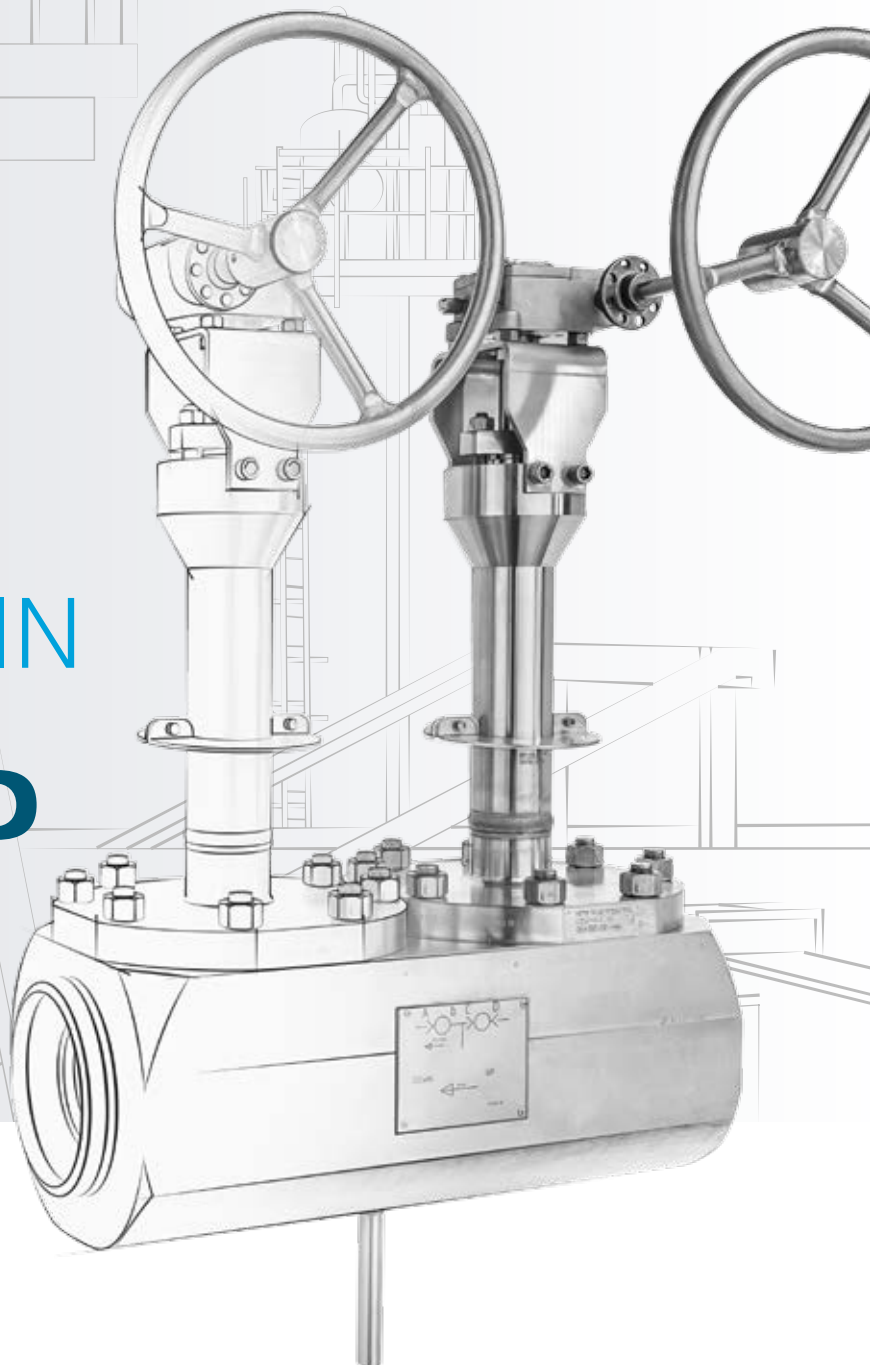




**MERWEDE**  
VALVES

THE  
STANDARD IN  
**NON-  
STANDARD  
VALVES**





THE  
STANDARD IN  
**NON-  
STANDARD  
VALVES**



**1954**

Founding of "Merwede valves & fittings"  
as a business unit from shipyard  
"De Merwede"

**1986**

Extra warehouse  
put in use

**1978**

Production from  
(forged) bar

**2000**

Non Slam Axial  
Check Valves

**2006**

Cryogenic  
Valves



# CONTENTS

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## 2007

Start of "Merwede Valves B.V."  
independent from IHC Merwede

## 2014

New  
facility

## 2015

In-house  
cryogenic  
testing

## 2016

Expansion  
existing  
facility

## 2008

High  
Temperature  
Valves

## 2010

Through  
Conduit Gate  
Valve

## 2012

Safety  
Relief  
Valve

## 2013

In-house  
Flow  
Calculations

## 2014

Outboard  
Hose Termination  
Piece

# A SHORT PROFILE

4

Merwede Valves was founded in the early 1950's and developed into a multi-disciplinary company that strived for the highest possible level of customer satisfaction. Operating in a world-wide niche market of custom engineered valve manufacturing, Merwede Valves is playing a historical role in supplying valves for all types of extreme applications and services. Additionally, the Merwede valves product lines are delivered to the client locations in unequalled short lead times.

The company headquarters is in The Netherlands at Hardinxveld-Giessendam, twenty minutes east of Rotterdam. Located on the banks of the beautiful river "Merwede" that gave its name to the company.

We believe that the success of our company for a greater part is due to the dedication and knowledge of the people who work there. The success of Merwede Valves is measured in many ways, with most important to us being the confidence our customers place in our products and performance.



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# THE STANDARD IN **NON-STANDARD VALVES**

6



**OHTP** (Offloading Hose Termination Piece) for **FPSO'S**  
(in cooperation with royal IHC)

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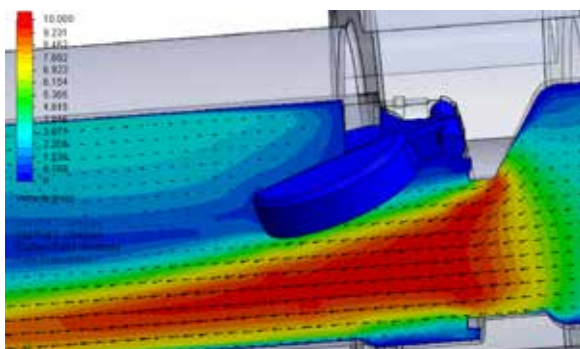
As indicated by the title, we specialise in the production of non-standard valves – either the material of construction, or the design, or a combination of both, make our valves a special product.

This has been our core business over the past 60 years, during which time we have designed and manufactured more than 22.200 different valve products.

Design work is implemented using 3-D CAD and our computer software then initiates the manufacturing process in our factory workshops.

Milling, turning and drilling operations then produce the valves to your exact specification.

In addition to our common design software we use advanced software to make flow calculations to support the design process. This enables us to simulate the flow conditions in the client’s system in order to design very precisely. It optimizes the performance of the valve in the system.



Merwede valves are designed and produced for extreme applications and services. This catalogue highlights our general valve specifications and gives a short impression on the expertise at Merwede Valves. The stringent design philosophy in combination with our flexible production methods ensures the optimal combination of superior quality valves provided in unequaled short lead time.

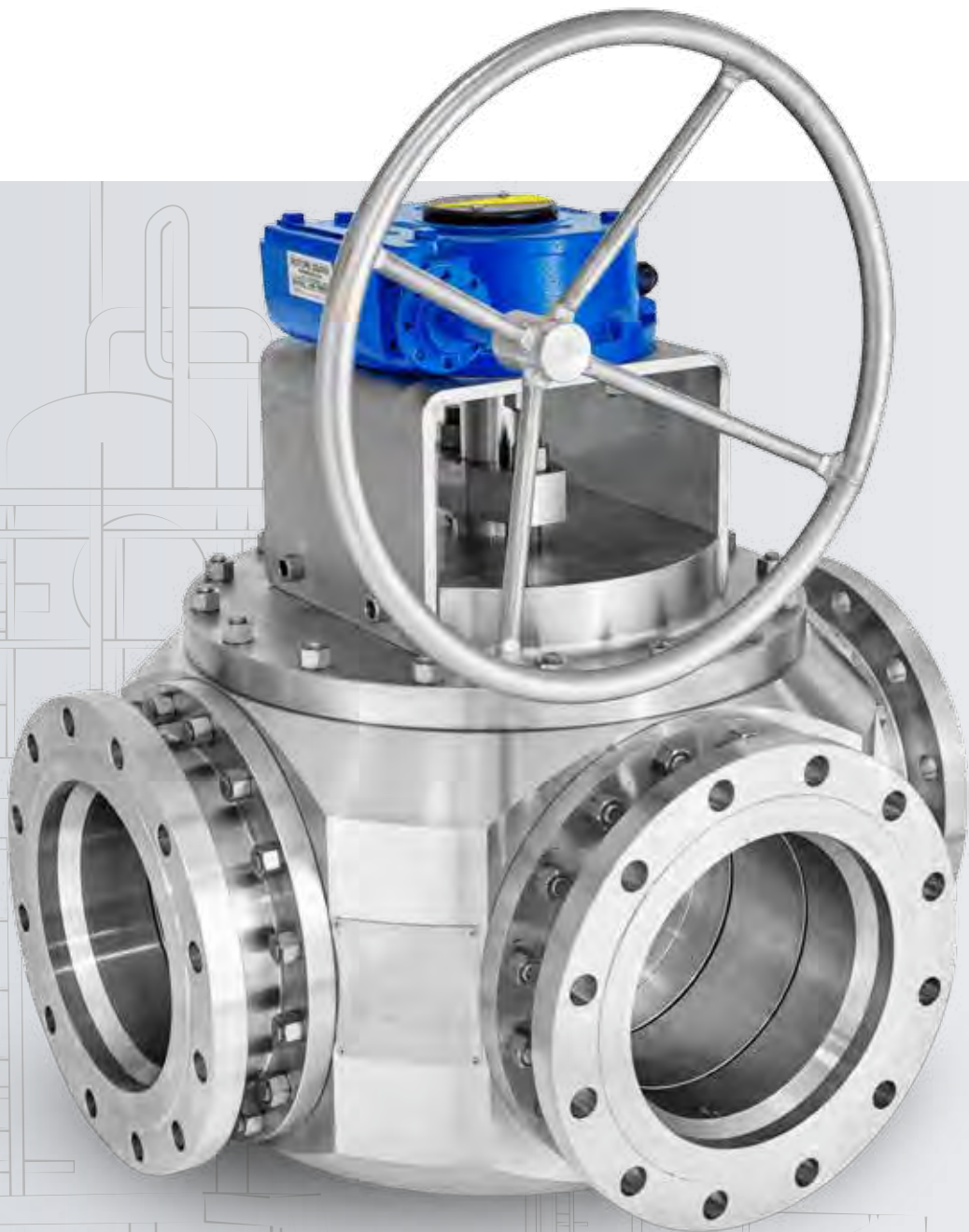
All our valves are produced by means of CNC machining, as such tolerances held to the most stringent standards. For every application we have an optimal valve solution. Seeing our capabilities it is impossible to define every valve configuration in this catalog. So for individual advice we recommend you to contact our exclusive partner in your area. Nevertheless you will find comprehensive information about the possibilities we can offer you as one of the leading, world wide operating, valve manufacturers.

Additionally, the Merwede Valves product lines are delivered to the client locations in unequaled short lead times.



DBB Ball valve 1" - 300 lbs

# BALL VALVES





# BALL VALVES

## PROGRAM

Size inch (DN)	½"(15) – 14"(350)
ANSI class (lbs)	150-4500
API rating (psi)	3000-10000
DIN rating (PN)	10-400

## STANDARDS

API 608	DIN
ASME B16.34	Russian GOST
EN-1983	Norsok
ISO 10423 (API 6A)	PED
ISO 14313 (API 6D)	Manufacturers standard
ISO 17292 (BS 5351)	

## RANGE

Pressure	vacuum to 765 bar(g)
Temperature	-196 deg.C to 850 deg.C

## CONSTRUCTION

One piece body	Floating ball
Split body	Trunnion mounted
Three piece body	Wrench operated
Top entry	Gear operated
Side entry	Actuated
Wafer type	3-way type

## SEAT CONSTRUCTION

Integral	
Renewable	
Soft	
Metal to metal	

## OPTIONS SOFT SEATS

POM-C	PCTFE
PEEK	Devlon
PTFE Virgin or Reinforced	Nylon

## OPTIONS METAL SEATS

Tungsten carbide coating	Chrome carbide coating
Stellite	Kolsterising ®

## TIGHTNESS PERFORMANCE

ISO 5208	ISO 14313 (API 6D)
API 598	EN 12266 Part 1/2
ISO 10423 (API 6A)	Client specification

## END CONNECTIONS

Flanged (FF, RF or RTJ)	
Butt weld	
Socket weld	
Threaded male/female (NPT, BSP, API)	
Hubbed or mechanical ends	
SAE flanged	
Compact flanged	
Client specification	

With our unrivalled proven expertise, innovative design and skilled engineering, Merwede's ball valves can be delivered in a wide variety of configurations for the most challenging services and/or applications.



2 way ball valve 10" - 150 lbs



Cryo ball valve 8" - 600 lbs

# CHECK VALVES





# CHECK VALVES

## PISTON & BALL

### PROGRAM

Sizes inch (DN)	1/2" (15) - 14" (350)
ANSI Class (LBS)	150 - 4500
DIN Rating (PN)	10 - 400
API rating (PSI)	3000 - 15000

### STANDARDS

API 6A - ISO 10423	Russian GOST
API 6D - ISO 14313	P.E.D.
ASME B16.34	DIN
EN 13709	NORSOK
ISO 15761 (BS1868/BS5352)	

### RANGE

Pressure	Vacuum to 765 Bar(g)
Temperature	-196°C to 850°C

### CONSTRUCTION

Piston type	
Bolted cover	
Pressure seal cover	
Welded cover	
Loose plug type disc, spring or pressure loaded	
Loose ball type disc, spring or pressure loaded	

### SEAT CONSTRUCTION

Integral	
Renewable, Metal to metal	
Soft	

### DISC

Ball type	
Plug type	
Flat type	
Solid type	

### OPTIONS METAL SEAT OR DISC

Stellited	
Kolsterised®	

### TIGHTNESS PERFORMANCE

API 598	
API 6A - ISO 10423	
API 6D - ISO 14313	
ISO 5208	
EN12266 part 1/2	

### END CONNECTIONS

Flanged RF or RTJ or FF	
Butt weld	
Socket weld	
Threaded NPT, BSP, API, Male or Female	
Hubbed ends	
SAE Flanges	
Compact Flanges	
Client Specification	

A straight forward design for various applications, bubble-tight if required, following all international standards. Available in all exotic material grades.



Check valve 1" - 150 lbs



Check valve 6" - 2500 lbs

# CHECK VALVES

## SWING

### PROGRAM

Sizes inch (DN)	1/2" (15) - 56" (1400)
ANSI Class (LBS)	150 - 4500
DIN rating (PN)	10 - 400
API rating (PSI)	3000 - 15000*

### STANDARDS

API 6A - ISO 10423	ISO 15761 (BS1868/BS5352)
API 6D - ISO 14313	Russian GOST
API 594	NORSOK
ASME B16.34	Manufacturers standard
DIN	P.E.D.
EN 13709	

### RANGE

Pressure	Vacuum to 1379 Bar(g)
Temperature	-196°C to 850°C

### CONSTRUCTION

Single type, spring or pressure loaded
Dual type, retainerless, spring loaded
External lever
Tilting, retainerless

### DISC

Plates, flat type
-------------------

### SEAT CONSTRUCTION

Integral
Renewable
Soft
Metal to metal

### OPTIONS METAL SEAT OR DISC

Tungsten carbide coated
Kolsterised®
Stellited disc and/or seats

### TIGHTNESS PERFORMANCE

API 598
API 6A - ISO 10423
API 6D - ISO 14313
ISO 5208
EN12266 part 1/2

### END CONNECTIONS

Flanged RF or RTJ or FF
Butt weld
Threaded NPT, BSP, API, Male or Female
Hubbed or mechanical ends
SAE Flanges
Compact Flanges
Client Specification
Double Flanged

### OPTIONS SOFT SEAT OF DISC

Pom-c	PTFE Virgin or Reinforced
Peek	PCTFE
Devlon	NBR
Nylon	

\*Pressure classes up to 20k PSI on request.

Our check valves are produced on dedicated machines to meet the leakrate requirements of international standards. To optimize the lifetime of the valves, we supply hard faced seats and/or disc plates.



Check valve (DP) 6" - 2500 lbs



Check valve (PSB) 10" - 900 lbs



# CHECK VALVES

## NON SLAM AXIAL

### PROGRAM

Sizes inch (DN)	1/2" (15) - 30" (750)
ANSI Class (LBS)	150 - 4500
DIN rating (PN)	10 - 400
API rating (PSI)	3000 - 15000*

### STANDARDS

API 6A - ISO 10423	NORSOK
API 6D - ISO 14313	Russian GOST
ASME B16.34	Manufacturers standard
DIN	P.E.D.
ISO 15761 (BS1868/BS5352)	

### RANGE

Pressure	Vacuum to 1034 Bar(g)
Temperature	-196°C to 850°C

### CONSTRUCTION

One piece body
Two Piece body
Renewable diffuser
Piston disc & spring loaded
Ball disc & spring loaded
Flat disc & spring loaded

### SEAT CONSTRUCTION

Integral
Renewable

### DISC

Ball type
Plug type
Flat face

### OPTIONS METAL SEAT OR DISC

Stellited
Kolsterised®
Tungsten carbide coated

### TIGHTNESS PERFORMANCE

API 598
API 6A - ISO 10423
API 6D - ISO 10323
ISO 5208
EN12266 part 1/2
Client specification

### END CONNECTIONS

Flanged RF or RTJ or FF
Butt weld
Socket weld
Threaded NPT, BSP, API, Male or Female
Hubbed or mechanical ends
SAE Flanges
Compact Flanges
Client Specification

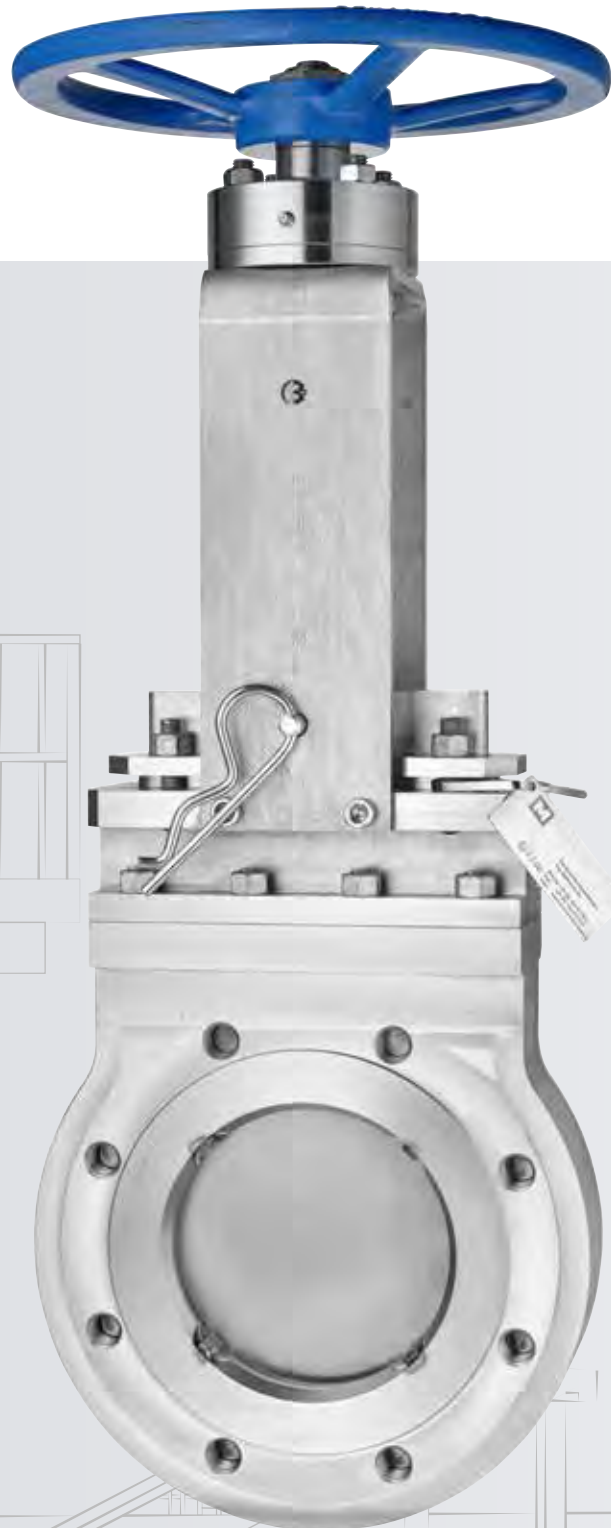
These types of check valves are specifically designed for fast-reversing systems where backflow is a constant concern. We have a simple, in line design, which responds quickly to changes in velocity.

Key elements are; non-slam closure, metal seating, fast closing, a spring loaded disc for mounting in any orientation, low delta P and available in very short face to face dimension.



Axial check valve 3" - 1500 lbs

# GATE VALVES



Knife gate valve 6" - 150 lbs



# GATE VALVES

## PROGRAM

Size inch (DN)	½"(15) – 14"(350)
ANSI class (lbs)	150-4500
API rating (psi)	3000-10000
DIN rating (PN)	10-400

## STANDARDS

API 600	EN-1984
API 602	ASME B16.34
API 603	DIN
ISO 10423 (API 6A)	Russian GOST
ISO 10434 (BS 1414)	Norsok
ISO 14313 (API 6D) (BS 5352)	PED
ISO 15761 (BS 5352)	Manufacturers standard

## RANGE

Pressure	vacuum to 765 bar(g)
Temperature	-196 deg.C to 850 deg.C

## CONSTRUCTION

Bolted bonnet, O.S. & Y, backseated
Screwed-in seal welded bonnet, O.S. & Y. Back seated
Pressure seal bonnet, O.S. & Y. Back seated
Handwheel operated
Gear operated
Actuated

## WEDGE MODEL

Solid
Flexible

## SEAT CONSTRUCTION

Integral
Renewable

## OPTIONS WEDGE AND SEAT

Tungsten carbide coating
Stellite
Chrome carbide coating
Kolsterising ®

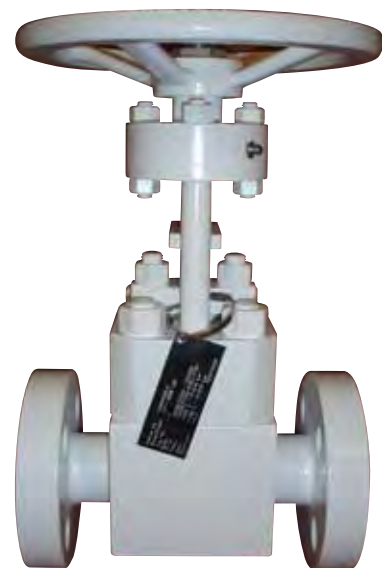
## TIGHTNESS PERFORMANCE

ISO 5208	ISO 14313 (API 6D)
API 598 Table 6	EN 12266 Part 1/2
ISO 10423 (API 6A)	Client specification

## END CONNECTIONS

Flanged (FF, RF or RTJ)
Butt weld
Socket weld
Threaded male/female (NPT, BSP, API)
Hubbed or mechanical ends
SAE flanged
Compact flanged
Client specification

Gate valves, also known as knife valves or slide valves, are linear motion valves in which a flat closure element slides into the flow stream to provide shut-off. Over 60 years of experience is in this design. Cement, completion fluid, drilling mud, nitrogen and cold start air are just a few applications where we have served the industry with our (knife) gate valves.



Gate valve 2" - 150 lbs



Gate valve 10" - 1500 lbs

# THROUGH CONDUIT GATE VALVES



Through conduit gate valve 12" - 1500 lbs

# THROUGH CONDUIT GATE VALVES

## PROGRAM

Size inch (DN)	½"(15) – 12"(300)
ANSI class (lbs)	150-4500
API rating (psi)	3000-10000
DIN rating (PN)	10-400

## STANDARDS

API 600	EN-1984
API 602	ASME B16.34
API 603	DIN
ISO 10423 (API 6A)	Russian GOST
ISO 10434 (BS 1414)	Norsok
ISO 14313 (API 6D) (BS 5352)	PED
ISO 15761 (BS 5352)	Manufacturers standard

## RANGE

Pressure	vacuum to 765 bar(g)
Temperature	-196 deg.C to 850 deg.C

## CONSTRUCTION

Bolted bonnet, O.S. & Y, backseated
Screwed-in seal welded bonnet, O.S. & Y. Back seated
Pressure seal bonnet, O.S. & Y. Back seated
Handwheel operated
Gear operated
Actuated

## WEDGE MODEL

Solid parallel slide
Single expanding parallel slide
Double expanding parallel slide

## SEAT CONSTRUCTION

Renewable, pressure or spring activated
---

## OPTIONS WEDGE AND SEAT

Tungsten carbide coating
Stellite
Chrome carbide coating
Kolsterising ®

## TIGHTNESS PERFORMANCE

ISO 5208
API 598
ISO 10423 (API 6A)
ISO 14313 (API 6D)
EN 12266 Part 1/2
Client specification

## END CONNECTIONS

Flanged (FF, RF or RTJ)
Butt weld
Socket weld
Hubbed or mechanical ends
Compact flanged
Client specification

TC gate valves perfectly fit into our customer-engineered valve program. Superior flatness of the tungsten carbide coated closing members which secures a tight sealing. These valves are fire safe certified.



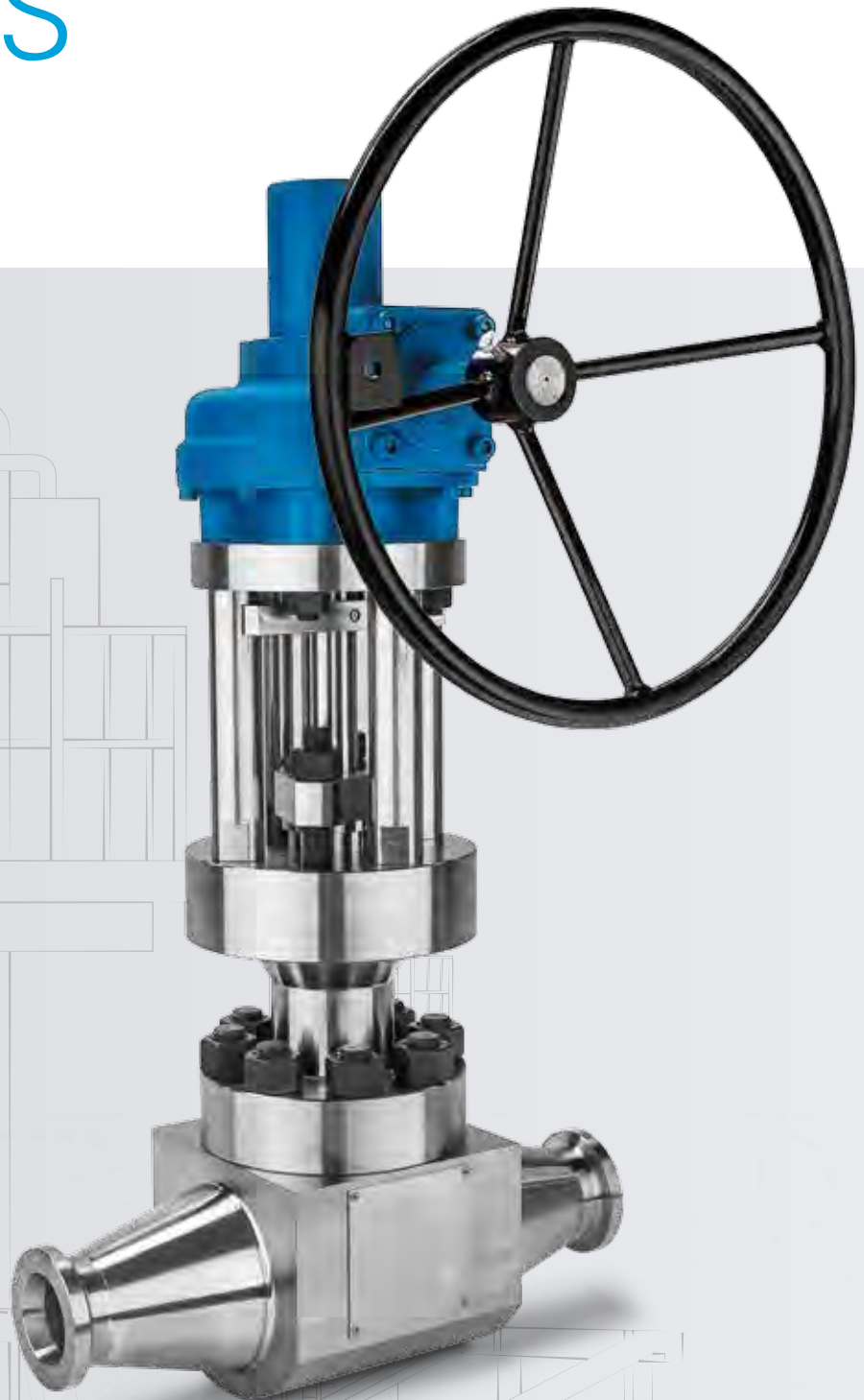
Fire safe testing of 4" - 1500 lbs



Through conduit gate valves  
2" & 4" - 1500 lbs



# GLOBE VALVES



## PROGRAM

Size inch (DN)	½”(15) – 14”(350)
ANSI class (lbs)	150-4500
API rating (psi)	3000-10000
DIN rating (PN)	10-400

## STANDARDS

API 602	ISO 15761 (BS 5352/BS 1873)
ASME B16.34	Russian GOST
DIN	Norsok
EN 13709	PED
ISO 10423 (API 6A)	Manufacturers standard
ISO 14313 (API 6D) (BS 5352)	

## RANGE

Pressure	vacuum to 765 bar(g)
Temperature	-196 deg.C to 850 deg.C

## CONSTRUCTION

Bolted bonnet, O.S. & Y, backseated
Screwed-in seal welded bonnet, O.S. & Y. Back seated
Pressure seal bonnet, O.S. & Y. Back seated
Handwheel operated
Gear operated
Actuated

## DISC MODEL

Loose Ball type
Loose Plug type
Loose parabolic type

## SEAT CONSTRUCTION

Integral
Renewable

## OPTIONS DISC AND SEAT

Stellite
Kolsterising ®

## TIGHTNESS PERFORMANCE

ISO 5208
ISO 10423 (API 6A)
ISO 14313 (API 6D)
EN 12266 Part 1/2
Client specification

## END CONNECTIONS

Flanged (FF, RF or RTJ)
Butt weld
Socket weld
Threaded male/female (NPT, BSP, API)
Hubbed or mechanical ends
SAE flanged
Compact flanged
Client specification

Flow regulating valves have been included within our program for decades and are available in all types of configurations and materials. Actuation manually, bare shaft, pneumatic or hydraulic available upon the customer's request.

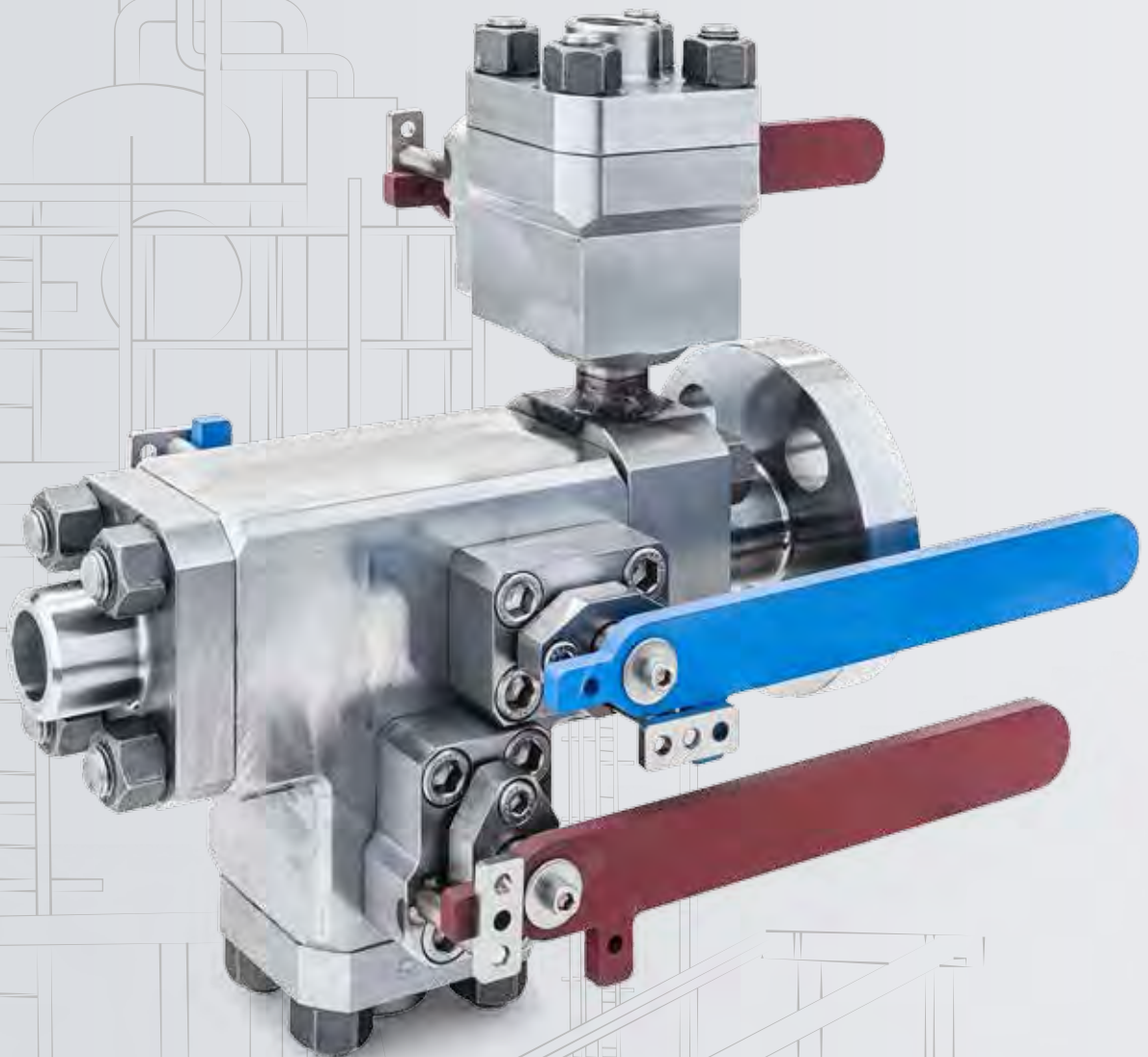


Steam jacket globe valve  
DN40 - 4500 lbs



Extended bonnet for  
D80 - 2500 lbs

# INSTRUMENTATION VALVES





# INSTRUMENTATION VALVES

## PROGRAM

Size inch (DN)	½"(15) – 2"(50)
ANSI class (lbs)	150-4500
API rating (psi)	3000-15000
DIN rating (PN)	10-400

## STANDARDS

ASME B16.34
DIN
PED
Manufacturers standard

## RANGE

Pressure	vacuum to 1034 bar(g)
Temperature	-196 deg.C to 850 deg.C

## CONSTRUCTION

Modular
Manufacturers standard

## TIGHTNESS PERFORMANCE

ISO 5208
EN 12266 Part 1/2
Client specification

## END CONNECTIONS

Flanged (FF, RF or RTJ)
Butt weld
Socket weld
Threaded male/female (NPT, BSP, API)
Hubbed or mechanical ends
SAE flanged
Compact flanged
Client specification

Instrumentation valves require a different (engineering) approach than the valves in the oil and gas industry. But for Merwede, this product line is common practice. From needle valves, straight type, to customized manifold with optimal CV values.

To meet most flow, pressure and level measurement application requirements, Merwede manifolds are designed for static pressure and liquid level applications; the 3 and 5 valve manifolds are well suited for use with most differential pressure transmitters and can accept both female and flanged process impulse line connections.



2" - 2500 lbs / ¾" NPT insulation valve



2" - 1500 lbs

# OFFLOADING / LOADING VALVES



# OFFLOADING / LOADING VALVES

## PROGRAM

Size inch (DN)	½"(15) – 20"(500)
ANSI class (lbs)	150-300
DIN rating (PN)	6-40

## STANDARDS

ASME B16.34
ISO 14313 (API 6D)
DIN
PED
Manufacturers standard

## RANGE

Pressure	vacuum to 50 bar(g)
Temperature	-40 deg.C to 101 deg.C

## CONSTRUCTION

One piece body
Two piece body
Renewable diffuser
Piston type disc, Spring loaded
Ball type disc, Spring loaded or manual operated
Flat type disc, Spring loaded

## SEAT CONSTRUCTION

Integral
Renewable

## OPTIONS SOFT SEAT OR DISC

POM-C
PEEK
PTFE Virgin or Reinforced
NBR

## OPTIONS METAL SEAT OR DISC

Stellite
----------

## TIGHTNESS PERFORMANCE

API 598 Table 6
EN 12266 Part 1/2
Client specification

## END CONNECTIONS

Flanged (FF, RF, or RTJ)
Butt weld
Threaded male/female (NPT, BSP, API)
Client specification

The broad spectrum of valves in this industry positively encouraged us to get the most out of our engineering staff. LNG/LPG transport with tight FE regulations in place and also on/off loading of crude oil at the middle of the oceans requires skills and 'no room for failure'.



Combi ball valve DN50 - PN25



Combi check valve 3" - 300 lbs



LPG loading facility





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FPSO CI  
ITAGU



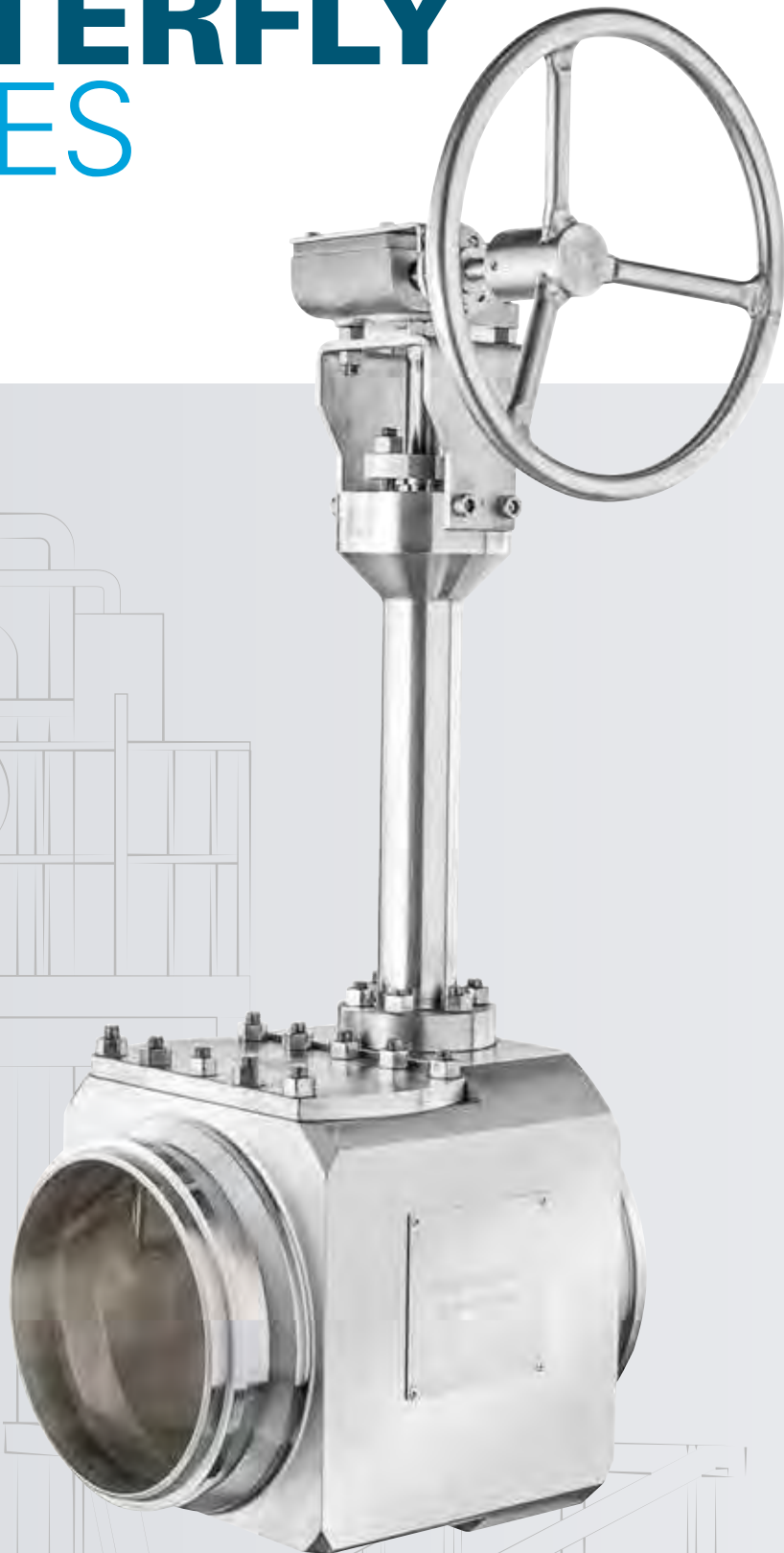


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**OHTP (Offloading Hose Termination Piece) for FPSO'S**  
(in cooperation with royal IHC)

# BUTTERFLY VALVES





# BUTTERFLY VALVES

## PROGRAM

Size inch (DN)	4" (100) – 14" (350)
ANSI class (lbs)	150-600
API rating (psi)	400-1000
DIN rating (PN)	10-100

## STANDARDS

API 609
EN 593
DIN
PED
Manufacturers standard

## RANGE

Pressure	vacuum to 100 bar(g)
Temperature	-40 deg.C to 450 deg.C

## CONSTRUCTION

One piece body
Top entry
Side entry
Wafer type
Wrench operated
Gear operated
Actuated

## DISC CONSTRUCTION

Double eccentric
Triple eccentric
Laminated

## SEAT CONSTRUCTION

Renewable
Soft
Metal to metal
Laminated

## OPTIONS SOFT SEAT AND DISC

PEEK
PTFE Virgin or Reinforced
PCTFE
Graphite (laminated)

## OPTIONS METAL SEAT AND DISC

Tungsten carbide coating
Stellite

## TIGHTNESS PERFORMANCE

API 598
EN 12266 Part 1/2
Client specification

## END CONNECTIONS

Flanged (FF, RF or RTJ)
Butt weld
Double flanged
Client specification

The rotary valves have been developed for low pressure drop applications. Depending on the application, we can supply a double or a triple offset design. To ensure low seating torques, we have designed with our professional partners a state of the art spring-energized seal for our soft seated butterfly valves. TC coating is applied to our metal seated valves.



Triple offset 12" - 900 lbs



# SPECIAL VALVES

This is where Merwede Valves meets the industries in optima forma.

“The Standard in Non-Standard valves” and “The specialists for specialties”. These slogans describe exactly who we are and what we do and where we stand for.

High customer service, top level products, state of the art design, reliable supplier network and extensive quality controls.

This last paragraph of our catalogue can be considered as the most important one, seeing our technical possibilities. On the other hand, given the wide variety of our supply range, it is simply not possible to outline every single valve type within our scope.

This is why we choose this paragraph to be an impression of where the majority of our products are used.



**OFFSHORE OIL & GAS INDUSTRY**



**(PETRO-) CHEMICAL INDUSTRY**



**LNG INSTALLATIONS**



**GAS INSTALLATIONS**

# SPECIAL VALVES



FPSO'S



LNG TRANSPORTATION



SUB SEA SKID



LPG OFFLOADING



FERTILIZER INDUSTRY



OIL SAND GROUNDS

[www.cv3000.com](http://www.cv3000.com)

# MATERIALS & APPLICATIONS

We specialize in manufacturing valves from predominantly exotic alloys. Our stock of a wide range of special bar material gives us the flexibility required for 'emergency valve production'. In addition to bar material, we also use forged rings and forgings close to shape of exotic materials to reduce machining costs.

In line with the above, our use of 'exotic material' cladding for standard grades continues to increase, once again in order to reduce costs for our clients. Of course we can also meet many additional requirements, on request.

## Advantages of the Merwede Valves production method:

- Increased strength and wall thickness safety factors by using: forged bar, rings and or close to shape material from which we produce our valve parts
- A cost effective, customised valve design
- Unequaled short lead-times
- Exotic alloys

## MATERIALS

### Special Alloys

- Duplex
- Superduplex
- 6-MO
- Cunifer
- Ferralium
- MONEL®
- INCONEL®
- INCOLOY®
- Nickel
- Titanium
- HASTELLOY®
- Zirconium
- Tantalum

### Stainless Steel

- 304 (1.4301)
- 316 (1.4401)
- 321 (1.4541)

### Low Alloy Steel

- A182-F5
- A182-F9
- A182-F11
- A694-F60
- A694-F65

### Carbon Steel

- A105
- A350-LF2
- A350-LF3

## APPLICATIONS

- Cryogenic
- High Temperature
- High Pressure
- Corrosive
- Abrasive
- Fire Safe
- Sub Sea
- Acetic Acid
- Nuclear





# TESTING & CERTIFICATION

Because of our wide experience all over the world in the Oil & Gas, Chemical & Petrochemical and Power/Nuclear industry we are able to deliver your valves with all the required/mandatory certificates. To assure your quality, our standard is;

## TESTING

### Pressure testing:

- EN 12266 Part 1 - 2003 (BS 6755 part 1)
- API 6A
- API 6D
- API 598
- DIN 3230
- Client specification
- Type acceptance testing
- Fugitive emission testing
- Cryogenic testing
- Cycle testing

### Material testing:

- Positive Material Identification (PMI)
- Magnetic Particle Examination (MPE)
- Dye Penetrant Examination (DPE)
- Hardness measuring
- Radiographic examination
- Ultrasonic testing (UT)

## CERTIFICATION

- NEN-EN-ISO 9001:2008
- PED, 2014/68/EU Module H
- Fire Safe according to BS 6755 part 2 and ANSI/API 607 fifth edition, June 2005
- ATEX DIRECTIVE 94/9/EC
- ISO 10497:2010
- API 6FD
- API 6A
- API 6D

