1.0 SCOPE:

This procedure describes the requirement of operating torque of Three Piece Ball Valves.

2.0 Ball Valves:

2.1 The torque values indicated are the maximum for Pressure indicated.

VALVE SIZE	BORE	TORQUE VALUES , Nm				
		PTFE SEAT				POLYFILL
		10 bar	20 bar	40 bar	69 bar	103 bar
DN 8	FB	5.0	5.0	5.5	6.5	8.0
	RB	5.0	5.0	5.5	6.5	8.0
DN 10	FB	5.0	5.0	5.5	6.5	8.0
	RB	5.0	5.0	5.5	6.5	8.0
DN 15	FB	5.0	5.0	5.5	6.5	8.0
	RB	5.0	5.0	5.5	6.5	8.0
DN 20	FB	8.0	8.0	9.0	11.0	13.0
	RB	5.0	5.0	5.5	6.5	8.0
DN 25	FB	9.0	9.0	11.0	16.0	21.0
	RB	8.0	8.0	9.0	11.0	13.0
DN 32	FB	16.0	16.0	23.0	34.0	54.0
	RB	9.0	9.0	11.0	16.0	21.0
DN 40	FB	16.0	16.0	23.0	34.0	54.0
	RB	13.0	13.0	16.0	22.0	28.0
DN 50	FB	24.0	24.0	38.0	54.0	75.0
	RB	16.0	16.0	23.0	34.0	54.0

FB - Full Bore; RB - Regular Bore

2.2 The torque values with no pressure shall be equal or less than values at 10 bar.

2.3 The torque values are for clean line fluid, for Virgin PTFE seats and at room temperature

2.4 For RPTFE and Polyfill, multiply above values by 1.1

2.5 For PEEK, multiply above values by 2.25,

2.6 No Safety Factor included. For Actuator Valve, a factor of 1.3 recommended.

2.7 The values are break torques (Close to Open)

Run Torque: 60% of break torque.

Reseat Torque: 75% of break torque (Open to Close)

2.8 Torque Multiplication Factor based on frequency of operation.

Frequency	Multiplication Factor
Day or more	1.0
Week or more	1.3
Month or more	1.4
Four months or more	1.5

Value reverts to normal after first operation.