



# EXPERT FLOW

## CONTROLS



PROCESS PUMPS,  
VALVES & MECHANICAL SEAL

# BALL VALVE MATERIALS AND TESTING



### Materials of construction for Ball Valve

Body and tail piece	WCB, WCC, LCB, LCC, CF8, CF8M, CF3, CF3M, CD4MCu, CN7M, CD3MN, CN3MN, CW6M and N7M, and other alloys
Ball	WCB with ENP, LCB with ENP, CA15, CF8, CF8M, CF3, CF3M, CD4MCu, CN7M, CD3MN, CN3MN, CW6M, N7M, and other alloys
Stem and gland	410, 304, 316, A20, 31803, Inconel, and other alloys
Seat	TFM, PTFE, RPTFE, nylon, Delrin, PEEK, Devlon, metal
Stem washer	RPTFE
Stem seal	Grafoil, PTFE
Body seal	Grafoil, spiral wound with Grafoil filler
Body stud	B7, L7, B8, B8M
Body nut	2H, 2HM, 8, 8M

### VALVE TESTING

100% of valves manufactured by Microfinish are tested in excess of API 6D requirements and in accordance with API 598 standard prior to shipping.

#### MAXIMUM ALLOWABLE LEAKAGE RATES AS PER API 598

Valve Size	Resilient Seated Valves	Liquid test (Drops per minute)	Gas Test* (Bubbles per minute)
≤ 2	0	0	0
2½ - 6	0	12	24
8 - 12	0	20	40
≥ 14	0	28	56

#### MAXIMUM ALLOWABLE LEAKAGE RATES AS PER BS EN 12266 AND ISO 5208

Test Fluid	Unit leakage rates	Rate A	Rate B	Rate C	Rate D	Rate E	Rate F	Rate G
Liquid	mm³/s	0	0.01 x DN	0.03 x DN	0.1 x DN	0.3 x DN	1 x DN	2 x DN
Gas*	mm³/s	0	0.3 x DN	3 x DN	30 x DN	300 x DN	3000 x DN	6000 x DN

\* Gas closure test at 6bar

### STANDARD PERFORMANCE TESTS

- Visual and dimensional check
- High-pressure hydrostatic shell test
- High-pressure hydrostatic seat test
- Low-pressure air seat test
- Torque check for actuated valves



# BALL VALVE SEAT MATERIALS



SEAT MATERIAL	TEMPERATURE RANGE °F	APPLICATION
VIRGIN PTFE	-20 to 400	Virgin PTFE (polytetrafluoroethylene) is the most commonly used seat material. It has excellent chemical resistance and is suitable for almost all liquids
TFM (SUPER PTFE)	-58 to 420	This is modified PTFE, with improved mechanical properties. It has lower porosity and permeability, and reduced cold flow
REINFORCED PTFE (RPTFE)	- 58 to 400	PTFE reinforced with carbon. It is harder than PTFE. Excellent for steam and hot oil applications
RTFM	-58 to 420	TFM reinforced with carbon. It is harder than TFM
NYLON	-58 to 248	Nylon (polyamide resin) suitable for high pressure, with limited temperature capability. Lower corrosion resistance than PTFE. Not suitable for steam service
DELTRIN	-20 to 180	Delrin (acetal polymer) suitable for high pressure, with limited temperature capability. Lower corrosion resistance than PTFE. Not suitable for oxygen and steam service
DEVLON	-148 to 338	Devlon (polyamide family resin) has outstanding pressure capability. Good resistance for temperatures up to 338°F
PEEK	-148 to 536	PEEK (polyetheretherketone resin) is a high performance thermoplastic. Excellent choice for high pressure and high temperature service. Excellent for abrasive and corrosive service. Suitable for hot water and steam service. Not suitable for sulphuric and other strong oxidizing acids
PCTFE (Kel-F)	- 328 to 392	PCTFE (polychlorotrifluoroethylene). Excellent performance down to -328°F. Perfect resistance to oxygen
METAL	- 328 to 1004	Recommended for abrasive and high temperature service. ENP, Stellite, tungsten carbide and other coatings are available for different applications. Metal seats are lapped with the ball individually as a matched sets, assuring tight shut off. Metal seated valves are available with class IV, V, and VI leakage class

## VISION

Expert Flow Controls was established in 2018 with a vision to provide:

- 1) Best Quality Products to Suit every Industrial user's requirement.
- 2) Best After Sales Services
- 3) On time delivery of our products to meet customers schedule.
- 4) Affordable Prices & Reliable Products to satisfy our customers.

## INDTRODUCTION

- Expert Flow Controls has a manufacturing location in Ahmedabad which is well connected to all the major cities of India. It is a hub for manufacturing of Industrial Valves and due to proximity of well-established foundries the advantages are many for these manufacturers. We have Ball Valves in our manufacturing range which are sold to:
  - 1) Process Industries viz Chemicals, Dyes & Intermediates, & Speciality Chemicals.
  - 2) Pharmaceutical Industries.
  - 3) Oil & Gas ? Hydrocarbon Industries.
  - 4) Food Processing Industries.
  - 5) Steel & Minerals, Mining Industries.
  - 6) Paper & Pulp Industries.
  - 7) Textile Industries.
- We manufacture Ball Valves in various metallurgy like Carbon Steel, Stainless Steel, Hastelloy & Duplex steel.
- The Ball Valves manufactured by us are in Floating as well as Trunnion mounted design and are available in both Cast & Forged construction. The End Connections available are Socket welded, Screwed Ends (NPT & BSP), Flanged and Butt weld connections. The Size ranges from 15mm to 300mm & Pressure Class of 150#, 300#, 600# & 800#.

## STANDARD FEATURES OF OUR VALVE

- 1) Designed & Manufactured to ASME B16.10
- 2) Single Piece, Two Piece & Three Piece design body.
- 3) Blow Out Proof Stem.
- 4) Anti-Static feature.
- 5) Fire Safe Design.
- 6) Lever / Gear / Actuator Operated.

We also provide the following optional features to meet client's requirement:

- 1) Stem Extension
- 2) Metal Seated Ball Valves for High Temperature application.
- 3) Different metallurgy to suit different applications.
- 4) Cryogenic Ball Valves
- 5) Special Seat Material PEEK for high temperature applications.



### FACTORY & HEAD OFFICE

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