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WATER AND WASTEWATER SYSTEM DEVELOPMENT FEE ANALYSIS

Prepared for:

City of Asheboro

February 2026

CITY OF ASHEBORO
NORTH CAROLINA
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Prepared by:

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1.0 EXECUTIVE SUMMARY

The purpose of this report is to evaluate the methodologies for the development and calculation of water and wastewater system development fees (SDF) for the City of Asheboro (City). The City has proposed CIP projects aimed at supporting future growth by increasing system capacity. Additionally, it has identified necessary rehabilitation and modernization improvements to extend the lifespan of existing systems, prompting development of an SDF in accordance with the methodology described in the North Carolina General Statutes (NCGS) Chapter 162A Article 8, as amended by Session Law 2017-138 (S.L. 2017-138), for the establishment of water and wastewater SDF (see section 2.0 below for more detail). Also, in accordance with the statute, the City has retained Freese and Nichols, Inc. (FNI) to perform the analysis. The maximum SDF per Service Unit (SU) utilizing each of the allowable calculation methods are shown in **Table 1-1**.

Table 1-1: Maximum Allowable System Development Fees per SU

Method	Water SDF	Wastewater SDF	Total SDF
Incremental	$396.52	$7,061.26	$7,457.78
Buy-In	$324.37	$2,118.17	$2,442.54
Combined	**$720.89**	**$9,179.43**	**$9,900.32**

2.0 INTRODUCTION

S.L. 2017-138 amended Chapter 162A, Article 8 of the NCGS and defines an SDF as "a charge or assessment for service imposed with respect to new development to fund costs of capital improvements necessitated by and attributable to such new development, to recoup costs of existing facilities which serve such new development, or a combination of those costs." The statute requires that should a municipality desire to implement an SDF, an analysis must be performed, and the corresponding local government unit must adopt the fees. These fees must be re-evaluated and updated at least every five years. NCGS Chapter 162A, Article 8 allows the calculation of fees based on the following methods:

- Incremental/Marginal Cost – This method requires new development to pay the proportional share of new capital costs that are attributable to the new development.
- Buy-In – This method requires new development to pay a proportional share of the capital costs previously incurred by the local government unit for sufficient capacity to serve the new development.
- Combined – This method uses a combination of the incremental/marginal cost and the buy-in method.

Further, the statute allows fees to be calculated based on a planning horizon of not less than 5 years and not more than 20-year planning horizon. The statute also identifies SDF expenditures. The following items have been identified as costs that system development fees may be spent on:

- Construction contract price
- Surveying and engineering fees
- Land acquisition costs
- Principal and interest on bonds, notes, or other obligations issued by or on behalf of the local government unit to finance the costs above
- Fees paid to the consultant preparing or updating the system development fee analysis
- Previously completed capital projects for which capacity exists (buy-in method)
- Capital rehabilitation projects (buy-in method)

The City has CIP projects to support future growth that require increasing system capacity. Additionally, rehabilitation and modernization improvements have been identified that are needed to prolong the

longevity of the existing systems. As part of this analysis, the buy-in method, incremental/marginal method, and combined method were all evaluated.

3.0 CAPITAL IMPROVEMENT PLAN

The City developed a water and wastewater system CIP based on known needs for both capacity and rehabilitation/modernization needs. This plan was evaluated for applicability and utilized as the basis of the SDF calculations.

3.1 WATER AND WASTEWATER SYSTEM IMPROVEMENTS

The City developed a comprehensive list of proposed water and wastewater capital improvement projects to meet projected needs through 2038. FNI evaluated these projects for their applicability to system development fees. Based on this evaluation, the list of projects was then narrowed to include those driven by growth and development in the City's system for the incremental/marginal method, or by rehabilitation/modernization upgrades to existing system components for the buy-in method.

Appendix A and **Appendix B** provide a detailed summary of the costs for each CIP project required for the 13-year planning horizon for the water and wastewater systems, respectively. **Table 3-1** summarizes these costs for the water and wastewater systems.

Table 3-1: Total CIP Project Costs

Collection/Distribution System	Total Cost (2025 Value)
Water	$25,016,974.26
Wastewater	$123,686,310.00

4.0 SYSTEM DEVELOPMENT FEE ANALYSIS

The system development fee was analyzed utilizing the three statutorily allowable methods:

- Incremental/Marginal
- Buy-In
- Combined

A discussion on the process is included herein.

4.1 SERVICE UNITS (SU)

A critical factor used to determine the maximum SDF is a service unit. A service unit (SU) is defined as the service equivalent to a domestic water connection for a single-family residence. It is used to calculate both water and wastewater SDF.

The allowable flow associated with residential, commercial, and industrial connections is converted into SU Equivalents based upon the capacity of the meter used or planned for the location. The number of equivalent residential SU's required is based on the maximum continuous operating capacity of the corresponding meter size. For the purposes of this calculation, and in consulting with the City, FNI has assumed the use of Neptune T-series water meters for all new installations; however, MACH 10 ultrasonic meters may also be used for meter sizes 3-inches and greater. Neptune specification sheets (**Appendix E**) for these meter types were used to determine the maximum continuous operating capacity. The SU equivalent for each meter size used by the City is listed in **Table 4-1**.

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Table 4-1: SU Equivalencies

Meter Size	Maximum Continuous Operating Capacity (gpm)[1]	Service Unit Equivalent
3/4"	30	1
1"	50	1.7
1-1/2"	100	3.3
2"	160	5.3
3"	500	16.7
4"	1,250	41.7
6"	2,000	66.7
8"	4,000	133.3
10"	6,500	216.7

[1]Maximum continuous operating capacity is based on Neptune meter specification sheets.

4.2 GALLONS PER SU

The calculation of maximum allowable fees is based on the daily water and wastewater usage per service unit (SU), multiplied by the cost per gallon per day per SU (gpd/SU). For this study, wastewater usage is estimated using guidance from North Carolina Session Law 2023-137, which permits an assumption of 75 gpd per bedroom. Assuming three bedrooms per connection, this results in wastewater usage of 225 gpd/SU. For this study, water usage is estimated using data from the City's Local Water Supply Plan. The product of multiplying water usage per person (48 gpd) by the number of people per connection (2.3) and the maximum peaking factor (1.315) results in water usage of 145 gpd/SU. A summary of the gpd/SU is shown in **Table 4-2**.

Table 4-2: Gallons Per Day Per SU

Component	Value
Water	145
Wastewater	225

4.3 CREDIT CALCULATION

NCGS 162A Article 8 outlines the procedures and requirements for calculating maximum allowable SDF to recover costs associated with capital improvement projects needed due to growth over the planning horizon. NCGS 162A Article 8 also requires a credit to account for capital improvement funds included in rates and debt principal. This credit must not be less than twenty-five percent (25%) of the cost of capital

improvements. Per the statutory requirements, the credit is only to be applied to the proposed capital improvement projects (capacity related projects) used in the incremental/marginal method. The basis for the buy-in method includes the value of capital improvements less depreciation, debt credits, grants and other generally accepted valuation adjustments.

No outside funding sources have been identified for any of the proposed CIP projects. The City does not utilize more than 25% of the rates collected for capital improvement projects; therefore, for the purposes of this report as applicable, a minimum credit of 25% was applied for both the calculated water and wastewater system development fees.

4.4 ASSETS

Based on the 2024 City of Asheboro Annual Comprehensive Financial Report (ACFR), the total combined water and wastewater system is valued at $84,228,049 and has a depreciation of $50,803,082 for a total depreciated value of $32,618,485. This information was used as the basis for the Buy-In and Combined Methods and is depicted in **Table 4-3**. For the purposes of this report, FNI has assumed an even split of the total asset value between the water distribution and wastewater collection systems.

Table 4-3: Water and Wastewater Assets

Asset	Asset Original Value*	Depreciation	Debt Service Principal	Asset Value
Water Distribution System	$42,114,025	$25,401,541	$403,241	$16,309,243
Wastewater Collection System	$42,114,025	$25,401,541	$403,241	$16,309,243
Water Distribution and Wastewater Collection Systems	**$84,228,049**	**$50,803,082**	**$806,482**	**$32,618,485**

*Asset value includes assets, land, construction in progress and buildings.

4.5 SYSTEM DEVELOPMENT FEE – INCREMENTAL/MARGINAL METHOD

The SDF analysis for the Incremental/Marginal method requires determination of the utilization of proposed projects as defined in the CIP to serve new development over the planning horizon. In this case, the planning horizon is defined as 13 years. For proposed projects, the SDF is calculated as a percentage of the project cost, based upon the percentage of the project's capacity required to serve development projected to occur between 2025 and 2038. Capacity serving development projected beyond the planning period cannot be included in the calculation of SDF. Based on the CIP defined water system projects,

considering their respective capacities and projected use over the next 13-year planning horizon and the required credit, a cost of $2.73 per gpd/SU has been calculated as shown in **Table 4-4.**

Table 4-4: Water System SDF Projects for Incremental/Marginal Method

Project	Capital Cost	% Applicable to SDF	Adjusted Cost	Capacity (MGD)	$/gpd /SU
Betterment of Water Main on Pineview Street	$314,299.00	44%	$138,292	1.3	$0.11
New Raw Water Line (Lake Lucas to WTP)	$3,200,000.00	17%	$533,333	3.0	$0.18
New Raw Water Line (Lake Reese to Lake Lucas)	$5,000,000.00	10%	$500,000	3.0	$0.17
North Clearwell Replacement	$2,500,000.00	27%	$666,667	1.0	$0.67
Replace 12" Water Main	$3,500,000.00	90%	$3,150,000	1.3	$2.52
Subtotal			$4,988,292		$3.64
Credit (25%)					($0.91)
Total					**$2.73**

Similarly, the wastewater system projects were evaluated and a cost of $31.38 per gpd/SU, including the required credit was calculated as shown in **Table 4-5.**

Table 4-5: Wastewater System SDF Projects for Incremental/Marginal Method

Name of Project	Capital Cost	% Applicable to SDF	Adjusted Cost	Capacity (MGD)	$/gpd /SU
100% - Upsize Sewer Main along Along NC Highway 49 S, (BOND)	$3,334,600.00	16%	$533,536	0.3	$1.78
100% - Upsize Sewer Main along Carl Drive (BOND)	$3,051,100.00	12%	$366,132	1.3	$0.28
100% - Upsize Sewer Main along Cedar Fork Creek (BOND)	$3,768,800.00	28%	$1,055,264	0.6	$1.76
100% - Upsize Sewer Main along East Dorsett Avenue (BOND)	$1,054,800.00	8%	$84,384	0.3	$0.28
100% - Upsize Sewer Main along Penwood Branch (BOND)	$15,381,800.00	12%	$1,845,816	1.0	$1.85
50% - Meter Replacement: New Taps and Meter Maintenance	$1,031,000.00	100%	$1,031,000	0.4	$2.58
Ag Center pump station	$250,000.00	100%	$250,000	0.3	$0.83
Lift Station #2 Expansion	$7,774,000.00	24%	$1,865,760	1.2	$1.55
Lift Station #3 upgrade/Force main replacement	$2,700,000.00	73%	$1,980,000	0.5	$3.96
Lift Station #4 upgrade Pumps, utility electrical service.	$1,500,000.00	45%	$675,000	0.4	$1.69
Lift Station #6 Expansion	$5,980,000.00	33%	$1,993,333	1.1	$1.81
LS#12 Upgrading electrical service, pump station, & force main.	$400,000.00	53%	$211,765	0.2	$1.06
LS#14 upgrade	$500,000.00	73%	$366,667	0.2	$1.83

Name of Project	Capital Cost	% Applicable to SDF	Adjusted Cost	Capacity (MGD)	$/gpd /SU
LS#2 flow study upgrades were done based on 20 yr. plan	$250,000.00	24%	$60,000	1.2	$0.05
LS#9 Expansion	$2,242,500.00	53%	$1,196,000	0.3	$3.99
Presnell street pump station and gravity sewer	$1,000,000.00	80%	$800,000	0.2	$4.44
Replace LS#23 pump station, force main, and air release valves.	$1,500,000.00	100%	$1,500,000	0.3	$5.00
Replace pumps, motors, add 3rd pump etc…LS #10	$400,000.00	90%	$360,000	0.3	$1.20
Replace pumps, motors, add 3rd pump etc…LS #11	$400,000.00	80%	$320,000	0.3	$1.07
Upgrade LS#13 and force main	$2,500,000.00	40%	$1,000,000	0.3	$3.33
Upgrade LS#21	$250,000.00	30%	$75,000	0.1	$1.50
Subtotal			$17,569,657		$41.84
Credit (25%)					($10.46)
Total					**$31.38**

4.6 SYSTEM DEVELOPMENT FEE – BUY-IN METHOD

The existing water and wastewater systems have existing capacity for new development to buy in. Additionally, the City is planning a series of rehabilitation and modernization projects to prolong the longevity of existing water and wastewater system assets. The depreciated value of the existing water distribution system is shown in **Table 4-3**. Utilizing this information, a cost of $2.23 per gpd/SU was calculated to be applied to the Buy-In method as shown in **Table 4-6**. The planned rehabilitation projects included in the Buy-In method are listed in **Appendix C**.

Table 4-6: Water System Buy-In Costs

Asset	Depreciated Total	Planned Rehab Projects	Total Cost	Capacity (MGD)	$/gpd/SU
Water Distribution System	$16,309,243	$10,502,675	$26,811,918	12	$2.23

The total depreciated value of the wastewater collection system is shown in **Table 4-3**. Utilizing this information, a cost of $9.41 per gpd/SU was calculated to be applied to the wastewater Buy-In method as shown in **Table 4-7.** The planned rehabilitation projects included in the Buy-In method are listed in **Appendix D**.

Table 4-7: Wastewater System Buy-In Costs

Asset	Depreciated Total	Planned Rehab Projects	Total Cost	Capacity (MGD)	$/gpd/SU
Wastewater Collection System	$16,309,243	$68,417,710	$84,726,953	9	$9.41

4.7 SYSTEM DEVELOPMENT FEE – COMBINED METHOD

Because there is sufficient capacity in the system to provide service to future development and additional projects are needed in the future, the Combined method was considered. This method combines fees calculated by both the Buy-In and Incremental/Marginal methods. Based on information developed for the Incremental / Marginal and Buy-In costs, the combined costs for water and wastewater are as shown in **Table 4-8**.

Table 4-8: SDF Costs – Combined Method

System	Water	Wastewater
Incremental	$2.73	$31.38
Buy-In	$2.23	$9.41
Combined	**$4.97**	**$40.80**

4.8 SYSTEM DEVELOPMENT FEE – COMBINED METHOD

Based on the calculations for both water and wastewater system development fees for the Incremental/Marginal, Buy-In and Combined method, multiplied by the gallons per day per SU shown in **Table 4-2**, the maximum allowable fees per SU are as shown in **Table 4-9**.

Table 4-9: Maximum Allowable SDF Per SU

Method	Water SDF	Wastewater SDF	Total SDF
Incremental	$396.52	$7,061.26	$7,457.78
Buy-In	$324.37	$2,118.17	$2,442.54
Combined	**$720.89**	**$9,179.43**	**$9,900.32**

Utilizing the SU Equivalencies as shown in **Table 4-1**, and the maximum SDF as shown in **Table 4-9**, the maximum allowable fee per meter size and method is shown in **Table 4-10.**

Table 4-10: Maximum Allowable SDF Per Meter Size

		Water			Wastewater			TOTAL
Meter Size	Service Unit Equivalent	Incremental / Marginal	Buy-In	Combined	Incremental / Marginal	Buy-In	Combined	Combined
3/4"	1	$397	$324	$721	$7,061	$2,118	$9,179	$9,900
1"	1.7	$674	$551	$1,226	$12,004	$3,601	$15,605	$16,831
1-1/2"	3.3	$1,309	$1,070	$2,379	$23,302	$6,990	$30,292	$32,671
2"	5.3	$2,102	$1,719	$3,821	$37,425	$11,226	$48,651	$52,472
3"	16.7	$6,622	$5,417	$12,039	$117,923	$35,374	$153,296	$165,335
4"	41.7	$16,535	$13,526	$30,061	$294,454	$88,328	$382,782	$412,843
6"	66.7	$26,448	$21,636	$48,083	$470,986	$141,282	$612,268	$660,351
8"	133.3	$52,856	$43,239	$96,095	$941,266	$282,353	$1,223,618	$1,319,713
10"	216.7	$85,926	$70,291	$156,217	$1,530,174	$459,008	$1,989,183	$2,145,400

APPENDIX A: CIP WATER PROJECTS

FY	Project Description	Project Cost (2025 Value)
2025	Miscellaneous Small Equipment	$9,000.00
2025	Portable Turbidity Meter	$5,200.00
2025	Sample Stations (B)	$63,000.00
2026	50% - Meter Replacement: New Taps and Meter Maintenance	$1,569,641.98
2026	Additional Raw Water Pump Lake Reese	$250,000.00
2026	HACH spectrophotometer for WTP	$7,500.00
2026	Handheld pH meters for WTP Lab (2)	$5,400.00
2026	Second Water Tank on Dave's Mountain (Rehabilitation/Maintenance)	$25,000.00
2026	New High Service Pump	$250,000.00
2026	New Pump Control Valve on Reese Pump # 2	$85,000.00
2026	Replace Air Scour Grid	$20,000.00
2026	Replace Flocculator Gearbox	$14,800.00
2026	Replace Mud Valves	$14,400.00
2026	Sample Stations (A)	$16,372.00
2027	Additional Raw Water Pump Lake Lucas	$260,000.00
2027	Betterment of Water Main on Pineview Street	$314,299.00
2027	New Isolation Valves for High Service Lines	$50,000.00
2027	Overhaul Booster Pump # 2	$160,000.00
2027	Raw Water Isolation Valves	$50,000.00
2027	Replace 12" Water Main	$3,500,000.00
2028	Additional Sludge Collectors for Basin 5&6	$900,000.00
2028	Autoclave for WTP Lab	$20,000.00
2028	Drying Oven for WTP Lab	$2,000.00
2028	Overhaul Booster Pump # 1	$160,000.00
2029	Analytical Balance for WTP Lab	$7,000.00
2029	Chemical Storage/Metering Pump Building (Lake Lucas)	$250,000.00
2029	North Clearwell Replacement	$2,500,000.00
2029	Water Line Replacement	$5,208,161.28
2030	Aeration System for Lake Lucas and Reese	$1,000,000.00
2030	Handheld Chlorine Meters (2)	$2,500.00
2030	Handheld Monochloramine/Free Ammonia Meter	$1,200.00
2030	Incubator for WTP	$12,000.00
2031	Accumet XL500 WTP	$6,000.00
2031	New Raw Water Line (Lake Lucas to WTP)	$3,200,000.00
2031	TOC Analyzer	$60,000.00
2031	Water Bath for WTP	$6,000.00

FY	Project Description	Project Cost (2025 Value)
2032	AT1000	$3,000.00
2033	Benchtop Balance for WTP Lab	$3,000.00
2033	Refrigerator for WTP	$2,500.00
2034	New Raw Water Line (Lake Reese to Lake Lucas)	$5,000,000.00
2034	Sterilizer for WTP	$3,000.00
2034	Vacuum Pump for WTP	$1,000.00
	Total 2025 - 2038	**$25,016,974.26**

APPENDIX B: CIP WASTEWATER PROJECTS

FY	Project Description	Project Cost (2025 Value)
2025	PinAAcle 900T to replace non-functional ICP-MS	$80,000.00
2025	100%- New Sampler models	$145,500.00
2025	Ag Center pump station	$250,000.00
2025	Altair 4 XR atmospheric monitor replacement	$44,750.00
2025	annual replacement parts for pumps	$20,000.00
2025	LS#4 slip line gravity lines coming to station	$100,000.00
2025	LS#6 (identify and slip line gravity lines)	$600,000.00
2025	LS#9,10,11 identify and slip line gravity lines coming into stations	$1,000,000.00
2025	Miscellaneous Small Equipment	$13,500.00
2025	Purchase spare pumps. motors, and impellers for 15, 16, 17, 18, 19,	$200,000.00
2025	Replace LS#27	$300,000.00
2026	100% - 16" Augers for boring machine.	$29,000.00
2026	100% - Concrete/ Rehab on Primaries and SCTs	$1,550,000.00
2026	100% - Replace Softstarts for AB Blowers	$200,000.00
2026	100% - Replace valves in Nitrification Pump Station	$500,000.00
2026	100% - Replace/Rehab Sewer Main Sherwood Road and I-73	$167,300.00
2026	50% - Meter Replacement: New Taps and Meter Maintenance	$1,031,000.00
2026	Drying oven for WWTP Lab	$5,200.00
2026	FIMS Unit for Mercury Analysis	$55,000.00
2026	Flow Meter for Lift Station	$20,000.00
2026	Lift Station #3 upgrade/Force main replacement	$2,700,000.00
2026	Lift Station #7 pump station replacement,	$380,000.00
2026	LS#17 rehab wet well leaking at joints contributing to I&I	$100,000.00
2026	LS#2 flow study upgrades were done based on 20 yr. plan	$250,000.00
2026	Presnell Street pump station and gravity sewer	$1,000,000.00
2026	Replace Grinder LS#10	$102,000.00
2026	Replace Grinder LS#11	$94,000.00
2026	Replace Grinder LS#2	$50,000.00
2026	Replace Grinder LS#9	$90,000.00
2026	Replace LS#23 pump station, force main, and air release valves.	$1,500,000.00
2026	Replace LS#27 add cleanouts	$100,000.00
2027	100% - Main Line Camera and Computer System.	$170,000.00
2027	Autoclave for WWTP Lab	$13,000.00
2027	Handheld pH meter for WWTP Lab	$1,200.00

FY	Project Description	Project Cost (2025 Value)
2027	LS#14 upgrade	$500,000.00
2027	Quantitray Sealer for WWTP Lab	$6,000.00
2027	Replace Generator LS#10	$100,000.00
2027	Water bath for WWTP Lab	$5,000.00
2028	100% - Replace Sodium Hypochlorite Bulk Storage Tank	$500,000.00
2028	HACH Spectrophotometer for WWTP Lab	$7,000.00
2028	Lift Station #4 upgrade Pumps, utility electrical service.	$1,500,000.00
2028	Lift Station #6 Expansion	$5,980,000.00
2028	LS#12 Upgrading electrical service, pump station, & force main.	$400,000.00
2028	Muffle Furnace for WWTP Lab	$6,500.00
2028	Replace Generator & Transfer switch LS#7 (Obsolete)	$75,000.00
2028	Replace pumps, motors, add 3rd pump etc…LS #10	$400,000.00
2029	100% - Concrete/ Rehab on Secondaries	$800,000.00
2029	100% - Schreiber to replace all Diffusers in Aeration Tanks	$325,000.00
2029	BOD Incubator for WWTP Lab	$7,000.00
2029	Digital Titrator WWTP	$960.00
2029	Distillation Unit for WWTP Ammonia	$7,000.00
2029	LS#1 upgrade pumps,	$400,000.00
2029	LS#2 Replace outdated solid state soft starts	$400,000.00
2029	LS#9 Expansion	$2,242,500.00
2029	Replace Generator & Transfer switch LS#5 (Obsolete)	$75,000.00
2029	Replace pumps, motors, add 3rd pump etc…LS #11	$400,000.00
2029	Upgrade LS#21	$250,000.00
2029	YSI Multi-Lab DO meter for WWTP Lab	$1,500.00
2030	100% - Replace 6 40HP blowers/motors	$300,000.00
2030	100% - Replace Tertiary Filters with membrane filters	$5,000,000.00
2030	100% - Replace/Rehab Sewer Main - Hasketts Creek phase 1	$3,148,900.00
2030	100% - Upsize Sewer Main along Cedar Fork Creek (BOND)	$3,768,800.00
2030	Car to replace Jeep Liberty WWTP	$40,000.00
2030	HACH Spectrophotometer for WWTP	$7,500.00
2030	Upgrade LS#13 and force main	$2,500,000.00
2031	100% - Final Clarifier Settleability Improvements	$1,378,000.00

FY	Project Description	Project Cost (2025 Value)
2031	100% - New Septage Hauler discharge station	$400,000.00
2031	100% - Replace/Rehab Sewer Main Penwood Branch – West Side,	$1,416,700.00
2031	Accumet XL500 WWTP	$6,000.00
2031	Lift Station #2 Expansion	$7,774,000.00
2031	Ultrasonic Bath for WWTP	$3,000.00
2032	100% - Replace Aeration blowers, motors, and controls	$3,000,000.00
2032	100% - Replace DAF with Drum Thickeners	$5,550,000.00
2032	100% - Replace Sludge Thickening Structure	$1,000,000.00
2032	100% - Replace/Rehab Sewer Main Penwood Branch – East Side,	$1,758,500.00
2032	100% - UV disinfection	$4,000,000.00
2032	Benchtop Balance WWTP	$3,000.00
2032	Perkin Elmer Atomic Absorption Instrumentation	$100,000.00
2033	100% - Replace arms/ center mast for Trickling Filters 1 & 2	$1,500,000.00
2033	100% - Replace/Rehab Sewer Main Penwood Branch	$1,822,700.00
2033	100% - Sludge Dryer w/building at Press	$24,900,000.00
2033	100% - Upsize Sewer Main along NC Highway 49 S, (BOND)	$3,334,600.00
2033	Hot Block for metals digestion	$6,000.00
2033	IDEXX Sealer for WWTP	$7,000.00
2034	100% - Replace Final Clarifier Structures	$3,000,000.00
2034	100% - Upsize Sewer Main along Carl Drive (BOND)	$3,051,100.00
2034	100% - Upsize Sewer Main along Penwood Branch (BOND)	$15,381,800.00
2034	COD/TKN/Phos Reactor WWTP	$3,000.00
2034	IDEXX Sealer for WWTP	$7,000.00
2034	Microscope	$10,000.00
2034	Portable DO Meter	$1,500.00
2034	Vacuum pump WWTP	$1,000.00
2034	Water purifier for metals WWTP	$7,000.00
2035	100% - Replace/Rehab Sewer Main Penwood Branch	$696,300.00
2035	100% - Upsize Sewer Main along East Dorsett Avenue (BOND)	$1,054,800.00
2038	100% - Replace/Rehab Sewer Main Hasketts Creek phase 2	$498,200.00
	Total 2025 - 2038	**$123,686,310.00**

APPENDIX C: CIP WATER REHABILITATION PROJECTS

Project	Capital Cost
Accumet XL500 WTP	$6,000.00
Additional Raw Water Pump Lake Lucas	$260,000.00
Additional Raw Water Pump Lake Reese	$250,000.00
Additional Sludge Collectors for Basin 5&6	$900,000.00
Aeration System for Lake Lucas and Reese	$1,000,000.00
Analytical Balance for WTP Lab	$7,000.00
AT1000	$3,000.00
Autoclave for WTP Lab	$20,000.00
Benchtop Balance for WTP Lab	$3,000.00
Chemical Storage/Metering Pump Building (Lake Lucas)	$250,000.00
Drying Oven for WTP Lab	$2,000.00
HACH spectrophotometer for WTP	$7,500.00
Handheld Chlorine Meters (2)	$2,500.00
Handheld Monochloramine/Free Ammonia Meter	$1,200.00
Handheld pH meters for WTP Lab (2)	$5,400.00
Incubator for WTP	$12,000.00
Second Water Tank on Dave's Mountain (Rehabilitation/Maintenance)	$25,000.00
Miscellaneous Small Equipment	$9,000.00
New High Service Pump	$250,000.00
New Isolation Valves for High Service Lines	$50,000.00
New Pump Control Valve on Reese Pump # 2	$85,000.00
Overhaul Booster Pump # 1	$160,000.00
Overhaul Booster Pump # 2	$160,000.00
Portable Turbidity Meter	$5,200.00
Raw Water Isolation Valves	$50,000.00
Refrigerator for WTP	$2,500.00
Replace Air Scour Grid	$20,000.00
Replace Flocculator Gearbox	$14,800.00
Replace Mud Valves	$14,400.00
Sample Stations (A)	$16,372.00
Sample Stations (B)	$63,000.00
Sterilizer for WTP	$3,000.00
TOC Analyzer	$60,000.00
Vacuum Pump for WTP	$1,000.00
Water Bath for WTP	$6,000.00
Water Line Replacement	$5,208,161.28
Total 2025 - 2038	**$8,933,033.28**

APPENDIX D: CIP WASTEWATER REHABILITATION PROJECTS

Project	Capital Cost
PinAAcle 900T to replace non-functional ICP-MS	$80,000.00
100% - 16" Augers for boring machine.	$29,000.00
100% - Concrete/ Rehab on Primaries and SCTs	$1,550,000.00
100% - Concrete/ Rehab on Secondaries	$800,000.00
100% - Final Clarifier Settleability Improvements	$1,378,000.00
100% - Main Line Camera and Computer System.	$170,000.00
100% - New Septage Hauler discharge station	$400,000.00
100% - Replace 6 40HP blowers/motors	$300,000.00
100% - Replace Aeration blowers, motors, and controls	$3,000,000.00
100% - Replace arms/ center mast for Trickling Filters 1 & 2	$1,500,000.00
100% - Replace DAF with Drum Thickeners	$5,550,000.00
100% - Replace Final Clarifier Structures	$3,000,000.00
100% - Replace Sludge Thickening Structure	$1,000,000.00
100% - Replace Sodium Hypochlorite Bulk Storage Tank	$500,000.00
100% - Replace Softstarts for AB Blowers	$200,000.00
100% - Replace Tertiary Filters with membrane filters	$5,000,000.00
100% - Replace valves in Nitrification Pump Station	$500,000.00
100% - Replace/Rehab Sewer Main - Hasketts Creek phase 1	$3,148,900.00
100% - Replace/Rehab Sewer Main Hasketts Creek phase 2	$498,200.00
100% - Replace/Rehab Sewer Main Penwood Branch – East Side,	$1,758,500.00
100% - Replace/Rehab Sewer Main Penwood Branch – West Side,	$1,416,700.00
100% - Replace/Rehab Sewer Main Penwood Branch	$696,300.00
100% - Replace/Rehab Sewer Main Penwood Branch	$1,822,700.00
100% - Replace/Rehab Sewer Main Sherwood Road and I-73	$167,300.00
100% - Schreiber to replace all Diffusers in Aeration Tanks	$325,000.00
100% - Sludge Dryer w/building at Press	$24,900,000.00
100% - UV disinfection	$4,000,000.00
100%- New Sampler models	$145,500.00
Accumet XL500 WWTP	$6,000.00
Altair 4 XR atmospheric monitor replacement	$44,750.00
annual replacement parts for pumps	$20,000.00
Autoclave for WWTP Lab	$13,000.00
Benchtop Balance WWTP	$3,000.00
BOD Incubator for WWTP Lab	$7,000.00
Car to replace Jeep Liberty WWTP	$40,000.00

Project	Capital Cost
COD/TKN/Phos Reactor WWTP	$3,000.00
Digital Titrator WWTP	$960.00
Distillation Unit for WWTP Ammonia	$7,000.00
Drying oven for WWTP Lab	$5,200.00
FIMS Unit for Mercury Analysis	$55,000.00
Flow Meter for Lift Station	$20,000.00
HACH Spectrophotometer for WWTP Lab	$7,000.00
HACH Spectrophotometer for WWTP	$7,500.00
Handheld pH meter for WWTP Lab	$1,200.00
Hot Block for metals digestion	$6,000.00
IDEXX Sealer for WWTP	$7,000.00
IDEXX Sealer for WWTP	$7,000.00
Lift Station #7 pump station replacement,	$380,000.00
LS#1 upgrade pumps,	$400,000.00
LS#17 rehab wet well leaking at joints contributing to I&I	$100,000.00
LS#2 Replace outdated solid state soft starts	$400,000.00
LS#4 slip line gravity lines coming to station	$100,000.00
LS#6 (identify and slip line gravity lines)	$600,000.00
LS#9,10,11 identify and slip line gravity lines coming into stations	$1,000,000.00
Microscope	$10,000.00
Miscellaneous Small Equipment	$13,500.00
Muffle Furnace for WWTP Lab	$6,500.00
Perkin Elmer Atomic Absorption Instrumentation	$100,000.00
Portable DO Meter	$1,500.00
Purchase spare pumps. motors, and impellers for 15, 16, 17, 18, 19,	$200,000.00
Quantitray Sealer for WWTP Lab	$6,000.00
Replace Generator & Transfer switch LS#5 (Obsolete)	$75,000.00
Replace Generator & Transfer switch LS#7 (Obsolete)	$75,000.00
Replace Generator LS#10	$100,000.00
Replace Grinder LS#10	$102,000.00
Replace Grinder LS#11	$94,000.00
Replace Grinder LS#2	$50,000.00
Replace Grinder LS#9	$90,000.00
Replace LS#27	$300,000.00
Replace LS#27 add cleanouts	$100,000.00
Ultrasonic Bath for WWTP	$3,000.00

Project	Capital Cost
Vacuum pump WWTP	$1,000.00
Water bath for WWTP Lab	$5,000.00
Water purifier for metals WWTP	$7,000.00
YSI Multi-Lab DO meter for WWTP Lab	$1,500.00
Total 2025 - 2038	**$68,417,710.00**

APPENDIX E: NEPTUNE WATER METER SPECIFICATION SHEETS

A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

T-10 Meter

SIZES ⅝", ¾", AND 1"

Every T-10® water meter meets or exceeds the latest AWWA C700 Standard. Its nutating disc, positive displacement principle has been time-proven for accuracy and dependability since 1892, ensuring maximum utility revenue.

The T-10 water meter consists of three major assemblies: a register, a lead free, high-copper alloy maincase, and a nutating disc measuring chamber.

The T-10 meter is available with a variety of register types. For reading convenience, the register can be mounted in one of four positions on the meter.

The corrosion-resistant maincase will withstand harsh service conditions; internal water pressure, rough handling, and in-line piping stress.

The innovative floating chamber design of the nutating disc measuring element is unaffected by meter position of in-line piping stresses while the unique chamber seal extends the low-flow accuracy by sealing the chamber outlet port to the maincase outlet port. The nutating disc measuring element utilizes corrosion-resistant materials throughout and a thrust roller to minimize wear.

KEY FEATURES

REGISTER

- Magnetic-driven, low-torque registration ensures accuracy
- Impact-resistant register
- High-resolution, low-flow leak detection
- Bayonet-style register mount allows in-line serviceability
- Tamperproof seal pin deters theft
- Date of manufacture, size, and model stamped on dial face

LEAD FREE MAINCASE

- NSF/ANSI 372, NSF/ANSI 61
- Lifetime guarantee
- Resists internal pressure stresses and external damage
- Handles in-line piping variations and stresses
- Provides residual value vs. plastic or composite
- Electrical grounding continuity

NUTATING DISC MEASURING CHAMBER

- Positive displacement
- Widest effective flow range for maximum revenue
- Proprietary polymer materials maximize long-term accuracy
- Floating chamber design is unaffected by in-line piping stresses

Specifications

- NSF/ANSI 372, NSF/ANSI 61
- National Type Evaluation Program (NTEP) certification

Application

- Cold water measurement of flow in one direction in residential service applications

Maximum Operating Water Pressure

- 150 psi (1034 kPa)

Maximum Operating Water Temperature

- 80°F

Measuring Chamber

- Nutating disc technology design made from proprietary synthetic polymer

Options

Sizes

- 5/8", 5/8" x 3/4"
- 3/4", 3/4" SL, 3/4" x 1"
- 1", 1" x 1 1/4"

Units of Measure:

- U.S. gallons, imperial gallons, cubic feet, cubic metres

Register Types

- Direct reading: bronze box and cover (standard)

Remote Reading:

- ProCoder™, E-CODER®, E-CODER®)R900*i*™, ProCoder™)R900*i*™

Bottom Caps

- Synthetic polymer (5/8" only)
- Cast iron
- Lead free, high-copper alloy

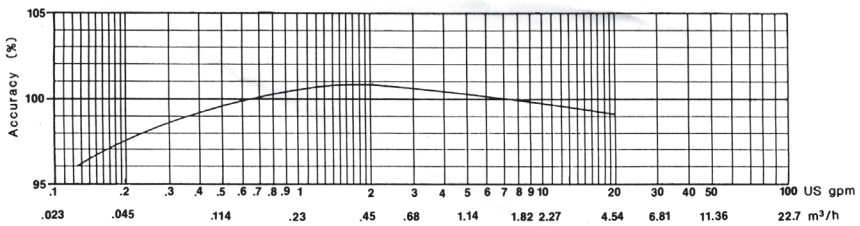
Connections

- Lead free, high-copper alloy, straight or bent

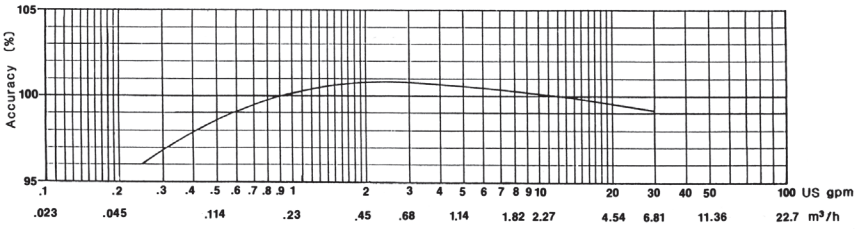
Environmental Conditions

- Operating temperature: +33° F to +149° F (0° C to +65° C)
- Storage temperature: +33° F to +158° F (0° C to +70° C)

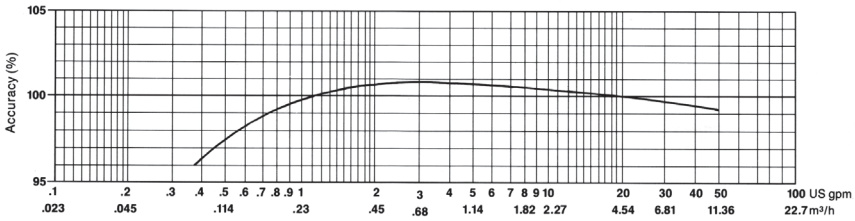
5/8" ACCURACY



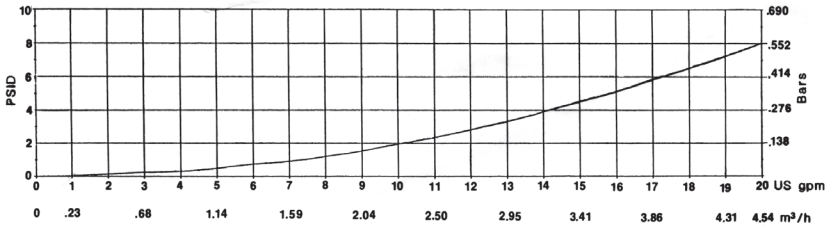
3/4" ACCURACY



1" ACCURACY



5/8" PRESSURE LOSS



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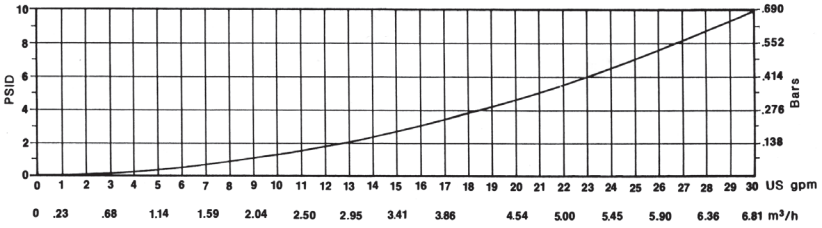
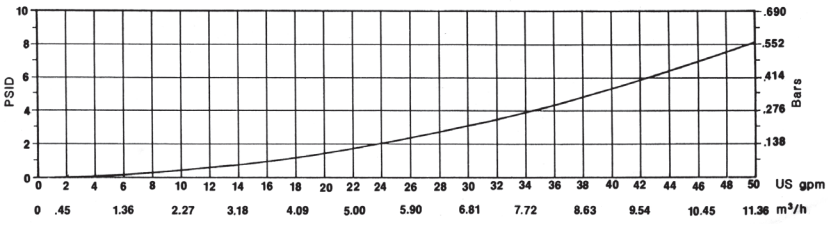


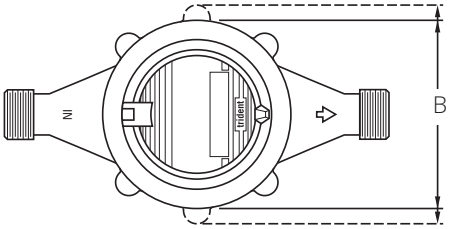
1" PRESSURE LOSS

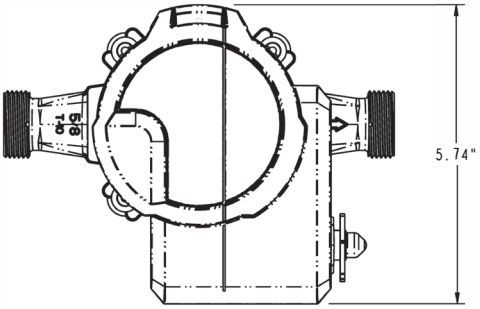


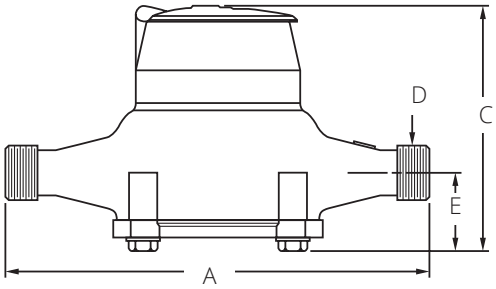
These charts show typical meter performance. Individual results may vary.

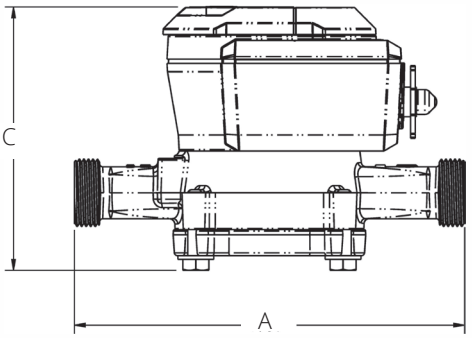
Dimensions

Meter Size	A	B	C					D-	E-	Weight lbs/kg
	in/ mm	in/ mm	Std. in/mm	ARB in/mm	ProCoder™ or E-CODER®	ProCoder™) R900*i*™ or ProCoder™) R450*i*™	E-CODER®) R900*i*™or E-CODER®) R450*i*™	NPSM Thread	in/ mm	
⅝"	7½ 191	3⅜ 92	4⅜ 111	5¼ 133	5¼ 133	5¼ 133	5¼ 133	¾" - 14"	1½ 38	3¼ 1.4
⅝" x ¾"	7½ 191	3⅜ 92	4⅜ 111	5¼ 133	5¼ 133	5¼ 133	5¼ 133	1" - 11½"	1½ 38	3⅜ 1.5
Pre 2011 ⅝"	7½ 191	3⅜ 92	4⅞ 124	5½ 146	5½ 139	5½ 139	5½ 139	¾" - 14"	1⅝ 41	3¾ 1.7
Pre 2011 ⅝" x ¾"	7½ 191	3⅜ 92	4⅞ 124	5½ 146	5½ 139	5½ 139	5½ 139	1" - 11½"	1⅝ 41	4 1.8
¾"	9 229	4⅜ 111	5½ 140	6¼ 159	6¼ 159	6¼ 159	6¼ 159	1" - 11½"	1⅞ 48	6 2.7
¾" SL	7½ 191	4⅜ 111	5½ 140	6¼ 159	6¼ 159	6¼ 159	6¼ 159	1" - 11½"	1⅞ 48	5½ 2.5
¾" x 1"	9 229	4⅜ 111	5½ 140	6¼ 159	6¼ 159	6¼ 159	6¼ 159	1¼" - 11½"	1⅞ 48	6½ 2.9
1"	10¾ 273	6½ 165	6⅜ 162	7 178	7 178	7 178	7 178	1¼" - 11½"	2⅛ 54	9¾ 4.4
1" x 1¼"	10¾ 273	6½ 165	6⅜ 162	7 178	7 178	7 178	7 178	1½" - 11½"	2⅛ 54	10¼ 4.6









Operating Characteristics

Meter Size	Normal Operating Range @ 100% Accuracy (+/- 1.5%)	AWWA Standard	Low Flow @ 95% Accuracy
5/8"	1/2 to 20 US gpm 0.11 to 4.55 m³/h	1 to 20 US gpm 0.23 to 4.5 m³/h	1/8 US gpm 0.03 m³/h
3/4"	3/4 to 30 US gpm 0.17 to 6.82 m³/h	2 to 30 US gpm 0.45 to 6.8 m³/h	1/4 US gpm 0.06 m³/h
1"	1 to 50 US gpm 0.23 to 11.36 m³/h	3 to 50 US gpm 0.68 to 11.4 m³/h	3/8 US gpm 0.09 m³/h

Registration

ProRead Registration (per sweep hand revolution)		5/8"	3/4" & 1"
10	US Gallons	√	√
10	Imperial Gallons	√	√
1	Cubic Foot	√	√
0.1	Cubic Metre	√	√
Register Capacity ProRead, ProCoder, and E-CODER		**5/8"**	**3/4" & 1"**
10,000,000	US Gallons	√	√
10,000,000	Imperial Gallons	√	√
1,000,000	Cubic Feet	√	√
100,000	Cubic Metres	√	√
ProCoder and E-CODER High Resolution (8-digit reading)		**5/8"**	**3/4" & 1"**
0.1	US Gallons	√	√
0.1	Imperial Gallons	√	√
0.01	Cubic Feet	√	√
0.001	Cubic Metres	√	√

Warranty

Neptune® provides a limited warranty for performance, materials, and workmanship. See warranty statement for details.

Guaranteed Compatibility

All T-10 water meters are guaranteed adaptable to our ProRead™, AutoDetect, ProCoder™, E-CODER®, E-CODER®)R900*i*™, E-CODER®)R450*i*™, ProCoder™)R900*i*™, TRICON®/S, TRICON/E®3, and Neptune meter reading systems without removing the meter from service.

NEPTUNE TECHNOLOGY GROUP

#winyourday
neptunetg.com

Neptune Technology Group
1600 Alabama Highway 229
Tallassee, AL 36078
800-633-8754 f 334-283-7293

A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

T-10® METER

SIZES: 1 ½" and 2"

Every Neptune® T-10® water meter meets or exceeds the latest AWWA C700 Standard. Its nutating disc, positive displacement principle has been time-proven for accuracy and dependability since 1892, ensuring maximum utility revenue.

The T-10 water meter consists of three major assemblies: a register, a lead free, high-copper alloy maincase, and a nutating disc measuring chamber.

The T-10 meter is available with a variety of register types. For reading convenience, the register can be mounted in one of four positions on the meter.

The corrosion-resistant maincase will withstand harsh service conditions: internal water pressure, rough handling, and in-line piping stress.

The innovative floating chamber design of the nutating disc measuring element protects the chamber from frost damage while the unique chamber seal extends the low-flow accuracy by sealing the chamber outlet port to the maincase outlet port. The nutating disc measuring element utilizes corrosion-resistant materials throughout and a thrust roller to minimize wear.

KEY FEATURES

Register

- Magnetic-driven, low-torque registration ensures accuracy
- Impact-resistant register
- High-resolution, low-flow leak detection
- Bayonet-style register mount allows in-line serviceability
- Tamperproof seal pin deters theft
- Date of manufacture, size, and model stamped on dial face

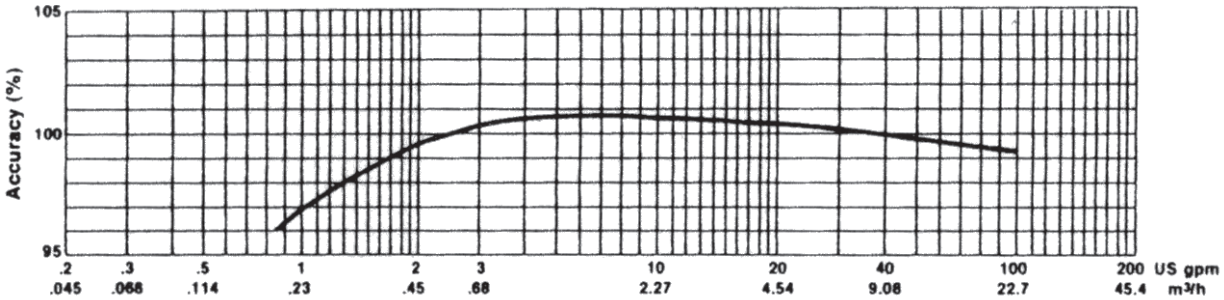
Lead Free Maincase

- Made from lead free, high-copper alloy
- NSF/ANSI 61 Certified
- NSF/ANSI 372 Certified
- Lifetime guarantee
- Resists internal pressure stresses and external damage
- Handles in-line piping variations and stresses
- Provides residual value vs. plastic
- Electrical grounding continuity

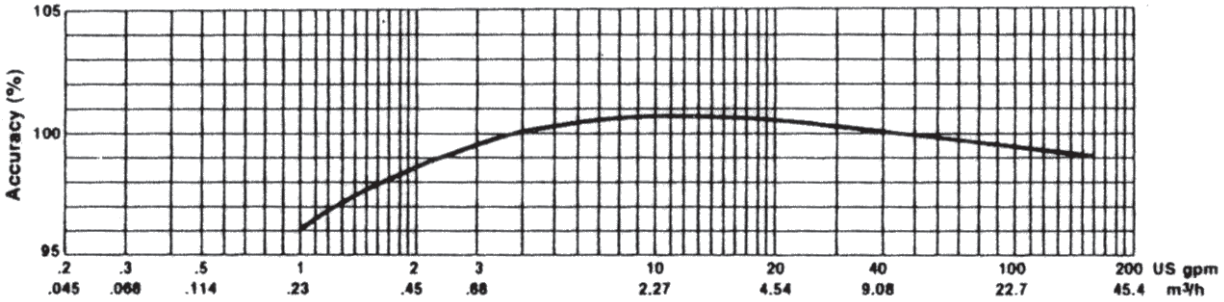
Nutating Disc Measuring Chamber

- Positive displacement
- Widest effective flow range for maximum revenue
- Proprietary polymer materials maximize long-term accuracy
- Floating chamber design is unaffected by in-line piping stresses

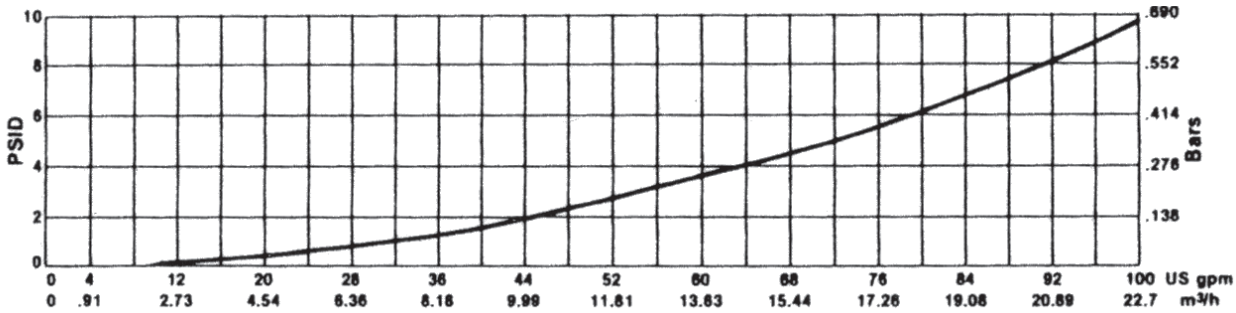
1 ½" Accuracy



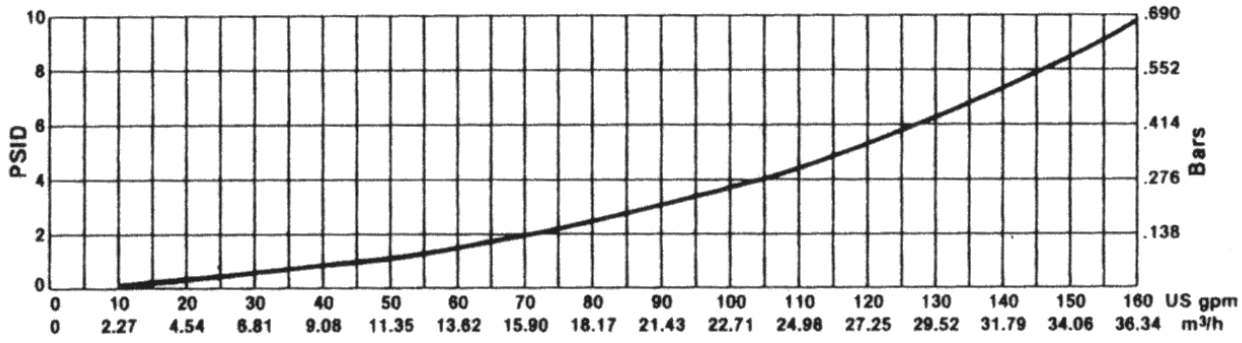
2" Accuracy



1 ½" Pressure Loss



2" Pressure Loss



These charts show typical meter performance. Individual results may vary.

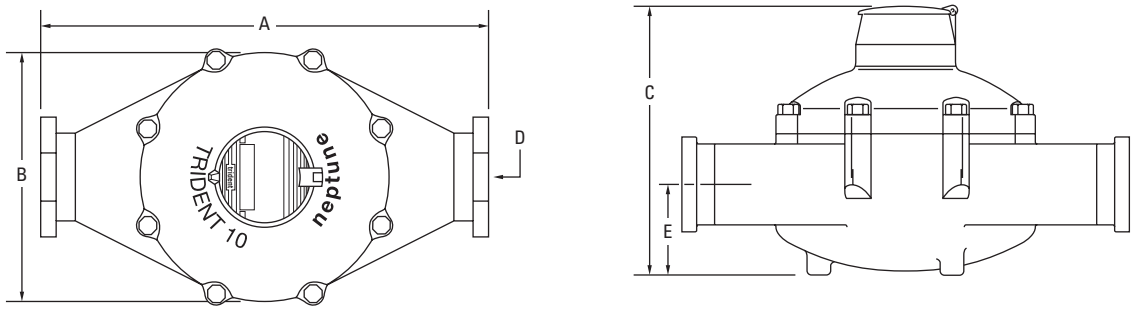
Operating Characteristics

Meter Size	Normal Operating Range @100% Accuracy (±1.5%)	AWWA Standard	Low Flow @ 95% Accuracy
1 ½″	2 to 100 US gpm 0.46 to 22.73 m³/h	5 to 100 US gpm 1.1 to 22.7 m³/h	¾ US gpm 0.17 m³/h
2″	2 ½ to 160 US gpm 0.57 to 36.36 m³/h	8 to 160 US gpm 1.8 to 36.3 m³/h	1 US gpm 0.23 m³/h

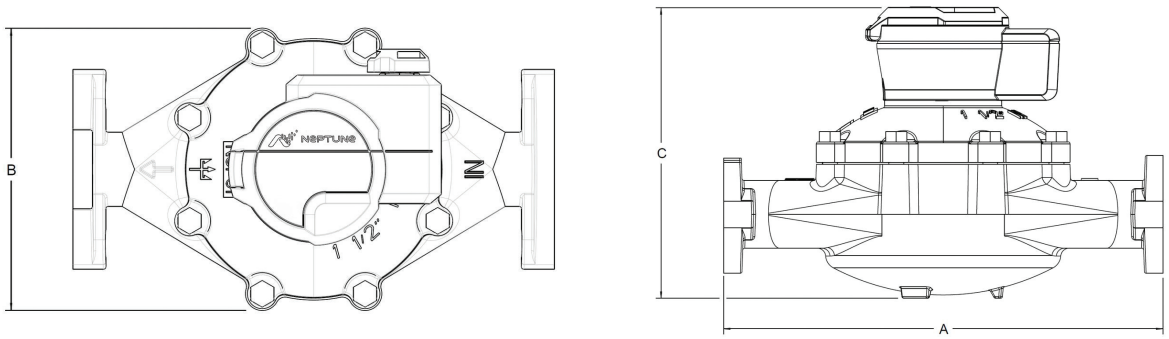
Dimensions

Meter Size	A in/mm	B in/mm	C-Std. in/mm	C-ARB in/mm	C- E-CODER®) R900*i*™ or ProCoder™) R900*i*™	D- Threads per inch	D- Thread Type	E in/mm	Weight lbs/kg
1 ½″ Screw End	12 5/8 321	8 1/16 205	8 1/8 206	8 13/16 220.3	8 3/8 213	11 ½	1 ½ NPT	2 9/16 65	31 14.1
1 ½″ Flanged End	13 330	8 1/16 205	8 1/8 206	8 13/16 220.3	8 3/8 213	—	—	2 9/16 65	35 15.9
2″ Screw End	15 ¼ 387	9 7/16 240	9 5/16 237	9 15/16 248.4	9 ½ 241	11 ½	2″ NPT	3 ⅛ 79	40 18.1
2″ Flanged End	17 432	9 7/16 240	9 5/16 237	9 15/16 248.4	9 ½ 241	—	—	3 ⅛ 79	44 20.0

T-10 With Standard Register



T-10 With E-CODER®)R900*i*™ or ProCoder™)R900*i*™ Pit Register



Guaranteed Compatibility

All T-10 meters are guaranteed adaptable to our ProRead™, ProCoder™, E-CODER®, E-CODER®)R900*i*™, E-CODER®)R450*i*™, ProCoder™)R900*i*™, TRICON®/S, TRICON/E®3, and Neptune Utility Systems™ without removing the meter from service.

Specifications

Certification

• NSF/ANSI 61, NSF/ANSI 372

Application

• Cold water measurement of flow in one direction

Maximum Operating Water Pressure

• 150 psi (1,034 kPa)

Maximum Operating Water Temperature

• 80°F

Measuring Chamber

• Nutating disc technology design made from proprietary synthetic polymer

Registration

ProRead Registration (per sweep hand revolution)		**1 ½"**	**2"**
100	US Gallons	✓	✓
100	Imperial Gallons	✓	✓
10	Cubic Feet	✓	✓
1	Cubic Metre		✓
.01	Cubic Metre	✓	
Register Capacity ProRead, ProCoder, and E-CODER		**1 ½"**	**2"**
100,000,000	US Gallons	✓	✓
100,000,000	Imperial Gallons	✓	✓
10,000,000	Cubic Feet	✓	✓
100,000	Cubic Metres	✓*	
1,000,000	Cubic Metres	✓**	✓
E-CODER High Resolution (8-digit reading)		**1 ½"**	**2"**
1	US Gallons	✓	✓
1	Imperial Gallons	✓	✓
0.1	Cubic Feet	✓	✓
0.01	Cubic Metres		✓
0.001	Cubic Metres	✓	
ProCoder High Resolution (8-digit reading)		**1 ½"**	**2"**
1	US Gallons	✓	✓
1	Imperial Gallons	✓	✓
0.1	Cubic Feet	✓	✓
0.01	Cubic Metres	✓	✓

**ProRead and E-CODER only **ProCoder only*

Options

Sizes

• 1 ½" flanged or threaded end

• 2" flanged or threaded end

Units of Measure

• U.S. gallons, imperial gallons, cubic feet, cubic metres

Register Types

• ProCoder, E-CODER, E-CODER)R900*i*, ProCoder)R900*i*

Measuring Chamber

• Synthetic polymer

Companion Flanges

• Lead free, high-copper alloy

Environmental Conditions

• Operating temperature: +33°F to +149°F (0°C to +65°C)

• Storage temperature:

• +33°F to +158°F (0°C to +70°C)

Test Ports

• 1" (optional)

Warranty

Neptune provides a limited warranty for performance, materials, and workmanship. See warranty statement for details.

NEPTUNE TECHNOLOGY GROUP

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Neptune Technology Group
1600 Alabama Highway 229
Tallassee, AL 36078
800-633-8754 f 334-283-7293

Superior Accuracy. Zero Maintenance.

Neptune® MACH 10® Ultrasonic Meter

The MACH 10® ultrasonic water meter features solid state ultrasonic technology including a factory-calibrated, replaceable unitized measuring element (UME) with no degradation of accuracy over time. Combined with a corrosion-resistant, lead free, high-copper alloy maincase, the MACH 10 is built to withstand demanding service conditions and deliver sustained accuracy over the life of the meter.

- Sizes 3” through 12”
- Extended low-flow range for superior leak detection
- Accuracy sustained over meter life
- Can be installed in both horizontal and vertical applications
- Open flow path design with low pressure loss
- Advanced ultrasonic technology with easily replaceable UME design
- Lead free, high-copper alloy maincase
- UL Listed and FM Approved (standard)
- Available in standard turbine and compound lay lengths
- No maintenance

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Specifications

AWWA C715 Compliant

NSF/ANSI 61 Certified

UL Listed/FM Approved (Standard)

Maximum Operating Water Pressure

- 175 psi

Operating Water Temperature Range

- +33°F to +122°F (+0.5°C to +50°C)

Environmental Conditions

- Operating temperature: +14°F to +149°F (-10°C to +65°C)
- Storage temperature: -40°F to +158°F (-40°C to +70°C)

Expected Battery Life

- 10 years

Applications

- Potable water
- Fire service
- Reclaim water

Warranty

- Neptune provides a limited warranty for performance, materials, and workmanship. See warranty statement for details.

System Compatibility

- Compatible with Neptune R900® System. Also available as MACH 10®)R900*i*™ for an integrated radio solution and MACH 10®)TC for Sensus Touch Coupler compatibility.

Operating Characteristics

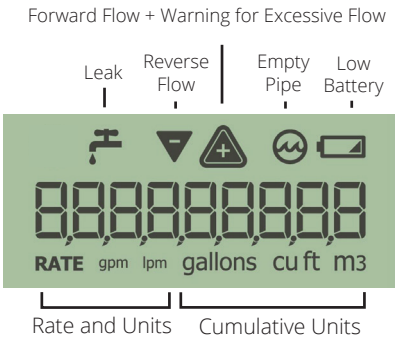
Meter Size	Extended Low Flow @ 100% Accuracy (+/- 3.0%)	Normal Operating Range @ 100% Accuracy (+/- 1.5%)	Safe Maximum Operating Capacity	
			Normal Operation (Non Fire Service)	Fire Service
3″	0.50 U.S. gpm	0.75 to 500 U.S. gpm	500 U.S. gpm	420 U.S. gpm
4″	0.75 U.S. gpm	1.5 to 1250 U.S. gpm	1250 U.S. gpm	1100 U.S. gpm
6″	1.0 U.S. gpm	2.0 to 2000 U.S. gpm	2000 U.S. gpm	1800 U.S. gpm
8″	4.0 U.S. gpm	6.0 to 4000 U.S. gpm	4000 U.S. gpm	4000 U.S. gpm
10″	6.0 U.S. gpm	10.0 to 6500 U.S. gpm	6500 U.S. gpm	6500 U.S. gpm
12″	8.0 U.S. gpm	12.0 to 8000 U.S. gpm	8000 U.S. gpm	8000 U.S. gpm

Registration

High Resolution (8-digit reading)		3″	4″	6″ - 12″
1	U.S. Gallons	√	√	
10	U.S. Gallons			√
0.1	Cubic Feet	√	√	
1	Cubic Feet			√
0.01	Cubic Metres	√	√	
0.1	Cubic Metres			√

LCD Display

9-digit display for extra resolution on manual reads.



Dimensions

Meter Size	Length	Height	Weight
3″	12″	9½″	39 lbs
	17″	9½″	42 lbs
4″	14″	11″	51 lbs
	20″	11″	57 lbs
6″	18″	12¾″	79 lbs
	24″	12¾″	91 lbs
8"	20"	15 ⅜"	160 lbs
10"	26"	17 ⁹⁄₁₀"	264 lbs
12"	19 ⁷⁄₁₀"	20"	292 lbs

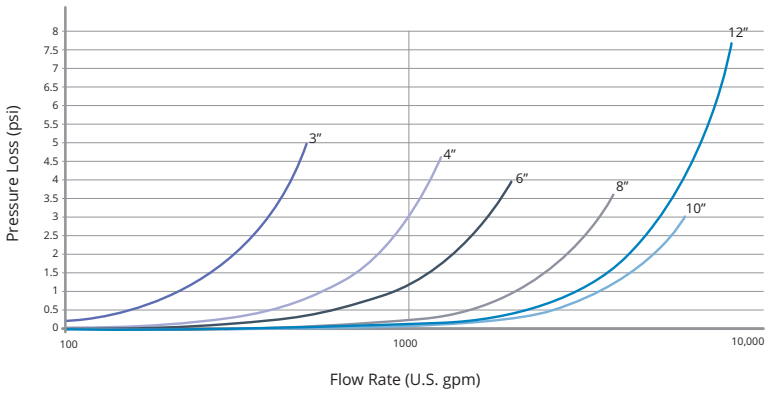
Available Units of Measure

Consumption	Rate
Gallons	GPM
Cubic Feet	GPM
Cubic Metres	LPM

Unitized Measuring Element (UME)

Pressure Loss

This chart shows typical meter performance. Individual results may vary.



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