ball design are gas-tight, which offer the perfect solution for more demanding applications. In small nominal sizes up to DN 25, they are suitable for very high pressures up to 750 bar.

The operating conditions that are often critical for soft-seated valves are overcome with high-quality metallic materials, coatings and durable seals. Furthermore, the metallic sealing of the ball/seat units ensures protection against particles and other solids. The service life of our ball valves significantly increases compared to soft-seated valves, and this considerably reduces the amount of maintenance and repair work required. With special low-stress design and selection of suitable metallic components and sealing materials, our ball valves are also suitable for 100% hydrogen, helium, as well as for sweet and sour gas.\*

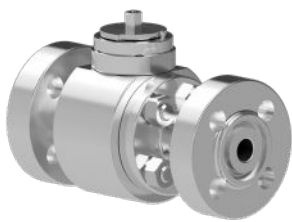
In addition, our ASF/ASFG series offer a high-quality solution as drain or vent valves for large main shut-off ball valves.

\* Under consideration of the operating conditions, e.g. pressure load change and media composition

# BALL VALVES WITH FLOATING BALL DESIGN

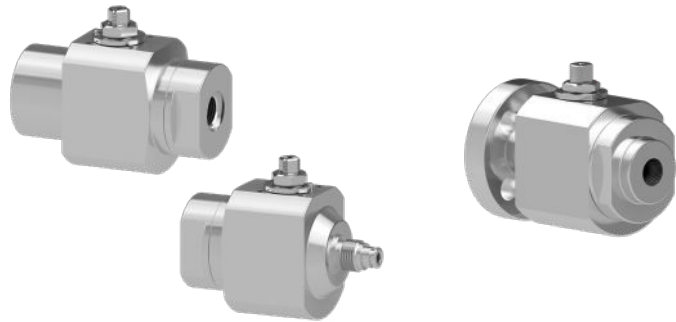
## DESIGNS

### ASF: FLANGE-CONNECTION



- Flanges on both sides

### ASFG: THREADED CONNECTION (ONE- OR BOTH SIDES)



- Thread on both sides (threaded socket or stud)
- One side thread (threaded socket or stud), one side flange



## THE ADVANTAGES OF METAL-SEATED BALL VALVE TYPE ASF/ASFG

- Gas-tight, DIN EN 12266-1, leakage rate A
- Full bore, minimum pressure loss
- Low maintenance, long service life
- Low emissions
- Spring-loaded seat ring on one side ensures gas tightness even at low pressures
- DN 15 - 25 also suitable for high-pressure applications up to 420 bar (ASF) or 750 bar (ASFG)
- Suitable for 100% hydrogen and helium
- Suitable for H<sub>2</sub>S applications
- Also suitable for solids
- Various standardised connections:
  - flange design DIN and ASME (ASF)
  - threaded design or thread/flange design (ASFG)



As add-on valve

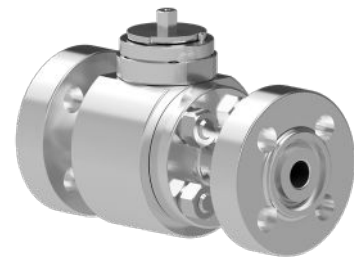
# STANDARD DESIGN ASF

## OPERATING RANGE

Nominal bore: DN 15 – DN 150 / DN ½" – DN 6"  
Nominal pressure range: DN 15 – DN 25: PN 16 up to PN 420 / Cl. 150 – Cl. 2500  
DN 32 – DN 150: PN 16 up to PN 100 / Cl. 150 – Cl. 600  
Temperatures: - 46°C up to + 250°C

## STANDARD DESIGN

- 2-part body
- Flanges on both sides
- Flange connections to DIN EN 1092-1/ASME 16.5
- Overall lengths to DIN EN 558/ASME 16.10
- Full bore
- Floating ball
- Metal seated
- Ball/seat rings with high-quality metallic coating
- Seat ring spring-loaded on one side
- FKM + graphite seals
- Anti-blow-out stem
- Anti-static design
- 3-fold selector stem seal, TA-Luft and ISO 15848-1 tested
- Manual operation (hand lever/worm gear unit)



## STANDARD MATERIALS

Body: Carbon steel series P355 to DIN EN 10222-1/-4/A350 LF2  
Stainless steel 1.4571/ASTM A316 Ti  
Duplex 1.4462/ASTM A182/479 F51 (> PN 100 ≤PN 420)  
Ball/seat rings: High-alloy stainless steel or higher grade such as XM19  
Hard-faced with high-quality carbide coating (CCB/WCB)  
Stem: High-alloy stainless steel or higher grade such as XM19  
Springs: Inconel X-750  
Seals: O-ring FKM + graphite

## AVAILABILITY

ASF valves in standard design are available in short term.

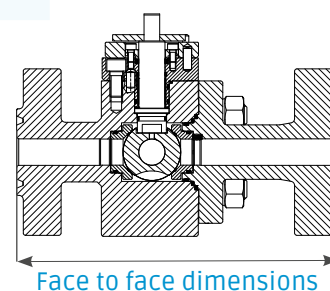
## STANDARD LENGTHS

### FACE TO FACE DIMENSIONS DIN FLANGE DESIGNS (DIN EN 558)

	PN 16-PN 40			PN 63-PN 100		PN 160	PN 250	PN 400
	FTF 27	FTF 1	FTF 28	FTF 1	FTF 2	FTF 2	FTF 55	FTF 56
<b>DN 15</b>	115 mm	130 mm	-	130 mm	210 mm	210 mm	216 mm	264 mm
<b>DN 20</b>	120 mm	150 mm	-	150 mm	-	-	229 mm	273 mm
<b>DN 25</b>	125 mm	160 mm	-	160 mm	230 mm	230 mm	254 mm	308 mm
<b>DN 32</b>	130 mm	180 mm	-	180 mm	-	-	-	-
<b>DN 40</b>	140 mm	200 mm	-	200 mm	-	-	-	-
<b>DN 50</b>	150 mm	230 mm	-	230 mm	300 mm	-	-	-
<b>DN 65</b>	170 mm	290 mm	-	290 mm	-	-	-	-
<b>DN 80</b>	180 mm	310 mm	-	310 mm	-	-	-	-
<b>DN 100</b>	190 mm	350 mm	-	350 mm	430 mm	-	-	-
<b>DN 125</b>	325 mm	400 mm	-	400 mm	-	-	-	-
<b>DN 150</b>	350 mm	480 mm	450 mm	480 mm	550 mm	-	-	-

### FACE TO FACE DIMENSIONS ASME FLANGE DESIGNS (ASME 16.10)

	#150 RF	#300 RF	#600 RF	#600 RTJ	#900/#1500	#2500
<b>DN 1/2"</b>	108 mm	140 mm	165 mm	163 mm	216 mm	264 mm
<b>DN 3/4"</b>	117 mm	152 mm	191 mm	191 mm	229 mm	273 mm
<b>DN 1"</b>	127 mm	165 mm	216 mm	216 mm	254 mm	308 mm
<b>DN 1 1/4"</b>	140 mm	178 mm	229 mm	229 mm	-	-
<b>DN 1 1/2"</b>	165 mm	191 mm	241 mm	241 mm	-	-
<b>DN 2"</b>	178 mm	216 mm	292 mm	295 mm	-	-
<b>DN 2 1/2"</b>	191 mm	241 mm	330 mm	333 mm	-	-
<b>DN 3"</b>	203 mm	283 mm	356 mm	359 mm	-	-
<b>DN 4"</b>	229 mm	305 mm	432 mm	435 mm	-	-
<b>DN 6"</b>	394 mm	403 mm	559 mm	562 mm	-	-



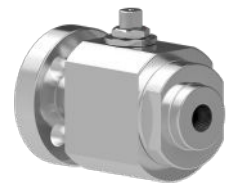
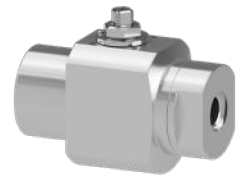
# STANDARD DESIGN ASFG

## OPERATING RANGE

Nominal bore: DN 15 – DN 25/DN ½" – DN 1"  
Nominal pressure range: PN 16 up to PN 750/Cl. 150 – Cl. 4500  
Temperatures: -46°C up to +250°C

## STANDARD DESIGN

- 2-part body
- Full bore
- Threaded on both sides (socket or stud) or threaded on one side (socket or stud), flanged on one side
- Threaded connections G to DIN/ISO 228 or NPT to B1.20.1
- Flange connections to DIN EN 1092-1/ASME 16.5
- Floating ball
- Metal seated
- Ball/seat rings with high-quality metallic coating
- Seat ring spring-loaded on one side
- FKM + graphite seals
- Anti-blow-out stem
- Anti-static design
- 3-fold selector stem seal
- Manual operation (hand lever/worm gear unit)
- Optional: welded with sealing weld seam (without pressure cap) (type ASF5)



## STANDARD MATERIALS

Body: Carbon steel series P355 to DIN EN 10222-1/-4/A350 LF2  
Stainless steel 1.4571/ASTM A316 Ti  
Duplex 1.4462/ASTM A182/479 F51 (only DN 15 - DN 25, > PN 100)

Ball/seat rings: High-alloy stainless steel or higher grade such as XM19  
Armoured with high-quality chromium carbide coating (CCB)

Stem: High-alloy stainless steel or higher grade such as XM19

Springs: Inconel X-750

Seals: O-ring FKM + graphite

## AVAILABILITY

ASF valves in standard design are available in short term.

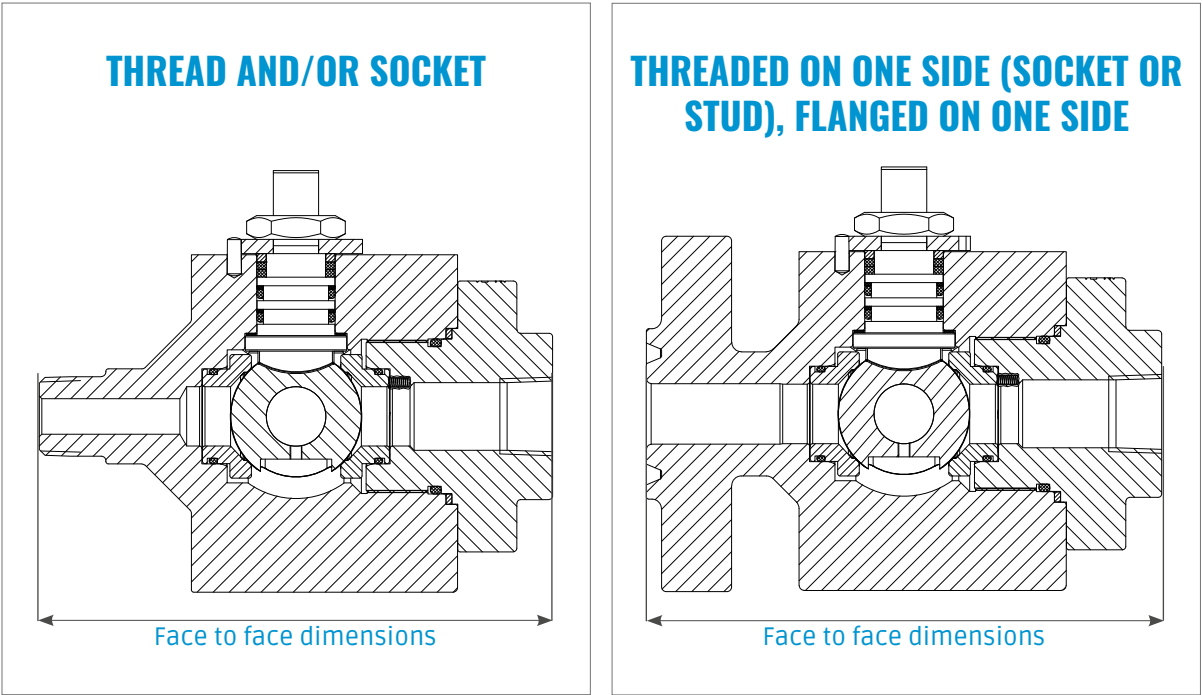
STANDARD LENGTHS

THREAD (SOCKET OR STUD)  
OVERALL LENGTHS DN/PN/CLASS

	PN 16-PN 750 / Cl. 150-4500
DN 15	133 mm
DN 20	170 mm
DN 25	216 mm

THREADED ON ONE SIDE (SOCKET OR STUD), FLANGED ON ONE SIDE  
OVERALL LENGTHS DN/PN/CLASS

	PN 16-40 / Cl. 150-300	PN 63-100 / Cl. 600	PN 63-250 / Cl. 600-1500	PN 420 / Cl. 2500
DN 15	135 mm	150 mm	150 mm	155 mm
DN 20	164 mm	164 mm	177 mm	183 mm
DN 25	210 mm	210 mm	216 mm	224 mm



# SPECIAL DESIGNS

On request, the range can be customised to your specific requirements. Please note that subject to request, prices may be higher and delivery times longer.

## DESIGN OPTIONS

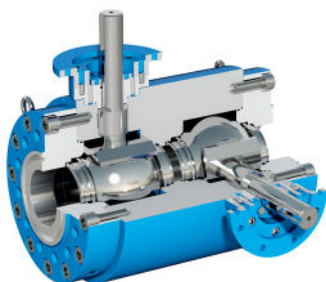
- Customised lengths
- Customised connections, e.g. butt-welding ends, socket welding ends
- Reduced bore
- With stem extension for isolation
- With locking device (without padlock)
- With limit switch unit
- With pneumatic, electric or hydraulic actuators
- As twin ball valve with two balls in one body (type TSF), see image below
- With integrated heating jacket (type AHF), see image below
- With sealing weld seam and pressure-resistant cap (type ASFS)

## MATERIAL OPTIONS

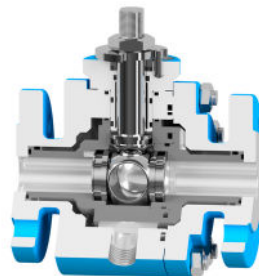
- Special body materials
- Special materials for (wetted) internal parts
- Special O-ring materials (e.g. FFKM)
  - if FKM is not resistant to media
  - for lower (down to -60°C) or higher temperatures (up to +300°C)

## APPLICATION OPTIONS

- Suitable for oxygen
  - Housing material according to DGV Information 213-073 Oxygen and EIGA
  - Sealing parts tested for O<sub>2</sub> burn-out resistance
  - Production and delivery oil- and grease-free for oxygen



Twin Ball Valve (TYPE TSF)



Ball valve with integrated heating jacket (type AHF)





# WHAT DISTINGUISHES US?

## HARTMANN VALVES & WELLHEADS

Hartmann develops custom-build performance components of the highest quality.

Hartmann Valves is a leading manufacturer of ball valves, pigging valves and wellheads with global presence. Their decades of experience in the fields of crude oil, natural gas, petrochemicals, power stations, and storage technology are now being utilized to advance deep geothermal, hydrogen storage, and lithium production for renewable energy applications. Our products are developed to meet custom requirements and are equipped with a pure metallic sealing system. Design, assembly and tests are carried out solely in our facilities in Celle and Burgdorf-Ehlershausen, Germany.

The company was founded in the post-war era as a small engineering office and has since grown into a globally operating system provider with more than 200 employees. It has remained in family ownership for three generations.



### INSIGHTS INTO OUR PRODUCTION

[www.hartmann-valves.com/en/film](http://www.hartmann-valves.com/en/film)



### INDIVIDUAL DESIGN

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



### SOLUTIONS FOR EXTREM 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.



### QUALITY THAT PAYS

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



### FROM A SINGLE SOURCE EXPERTISE & ADVICE

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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VALVES & WELLHEADS