

**IW WORM MANUAL VALVE ACTUATORS - SIZING CHART FOR AWWA C504-06  
WITH 450 ft lbs OVERLOAD CAPACITY**

Unit Size	Ratio	Turns to close	MA	Max handwheel output torque			Max wrench nut torque		Rated output torque		Max bore, ANSI key		Approx Weight lbs
				Max H/W dia inch	in lbs	ft lbs	in lbs	ft lbs	in lbs	ft lbs	Sq. key inch	Rect. key inch	
IW5	40	10	17	48	32640	2720	30600	2550	53988	4499	2 <sup>3</sup> / <sub>4</sub>	3	99
IW5	80	20	32	48	59040	4920	57600	4800	59040	4920	2 <sup>3</sup> / <sub>4</sub>	3	117
IW6	70	18	23	48	44160	3680	41400	3450	93648	7804	3 <sup>3</sup> / <sub>4</sub>	3 <sup>7</sup> / <sub>8</sub>	150
IW6	140	35	44	48	84480	7040	79200	6600	106740	8895	3 <sup>3</sup> / <sub>4</sub>	3 <sup>7</sup> / <sub>8</sub>	174
IW72	60	15	25	48	48000	4000	45000	3750	230124	19177	4 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	264
IW72	120	30	48	48	92160	7680	86400	7200	230124	19177	4 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	334
IW72	180	45	71	48	136320	11360	127800	10650	230124	19177	4 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	334
IW72	240	60	95	48	182400	15200	171000	14250	230124	19177	4 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	334
IW85	60	15	25	48	48000	4000	45000	3750	398292	33191	5 <sup>7</sup> / <sub>8</sub>	6	396
IW85	120	30	48	48	92160	7680	86400	7200	425724	35477	5 <sup>7</sup> / <sub>8</sub>	6	466
IW85	180	45	71	48	136320	11360	127800	10650	425724	35477	5 <sup>7</sup> / <sub>8</sub>	6	466
IW85	240	60	95	48	182400	15200	171000	14250	425724	35477	5 <sup>7</sup> / <sub>8</sub>	6	466
IW85	360	90	142	48	272640	22720	255600	21300	425724	35477	5 <sup>7</sup> / <sub>8</sub>	6	466
IW85	480	120	189	48	362880	30240	340200	28350	425724	35477	5 <sup>7</sup> / <sub>8</sub>	6	488
IW9	60	15	25	48	48000	4000	45000	3750	562032	46836	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	484
IW9	180	45	71	48	136320	11360	127800	10650	562032	46836	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	576
IW9	240	60	95	48	182400	15200	171000	14250	562032	46836	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	576
IW9	360	90	142	48	272640	22720	255600	21300	562032	46836	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	576
IW9	480	120	189	48	362880	30240	340200	28350	562032	46836	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	576
IW9	540	135	214	48	410880	34240	385200	32100	562032	46836	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	576
IW10	60	15	25	48	48000	4000	45000	3750	748788	62399	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	726
IW10	180	45	71	48	136320	11360	127800	10650	748788	62399	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	898
IW10	240	60	95	48	182400	15200	171000	14250	748788	62399	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	898
IW10	360	90	142	48	272640	22720	255600	21300	748788	62399	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	898
IW10	540	135	214	48	410880	34240	385200	32100	748788	62399	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	898
IW10	720	180	285	48	547200	45600	513000	42750	748788	62399	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	898
IW11	60	15	25	48	48000	4000	45000	3750	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1144
IW11	180	45	71	48	136320	11360	127800	10650	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1254
IW11	240	60	95	48	182400	15200	171000	14250	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1254
IW11	360	90	142	48	272640	22720	255600	21300	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1254
IW11	540	135	214	48	410880	34240	385200	32100	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1254
IW11	720	180	285	48	547200	45600	513000	42750	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1254
IW11	960	240	380	48	729600	60800	684000	57000	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1254
IW11	1080	270	428	48	821760	68480	770400	64200	1247976	103998	7 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1254
IW12	60	15	25	48	48000	4000	45000	3750	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1485
IW12/IS12	480	120	182	48	349440	29120	327600	27300	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1892
IW12/IS12	600	150	225	48	432000	36000	405000	33750	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1892
IW12/IS12	720	180	266	48	510720	42560	478800	39900	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1892
IW12/IS12	900	225	341	48	654720	54560	613800	51150	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1892
IW12/IS12/IB6	1440	360	464	48	890880	74240	835200	69600	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1954
IW12/IS12/IB4	1800	450	573	48	1100160	91680	1031400	85950	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1927
IW12/IS12/IB4	1920	480	619	48	1188480	99040	1114200	92850	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1927
IW12/IS12/IB4	2160	540	679	48	1303680	108640	1222200	101850	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1927
IW12/IS12/IB4	2400	600	764	48	1466880	122240	1375200	114600	1593156	132763	11 <sup>1</sup> / <sub>4</sub>	12	1927

**IW WORM MANUAL VALVE ACTUATORS - SIZING CHART FOR AWWA C504-06**

Unit Size	Ratio	Turns to close	MA	Max H/W	Max handwheel	Max wrench	Rated output	Max bore,	Approx
				dia	output torque	nut torque	torque	metric key	Weight
				mm	Nm	Nm	Nm	mm	Kg
IW5	40	10	17	1200	3630	3457	6100	76	45
IW5	80	20	32	1200	6670	6508	6670	76	53
IW5	120	30	48	900	6670	6670	6670	76	53
IW6	70	18	23	1200	4911	4678	10580	102	68
IW6	140	35	44	1200	9395	8948	12060	102	79
IW6	210	53	66	900	10569	12060	12060	102	79
IW72	60	15	25	1200	5338	5084	26000	136	120
IW72	120	30	48	1200	10249	9762	26000	136	152
IW72	180	45	71	1200	15160	14439	26000	136	152
IW72	240	60	95	1200	20284	19320	26000	136	152
IW72	360	90	142	900	22739	26000	26000	136	152
IW85	60	15	25	1200	5338	5084	45000	157	180
IW85	120	30	48	1200	10249	9762	48100	157	212
IW85	180	45	71	1200	15160	14439	48100	157	212
IW85	240	60	95	1200	20284	19320	48100	157	212
IW85	360	90	142	1200	30319	28879	48100	157	212
IW85	480	120	189	1200	40354	38437	48100	157	222
IW85	540	135	214	900	34269	43522	48100	157	222
IW85	720	180	285	900	45639	48100	48100	157	222
IW9	60	15	25	1200	5338	5084	63500	178	220
IW9	180	45	71	1200	15160	14439	63500	178	262
IW9	240	60	95	1200	20284	19320	63500	178	262
IW9	360	90	142	1200	30319	28879	63500	178	262
IW9	480	120	189	1200	40354	38437	63500	178	262
IW9	540	135	214	1200	45692	43522	63500	178	262
IW9	720	180	285	1200	60852	57961	63500	178	262
IW9	960	240	380	900	60852	67900	67900	178	290
IW10	60	15	25	1200	5338	5084	84600	203	330
IW10	180	45	71	1200	15160	14439	84600	203	408
IW10	240	60	95	1200	20284	19320	84600	203	408
IW10	360	90	142	1200	30319	28879	84600	203	408
IW10	540	135	214	1200	45692	43522	84600	203	408
IW10	720	180	285	1200	60852	57961	84600	203	408
IW10	960	240	380	900	60852	77282	84600	203	408
IW10	1080	270	428	900	68538	84600	84600	203	408
IW11	60	15	25	1200	5338	5084	141000	203	520
IW11	180	45	71	1200	15160	14439	141000	203	570
IW11	240	60	95	1200	20284	19320	141000	203	570
IW11	360	90	142	1200	30319	28879	141000	203	570
IW11	540	135	214	1200	45692	43522	141000	203	570
IW11	720	180	285	1200	60852	57961	141000	203	570
IW11	960	240	380	1200	81136	77282	141000	203	570
IW11	1080	270	428	1200	91384	87044	141000	203	570
IW12	60	15	25	1200	5338	5084	180000	305	675
IW12/IS12	480	120	182	1200	38860	37014	180000	305	860
IW12/IS12	600	150	225	1200	48041	45759	180000	305	860
IW12/IS12	720	180	266	1200	56795	54097	180000	305	860
IW12/IS12	900	225	341	1200	72808	69350	180000	305	860
IW12/IS12/IB6	1440	360	464	1200	99071	94365	180000	305	888
IW12/IS12/IB4	1800	450	573	1200	122344	116533	180000	305	876
IW12/IS12/IB4	1920	480	619	1200	132166	125888	180000	305	876
IW12/IS12/IB4	2160	540	679	1200	144976	138090	180000	305	876
IW12/IS12/IB4	2400	600	764	1200	163125	155377	180000	305	876

**IW WORM MANUAL VALVE ACTUATORS - SIZING CHART FOR AWWA C504-06  
WITH 450 ft lbs (610Nm) OVERLOAD CAPACITY**

Unit Size	Ratio	Turns to close	MA	Max H/W	Max handwheel	Max wrench	Rated output	Max bore,	Approx
				dia	output torque	nut torque	torque	metric key	Weight
				mm	Nm	Nm	Nm	mm	Kg
IW5	40	10	17	1200	3630	3457	6100	76	45
IW5	80	20	32	1200	6670	6508	6670	76	53
IW6	70	18	23	1200	4911	4678	10580	102	68
IW6	140	35	44	1200	9395	8948	12060	102	79
IW72	60	15	25	1200	5338	5084	26000	136	120
IW72	120	30	48	1200	10249	9762	26000	136	152
IW72	180	45	71	1200	15160	14439	26000	136	152
IW72	240	60	95	1200	20284	19320	26000	136	152
IW85	60	15	25	1200	5338	5084	45000	157	180
IW85	120	30	48	1200	10249	9762	48100	157	212
IW85	180	45	71	1200	15160	14439	48100	157	212
IW85	240	60	95	1200	20284	19320	48100	157	212
IW85	360	90	142	1200	30319	28879	48100	157	212
IW85	480	120	189	1200	40354	38437	48100	157	222
IW9	60	15	25	1200	5338	5084	63500	178	220
IW9	180	45	71	1200	15160	14439	63500	178	262
IW9	240	60	95	1200	20284	19320	63500	178	262
IW9	360	90	142	1200	30319	28879	63500	178	262
IW9	480	120	189	1200	40354	38437	63500	178	262
IW9	540	135	214	1200	45692	43522	63500	178	262
IW10	60	15	25	1200	5338	5084	84600	203	330
IW10	180	45	71	1200	15160	14439	84600	203	408
IW10	240	60	95	1200	20284	19320	84600	203	408
IW10	360	90	142	1200	30319	28879	84600	203	408
IW10	540	135	214	1200	45692	43522	84600	203	408
IW10	720	180	285	1200	60852	57961	84600	203	408
IW11	60	15	25	1200	5338	5084	141000	203	520
IW11	180	45	71	1200	15160	14439	141000	203	570
IW11	240	60	95	1200	20284	19320	141000	203	570
IW11	360	90	142	1200	30319	28879	141000	203	570
IW11	540	135	214	1200	45692	43522	141000	203	570
IW11	720	180	285	1200	60852	57961	141000	203	570
IW11	960	240	380	1200	81136	77282	141000	203	570
IW11	1080	270	428	1200	91384	87044	141000	203	570
IW12	60	15	25	1200	5338	5084	180000	305	675
IW12/IS12	480	120	182	1200	38860	37014	180000	305	860
IW12/IS12	600	150	225	1200	48041	45759	180000	305	860
IW12/IS12	720	180	266	1200	56795	54097	180000	305	860
IW12/IS12	900	225	341	1200	72808	69350	180000	305	860
IW12/IS12/IB6	1440	360	464	1200	99071	94365	180000	305	888
IW12/IS12/IB4	1800	450	573	1200	122344	116533	180000	305	876
IW12/IS12/IB4	1920	480	619	1200	132166	125888	180000	305	876
IW12/IS12/IB4	2160	540	679	1200	144976	138090	180000	305	876
IW12/IS12/IB4	2400	600	764	1200	163125	155377	180000	305	876

**Rev 6**

IW11 added up to 1080:1 ratio for both AWWA duty and 450 lbft duty

IW85 ratios up to 480:1- max handwheel size corrected from 900mm to 1200m for both AWWA and 450 lbft duties (metric sheets only)

**Rev 7**

IW7 changed to IW72 as part of AWWA project

IW9 added as part of AWWA project

IW10 720:1 added to 450 lbft duty as this ratio is already certified

IW11 weights corrected

Rated torques adjusted to match MANSIZE spreadsheet (rounding errors)

References to standard updated to C504-06

*Steve Watkins 14 May 2009*

**Rev 8**

IW9 450 lbsft added (T1262 refers)

*Steve Watkins 26 Oct 2009*