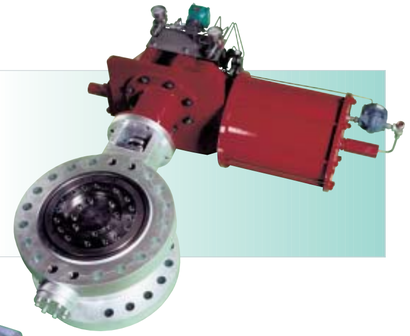
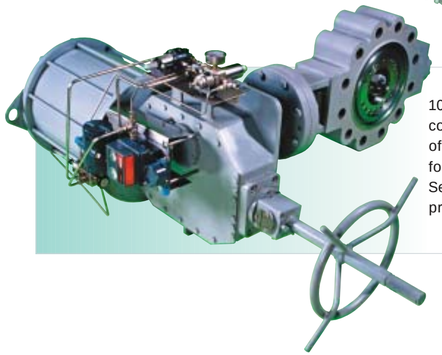
Typical applications for Tritec control valves

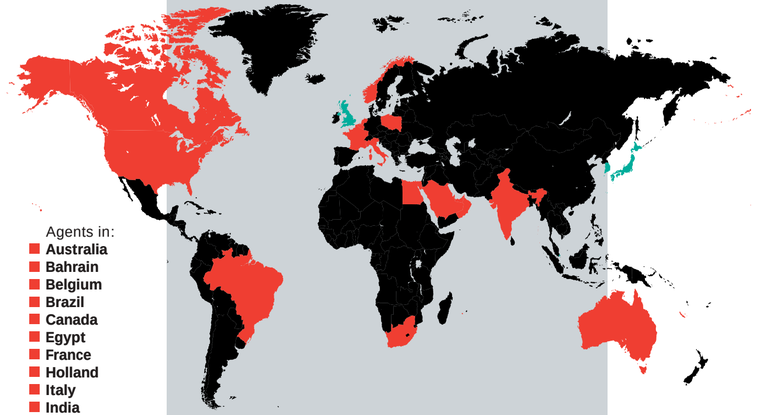


8" Double Flanged 2500 lb RTJ Tritec Triple Offset control valve with pneumatic actuator and controls, part of a batch of high pressure control valves for a Chinese fertilizer plant. The valves are on Synthesis gas at temperatures up to 450ºC.



10" Lugged 1500 lb RTJ Tritec Triple Offset control valve with actuator & controls, part of a batch of valves supplied for an FPSO for use in the Norwegian sector of the North Sea. The valves are on Hydrocarbon service providing full control and zero leakage.

24" Wafer 150 lb RF Tritec Control valve with actuator & controls, supplied for use on a chemical plant in the north east of England. The valves are on Toxic hydrocarbon gas on full control duty.



Agents in:

- **Australia**
- **Bahrain**
- **Belgium**
- **Brazil**
- **Canada**
- **Egypt**
- **France**
- **Holland**
- **Italy**
- **India**
- **Kuwait**
- **Norway**
- **Oman**
- **Poland**
- **Qatar**
- **Saudi Arabia**
- **South Africa**
- **U.A.E.**
- **U.S.A.**
- **Yemen**

Contact the sales office for agents in your area

For enquiries, please contact:

Tomoe Tritec Ltd.
Clearwater Road, Queensway Meadows Ind. Est.,
Newport, South Wales NP19 4ST United Kingdom
Tel: Main Reception +44 (0) 1633 274707
Fax: Main Reception +44 (0) 1633 292600
Tel: Sales Office +44 (0) 1633 292601
Fax: Sales Office +44 (0) 1633 292605
E-mail: sales@tomoetritec.co.uk
www.tomoetritec.com

International Sales Offices at:

(headquarters)

- **Tomoe Valve Co. Ltd.**
  11th Floor Mitsui Bldg
  1-11-7 Utsubo Hommachi
  Nishi-Ku
  Osaka 550-0004
  Japan
  Telephone: +81 6 448 4320
  Telefax: +81 6 448 4330

- **Tomoe Valve Ltd.**
  Estuary Road
  Queensway Meadows Ind. Est.
  Newport
  Gwent NP19 4SP
  United Kingdom
  Telephone: +44 (0) 1633 636800
  Telefax: +44 (0) 1633 636801

- **Tomoe Valve S.E.A. PTE Ltd.**
  28 Third Lok, Yang Road
  Singapore 628 016
  Telephone: +65 899 5060
  Telefax: +65 899 5061

TOMOETRITEC
THE ULTIMATE PROCESS VALVE

URPCV/AB/08.02

Going to Extremes

ULTIMATE ROTARY PROCESS CONTROL VALVE

ANSI 125 TO 2500 lb DIN PN6 TO 400

TOMOETRITEC
THE ULTIMATE PROCESS VALVE

With over forty years experience in the manufacture of butterfly valves, Tomoe can offer one of the most diversified ranges of butterfly control valves in the market today. The range extends from high performance triple offset design to the low leakage seatless style control valves used for pure control applications.

This large design range allows Tomoe to offer the correct butterfly control valve to suit the customers requirements with no concession to using a “standard suit all” mentality which invariably leads to the wrong type of design being used in a specific application.

Tomoe can offer a range of anti-cavitation/low noise trims and baffle plates which allows us to offer butterfly control valves for more demanding pressure drop applications. The Tomoe 507 & 508 control valve range offers exceptional resistance to cavitation and can, in many cases, replace a standard globe valve in control applications.

Through the use of the Tomoe flow test rig accurate CV tables for all of our trim designs can be provided.

The Tomoe valve sizing & noise prediction formulas are used for accurate prediction of valve size and generated noise levels for all flowing conditions.

Below is a brief list of the options that can be offered from the Tomoe range of butterfly control valves. This should be used as a guide only as custom made designs can be supplied on special request.

Body Styles

- Wafer
- Tapped lug
- Through drilled lug
- Double flanged
- Butt weld
- But weld top entry
- Clamp hub

Seat Designs

- Triple offset – zero leakage
- Triple offset – low leakage
- Double offset – zero and low leakage
- Concentric – 0.5% to 5% leakage
- Concentric – rubber seated designs

Flange Face Finishes

- Raised face
- RTJ
- Large & small groove
- Lens ring
- Other special designs

Trim Design

- Triple offset
- Double offset
- Concentric design
- Anti cavitation/low noise designs (models 507, 508 & 509 & 510)
- Resistance plates & diffusers
- Vent silencers

Bonnet Designs

- Standard –50 to +200ºC
- Medium Temperature open design 201 to 650ºC
- High temperature design 651 to 1000ºC
- Cryogenic –50 to –200ºC

Pressure Ratings

- ANSI class 125 to 2500 lb
- DIN/BS PN2.5 to 400
- JIS 5K to 63K
- BS10 – all ratings

Size Range

40 to 2000mm (1.75 to 80 inches)

Materials

All commercially available materials in either cast, forged or plate forms.

Actuation

- Manual
- Pneumatic, spring return & double acting
- Electric
- Hydraulic
- Electro hydraulic
- Hydraulic + fail safe + counter weight for turbine isolation applications

Face to Face Dimensions

- API 609 table 1 and 2
- BS 5155
- ISO 5752
- ANSI B16.10 – butterfly, gate globe & ball
- DIN
- Special designs

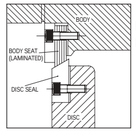
General Options

- Low emission gland packings
- Live loaded gland packings
- Lubricated gland & isolator
- Hard faced trims – titanium nitride, stellite, tungsten carbide etc….
- Steam jacketed, full & partial
- Sub sea design
- Three way diverting & converging arrangements
- Firesafe, BS 6755 part 2, API 6FA & API 607 4th edition
- Characterised discs
- Complete actuated control packages

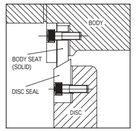
Seat designs

Tomoe Tritec can offer one of the most comprehensive ranges of seat designs to suit all process control conditions. The main range is shown below with outline design parameters. Special designs can be supplied to suit specific customer requirements.

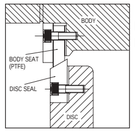
TRIPLE OFFSET – ZERO LEAKAGE



Laminated Seat
Max P = 225 bar
Max T = -200 to +600ºC

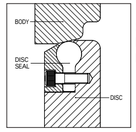


Solid Seat CLASS IV
Max P = 225 bar
Max T = -200 to +250ºC

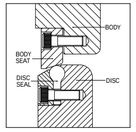


PTFE Seat
Max P = 100 bar
Max T = -200 to +250ºC

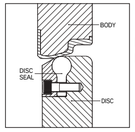
DOUBLE OFFSET – RUBBER SEATED zero leakage (TADPOLE RANGE)



Rubber Seal (Integral Body Seat)
Max P = 51 bar g
Max T = -10 to +200ºC

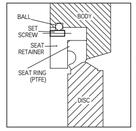


Rubber Seal (Replacement Seat)
Max P = 51 bar g
Max T = -10 to +200ºC

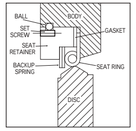


Rubber Seal + Rubber lined Body
Max P = 51 bar
Max T = -10 to +120ºC

DOUBLE OFFSET – METAL SEATED & PTFE SEATED

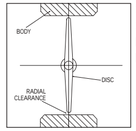


PTFE Seat CLASS VI (ZERO LEAKAGE)
Max P = 51 bar
Max T = -29 to +232ºC

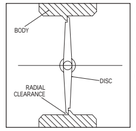


Metal Seat CLASS IV LEAKAGE
Max P = 51 bar
Max T = -29 to +600ºC

CONCENTRIC/DOUBLE OFFSET – METAL SEATED



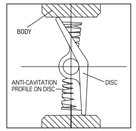
Concentric CLASS II LEAKAGE
Max P = 225 bar
Max T = -200 to +200ºC



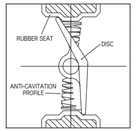
Concentric + Metal Ledge CLASS II/III LEAKAGE
Max P = 225 bar (Limited DP)
Max T = -200 to +800ºC

Double Offset CLASS II/III
Max P = 225 bar g
Max T = -200 to +200ºC

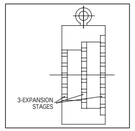
ANTI CAVITATION & LOW NOISE PLATES



Metal Seat + Anti Cav Disc CLASS II LEAKAGE
Max P = 225 bar
Max T = -200 to +200ºC



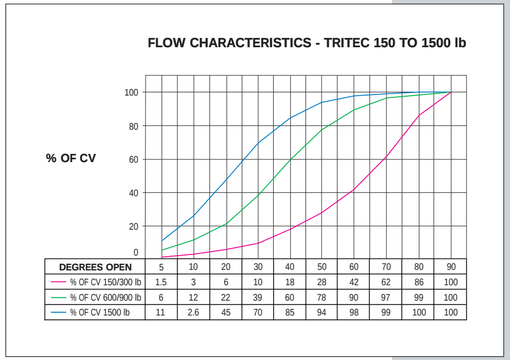
Rubber Seated + Anti Cav Disc CLASS VI/ZERO LEAKAGE
Max P = 16 bar



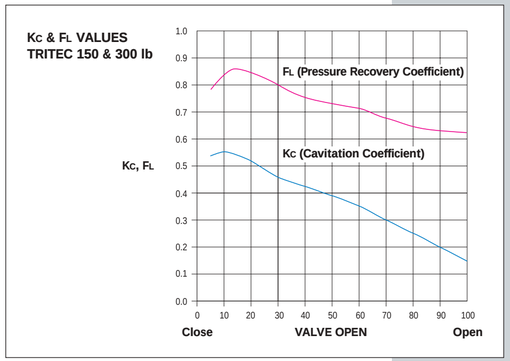
Resistance Plates Ratings up to 2500lb (PN400)
Max T = -200 to +800ºC

CV Data

The Tomoe range of butterfly control valves is one of the most comprehensive available in the market place today and, with a dedicated R & D department, we are able to produce a very accurate range of data with regard to CV Values, FL & KC factors and noise levelling available.



DEGREES OPEN	5	10	20	30	40	50	60	70	80	90
% OF CV 150/300 lb	1.5	3	6	10	18	28	42	62	86	100
% OF CV 600/900 lb	6	12	22	39	60	78	90	97	99	100
% OF CV 1500 lb	11	2.6	45	70	85	94	98	99	100	100



Through the use of baffle plates and special disc designs a butterfly control valve package can be provided that can compete with a globe and characterised ball valve.

For detailed CV tables see the relevant technical sheets which can be obtained from the Tomoe Tritec Sales office.