BDK VALVE

A Flow-Control Partnership Built on Four Decades of Engineering Trust

FLOW CONTROL EXPERTS SINCE 1978



AGENDA

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2	BDK’s Core Strength at a glance – about our Manufacturing Excellence
3	BDKs order pipeline and Customer base
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ABOUT US

India's Largest Integrated Valve Manufacturing Facility



47+ YEARS OF ENGINEERING LEGACY

22-Acre INTEGRATED MANUFACTURING CAMPUS

Hubballi KARNATAKA, INDIA

Engineered Valves for Critical Applications

With over four decades of distinguished legacy, BDK Valves stands as **one of India's most experienced and trusted industrial valve manufacturers**, delivering precision-engineered flow control solutions to customers worldwide. Our journey is defined by design excellence, robust engineering, and thousands of successful installations across critical industries.

FOUNDATION · EXPANSION · CERTIFICATION · FLAGSHIP MILESTONE

- **1978** — Business Inception
- **1984** — Registered as BDK Engineering
- **1988** — Global Footprint — Export to Australia
- **1995** — ISO 9001 QMS Certification
- **1996** — API 6D Certification
- **2021** — Business Transformation — BDK Valve
- **2025** — API 609 Certification
- **2026** — API 600 Monogram Audit planned Nov'26

"FROM DESIGN TO DELIVERY, BDK VALVES DELIVERS RELIABILITY — ENGINEERED TO PERFORM WHERE IT MATTERS MOST."

Core Strengths at a Glance

25+
Dedicated Design & Engineering Team Members
More than 350 quotations submission every month

19,800+
Monthly Manufacturing Capacity (Valves/Month)
Capacity offered for varied product range

250+
Customers Served Worldwide
Domestic and International – **85% business through direct OEMS**

Class #4500
We offer 4500 pressure class valves - **one of the highest standard pressure classes as defined by ASME standards**

Testing capabilities



Competitive EDGE

- Diverse product range with dedicated facilities
- State-of-the-art machine shop
- Automated painting facilities
- Process-controlled welding shop, In-house rubber processing unit
- Special type-test facility (fire safe, cryogenic, fugitive emission)
- Valve automation for on/off and control applications

Precision Capability Across the Value Chain



01 Plasma Welding

We offer plasma welding:
- **critical for high precision welding for narrow openings**
- **required for deep and narrow points and penetration**
- **offered for 3" to 32" all class seat welding, as well as**
- **tricentric body: 6, 8, 10 and 12" class 300**



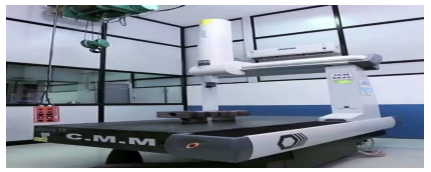
02 Trevisan machining

We use Trevisan machining:
- **cuts down production time for heavy industrial components**
- **Offers precision machining for critical components**
- **Items machined — Gate, Ball, TMBV, Tricentric**



03 Automated Paint Shop

We use Automated paint shop:
- **Conveyor based system – gives high-throughput**
- **Sand blast cleaning – precision cleaning for better painting and surface finish**



04 CMM Testing Facility

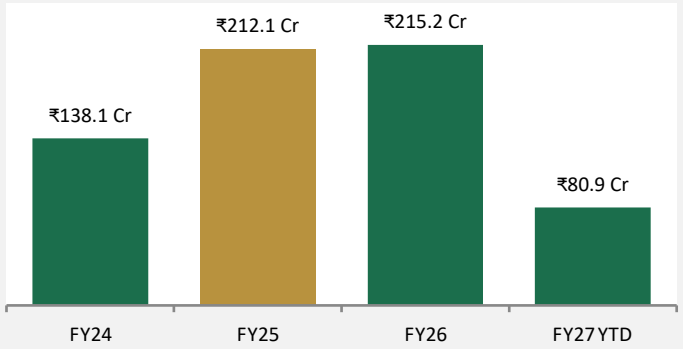
We use CMM Testing facility
- **Unmatched measurement accuracy**
- **Calibration accuracy for complex geometries**
- **Salt Spray testing to test harsh real-worlds scenarios like marine air or salted environments**



05 Ferro ARM

We use Ferro ARM
- **Multi-jointed manual arm probe in 3D space**
- **Computer software translates touch points into digital 3D models**

Sales and order book



Successful consecutive fiscal years in terms of revenue and order book

A healthy order book of

125+ INR Cr.

to suffice next 4 months at any time

TRUSTED BY DOMESTIC & INTERNATIONAL LEADERS

DOMESTIC CUSTOMERS · INDIA

TATA STEEL · JINDAL STEEL · Welspun CORP · HINDUSTAN ZINC · NALCO · AM/NS INDIA · JSW Steel · HINDALCO · UCI UNITED COPPER INDUSTRIES · asianpaints

INTERNATIONAL CUSTOMERS · GLOBAL

NEWCREST MINING LIMITED · BHP · OCP · QATAR STEEL · JIFCO · Konkola Copper Mines plc · MA'ADEN GOLD · MA'ADEN · meta NIKEL KOBALT A.Ş.

ENGINEERING TRACK RECORD – Past 1 year

Major PTRs

#	CUSTOMER / PROJECT	PRODUCTS SUPPLIED	APPLICATION
1	**Adani Mundra Petrochem** **Green PVC, Mundra**	Gate, Globe, Check, Ball, Butterfly & Triple Offset	HCL service, acetylene, hydrogen, plant air, nitrogen
2	**AM/NS Hazira** **AM/NS HAZ UTY PJ7**	Gate, Globe, Check, Ball, Butterfly & Triple Offset	BF gas, flue gas, combustion gas, cogen gas, nitrogen, plant air, oxygen
3	**Jindal Steel & Power, Angul** **Coal Gasification Plant, Angul**	Gate, Globe, Check, Ball, Butterfly	Coal gas, plant air, nitrogen, oxygen, synthetic gases, liquid coolants
4	**Asian Paints (Polymers), Mumbai** **Manual Valves (Lot-3), VAM/VAE Project**	Gate, Globe, Check, Ball	Ethylene gas, acetic acid, Vinyl acetate monometer(VAM), Vinyl Acetate Ethylene(VAE) emulsion
5	**Ion Exchange, Mumbai** **IOCL Panipat P25 Project**	On-off & manual Gate, Globe, Check, Ball	Propylene & Ethylene(Gaseous Olefins), Vacuum Gas Oil(VGO) & Vacuum residue(VR), plant utility water, Maleic Anhydride(MAH) fluids
6	**L&T Kolkata** **Hindustan Zinc, Chanderia Project**	Gate, Globe, Check, Ball, Butterfly, Plug	DAP and PAP, MP Steam, Ammonia Vapor, Liquid Ammonia, Sulphuric Acid, Weak Phosphoric Acid, Ammonium Phosphate
7	**ISGEC Heavy Engineering, Bihar** **IOCL Barauni Refinery**	Gate, Globe, Check	Crude oil, thermal oil, High Speed Diesel Oil, petroleum products, lube oils
8	**HAL Offshore, Mumbai** **Indradhanush Gas Grid, Assam**	Gate, Globe, Check, Ball	Natural gas, Re-gasified LNG, line-pack gas, CNG, PNG
9	**Afcons Infrastructure Ltd** **2nd Liquid Cargo Berth, GCPL Dahej**	Gate, Globe, Check, Ball	Cryogenic Liquids & Gases such as LPG, Propane and Butane, Petroleum Products such as Naphtha, High-Speed Diesel (HSD), and Pyrolysis Gasoline
10	**SAIL Bhillai, Rourkela, Bokaro** **MRO, replacements & expansion**	Gate, Globe, Check, Butterfly	Hydraulic Oils, Industrial Gas & Air, Process Gases (BFG & COG), Cooling Water, Industrial Lubricants

ONCE NOTIFIED, WE ACTED

Key Improvement Initiatives

#	CONCERN	ROOT CAUSE	ACTION TAKEN
1	**On-Time Delivery**	ERP transition from “M3” to “S4 HANA” shortfalls	Sanitised all S4 HANA modules — MM, PP, QM
		Lost patterns/dies during business transformation	Reconciled patterns/dies & developed new ones
		Negotiation & expediting	Segregated purchase activities — strategic (PO release) vs. tactical (expediting) teams
		Patterns, storage and location	New pattern shop; full-time pattern manager
		Weekly/monthly review of orders	Implemented weekly/monthly reviews
2	**Casting & Sub-Supplier**	Vendor capability / capacity	Added/developed casting & machining vendors; added in-house machines
3	**WIP Status**	Warehouse management & traceability	Implemented WMS (Warehouse Management System)
4	**Project Management**	Project milestone tracking	Set up CRM team for milestone tracking & reporting
5	**Documentation Lag**	Post-order documentation	Dedicated documentation & customer-service teams

STATUS: ALL ITEMS COMPLETED

CLIENT VOICE

Pride Projects

Capability Enhancement

01

Customer – AMNS Hazira – Oxygen Service

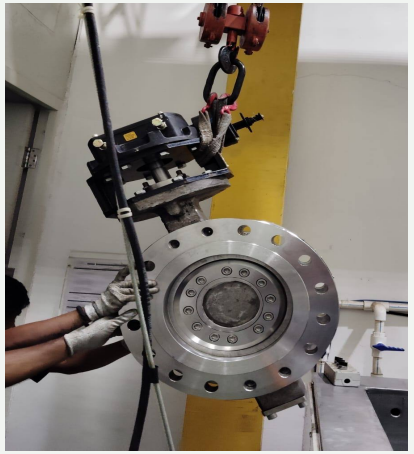
Oxygen service is one of the most demanding and safety-critical duties

Key details -

Tripple Offset BFV – 600mm First-time supply at this size for this critical application

SS body Monel trim BV – 80 mm

SS body SS trim GLV – 150mm





02

Customer – IOCL PDIL Kandla Project

A specialized cryogenic swing check valve designed for extreme sub-zero temperatures (down to -46°C)

Key details -

Swing Check valve– 600mm

#300

LCB body SS 316 trim





03

Customer –Vijay Tanks – Reliance Dahej Project

A cryogenic gate Valve designed for extreme sub-zero temperatures (down to -46°C)

Key details -

Gate valve– 500 mm

#300

LCB body SS 316 trim

Schedule Compliance

Customer – Forbes Marshall – Hydrogen Pressure Reducing System

This project is being executed under Central Gov National Hydrogen Green Mission - system is for H2 Injection to Bast furnace instead of Pulverised Coal to avoid Hazardous Carbon foot print M/s Forbes Marshall is the first supplier who is executing such high-capacity system in India (Capacity is 18000Nm3/hr) - with 100% Helium Leak test and 100% RT

The order was received in June, and we're on track to complete supply by mid-September — a committed 3-month turnaround for a first-of-its-kind, large-size valve.

Key details-

BV 25 mm to 450 mm

CLIENT VOICE

What Our Partners Say

From Anup Kumar Jha <anup.jha@jindalsteel.in>
Date Sat 11/07/2026 16:08
To RamandeepSingh <Ramandeep.Singh@bdkvalve.com>
Cc Anup Kumar Jha <anup.jha@jindalsteel.com>

Dear Mr Ramandeep
Thanks for your support we recieved these valves as per the delivery period and have been able to successfully commission the syngas in Blast furnace

These valves has been operating satisfactorily since the commissioning

Best Regards,

Anup Kumar Jha
Assistant General Manager
CMD - Iron Zone
Jindal Steel Limited
Angul (Odisha)

From Krishanu Bhowmik <krishanu.bhowmik@jindalstainless.com>
Date Wed 15/07/2026 09:49
To RamandeepSingh <Ramandeep.Singh@bdkvalve.com>
Cc Vinod Kumar Giri <vinod.giri@jindalstainless.com>; Romesh Varma <romesh.varma@jindalstainless.com>

Dear Ramandeep Singh,
This Monel Body & Trim Ball Valves supplied by BDK Valve against PO No. 6300006517 were received in October and subsequently installed in the IPPL. Since commissioning, the valves have been operating satisfactorily.

Regards

Krishanu Bhowmik
C.Utility(Energy Cell)

From Bijaya Kumar Nath <bijaya.nath@jindalstainless.com>
Date Sat 11/07/2026 18:24
To RamandeepSingh <Ramandeep.Singh@bdkvalve.com>

Dear,
The received valve has been installed and running satisfactory since Mar 2026 .

Bijay Nath.

Why BDK

Experienced, Growing Team

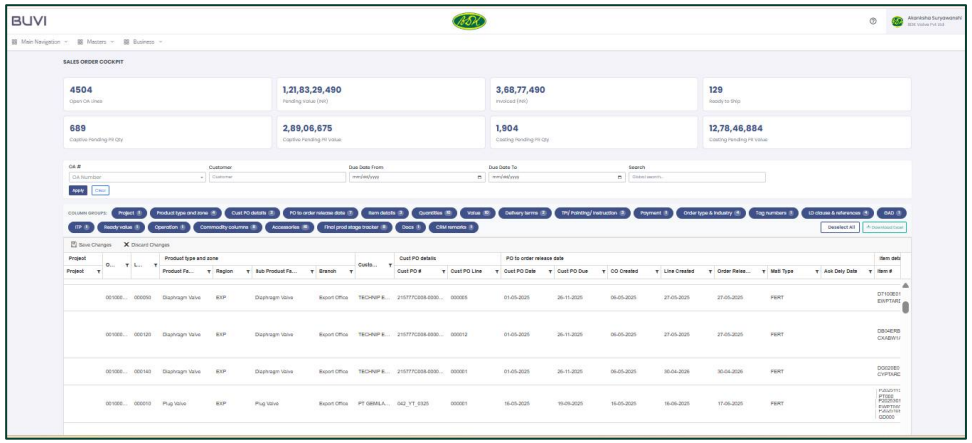
Fresh team with better competence across verticals

Consistent hiring cadence, bringing in experienced valve-industry professionals

Technology-Enabled Tracking

Incorporating technology for real-time production tracking

Improved order visibility and traceability across the shop floor



Continuous Improvement

Driving continuous process improvements through automation, and lean manufacturing practices to enhance productivity

Strengthening cross-functional collaboration to reduce lead times, and ensure on-time delivery of critical valve solutions.

Why BDK

Trusted Brand

- **48 years of legacy with a large installed base, domestic and international**
- Reliable, high-performance products for tough services and flow control
- Emergency shutdown valves with complex automation
- Site supervision and installation support
- On-site and off-site service support with genuine spare parts
- Extended product warranty to 36 months
- Plant safety, reliability and uninterrupted product performance



Design Capabilities

- Design codes API600, API6D, API608, API609, API594, ASME B16.34
- Flange dimensions per ASME B16.5/B16.47, PN10, PN16
- Face-to-face per ASME B16.10, EN558-1
- Shell thickness per API600, ASME B16.34
- Stem diameter per API6D, API600, ASME B16.34, AWWA C504
- Body-bonnet bolting calculation per ASME Sec VIII
- Gear train drive selection per API6D
- Valve testing per API598, EN12266-1, ISO5208



Test Capabilities

- **Degreasing & cleaning room for oxygen service, bright light & UV exposure**
- **Cryogenic prototype test, 250mm bonnet extension per BS6364, to -196°C**
- Low fugitive-emission test per ISO 15848-1 (BH); production test per 15848-2, API622/624/641. Successfully conducted FI Testing tightness class AH, specific PTFE V-ring testing
- Fire-safe type test for soft-seat & metal-seat valves per API607/API6FA
- Helium leak test for gas service & vacuum applications
- Pressure test to #4500 rating (shell 1163 Bar, seat 836 Bar)



Why BDK

PRODUCT PORTFOLIO

we offer complete range of valves across sizes and variations as required

BALL VALVES



- Floating & Trunnion Mounted
- Full Bore & Reduced Bore
- Metal/Soft Seated
- Manual & Actuated

Sizes	Rating	Materials
DN 50 (2") to DN 900 (36")	Class 150 to 1500	WCB, LCB, CF8, CF8M, CF3, CF3M, CD4MCuN, CN7M, H-B, H-C etc.

Complies to BS EN ISO 17292 (BS 5351), API 6D, API 608

GATE, GLOBE & CHECK VALVES



- Gate Valves
- Globe Valves
- Check Valves
- Manual & Actuated

Sizes	Rating	Materials
DN 15 (½") to DN 600 (24")	Class 150 to 2500	WCB, LCB, CF8, CF8M, CF3, CF3M, DSS, Higher Alloys

Complies to API 600, API 602, API 603, API 608, ASME B16.34

BUTTERFLY VALVES



- Wafer, Lug & Double Flanged
- Concentric & High Performance
- Manual & Actuated
- Bi-directional

Sizes	Rating	Materials
DN 50 (2") to DN 1200 (48")	Class 150 to 300	WCB, CF8, CF8M, CF3M, DSS, Higher Alloys

Complies to API 609, ASME B16.34, API 598

DIAPHRAGM VALVES



- Non-Rising Stem
- Straight & Angle Pattern
- Manual & Actuated
- Lined & Unlined

Sizes	Rating	Materials
DN 15 (½") to DN 300 (12")	Class 150 to 300	Cast Iron, WCB, CF8, CF8M, Lined (PTFE, PFA, etc.)

Complies to EN 12266-1, ISO 5208

SPECIALTY VALVES



Control Valves
(Globe / Rotary)

Safety Valves
(Relief / Pressure)

Regulators
(Pressure / Flow)

Actuated Valves & SDVs
(Electrics / Pneumatics)

MANUFACTURING EXCELLENCE

Core Strengths at a Glance

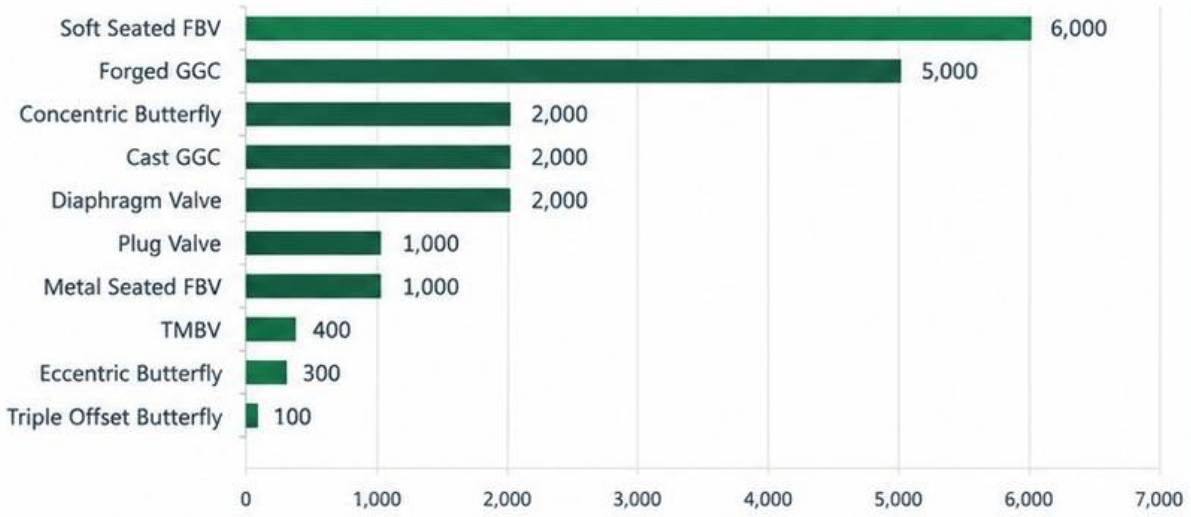
6,000 units/month
Highest Capacity – Soft Seated FBV

5,000 units/month
Forged GGC

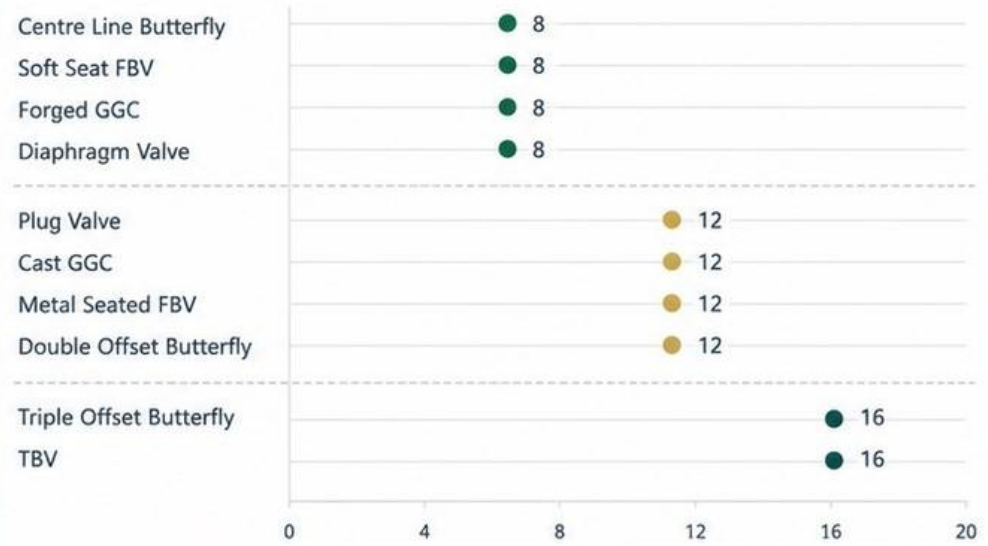
8 – 16 weeks
Portfolio Lead Time

10 product categories
Covered

PRODUCT-WISE MONTHLY CAPACITY (units/month)



PRODUCT-WISE LEAD TIMES (weeks)



KEY TAKEAWAY

High-volume capacity is concentrated in Soft Seated FBV and Forged GGC, while specialty products require longer 12–16 week manufacturing lead times.

BDK Floating Ball Valves

TYPE	One Piece, Two Piece and Three Piece
DESIGN	API 6D, API 608, ISO 17292, ASME B16.34
SIZE RANGE	15mm to 200mm
PRESSURE CLASS	#150 to #1500
ENDS	Screwed, Socket Weld, Flanged Ends
MATERIALS	A105, F11, F22, F91, F304/L, F316/L, LF2, F53, F55, F60, Duplex etc.
OPTIONS	PTFE/RPTFE Seat, Jacketed, Extended Stem, Locking, NACE, 3-Way etc.



BDK Trunnion Ball Valves

TYPE	Two Piece, Three Piece, Top Entry
DESIGN	API 6D, API 608, ISO 17292, ASME B16.34
SIZE RANGE	50mm to 900mm
PRESSURE CLASS	#150 to #1500
TYPE	Trunnion-mounted, split body, DBB, vent & drain, cavity relief, sealant injection
ENDS	Flanged & Butt Weld Ends
MATERIALS	WCB, WC6, WC9, C5, C12/A, CF8/M, CF3/M, Duplex, AL-20 etc.
OPTIONS	Metal Seat, Extended Stem, Locking, NACE, Cryogenic etc.



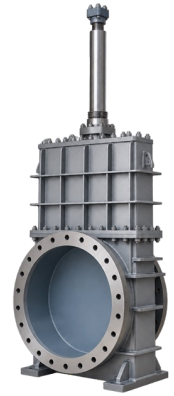
API MONOGRAM

BDK Gate, Globe & Check Valves

TYPE	Bolted & Pressure Seal Bonnet, Parallel Slide, Venturi Port
DESIGN	API 600, API 602, BS1868, BS1873, ASME B16.34
SIZE RANGE	50mm to 1600mm
PRESSURE CLASS	#150 to #2500 (#4500 on request)
ENDS	Flanged & Butt Weld Ends
MATERIALS	WCB, WC6, WC9, C5, C12/A, CF8/M, CF3/M, Duplex, AL-20 etc.
OPTIONS	Stellite Trim, Extended Bonnet, By-Pass, Locking, NACE, Cryogenic etc.

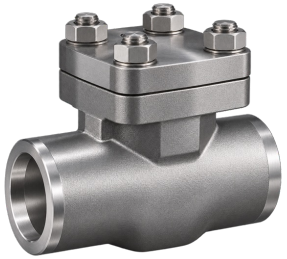






BDK Gate, Globe & Check Valves — Forged

TYPE	Bolted & Welded Bonnet
DESIGN	API 602, BS5352, ASME B16.34
SIZE RANGE	15mm to 50mm
PRESSURE CLASS	#150 to #4500
ENDS	Screwed, Socket Weld, Flanged & Butt Weld Ends with welded pups
MATERIALS	A105, F11, F22, F91, F304/L, F316/L, LF2, F53, F55, F60, Duplex etc.
OPTIONS	Stellite Trim, Extended Bonnet, Locking, NACE, Cryogenic etc. (welded bonnet optional)







API MONOGRAM

BDK Butterfly Valves

TYPE	Concentric and Double-Offset High-Performance Design
DESIGN	API 609, EN593, ASME B16.34
SIZE RANGE	50mm to 3000mm
PRESSURE CLASS	PN6 to PN16, #150 to #600
TYPE	Centre Line and Double Offset, replaceable or bonded seat, mounts between flanges
ENDS	Wafer, Lugged and Flanged
MATERIALS	CI, DI, WCB, CF8, CF8M, CF3, CF3M, Duplex etc.
LINING & SEAT	Natural, Neoprene, Butyl, Hypalon, Nitrile, EPDM, Viton etc.
OPTIONS	Rubber seat, Zero Leak, Tight Shut-Off, Extended Stem, Locking etc.







BDK Triple Offset Butterfly Valves

TYPE	Laminated Metal Seat, Cast
DESIGN	API 609, ASME B16.34
SIZE RANGE	80mm to 3000mm
PRESSURE CLASS	#150 to #600
ENDS	Wafer, Lugged & Flanged Ends
MATERIALS	WCB, WC6, WC9, C5, C12/A, CF8/M, CF3/M, Duplex, AL-20 etc.
DISC SEAT (SEAL STACK)	Duplex 31803 or SS316 + Graphite laminated seat on disc (PTFE on request)
OPTIONS	Metal Seat, Fire Safe, Jacketed, Extended Stem, Locking, NACE, Cryogenic etc.



API MONOGRAM

BDK Diaphragm Valves

TYPE	Weir Type & Straight Type
DESIGN	BS5156, DIN 3202, EN13397, MSS-SP-88, EN558-1
SIZE RANGE	15mm to 500mm
PRESSURE CLASS	PN6 to PN16
ENDS	Screwed & Flanged Ends
MATERIALS	CI, DI, WCB, CF8, CF8M, CF3, CF3M, Duplex etc.
LINING & DIAPHRAGMS	Natural, Neoprene, Butyl, Hypalon, Nitrile, EPDM, PTFE, Viton etc.
OPTIONS	Extended Stem, Locking, Rising & Non-Rising Handwheel Bonnets







BDK Plug Valves

TYPE	PTFE Sleeved, 2-Way & 3-Way
DESIGN	API 599, ASME B16.34
SIZE RANGE	15mm to 600mm
PRESSURE CLASS	#150 to #600
BORE	Reduced Bore and Full Bore
TYPE	Caged, Jacketed, Fire Safe, Low FET
ENDS	Screwed, Socket Weld, Butt Weld & Flanged Ends
MATERIALS	WCB, WC6, WC9, C5, C12/A, CF8/M, CF3/M, Duplex, AL-20 etc.
OPTIONS	PTFE Sleeve, Cavity-Free Design, Jacketed, 3-Way, Extended Stem, Locking, NACE etc.







API MONOGRAM

BDK Check Valves

TYPE	Check Valves
DESIGN	API 594, ASME B16.34
SIZE RANGE	15mm to 1600mm
PRESSURE CLASS	PN6 to PN16
TYPE	Dual Plate, Single Plate, Non-Slam Spring Disc, Rubber-Lined Check Valves
ENDS	Wafer and Flanged Ends
MATERIALS	CI, DI, WCB, CF8, CF8M, Duplex etc.
OPTIONS	Metal Seat, Soft Seat, O-Ring Seal

Non-return, uni-directional, tight shut-off, low pressure drop, minimum cracking pressure — economical solution for pump suction/discharge and reverse-flow check on storage tanks. Metal seat and soft seat options.







BDK Cryogenic Valves

TYPE	Cryogenic Severe-Service Valves
DESIGN	BS6364, API600, API602, API609, ANSI B16.34
SIZE RANGE	15mm to 600mm
PRESSURE CLASS	150 to 600
TEMPERATURE	-46°C to -196°C
TYPE	Gate, Globe, Ball and Butterfly Valves
ENDS	Flanged, Buttweld, Wafer Lugged Ends
MATERIALS	LF2, F304, F316, LCB, LCC, CF8, CF8M etc.
SPECIALS	250mm bonnet extension, prototype-tested to BS6364 with nitrogen & helium gas







BDK Lined Valves

TYPE	Fluoro Plastic Lined Valves
DESIGN	BS5155, EN593, ISO17292
SIZE RANGE	15mm to 600mm
TYPES	Diaphragm, Butterfly, Ball, Plug, Ball Check and Wafer Check Valves
PRESSURE CLASS	PN6 to PN16
ENDS	Wafer, Lugged & Flanged Ends
MATERIALS	DI, WCB, CF8, CF8M, CF3, CF3M, Duplex etc. with PFA or ETFE lining
OPTIONS	PFA Lining, Replaceable Seat, Extended Stem, Locking, NACE etc.

Light weight, bubble-tight shut-off, longer seat life, virtually zero maintenance — suited to highly corrosive service (acid, alkali, chlorine etc). Internal body fully PFA-lined, no fluid contact, replaceable spare parts.

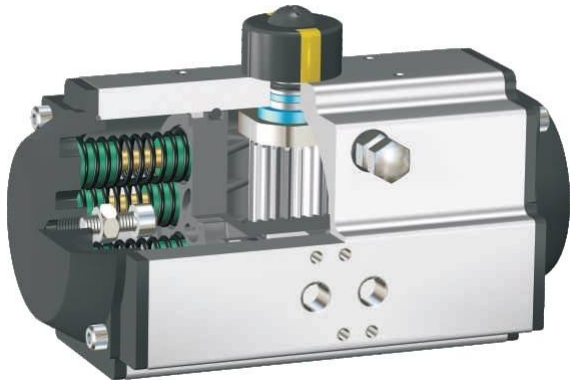


BDK Pneumatic Actuators

TYPE	Pneumatic Actuators
DESIGN	Manufacturer's Standard
SIZE RANGE	Up to 50,000 Nm single acting; up to 100,000 Nm double acting
PRESSURE	3.0 to 7.0 Bar
TYPES	Rack & Pinion / Scotch Yoke; gear-type MOR or hydraulic jack-type MOR
ACTION	Fail Close / Fail Open (single-acting spring return); Fail Last (double acting)
MATERIALS	Rack & Pinion: aluminium body. Scotch Yoke: ductile iron body with CS cylinders

Compact, heavy-duty, quarter-turn. ISO mounting to suit Ball, Butterfly and Plug valves. Qualified for 1 million cycles, weatherproof IP67, SIL-3 certified. NAMUR mounting for solenoid valve, limit switch and other accessories.









Certified Documentation — API

API 6D & API 609 MONOGRAM CERTIFICATES



Certificate of Authority to use the Official API Monogram

License Number: 6D-2093 **ORIGINAL**

The American Petroleum Institute hereby grants to

BDK VALVE PRIVATE LIMITED
47/48, Gokul Road
Hubballi , Karnataka
India

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-6D** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **6D-2093**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Ball Valves, Check Valves, Gate Valves, Plug Valves

American Petroleum Institute

CORPORATE SEAL

2018-151 | Digital

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: APRIL 11, 2026
Expiration Date: APRIL 11, 2029

To verify the authenticity of this license, go to www.api.org/compositelist.

Senior Vice President of Global Industry Services



Certificate of Authority to use the Official API Monogram

License Number: 609-0321 **ORIGINAL**

The American Petroleum Institute hereby grants to

BDK VALVE PRIVATE LIMITED
47/48, Gokul Road
Hubballi , Karnataka
India

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-609** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **609-0321**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Butterfly Valves - Category A, Butterfly Valves - Category B

American Petroleum Institute

CORPORATE SEAL

2018-151 | Digital

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: APRIL 11, 2026
Expiration Date: APRIL 11, 2029

To verify the authenticity of this license, go to www.api.org/compositelist.

Senior Vice President of Global Industry Services

Certified Documentation — PED & ATEX



ZERTIFIKAT ◆ CERTIFICATE ◆ 证书 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV Industrie Service

CERTIFICATE

The Certification Body of
TÜV SÜD Industrie Service GmbH,
a Notified Body of the Pressure Equipment Directive (PED),

certifies that

SWIMS Technologies Private Limited
47/48, Gokul Road
Hubballi - Dharwad - 580030
Karnataka, India

implemented, operates and maintains a quality assurance system as described in the Pressure Equipment Directive 2014/68/EU
Annex III, Module H

for the scope of

Design, Manufacturing of
gate, globe, swing check, lift check, ball, plug, diaphragm, butterfly, dual plate check, triple offset butterfly valves

The audit with the report number Q-IND-PED-021477-004-22 proves that the quality assurance system fulfils the PED requirements.

The manufacturer is authorized to provide the pressure equipment produced within the scope of the assessed quality assurance system with the following Notified Body Number:

CE 0036

Certificate No.: DGR-0036-QS-1389-22

valid until July 27th, 2025
provided that annual surveillance audits have been performed successfully

Filderstadt, August 31st, 2022

Martina John
Notified Body No.: 0036

TÜV SÜD Industrie Service GmbH
Westendstraße 199
80686 München
Germany
www.tuvsud.com/de-ie

Tel.: +49 711 70 05 289
Fax: +49 711 70 05 562
e-mail: martina.john@tuvsud.com

TÜV SÜD Industry Services · PED-QA-Certification Body · Germany

TÜV

PED 2014/68/EU



TÜV INDIA
TÜV NORD Group

Statement of Confirmation

(1) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(2) **Statement Number** : **TUV IN 2021 ATEX 0005 X** **Issue: 00**

(3) For the equipment :
1. **Butterfly Valve**
2. **Triple Offset Butterfly Valve**
3. **Plug Valve**

(4) Of the manufacturer / applicant : **Trillium Flow Technologies India Pvt. Ltd.**
47/48, Gokul Road, Hubballi – 580027, Karnataka, India.

(5) In reference to the technical file : ATEX_Valves_002, rev 00

(6) This equipment and any acceptable variation thereto are specified in the schedule to this statement of confirmation and the documents therein referred to.

(7) TUV India confirms that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres. This confirmation is assured by reviewing the stated technical file submitted by manufacturer / applicant.

(8) Compliance with the Essential Health and Safety Requirements has been assured by referring to the following harmonized standard/s:
EN ISO 80079-36:2016 EN ISO 80079-37:2016

(9) If the sign "X" is placed after the statement number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this statement.

(10) This statement of confirmation relates only to the design verification and tests of the specified equipment in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this statement.

(11) The marking of the equipment or protective system must include the following:
II 3G Ex h IIA T6...T1 Gc

(12) Date of Issue: 09-10-2020 Order number: 8117703749

Mahesh Gaur
General Manager – Product Certification
TUV INDIA Private Limited

Registered & Head Office: 801, Raheja Plaza I, LBS Marg, Ghatkopar (W), Mumbai 400 086.
Email: info.india@tuv-nord.com, Website: www.tuv-nord.com/in, Telephone: +91-22-66477000, Toll Free Number: 1800-208-0902.

This Statement of Confirmation is valid under the conditions stated overleaf.

TUV-IN-PD_EX-F_09, Issue no. 01, Issue date. 01/04/2020, Revision no. 0 page 1/3

ATEX 97/9/EC

Certified Documentation — ISO Management Systems

ISO 9001 · ISO 14001 · ISO 45001 — INTEGRATED MANAGEMENT SYSTEM CERTIFICATES



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATE

The Certification Body
of TÜV SÜD South Asia Private Limited
certifies that

BDK VALVE PRIVATE LIMITED
Flat No.: 47/48. GOKUL ROAD Dharwad.
Karnataka, Hubballi - 580 030, India

has implemented Quality Management System
in accordance with ISO 9001:2015
for the scope of

Design, Manufacture,
Marketing and Supply of Industrial Valves, Actuators & Spares.

The certificate is valid from 2025-08-05 until 2028-08-04
Subject to successful completion of annual periodic audits
The present status of this certificate can be obtained through TUV SUD website by scanning below QR code and by entering the certificate number (without spaces) on web page. Further clarifications regarding the status & scope of this certificate may be obtained by consulting the certification body at info.in@tuvsud.com

Certificate Registration No. 99 100 24929
Date of Initial certification: 2025-08-05
Issue Date: 2025-08-05 Rev. 00

Rahul Kale
Head of Certification Body
of TÜV SÜD South Asia Private Limited,
Mumbai
Member of TÜV SÜD Group

TÜV SÜD South Asia Pvt. Ltd. ● TÜV SÜD House ● Saki Naka ● Andheri (East) ● Mumbai – 400072 ● Maharashtra ● India



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATE

The Certification Body
of TÜV SÜD South Asia Private Limited
certifies that

BDK VALVE PRIVATE LIMITED
Flat No.: 47/48. GOKUL ROAD Dharwad.
Karnataka, Hubballi – 580 030, India

has implemented Environmental Management System
in accordance with ISO 14001:2015
for the scope of

Design, Manufacture,
Marketing and Supply of Industrial Valves, Actuators & Spares.

The certificate is valid from 2025-08-05 until 2028-07-17
Subject to successful completion of annual periodic audits
The present status of this certificate can be obtained through TUV SUD website by scanning below QR code and by entering the certificate number (without spaces) on web page. Further clarifications regarding the status & scope of this certificate may be obtained by consulting the certification body at info.in@tuvsud.com

Certificate Registration No. 99 104 01427
Date of Initial certification: 2022-07-18
Issue Date: 2025-08-05 Rev. 00

Rahul Kale
Head of Certification Body
of TÜV SÜD South Asia Private Limited,
Mumbai
Member of TÜV SÜD Group

TÜV SÜD South Asia Pvt. Ltd. ● TÜV SÜD House ● Saki Naka ● Andheri (East) ● Mumbai – 400072 ● Maharashtra ● India



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATE

The Certification Body
of TÜV SÜD South Asia Private Limited
certifies that

BDK VALVE PRIVATE LIMITED
Flat No.: 47/48. GOKUL ROAD Dharwad.
Karnataka, Hubballi – 580 030, India

has implemented Occupational Health and Safety Management System
in accordance with ISO 45001:2018
for the scope of

Design, Manufacture,
Marketing and Supply of Industrial Valves, Actuators & Spares.

The certificate is valid from 2025-08-05 until 2028-07-17
Subject to successful completion of annual periodic audits
The present status of this certificate can be obtained through TUV SUD website by scanning below QR code and by entering the certificate number (without spaces) on web page. Further clarifications regarding the status & scope of this certificate may be obtained by consulting the certification body at info.in@tuvsud.com

Certificate Registration No. 99 117 00899
Date of Initial certification: 2022-07-18
Issue Date: 2025-08-05 Rev. 00

Rahul Kale
Head of Certification Body
of TÜV SÜD South Asia Private Limited,
Mumbai
Member of TÜV SÜD Group

TÜV SÜD South Asia Pvt. Ltd. ● TÜV SÜD House ● Saki Naka ● Andheri (East) ● Mumbai – 400072 ● Maharashtra ● India

Certified Documentation — SIL

SIL-3 CAPABILITY CERTIFICATES — B-TORQ ACTUATORS & DOUBLE ECCENTRIC BUTTERFLY VALVES (EXIDA)



exida

Certificate / Certificat
Zertifikat / 合格証

BDK 2405141 C001

exida hereby confirms that the:

B-TORQ Scotch Yoke Actuator
BSY 40 - BSY 600

BDK Valve Private Limited
Karnataka - India

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-2

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

PFH/PFD_{avg} and Architecture Constraints must be verified for each application

Safety Function:
The actuator will move to the designed safe position per the valve design within the specified safety time.

Application Restrictions:
The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.

Revision 1.0 October 29, 2024
Surveillance Audit Due
November 01, 2027

Evaluating Assessor

Certifying Assessor

Page 1 of 2



exida

Certificate / Certificat
Zertifikat / 合格証

TRI 2101026 C001

exida hereby confirms that the:

Double Eccentric Butterfly Valve
MOD 95, 95L &95F

BDK Valve Private Limited
Karnataka - India

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-2

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

PFH/PFD_{avg} and Architecture Constraints must be verified for each application

Safety Function:
The butterfly valve will move to the designed safe position per the actuator design within the specified safety time.

Application Restrictions:
The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.

Revision 2.0 October 29, 2024
Surveillance Audit Due
May 01, 2027

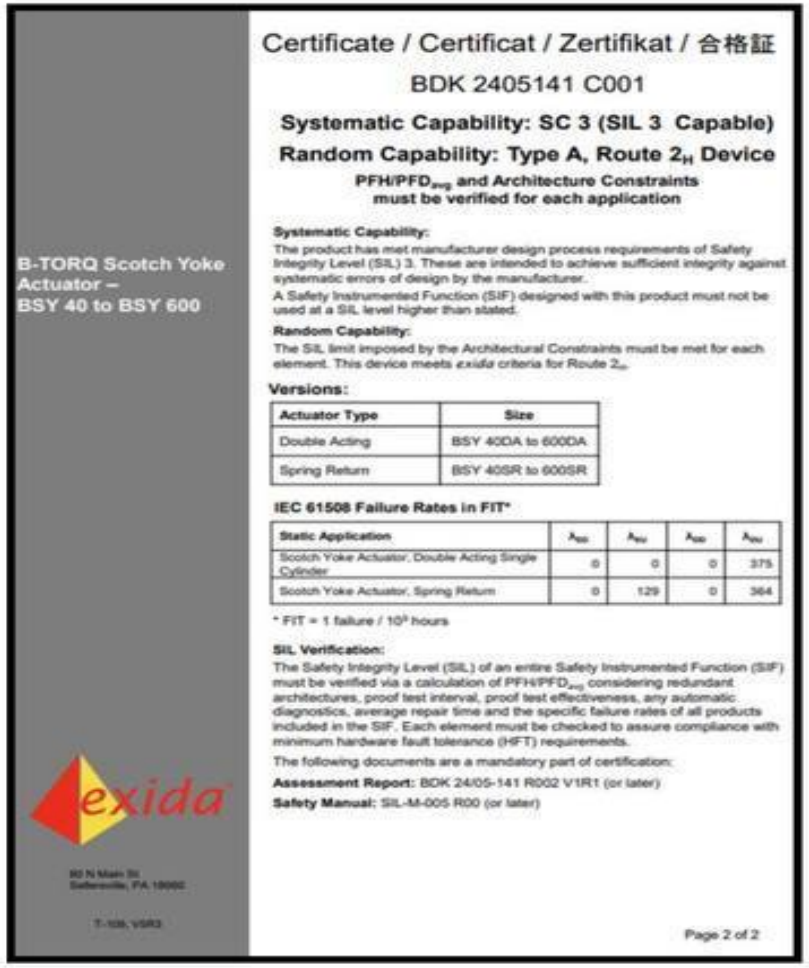
Evaluating Assessor

Certifying Assessor

Page 1 of 2

Certified Documentation — SIL

SIL-3 CAPABILITY CERTIFICATES — B-TORQ ACTUATORS & DOUBLE ECCENTRIC BUTTERFLY VALVES (EXIDA)



B-TORQ Scotch Yoke Actuator – BSY 40 to BSY 600

Certificate / Certificat / Zertifikat / 合格証

BDK 2405141 C001

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

PFH/PFD_{avg} and Architecture Constraints must be verified for each application

Systematic Capability:

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

Random Capability:

The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets *exida* criteria for Route 2_H.

Versions:

Actuator Type	Size
Double Acting	BSY 40DA to 600DA
Spring Return	BSY 40SR to 600SR

IEC 61508 Failure Rates in FIT*

Static Application	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
Scotch Yoke Actuator, Double Acting Single Cylinder	0	0	0	375
Scotch Yoke Actuator, Spring Return	0	129	0	364

* FIT = 1 failure / 10^9 hours

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Assessment Report: BDK 24/05-141 R002 V1R1 (or later)

Safety Manual: SIL-M-005 R00 (or later)

Page 2 of 2



Double Eccentric Butterfly Valve – MOD 95, 95L & 95 F

Certificate / Certificat / Zertifikat / 合格証

TRI 2101026 C001

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

PFH/PFD_{avg} and Architecture Constraints must be verified for each application

Systematic Capability:

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

Random Capability:

The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets *exida* criteria for Route 2_H.

Versions:

Valve Type	Bore Sizes	Pressure Class
Double Eccentric Butterfly Valve – MOD 95, 95L & 95F	2" to 40"	150#, 300#

IEC 61508 Failure Rates in FIT*

Static Application – Clean Service	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
Full Stroke	0	0	0	483
Tight Shut-Off	0	0	0	1122
Open on Trip	0	105	0	378

* FIT = 1 failure / 10^9 hours

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Assessment Report: TRI 21/01-026 R008 V2R1 (or later)

Safety Manual: SIL-M-002 R0 (or later)

Page 2 of 2

ENGINEERING TRACK RECORD, WORLDWIDE

New Products Developed



30” Trunnion Ball — Dragon Oil Field, Turkmenistan



28” Triple Offset Butterfly for Numaligarh Refinery



12” Top Entry Ball — Golar GIMI FLNG, Singapore



18” #900 Trunnion Ball — Adani Petrochemicals, India



28” Wedge Gate — ENEL Power, Russia

New Products Developed



12” Parallel Slide Gate — SRS Refinery, UAE



40” Damper Check — NTPC, India



32” Triple Offset Butterfly — Tata Steel, India



24” Top Entry Ball Valve — KBR, USA

New Products Developed



96” Butterfly — IOCL Paradip Refinery



Thank You

Flow Control Experts Since 1978

BDK Valve Private Limited
47/48, Gokul Road, Hubballi, Karnataka, India

SECTION

Appendix

Service Records · Certification Originals

Comprehensive Testing & Engineering Capabilities

ADVANCED TESTING LABORATORY

STATE-OF-THE-ART TESTING FACILITY equipped for the most stringent international standards, ensuring every valve meets or exceeds customer specifications.

- Fire Safe Test — API 607 / API 6FA
- Cryogenic Test up to -196°C (BS 6364)
- Pneumatic Leak Test
- Cyclic Tests — High & Low Temperatures
- Torque Test
- Vacuum Test
- Rubber Sample Test
- NDT (RT, MP, DP, UT)
- PMI Test
- Strip Test
- Fugitive Emission Test — ISO 15848
- Helium Leak Test — Sniffer Probe Method
- High Pressure Gas Test & Oxygen Degreasing
- Hydro Leak Test

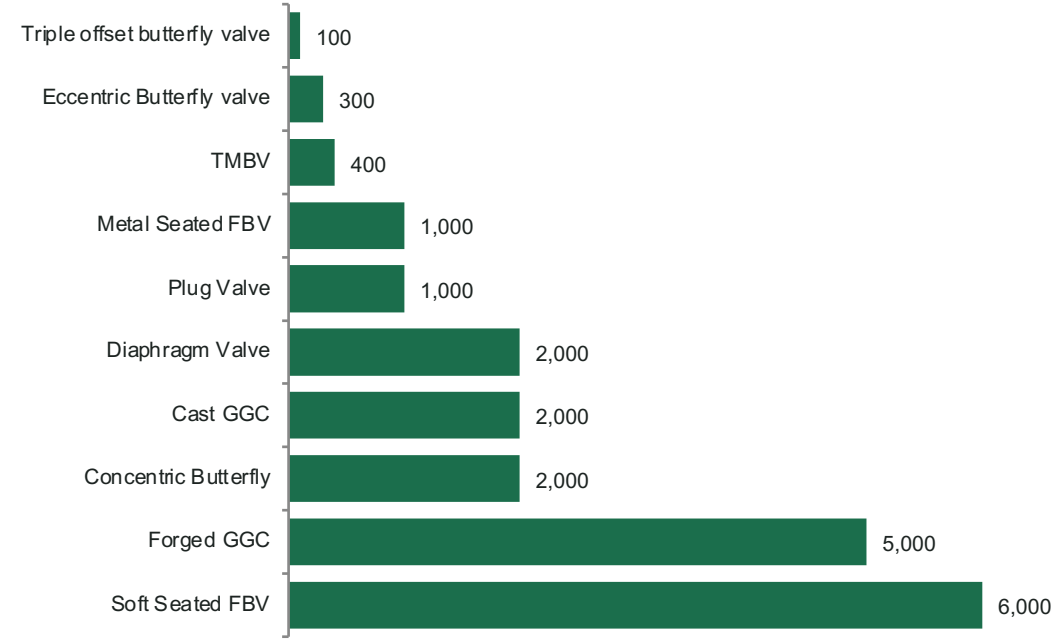
ENGINEERING EXCELLENCE

DIGITAL ENGINEERING CAPABILITIES combined with advanced analysis tools for optimal product design and validation before manufacturing.

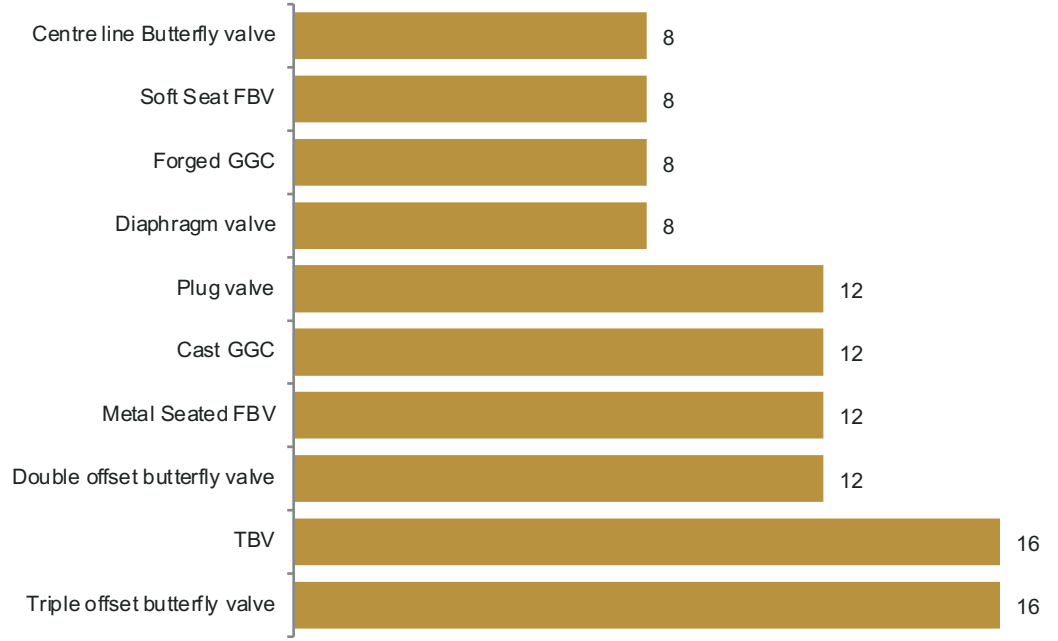
- 3D Solid Modelling & FEA Analysis Capabilities
- Virtual Design & Product Validation via SolidWorks
- Accelerated New Product Development for Localisation
- VA/VE & Product Optimisation Processes
- Stringent Stage-Gate Process for New Products

Core Strengths at a Glance

PRODUCT-WISE MONTHLY CAPACITY (units/month)



PRODUCT-WISE LEAD TIMES (weeks)



OUR COMPLIANCE REGISTER

Quality Certifications

SR.	CERTIFICATION	CERTIFYING BODY	VALIDITY	STATUS
01	**API 6D Monogram (Ball, Plug, Check & Gate Valves)**	API	Apr 2029	VALID
02	**API 609 Monogram (Butterfly Valves)**	API	Apr 2029	VALID
03	**PED 2014/68/EU (CE Marking)**	TUV India	Jul 2028	VALID
04	**SIL-3 (Ball, Butterfly, Pneumatic Actuators)**	EXIDA	May 2027	VALID
05	**ATEX 97/9/EC**	TUV India	—	VALID
06	**API 591 (Design Validation)**	TUV India	—	VALID
07	**ISO 9001:2015 (QMS)**	TUV India	Aug 2028	VALID
08	**ISO 14001:2015 (EHS)**	TUV India	Jul 2028	VALID
09	**ISO 45001:2018 (OHSAS)**	TUV India	Jul 2028	VALID

All certifications are current and independently verifiable; scanned originals are provided in the appendix.

Industries Served


PETROCHEMICALS


OIL & GAS (MID & DOWNSTREAM)


WATER & EFFLUENTS


POWER


STEEL


GENERAL INDUSTRY


MINING


CHEMICAL & PROCESS


FOOD & PHARMA

New Products Developed



96" Butterfly Valve

IOCL Paradip Refinery



24" Top Entry Ball Valve

KBR, USA



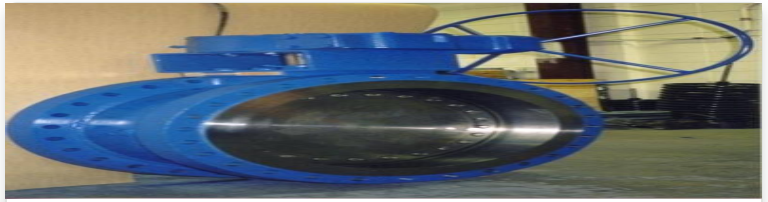
18" #900 Trunnion Ball Valve

Adani Petrochemicals, India



30" Trunnion Ball Valve

Dragon Oil Field, Turkmenistan



12" Top Entry Ball Valve

Golar GIMI FLNG, Singapore



28" Triple Offset Butterfly

Numaligarh Refinery



28" Wedge Gate Valve

ENEL Power, Russia



12" Parallel Slide Gate

SRS Refinery, UAE



40" Damper Check Valve

NTPC, India

ONCE NOTIFIED, WE ACTED

Our Response: Service & Resolution Record

SEP 21, 2024

TSK BOF-2

Joint diagnostics with Auma on actuator travel-nut fault

OCT 4–7, 2024

TSK BOF-2

Actuator repairs across V107/V109 valve series; gland packing supplied FOC

OCT 8–12, 2024

NOAMUNDI (IOPP)

61 valves inspected; solenoid coils replaced across the site

OCT 19, 2024

TSK BOF-2

Urgent spare parts dispatched for damaged actuator components

NOV 21–23, 2024

NOAMUNDI AREA

14-valve inspection drive; root-caused recurring limit-switch water ingress

DEC 2–3, 2024

TSK

Ball valve seat replacement after hydrotest damage

Petroleum Development Oman — Approved Vendor Documentation

From: vendor_registration@pdo.co.om <vendor_registration@pdo.co.om>
Sent: 07 April 2026 09:28
To: ParagBSalvi <Parag.BSalvi@bdkvalve.com>
Subject: Your product is technically approved by PDO

Dear Supplier,

Thank you for taking part in the PDO supplier qualification process.Your below products are technically approved by PDO.

Supplier Name :BDK VALVE PRIVATE LIMITED
Supplier id :0001404391

Please note audit report has been approved successfully for below categories .

Material Group	Material group Description	Country	Facili
77DAAB	VLV,GLOBE,1/2"-4",150#-2500#,CS,LTCS,SS	India	47/48, C
77DAAC	VLV,GLOBE,6"-16",150#-2500#,CS,LTCS,SS	India	47/48, C
77DAAD	VLV,GLOBE,1/2"-4",150#-2500#,DSS,SDSS,ALY 825/625	India	47/48, C
77DAAE	VLV,GLOBE,6"-16",150#-2500#,DSS,SDSS,ALY 825/625	India	47/48, C
77DABA	VLV,GATE,1/2''-4";150#-600#,SOLID,FLEXI,CS,LTCS,SS	India	47/48, C
77DABK	VLV,GATE,8-24",150#-2500#,SOLID,FLEXI,CS,LTCS,WO ALY 825/625	India	47/48, C
77DABB	VLV,GATE,1/2"-4",900#-2500#,SOLID,FLEXI,CS,LTCS,SS	India	47/48, C
77DABC	VLV,GATE,6"-24",150#-600#,SOLID,FLEXI,CS,LTCS,SS	India	47/48, C
77DABD	VLV,GATE,6"-24",900#-2500#,SOLID,FLEXI,CS,LTCS,SS	India	47/48, C
77DABE	VLV,GATE,1/2"-4",150#-2500#,SOLID,FLEXI,DSS,SDSS	India	47/48, C
77DABF	VLV,GATE,6"-24",150#-2500#,SOLID,FLEXI,DSS,SDSS	India	47/48, C
77DABG	VLV,GATE,1/2"-8",150#-2500#,SOLID,FLEXI,ALY 825/625	India	47/48, C
77DABH	VLV,GATE,26"-36",150#-2500#,FLEXI,CS,LTCS,SS	India	47/48, C
77DABJ	VLV,GATE,26"-36",150#-2500#,FLEXI,DSS,SDSS	India	47/48, C
77DACA	VLV,CHECK,1/2''-2",150#-2500#,PISTON,CS,LTCS,SS	India	47/48, C
77DACB	VLV,CHECK,1/2''-2",150#-2500#,PISTON,DSS,DSS,SDSS	India	47/48, C
77DPBE	GLOBE VALVE;6 to 12 in;CL150 to 2500;CS	India	47/48, C
77DPBA	GLOBE VLV;24to48in;CL150 to 2500;CS;DSS;SS;Al625/825/OVERLAY	India	47/48, C

PDO recommendation is to deal directly without middle company.

Note 1: Please confirm if you need to deal directly with PDO within 3 working daysfrom receiving this email and contact below PDO vendor management lead .
Note 2: If you still want to do business with PDO through Local agent ,please ensure local agent is registered to PDO and if not please contact below PDO vendor management lead.

Al Sadrani, Ali ISCM51
Email : Ali.AHS.Sadrani@pdo.co.om
Phone : +96824672814
(Vendor Management Snr.Specialist)

Best regards,

ISCM5/PDO Vendor Management Team