

A detailed technical drawing of a valve assembly, showing a circular cross-section with a central cross-shaped internal structure and a flange with numerous bolt holes around the perimeter. The drawing is rendered in a light gray, semi-transparent style, serving as a background for the title text.

# Aira 4Matic Valve Automation

Presentation by  
**USMAN NARMAWALA**

- Aira 4Matic Valve Automation is valve manufacturing company, based out of Cary IL, USA
- Brand '4Matic' introduced in 2010 to global market
- Comprehensive product portfolio includes Valves, Automation and Instrumentation products
- 4Matic has global presence, with channel subsidiaries and distributors around the globe
- We specialize in customized valve automation solutions



176 Detroit St Cary IL 60013 USA

## INDUSTRIES – MARKETS

- 4Matic works with some of the most prestigious engineering companies globally serving many diverse markets
- Our products are engineered to withstand most arduous environments and extreme conditions on planet



**OIL & GAS**



**MINING**



**MANUFACTURING**



**POWER GENERATION**



**WASTE WATER**



**PROCESSING**



**WATER WORKS**



**MARINES**



BUTTERFLY VALVE



BALL VALVE



TEFLON SLEEVED PLUG VALVE



SAFTEY VALVE



PNEUMATIC  
CONTROL VALVE



AUTOMATIC  
CONTROL VALVE



ELECTRIC ACTUATOR



PNEUMATIC ACTUATOR



**CENTRIC DISC  
RESILIENT SEATED**



**HIGH PERFORMANCE  
DOUBLE OFFSET DISC**



**TRIPLE OFFSET DISC**



**PFA LINED**



**AWWA C-504**



**3-PIECES DESIGN**



**2-PIECES DESIGN**



**PFA LINED**



**MULTIPORT**



**MULTIPORT  
HIGH FLOW**



**JACKETED TYPE**



**WAFER TYPE**



**HIGH PRESSURE  
WOG-3000**



**FLANGED**



**THREADED  
NPT / BSP**



**DIFFERENT ENDS**



**SILENT SAFETY VALVES**





**QUARTER TURN  
SINGLE PHASE**



**QUARTER TURN  
3-PHASE**



**MULTI TURN  
3-PHASE**

**LINEAR**



**SINGLE ACTING**



**DOUBLE ACTING**



**SCOTCH & YOKE**



**DIAPHRAGM PNEUMATIC  
ACTUATOR**



**PNEUMATIC CYLINDER**



**POSITIONER**

euroSwitch



PROXIMITY SWITCH - MAGNETIC



PROXIMITY SWITCH – FERROUS

euroSwitch



VIBRATION SENSORS



PRESSURE SWITCH

eurowSwitch



FLOW SWITCH



LEVEL SENSOR

# euroSwitch



VALVE INDICATION



JUNCTION BOXES

## SALES, SUPPORT & SCOPE OF TRAINING

- Design based on Torque requirement
- Actuator selection
- Voltage options
- Remote control operation options
- Mounting kit design
- Assembly and calibration
- Inhouse testing
- Third party inspection (TPI)
- Installation
- Customization
- Private label
- Warranty upto 18 months
- Extended warranty upon request
- **Knowledge sharing**
- **Training**



Outsource and export thru subsidiary from manufacturers, namely;

- William Powell Valves – USA
- Vigro-Petro – CHINA
- Smith Valves – USA
- Vanessa Valves – USA
- Keihin – JAPAN
- ARCA Control Valves – GERMANY
- Aquatrol Safety Valves – USA
- Kunkle Safety Valves – USA
- Foxboro (Schneider) - USA
- SKILT Fabricators – INDIA
- NIBCO Valves – USA
- Masoneilan Control – ITALY
- VOGT (Flowserve) – USA
- Bray Control – USA
- WAM Group – USA
- Apollo Valves – USA
- Global Valves & Control – USA
- CVS Control Valves - CANADA



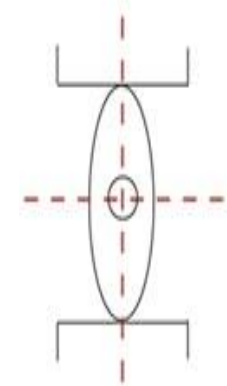


## FEATURES

- Centric Disc – Zero offset butterfly valve, since the SHAFT is in center of DISC
- Narrow land disc to ensure perfect sealing with least torque requirements
- Seat liners extended on contact faces to ensure perfect sealing
- Excellent dimensional stability and seat tightness due to seat line on body
- ISO 5211 mounting pad
- End connections – Wafer, Lugged & Flanged
- Pressure Class – ASME 150#, 300#
- Sizes – 2” to 60”

## APPLICATIONS

- Water Treatment
- Waste Water
- HVAC
- Maritime
- Marine
- Power Plants
- Water Distribution
- Irrigation
- Desalination



ZERO OFFSET

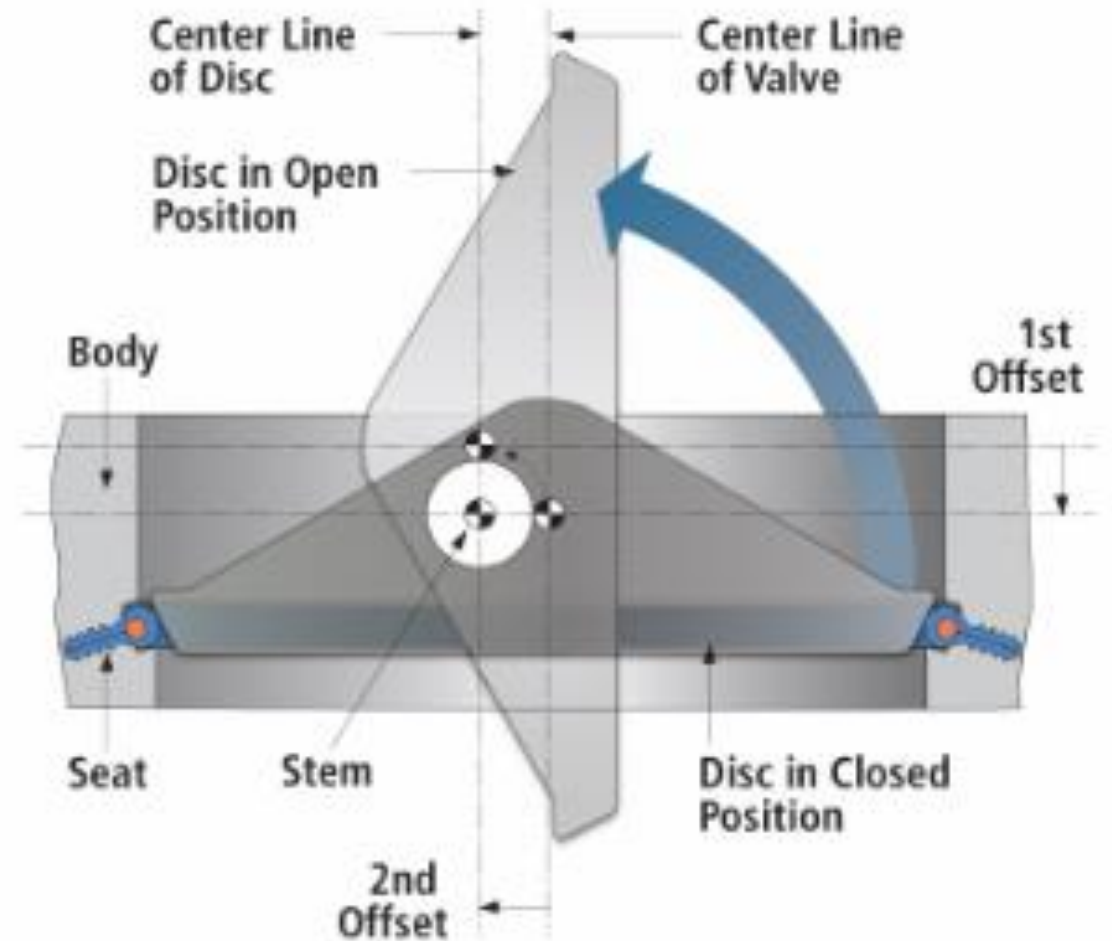
## FEATURES

- Compact design
- Simple, light & smooth structure
- Bubble-tight sealing
- Low torque
- Easy maintenance. Replaceable seal design
- Gland pressuring plate ensure complete utilization of gland seals
- ISO 5211 Mount Pad
- Metal seated for high temperature
- End connections – Wafer, Lugged & Flanged
- Pressure Class – ASME 150#, 300# and 600#
- Sizes – 2” to 48”

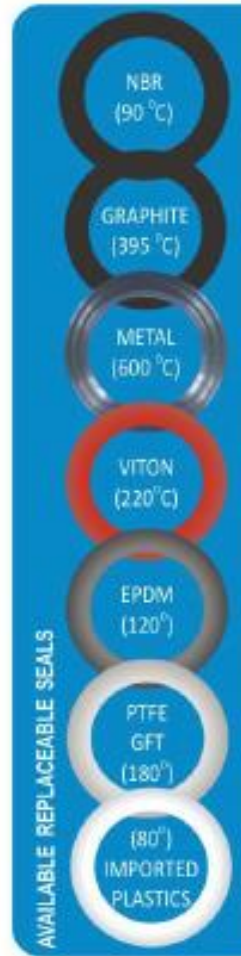
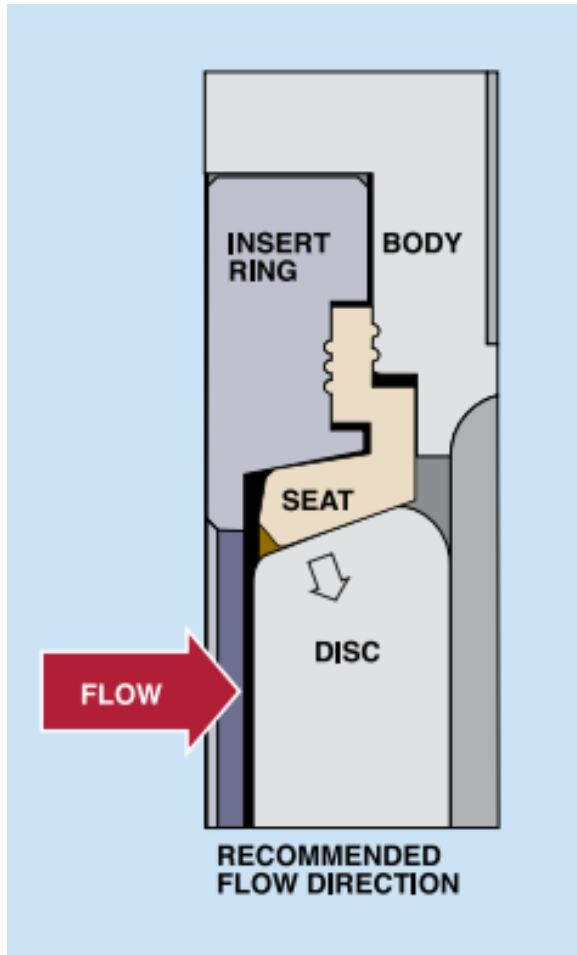


## DOUBLE OFFSET DESIGN

- Double offset design makes DISC move back and away from BODY SEAT during opening movement.
- Reduces SEAT wear and bi-directional, zero leakage shutoff throughout full pressure range.
- When open, DISC does not contact the SEAT, therefore SEAT service life is extended and operating torques are reduced.
- As valve closes, the cam-like action converts the rotary motion of the DISC to a linear type motion to effectively push the DISC onto the SEAT.
- The wiping action of the DISC against the SEAT prevents undesirable material build-up from slurries or suspended solids.



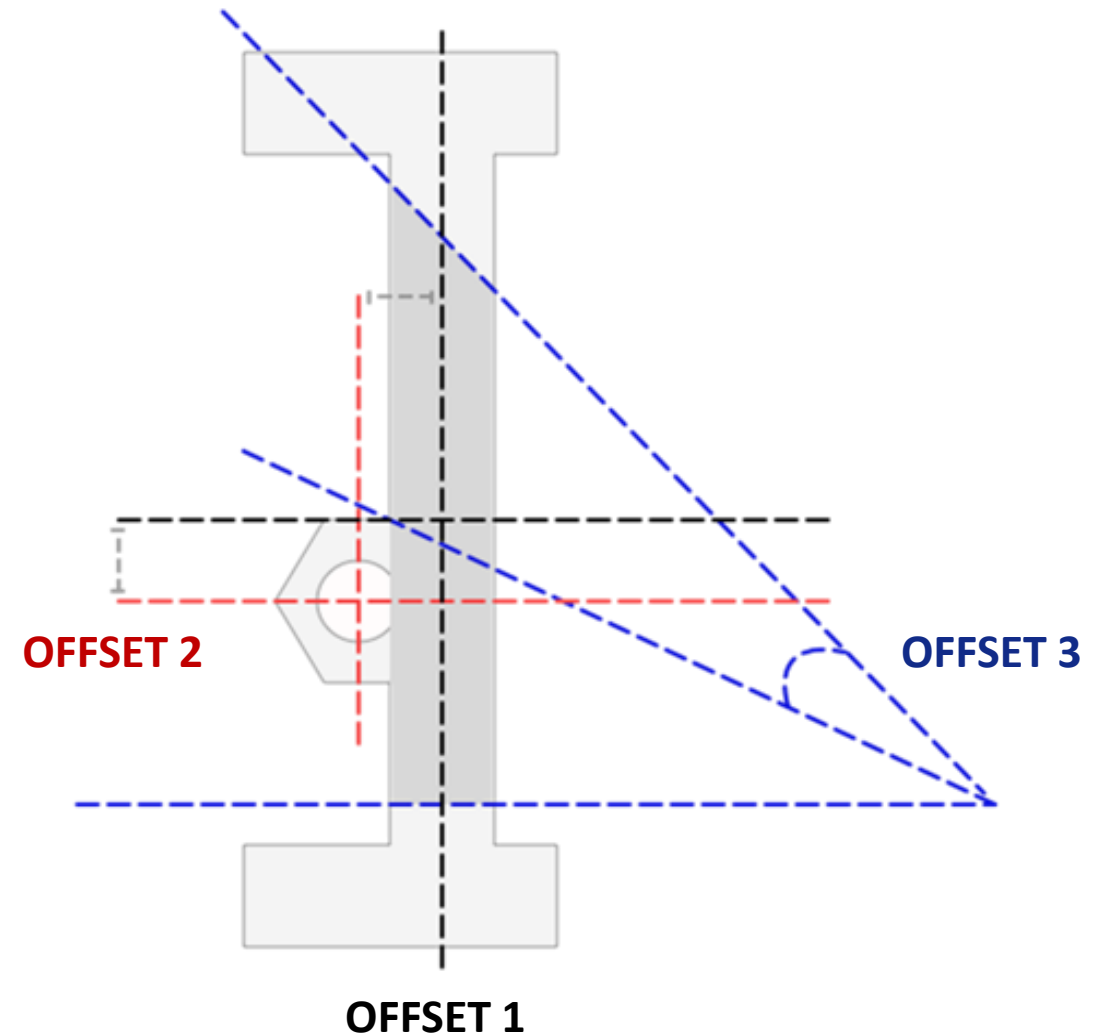
## SOFT & METAL SEAT OPTIONS



- NBR 90° C ~ 195° F
- EPDM 120° C ~ 250° F
- PTFE 180° C ~ 356° F
- VITON 220° C ~ 428° F
- GRAPHITE 395° C ~ 743° F
- METAL 600° C ~ 1112° F

## TECHNOLOGY

- The third offset is geometry design of sealing components
- The sealing components are each machined into an offset conical profile resulting in a right-angled cone, which ensures friction-free stroking throughout its operating cycle
- Contact of disc to body is only made at the final point of closure with 90 degree angle acting as a mechanical stop. Thus extending the seat life
- This results in no over-travel of the disc seat



## GEOMETRY

### OFFSET 1

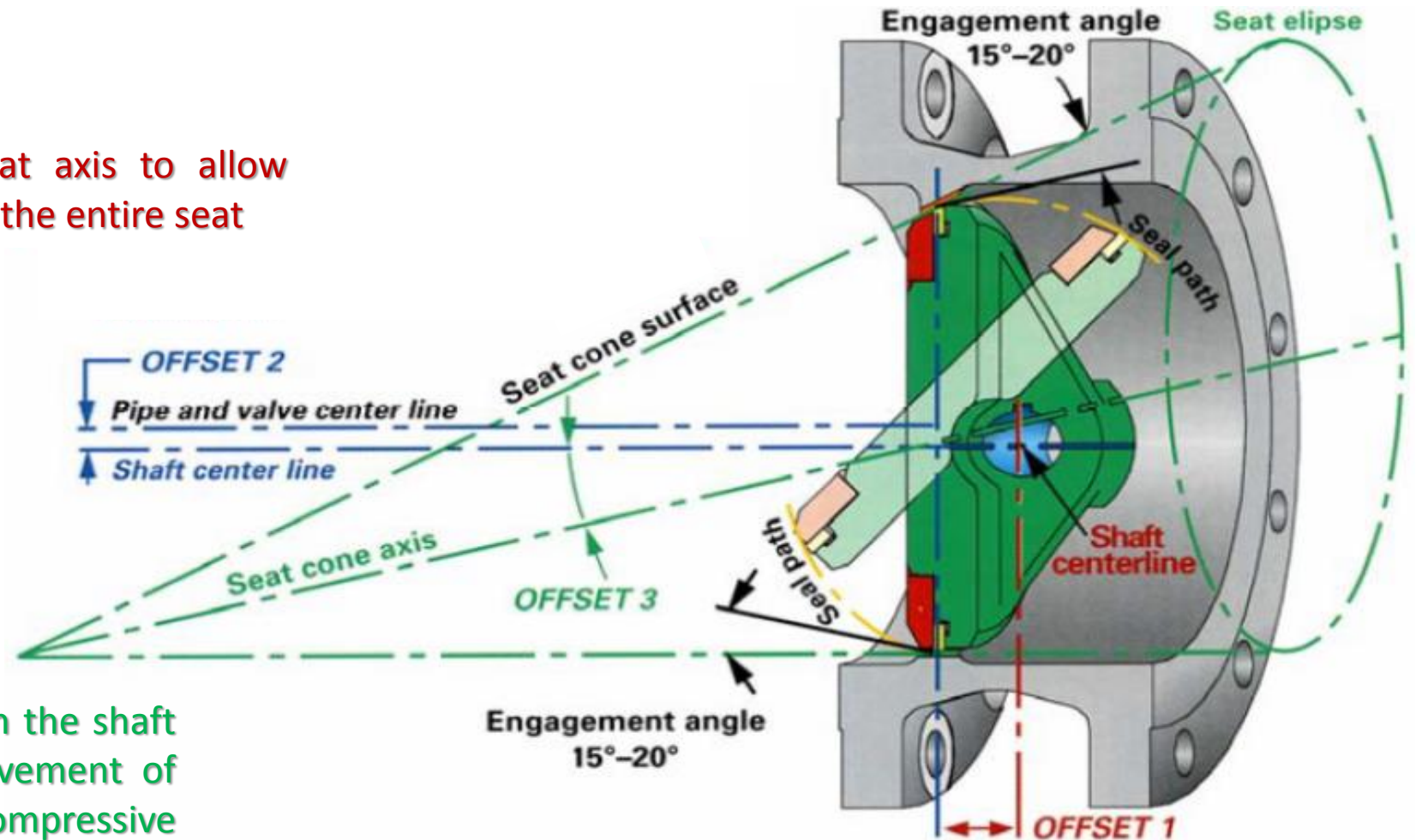
SHAFT is offset behind the seat axis to allow complete sealing contact around the entire seat

### OFFSET 2

SHAFT centerline is offset from the pipe and valve center line which provides interference free movement of DISC

### OFFSET 3

The SEAT cone axis is offset from the shaft to eliminate friction during movement of DISC to achieve uniform compressive sealing around the SEAT



## BENEFITS

- There are no cavities between sealing components, resulting in no clogging, low maintenance and extended life.
- For the harsh conditions of critical process applications, steam isolation and temperature extremes, TOVs provide performance reliability and quality.
- The bi-directional zero leakage closure with a metal seat, even after extensive cycling, provides sealing integrity formerly associated only with soft-seated valves.
- Low torque from quarter-turn action permits smaller actuators and lower cost.
- Fire-tested designs per API 607, 5th Edition/ISO 10497-5.
- Compact design means easier installation since valves are lighter and require less pipe bracing.



## CLIENTS

- FLOWSERVE FLOW CONTROL – Abu Dhabi, UAE
- US SEALIFT COMMAND – US Navy, USA
- ADNOC – Abu Dhabi, UAE
- ArcelorMittal – Lazaro Cardenas, MEXICO
- AHMSA – Monclova, MEXICO
- FLOWSERVE FLOW CONTROL – Abu Dhabi, UAE
- SACM – CDMX, MEXICO

## PROJECTS

12” 600# SS316L Body/Disc, Inconel 625 Seals extended Stem

12”, 14” & 16” 150# SS316 Body, Al-Bronze Disc

14” 300# WCB Body , Al-Bronze Disc

6” 300# SS316 Body/Disc, Inconel 718 Seals

16” 150# SS316 Body/Disc, Lugged Design

Inconel 625 Seals for 12” 600# Butterfly Valves

48” AWWA Butterfly Valve



## OPTIONS OF SPECIAL ALLOY

4Matic provide wide variety of options of special alloys for valves critical applications. These alloys includes:

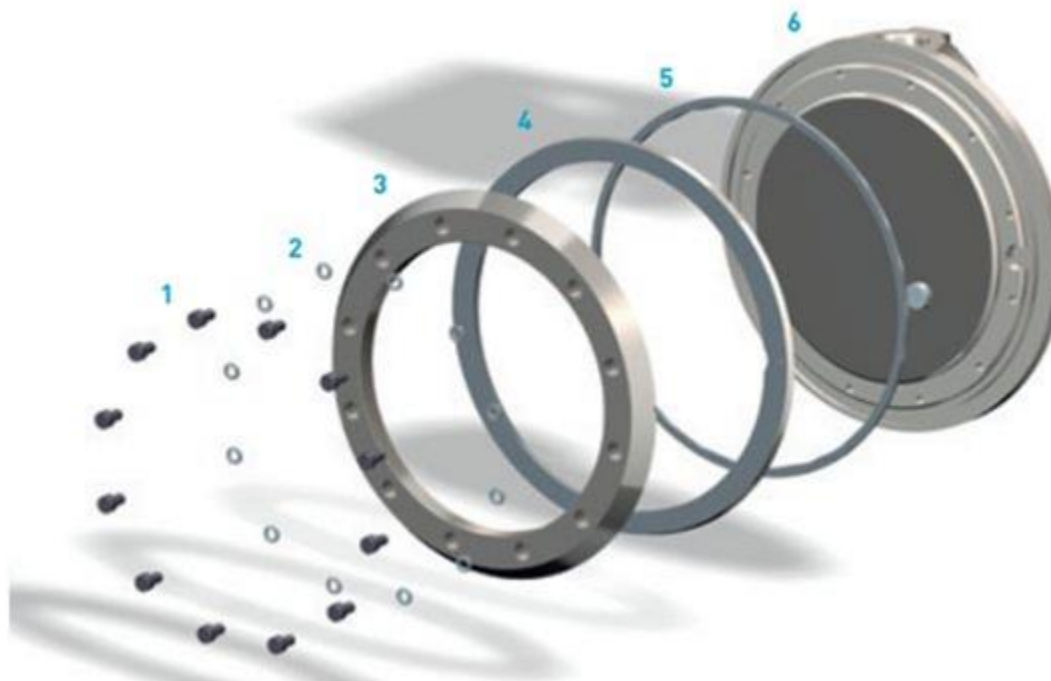
- 316 Stainless Steel
- Duplex Stainless Steel
- Monel K-500
- Inconel
- Stellite
- Aluminum Bronze
- Hastelloy B & C
- Titanium
- Zirconium



## POST SALES SUPPORT & SPARES

4Matic provide comprehensive after sales support and supply of spares for the valves. This includes

- Disc & Pin
- Disc Seal Kit
- Gland Seal Kit
- Body Seal Kit
- Gland Bushing
- Disc Seal Bolts
- Body Seal Bolts
- Spiral Wound Gasket



### KEY

- 1 Bolts
- 2 Washers
- 3 Disc retainer
- 4 Solid seal ring
- 5 Spiral wound gasket
- 6 Disc and reference pin

4Matic engineering facility is equipped to design and manufacture customize solutions, namely:

- Large valves
- Extended Stem
- Long pattern body
- Special alloy overlay



Long pattern body



88" Butterfly Valve



118" Butterfly Valve

4Matic has been on approved or registered vendor list for many public and private business enterprises. This includes;

- Flowserve Flow Control – Abu Dhabi, UAE
- J G Summit Petrochemical Corporation – Batangas, PHILLIPNES
- Yara Industries – Trinidad
- Sistema de Aguas de la ciudad de Mexico (SACM) – CDMX, MEXICO
- ADNOC – Abu Dhabi, UAE
- ZOLTEX Toray Group – Guadalajara, MEXICO
- US Sealift Command – USA
- ALTOS HORNOS DE MEXICO (AHMSA) – Monclova, MEXICO
- JMAR Industrial Services Co – Makati, PHILLIPNES
- ArcelorMittal Lazaro Cardenas – Lazaro Cardenas, MEXICO
- Petrotrin – Pointe-à-Pierre, Trinidad
- Chicago Metropolitan Water Department – Chicago IL, USA
- Cary Public Works Department – Cary IL, USA
- Aguas de Saltillo SA De CV, Saltillo, MEXICO



**INDIA**



AIRA 4MATIC GLOBAL VALVE AUTOMATION  
**AHMEDABAD**

**PAKISTAN**



4MATIC VALVE AUTOMATION (P) LTD  
**LAHORE**  
4MATIC VALVES  
**KARACHI**

**SINGAPORE**



4MATIC LQX SINGAPORE  
**SINGAPORE**

MEXICO



GRUPO RUD  
MONCLOVA  
INDUSTRIAS BELG-W SA DE CV  
SALTILLO  
CONTROL E INSTRUMENTACION EMP SA DE CV  
GUADALAJARA

PHILLIPINES



TECHNOSAM CORPORATION  
MANILA

ISRAEL



RINGEL-TECH LTD  
TEL-AVIV

CHILE



SOLUCIONES INDUSTRIALES QUANTUM LTDA  
SANTIAGO

UAE



ORYX OIL & GAS SUPPLIES AND SERVICES  
ABU DHABI

CARIBBEAN



ANSA TECHNOLOGY LTD,  
SAN FERNANDO, TRINIDAD

**THANKS FOR YOUR TIME  
LOOKING FORWARD TO WORKING WITH YOU**

**USMAN NARMAWALA**