



# TORQUE VALUES FOR RESILIENT SEATED & METAL SEATED GATE VALVES, PN16 & PN35

## Content / Definitions

AVK offers resilient seated gate valves (**RSGV**) and metal seated gate valves (**MSGV**) to different standards worldwide. Due to the different design demands, depending on the relevant standard, the characteristics of the valves are different with respect to strength, closing torque, number of turns etc.

The following tables are relevant to valves manufactured specifically for Australia.

Table 1 - Gate valves (RSGV) according to AS/NZS 2638.2, for waterworks purpose - PN16.

Table 2 - Gate valves (MSGV) according to AS/NZS 2638.1, for waterworks purpose - PN16.

Table 3 - Gate valves (MSGV) according to AS/NZS 2638.1, for waterworks purpose - PN35.

MFT: Maximum functional torque required to open/close the valve against full unbalanced pressure.

MST: Minimum strength torque, the valve still being functional and complying with the standard.

AVK Open/Close: Maximum torque required to close the valve against full unbalanced pressure.

AVK Free Running Torque: Torque required for the spindle to rotate freely (no flow).

AVK Rupture Torque: Minimum strength torque, causes no permanent damage to the valve.

AVK Turns: The number of turns required to fully open or close the valve.

AVK Cracking Torque: Torque required to unseat the valve.


## Operation

To avoid increased closing/operation torque or seizure of the valves internal parts, it is recommended to operate the valves on a regular basis to ensure long life and durability. AVK recommend:


- Valves for water and gas are operated every year.
- Valves for wastewater and industry are operated every third month.

After operation, the valve must be left in the fully open position with the stem released from stress, or in closed position with a closing torque as stated in the table on the following pages. Do not over torque the valve as this may permanently damage the valve.


**Table 1 - RSGV - AS/NZS 2638.2**

S570 PN16	DN [mm]	Standard		AVK			
		MFT [Nm]	MST [Nm]	Open/Close [Nm]	Rupture [Nm]	Free running [Nm]	Turns
	80	75	225	60	400	15	19
	100	100	300	80	400	15	23
	150	150	450	120	600	15	27
	200	200	600	160	800	15	35
	225	200	600	160	1000	20	43
	250	250	750	200	1000	20	43
	300	300	900	240	1200	20	52
	375	500	1500	400	1500	20	59
	400	550	1650	440	1650	20	59
	450	600	1800	480	2400	25	40
	500	660	1980	520	2400	25	45
	600	800	2400	640	2400	60	52
	750	1000	3000	800	3000	100	70
	900	NA	NA	1400	4000	300	85
1000	NA	NA	1600	4000	300	85	

**Table 2 - MSGV - AS/NZS 2638.1**

S580 PN16	DN [mm]	Standard		AVK			
		MFT [Nm]	MST [Nm]	Close [Nm]	Cracking [Nm]	Free running [Nm]	Turns
	80	75	225	50	75	15	8
	100	100	300	60	100	15	10
	150	150	450	85	150	15	14
	200	200	600	120	200	15	18
	225	200	600	125	200	20	21
	250	250	750	150	250	20	23
	300	300	900	240	300	20	27
	375	325	975	300	300	20	64
	400	350	1050	300	300	20	64
	450	425	1275	400	400	25	77
	500	525	1575	500	500	25	85
	600	800	2400	800	800	60	100
	750	1000	3000	800	2300	100	69
	900	1300	3900	1000	3100	300	79
1000	NA	NA	1100	3200	300	85	

**Table 3 - MSGV - AS/NZS 2638.1**

S580 PN35	DN [mm]	Standard		AVK			
		MFT [Nm]	MST [Nm]	Close [Nm]	Cracking [Nm]	Free running [Nm]	Turns
	80	75	225	30	75	30	8
	100	100	300	50	100	30	10
	150	150	450	50	150	30	14
	200	200	600	120	240	30	18
	225	200	600	120	270	30	21
	250	250	750	120	400	30	23
	300	300	900	120	440	30	27
	375	325	975	150	800	30	64
	450	425	1275	200	1150	30	77
	500	525	1575	300	1600	30	85
	600	800	2400	400	2280	60	100