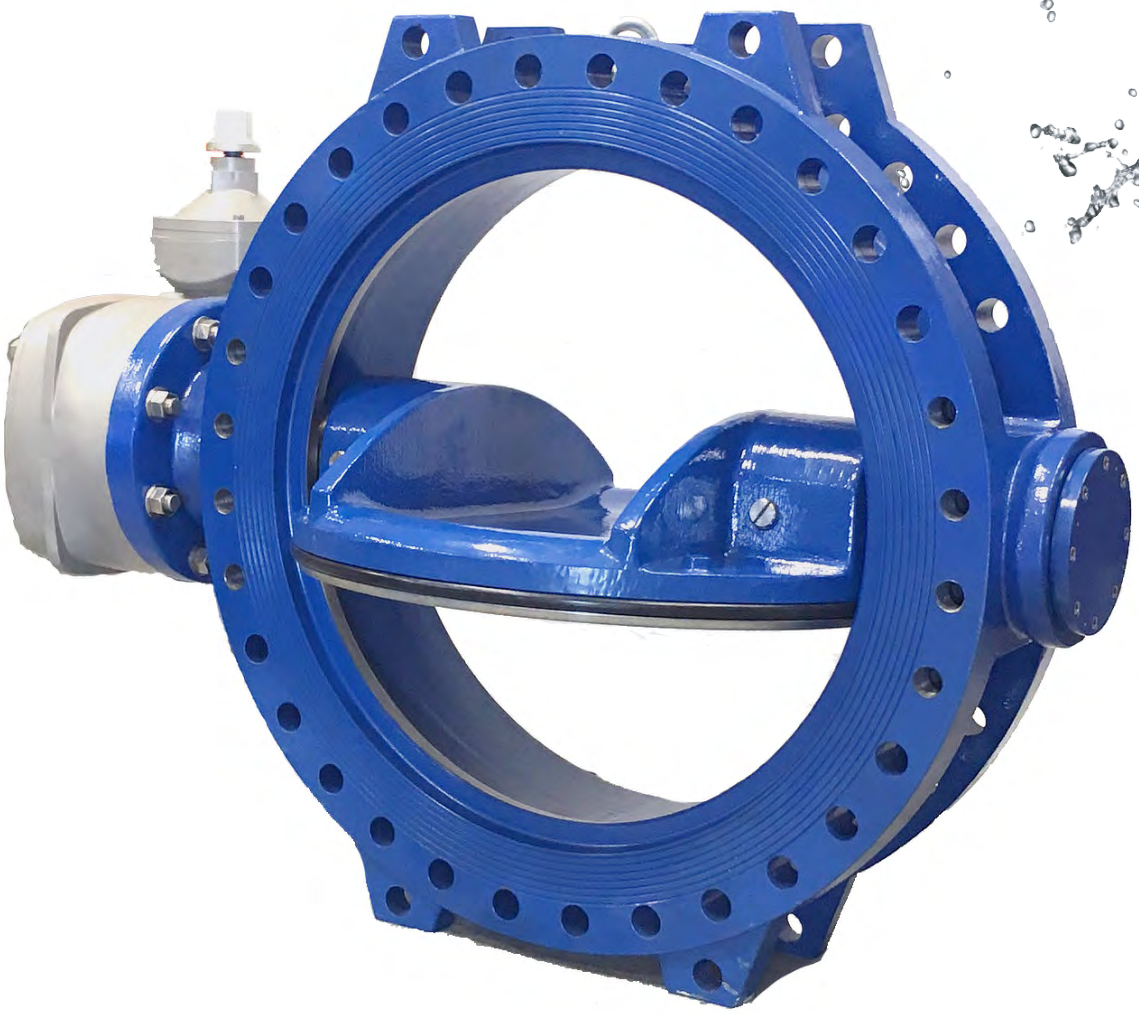
AV·TEK®

WATER MANAGEMENT



AWWA *DEX*

Double Eccentric Butterfly Valve

Main Features

Double Eccentric Design

The centerline of the disc rotation is horizontally and vertically offset from the body seat. This high-performance design eliminates the potential for “seat set” compression while the valve is in the open position. Compression on the seal is released after only a few degrees of opening which reduces friction and wear.

AWWA C504 Body Style

6” to 108” AWWA C504 Class 150B ANSI Class 125 flanged

High Working Pressures

ASTM A536 Ductile Iron body with 2205 Duplex Stainless Steel upper and lower shafts make the Av-Tek® *DEX* suitable for 250 PSI CWP applications.

*Higher pressure ratings available upon request.

316L SST Welded Body Seat

The Nickel Chromium (316L) Stainless Steel body seat is applied to the Ductile Iron valve body by means of a robotic welded overlay process and then micro finished and polished. The chemical properties of the Nickel Chromium SST prevent corrosion between the seat and the Ductile Iron valve body. The permanent welding process eliminates the possibility of body seat separation and undercutting.

Drinking Water Safe

NSF 61/372 Certified for use in potable water systems.

Dry Disc Hub

The advanced dry disc hub and shaft design is achieved through multiple O-Ring seals on both the upper and lower shafts. This prevents ground water and line media from entering the journal areas, resulting in ease of operation and minimal torque for many years.

Certified Zero Leakage

Each double eccentric butterfly valve is tested in accordance with AWWA C504, and Av-Tek® provides a unique test certificate for each valve that leaves its factory. The certificate includes a leak test report, bi-directional tightness, and heat trace numbers of the valve components.

Engineered Linings and Coatings

The ASTM A536 Ductile Iron body comes standard with 10 Mil DFT electrostatic applied Fusion Bonded Epoxy lining and coating. Holiday testing is performed to ensure the valve meets the most stringent coating thickness and porosity requirements.

*Additional specialized coatings are available for sea and hot water applications.

Ease of Maintenance

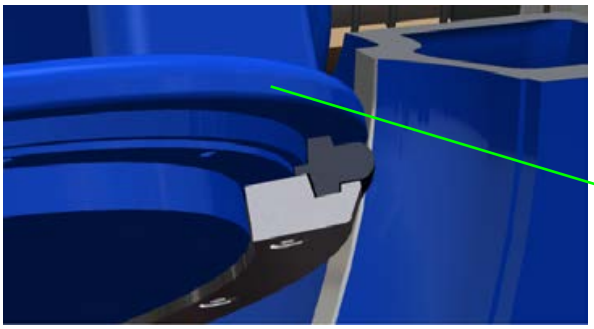
The Double Offset design requires zero to minimal maintenance and the bearing cover allows the user to remove the worm gear without dewatering the pipeline. In the event of seal replacement or repair it can be accomplished in the field, with common tools, without the need of epoxy injections or a specialized technician.

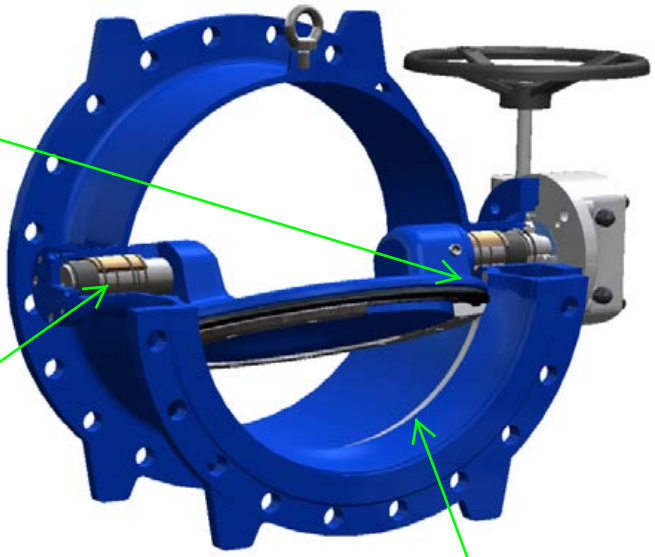
DEX AWWA

Modern Double Offset Design

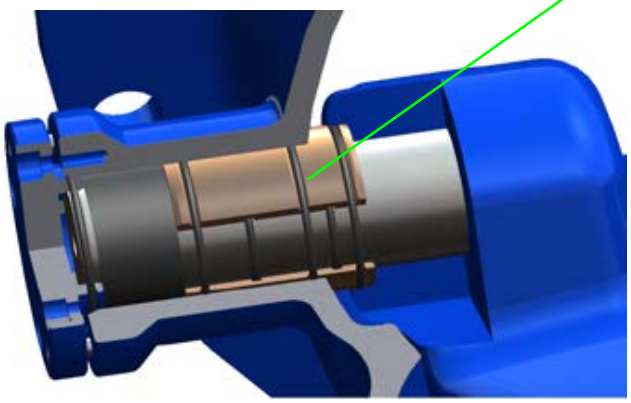
The Av-Tek® DEX Butterfly Valve is the result of years of advanced engineering and study. This progressive design offers the latest technology specifically designed for use in water applications. With its modern features and high-grade materials, the DEX brings unprecedented longevity and reliability to meet the critical service demands of a modern water structure.

Double Eccentric Design





Dry Disc Hub



NiCr 316L SST Welded Body Seat

Superior Design

The Av-Tek® *DEX* Double Eccentric Butterfly Valve offers a modern design compared to the traditional AWWA butterfly valve. The double offset design occurs from the centerline of the disc rotation being horizontally and vertically offset from the stainless steel body seat. Unlike traditional concentric AWWA butterfly valves, the double offset design offers a “non-rubbing” resilient sealing ring that releases compression after only a few degrees of opening, resulting in decades of zero leakage sealing capabilities. This makes the *DEX* ideally suited for critical isolation applications, where performance and reliability are paramount. In the rare event a resilient seal ever need adjustment or replacement, this can be achieved with common tools, in the field, unlike epoxy filled seats that require special equipment.

Performance Tested

The Av-Tek® *DEX* Butterfly Valve meets and exceeds performance testing of AWWA C504. Each butterfly valve is tested and certified at Zero Leakage before it leaves the European factory. United States third party performance testing has been successfully completed at the Utah State University hydraulics lab located in Logan, Utah.

Critical Sealing System

The Av-Tek® *DEX* Butterfly Valve has been designed to give superior shut off due to the robotic welded NiCr SST seat, and a continuous, single piece pressed seal. This sealing system allows for 360°uninterrupted, bubble tight, bi-directional shut off. Each resilient seal is manufactured in the same facility as the valves, thus insuring the highest of standards are met.

Quality Coating Systems from Av-Tek® Valves

Fusion Bonded Epoxy

The Av-Tek® *DEX* Butterfly Valve receives a heat fused powder lining and coating known as Fusion Bonded Epoxy. During this process, the powder coating is applied to a pre-heated, sand blasted body, and then cured in a high temperature oven. The standard minimum thickness is 10 Mil DFT.

Coating Testing

Quality Assurance Engineers at the Av-Tek® manufacturing facility test and certify the dry film thickness of the *DEX* AWWA Butterfly Valve with an Elcometer. The Av-Tek® Coating system is approved for contact with drinking water.

Holiday Testing

A holiday or a “spark test” is performed on the AWWA *DEX* Butterfly Valve to ensure that coating is free from pinholes or voids in the protective coating. If pores or voids are detected the valve is rejected and the coating process is repeated.

A business card is placed between the NiCr welded body seat and resilient seal showing a true double offset design.

Valve Construction

The standard Av-Tek® *DEX* 2504 Butterfly Valve is constructed of robust Ductile Iron ASTM A536 with a 2205 Duplex stainless steel, shaft 316 stainless steel seat rings, and EPDM resilient disc seat. The body seat ring is a continuous machine welded stainless steel ring. The 1/4 turn disc is guided by a bronze double eccentric bearing. Fusion bonded epoxy comes standard on all standard sizes of the *DEX* BFV.

Leak-tight closure is made when the resilient seal is rotated into the NiCr SST body seat.

Av-Tek® is committed to offering the highest quality valves for water systems. All Ductile Iron castings are meticulously inspected for impurities. Castings undergo dual inspections, first when they arrive from the foundry, and again after the coating process has been completed.

2205 Duplex Stainless Steel

The Av-Tek® standard shaft material is 2205 Duplex stainless steel, to ensure the highest level of strength and corrosion resistance for critical service applications.

Duplex 2205 a Stainless Steel with nearly equal proportions of austenite and ferrite, containing about 40 - 50% ferrite in the annealed condition. 2205 has been a practical solution to chloride stress corrosion cracking problems experienced with 304 or 316 stainless steel.

The high chromium, molybdenum, and nitrogen contents provide corrosion resistance superior to 316 stainless steel in water applications.

The design strength of 2205 is significantly higher than ASTM 316 stainless steel, which allows for the use of smaller shaft diameters in larger valves, thus improving flow characteristics.

A 316L stainless steel machine welded seat ensures no leak through under the seat as you will often see when the seat is pressed in. The machined finish also gives precision so the resilient seat on the disc stops all media from flowing.

Seat Options

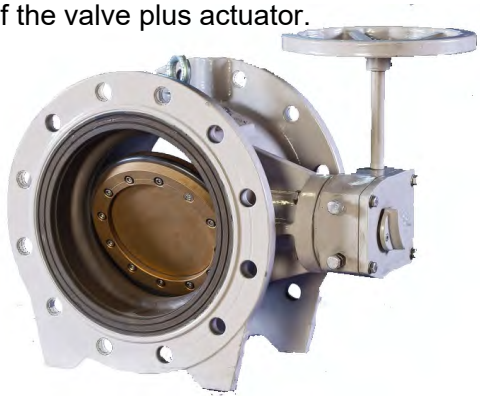
ELASTOMER TYPE	CODE	APPLICATIONS
EPDM	E	Air, water, ethyl alcohol, sugar industry, ammonium weak acids, hot water (-20F° + 230°F)
HEAT EPDM	E1	Hot water steam (Refer to EPDM) (-22° + 290°F)
NEOPRENE	C	Alcali acids, acids base (-40° +200°F)
NBR / BUNA-N®	N	Gasoline, diesel oil, vegetable oils, machine oils, natural gas sea water, synthetic thinner (-20° +195°F)
VITON® / FKM	V	Acid, detergant, water, steam, vegetable oils (-20°F +390°F)
HYPALON	H	Petroleum, hydroxides, alcohol, alcali (-20° + 275°F)
SILICONE	S	Vegetable oils, water, steam (-20° + 345°F)
Natural Rubber / NR	R	Abrasion resistance, cement, sand, lime stone etc.b(-10° + 185°F)

Note: These temperatures are displayed only for the valve seat.
Please also check the temperature for the other valve parts of the valve plus actuator.

Body Options

The Av-Tek Double Eccentric Butterfly Valves body is available in many options above the standard Ductile Iron option. These options include:

- 316 Stainless Steel
- 2205 Duplex Stainless Steel
- 2207 Super Duplex Stainless Steel
- Aluminum Bronze



*Valve shown with DI Body, ALBZ Disc and ebonite lining.

For applications where sea life, such as Quagga or Zebra Mussels are present in the water, we recommend using Ebonite hard rubber lining. This is an option for all DEX valves, sizes 6" - 108".

Disc Options

The Av-Tek Double Eccentric Butterfly valves disc is available in many options above the standard Ductile Iron option. These options include:

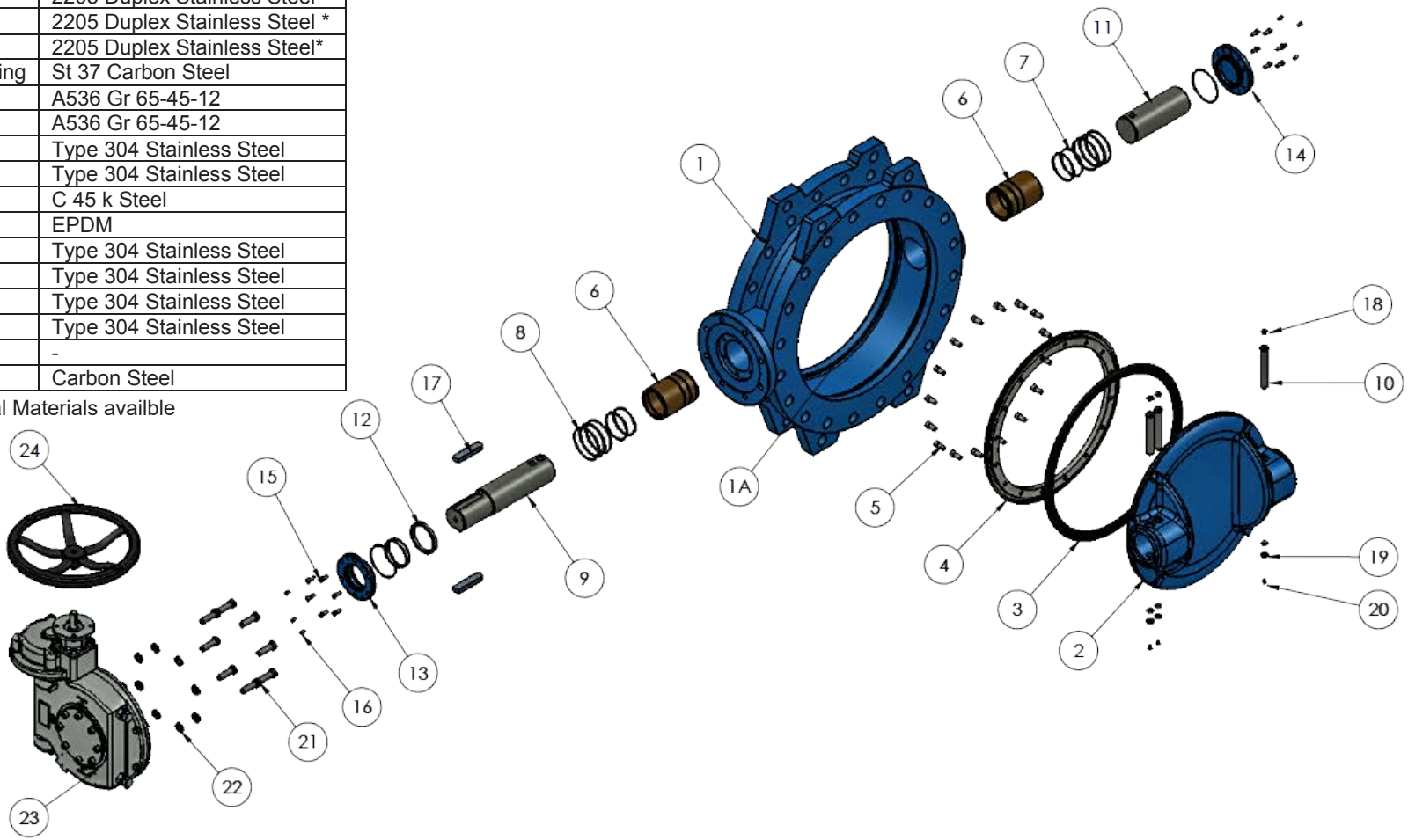
- 316 Stainless Steel
- 2205 Duplex Stainless Steel
- 2207 Super Duplex Stainless Steel
- Aluminum Bronze
- Ebonite encapsulated

DEX Butterfly Valve

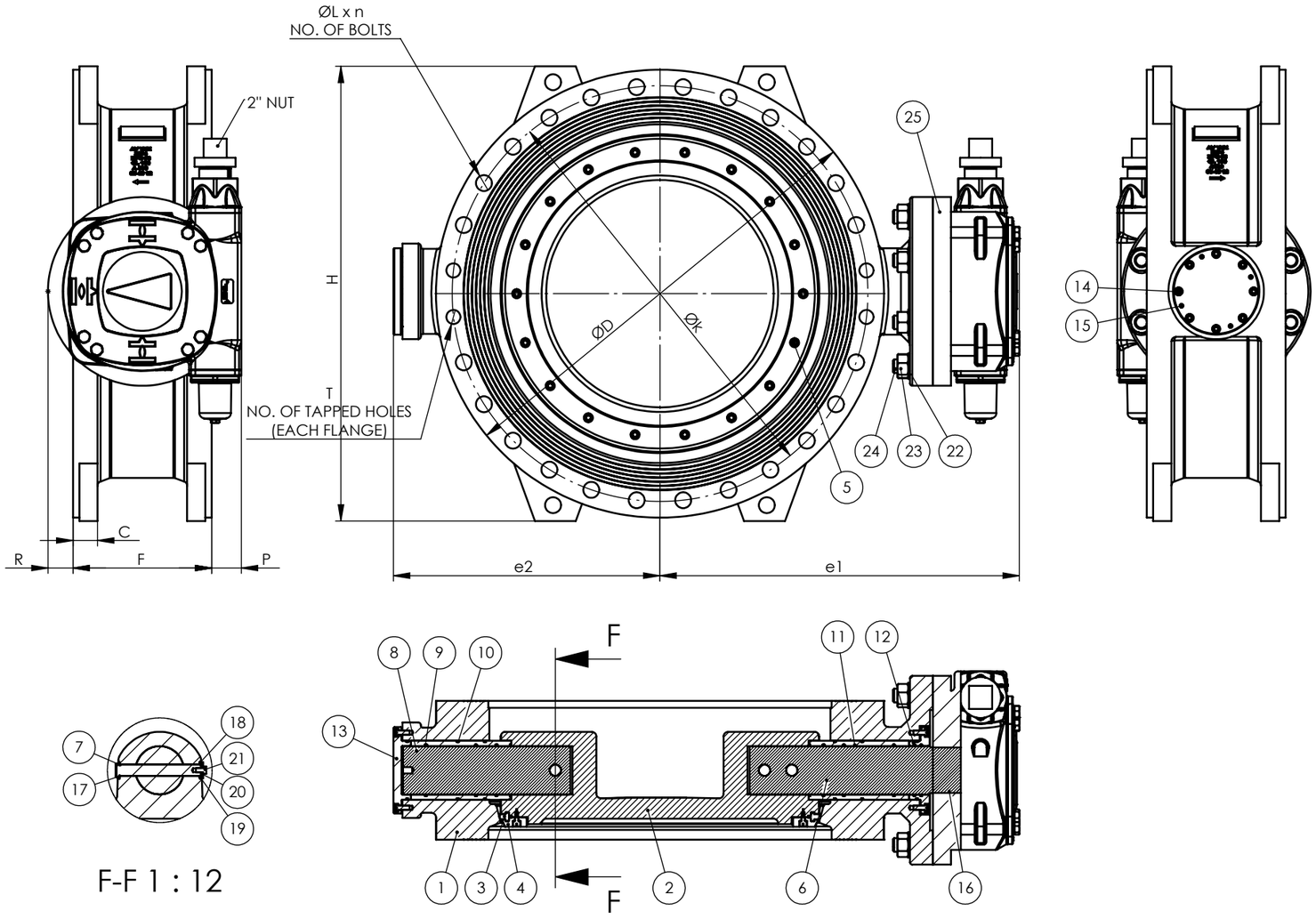
Parts and Materials Specifications

P.No	Part Name	Material
1	Body	A536 Gr 65-45-12*
1A	Body Seat	Type 316L NiCr Stainless Steel Overlay with Welding
2	Disc	A536 GR 65-45-12*
3	Disc Seat	EPDM*
4	Retaining Ring	Type 304 Stainless Steel*
5	Bolt	Type 304 Stainless Steel*
6	Front – Back Bushing	Bronze C90800
7	O-ring	EPDM
8	O-ring	EPDM
9	Front Shaft	2205 Duplex Stainless Steel*
10	Pin	2205 Duplex Stainless Steel *
11	Back Shaft	2205 Duplex Stainless Steel*
12	Front Adjustment Bushing	St 37 Carbon Steel
13	Front Cover	A536 Gr 65-45-12
14	Back Cover	A536 Gr 65-45-12
15	Bolt	Type 304 Stainless Steel
16	Setscrew	Type 304 Stainless Steel
17	Key	C 45 k Steel
18	O-ring	EPDM
19	Washer	Type 304 Stainless Steel
20	Bolt	Type 304 Stainless Steel
21	Bolt	Type 304 Stainless Steel
22	Washer	Type 304 Stainless Steel
23	Gear Box	-
24	Hand Wheel	Carbon Steel

* Additional Materials availble



30" 2504 DOUBLE ECCENTRIC BUTTERFLY VALVE PARTS LIST



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P.NO	PART NAME	MATERIAL
1	Body	A536 65-45-12 Ductile Iron
2	Disc	A536 65-45-12 Ductile Iron
3	Disc Seat	EPDM
3a	Body Seat	316L SST Double Overlay Weld
4	Retaining Ring	AISI 316 Stainless Steel
5	Bolt	AISI 316 Stainless Steel
6	Front Shaft	2205 Duplex Stainless Steel
7	Pin	2205 Duplex Stainless Steel
8	Back Shaft	2205 Duplex Stainless Steel
9	O-Ring	EPDM
10	O-Ring	EPDM
11	Front - Back Bushing	CuSn12 Bronze
12	Front Cover	St 37 Carbon Steel
13	Back Cover	St 37 Carbon Steel
14	Bolt	AISI 304 Stainless Steel
15	Setscrew	AISI 304 Stainless Steel
16	Key	Ck 45 Carbon Steel
17	O-Ring	EPDM
18	Circlip	AISI 316 Stainless Steel
19	O-Ring	EPDM
20	Washer	AISI 316 Stainless Steel
21	Bolt	AISI 316 Stainless Steel
22	Washer	AISI 304 Stainless Steel
23	Nut	AISI 304 Stainless Steel
24	Stud	AISI 304 Stainless Steel
25	Gear Box	AUMA GS160.3

ANSI Class 150 Rated @ 250 psi

Size	FLANGES CONFORM TO ASME 16.1 TABLE 4								e2	e1	H	P	R	F	Weight lbs
	ØD	C	ØL	Øk	n	T QTY.	T TAP	T DEPTH							
30"	38.77"	2.12"	1.37"	35.98"	24	4	1 1/4"	1.57"	23.07"	31.11"	39.37"	2.55"	2.16"	12"	1808

Subject to change without notice,
Please contact us for other sizes and materials.
Part No: 37-2030

REV:0

23.01.2019