

# Commercial Filtration Equipment



Hotels, car washes, laundromats, apartment buildings, industry and food producers require high quality water to meet the demands of their customers. Water containing turbidity, iron, manganese and sulfur has a negative impact on the ability of a business or institution to supply quality products and services.

WaterGroup has been solving these water filtration problems for over 50 years. Our professional engineering team has earned a reputation for excellence in the design and application of durable and efficient water filtration systems.



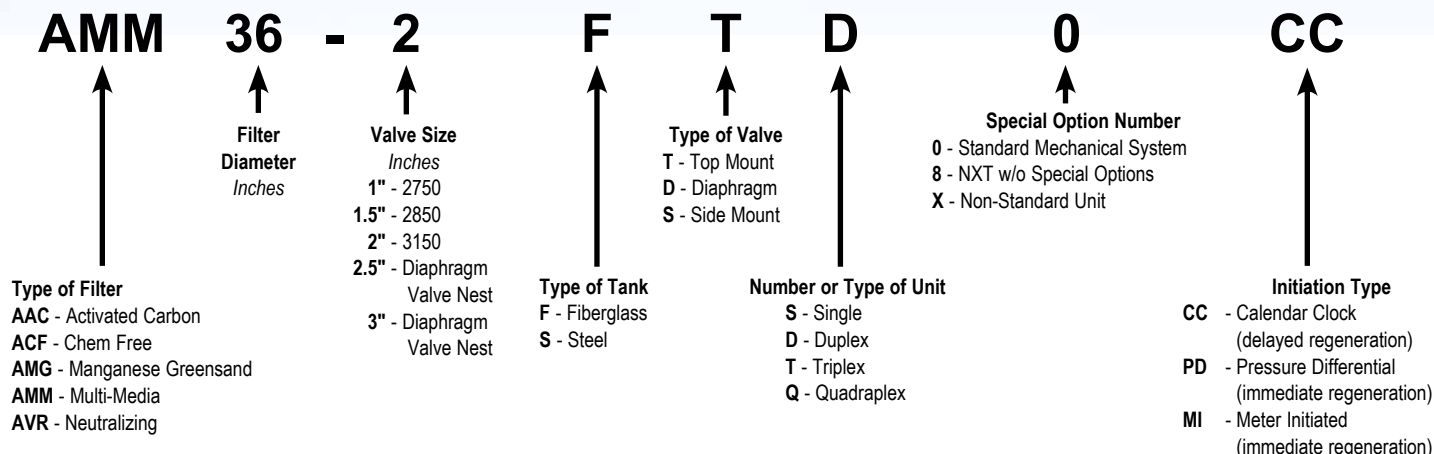
WaterGroup's line of commercial filtration systems feature top mounted integral control valves of brass construction with teflon coated internals and light-weight fiberglass media tanks. This design allows quick installation with simple automatic operation and a very high degree of reliability.

Valves, filter tanks and state-of-the-art electronic controls are assembled by WaterGroup to ensure years of trouble-free service.

Filter systems are also available with nested diaphragm valves. These systems also incorporate fiberglass tanks and composite diaphragm valves within a PVC manifold controlled by a stager.

## System Selection

The following example explains how the model number works:



## AMM SERIES - Multi-Media Filter

Multi-media filters effectively remove suspended matter, turbidity, dirt and rust particles from water in the range of 15-20 microns. Three layers of filter media, anthracite, filter sand and garnet, enable the multi-media filter to perform superb depth filtration. In addition this method of filtration permits higher flow rates and longer service runs.

### Performance Specifications

Model	Media Volume cu.ft. (cu.m.)	Flow Rates - USGPM (LPS)					Tank Dia. x Hgt. In. (mm)	Minimum Space Required				Shipping Weight Single Lbs (Kg)
		Single		Backwash	Duplex			Height	Depth	Width		
		Service	RO <sup>2</sup>		Service	RO <sup>2</sup>				Single	Duplex	
<b>AMM Series</b>												
AMM 14-1"	2.75 (.078)	10 (0.63)	8 (0.50)	12 (0.76)	20 (1.26)	16 (1.01)	14x65 (356x1651)	76 (1930)	26 (660)	26 (660)	46 (1168)	420 (191)
AMM 16-1"	3.5 (.099)	14 (0.88)	11 (0.69)	15 (0.95)	28 (1.77)	22 (1.39)	16x65 (406x1651)	76 (1930)	28 (711)	28 (711)	50 (1270)	490 (223)
AMM 21-1.5"	6.0 (.170)	24 (1.51)	19 (1.20)	30 (1.90)	48 (3.03)	38 (2.40)	21x69 (533x1753)	85 (2159)	33 (838)	33 (838)	60 (1524)	755 (343)
AMM 24-1.5"	8.0 (.227)	30 (1.89)	25 (1.58)	40 (2.53)	60 (3.79)	50 (3.16)	24x72 (610x1829)	88 (2235)	36 (914)	36 (914)	66 (1676)	1015 (416)
AMM 30-2"	12.5 (.354)	48 (3.03)	39 (2.46)	60 (3.79)	96 (6.06)	78 (4.92)	30x72 (762x1829)	99 (2515)	42 (1067)	42 (1067)	78 (1981)	1500 (682)
AMM 36-2"	17.6 (.498)	69 (4.35)	57 (3.60)	85 (5.36)	138 (8.71)	114 (7.19)	36x72 (914x1829)	101 (2565)	48 (1219)	48 (1219)	90 (2286)	2105 (957)
AMM 42-2.5"	24 (.680)	96 (6.07)	77 (4.85)	120 (7.59)	192 (12.14)	154 (9.70)	42x72 (1067x1829)	107 (2718)	72 (1829)	54 (1372)	104 (2642)	3500 (1588)
AMM 48-2.5"	31 (.878)	126 (7.92)	100 (6.34)	157 (9.90)	252 (15.84)	200 (12.68)	48x72 (1219x1829)	107 (2718)	78 (1982)	60 (1524)	116 (2947)	4400 (1996)
AMM 63-3"	54 (1.53)	216 (13.63)	173 (10.90)	270 (17.03)	432 (27.26)	346 (21.80)	63x86 (1600x2185)	107 (2718)	93 (2363)	75 (1905)	146 (3709)	8300 (3765)

## AMG SERIES - Manganese Greensand Filter

Iron (Fe) and manganese (Mn) in concentrations as low as 0.3 ppm and 0.05 ppm respectively can cause staining and sludge formation. Hydrogen sulfide gas dissolved in water causes an offensive odor in concentrations as low as 1.0 ppm. WaterGroup's manganese greensand filters remove iron, manganese and hydrogen sulfide from water using an oxidation and filtration process. Oxidation of the objectionable elements is accomplished by injecting a potassium permanganate solution into the water, upstream of the filters. Filtration media consists of a layer of anthrafil on top of the manganese greensand bed.

### Performance Specifications

Model	Media Volume cu.ft (cu.m.)	Flow Rates Single - Max. Service ppm (Fe + 2Mn) USGPM (LPS)			Flow Rates Backwash USGPM (LPS)	Flow Rates Duplex - Max. Service ppm (Fe + 2Mn) USGPM (LPS)			Tank Dia. x Hgt. Inches (mm)	Minimum Space Required <sup>1</sup> - Inches (mm)				Shipping Weight Single Lbs (Kg)
		0-3	3-8	8-15		0-3	3-8	8-15		Height	Depth	Width		
												Single	Duplex	
<b>AMG Series</b>														
AMG 14-1"	2.75 (.078)	5 (0.32)	3 (0.19)	2 (0.13)	10 (0.63)	10 (0.63)	6 (0.38)	4 (0.25)	14x65 (356x1651)	76 (1930)	26 (660)	26 (660)	46 (1168)	450 (205)
AMG 16-1"	3.5 (.099)	7 (0.44)	4 (0.25)	3 (0.19)	15 (0.95)	14 (0.88)	8 (0.51)	6 (0.38)	16x65 (406x1651)	76 (1930)	28 (711)	28 (711)	50 (1270)	525 (239)
AMG 21-1.5"	6.0 (.170)	12 (0.76)	7 (0.44)	5 (0.32)	25 (1.58)	24 (1.52)	14 (0.88)	10 (0.63)	21x69 (533x1753)	85 (2159)	33 (838)	33 (838)	60 (1524)	820 (373)
AMG 24-1.5"	8.0 (.227)	16 (1.01)	9 (0.57)	6 (0.38)	30 (1.90)	32 (2.02)	18 (1.14)	12 (0.76)	24x72 (610x1829)	88 (2235)	36 (914)	36 (914)	66 (1676)	1075 (488)
AMG 30-2"	12.5 (.354)	25 (1.58)	15 (0.95)	10 (0.63)	50 (3.16)	50 (3.16)	30 (1.90)	20 (1.26)	30x72 (762x1829)	99 (2515)	42 (1067)	42 (1067)	78 (1981)	1570 (714)
AMG 36-2"	17.5 (.496)	35 (2.21)	21 (1.33)	14 (0.88)	70 (4.42)	70 (4.42)	42 (2.65)	28 (1.76)	36x72 (914x1829)	101 (2565)	48 (1219)	48 (1219)	90 (2286)	2175 (989)
AMG 42-2" <sup>(4)</sup>	24 (.680)	48 (3.03)	29 (1.82)	19 (1.21)	95 (6.00)	96 (6.06)	58 (3.64)	38 (2.40)	42x72 (1067x1829)	110 (2794)	54 (1372)	54 (1372)	102 (2591)	3350 (1523)
AMG 42-2.5"	24 (.680)	48 (3.03)	29 (1.82)	19 (1.21)	96 (6.07)	96 (6.06)	58 (3.64)	38 (2.40)	42x72 (1067x1829)	107 (2718)	72 (1829)	54 (1372)	104 (2642)	5900 (2677)
AMG 48-2.5"	31 (.878)	63 (3.96)	38 (2.38)	25 (1.58)	126 (7.92)	126 (7.92)	76 (4.76)	50 (3.16)	48x72 (1219x1829)	107 (2718)	78 (1982)	60 (1524)	116 (2947)	7650 (3470)
AMG 63-3"	54 (1.53)	108 (6.81)	65 (4.09)	43 (2.73)	216 (13.63)	216 (13.63)	130 (8.18)	86 (5.46)	63x86 (1600x2185)	107 (2718)	93 (2363)	75 (1905)	146 (3709)	14,300 (6487)

<sup>(4)</sup> Must have 60 psig available to regenerate the valve at the specified backwash flow.

## AVR SERIES - Neutralizing Filters

Every year hotels, apartment buildings, schools, industry and hospitals spend millions of dollars on replacement of corroded copper piping and components because of low pH water supply. WaterGroup's neutralizing filters effectively and safely adjust the pH of this aggressive water without the use of chemicals. The result is conditioned water which reduces the corrosion and failure of copper water lines and eliminates any high turbidity levels that may occur in the water supply.

### Performance Specifications

Model	Media Volume cu.ft (cu.m.)	Flow Rates - USGPM (LPS)					Tank Dia. x Hgt. In. (mm)	Minimum Space Required				Shipping Weight Single Lbs (Kg)
		Single		Backwash	Duplex			Height	Depth	Width		
		Service	Peak <sup>3</sup>		Service	Peak <sup>3</sup>				Single	Duplex	
<b>AVR Series</b>												
AVR 14-1"	2.75 (.078)	5 (0.32)	11 (0.69)	12 (0.76)	10 (0.64)	22 (1.39)	14x65 (356x1651)	76 (1930)	26 (660)	26 (660)	46 (1168)	460 (209)
AVR 16-1"	3.5 (.099)	7 (0.44)	14 (0.88)	15 (0.95)	14 (0.88)	28 (1.77)	16x65 (406x1651)	76 (1930)	28 (711)	28 (711)	50 (1270)	545 (248)
AVR 21-1.5"	6.0 (.170)	12 (0.76)	25 (1.58)	30 (1.90)	24 (1.52)	50 (3.15)	21x69 (533x1753)	85 (2159)	33 (838)	33 (838)	60 (1524)	880 (400)
AVR 24-1.5"	8.0 (.227)	15 (0.95)	33 (2.08)	40 (2.53)	30 (1.90)	66 (4.16)	24x72 (610x1829)	88 (2235)	36 (914)	36 (914)	66 (1676)	1145 (521)
AVR 30-2"	12.5 (.354)	24 (1.52)	52 (3.28)	60 (3.79)	48 (3.02)	104 (6.56)	30x72 (762x1829)	99 (2515)	42 (1067)	42 (1067)	78 (1981)	1710 (778)
AVR 36-2"	17.6 (.498)	35 (2.21)	74 (4.66)	85 (5.36)	70 (4.42)	148 (9.33)	36x72 (914x1829)	101 (2565)	48 (1219)	48 (1219)	90 (2286)	2390 (1086)
AVR 42-2.5"	24 (.680)	48 (3.03)	96 (6.06)	120 (7.59)	96 (6.06)	192 (12.12)	42x72 (1067x1829)	107 (2718)	72 (1829)	54 (1372)	104 (2642)	6200 (2813)
AVR 48-2.5"	31 (.878)	63 (3.96)	126 (7.92)	157 (9.90)	126 (7.92)	252 (15.84)	48x72 (1219x1829)	107 (2718)	78 (1982)	60 (1524)	116 (2947)	8150 (3697)
AVR 63-3"	54 (1.53)	108 (6.81)	216 (13.62)	270 (17.03)	216 (13.63)	432 (27.24)	63x86 (1600x2185)	107 (2718)	93 (2363)	75 (1905)	146 (3709)	15,100 (6850)

## ACF SERIES - Chemical Free Iron Filter

The presence of iron (Fe) in concentrations as low as 0.3 ppm can cause staining and sludge formation. WaterGroup's chemical free iron filters remove iron and dissolved hydrogen sulfide gas from water without the use of chemical oxidants.

### Performance Specifications

Model	Media Volume cu.ft (cu.m.)	Flow Rates - USGPM (LPS)					Tank Dia. x Hgt. In. (mm)	Minimum Space Required <sup>4</sup>				Shipping Weight Single Lbs (Kg)
		Single		Backwash	Duplex			Height	Depth	Width		
		Service	Peak <sup>3</sup>		Service	Peak <sup>3</sup>				Single	Duplex	
<b>ACF Series</b>												
ACF 14-1"	2.75 (.078)	3 (0.19)	5 (0.32)	10 (0.63)	6 (0.38)	10 (0.63)	14x65 (356x1651)	76 (1930)	26 (660)	26 (660)	46 (1168)	440 (200)
ACF 16-1"	3.5 (.099)	4 (0.25)	7 (0.44)	15 (0.95)	8 (0.51)	14 (0.88)	16x65 (406x1651)	76 (1930)	28 (711)	28 (711)	50 (1270)	520 (237)
ACF 21-1.5"	6.0 (.170)	7 (0.44)	12 (0.63)	25 (1.58)	14 (0.88)	24 (1.52)	21x69 (533x1753)	85 (2159)	33 (838)	33 (838)	60 (1524)	830 (377)
ACF 24-1.5"	8.0 (.227)	9 (0.57)	16 (1.01)	30 (1.90)	18 (1.14)	32 (2.02)	24x72 (610x1829)	88 (2235)	36 (914)	36 (914)	66 (1676)	1075 (489)
ACF 30-2"	12.5 (.354)	15 (0.95)	25 (1.58)	50 (3.16)	30 (1.90)	50 (3.16)	30x72 (762x1829)	99 (2515)	42 (1067)	42 (1067)	78 (1981)	1605 (730)
ACF 36-2"	17.6 (.498)	21 (1.33)	35 (2.21)	70 (4.42)	42 (2.65)	70 (4.42)	36x72 (914x1829)	101 (2565)	48 (1219)	48 (1219)	90 (2286)	2235 (1016)
ACF 42-2" <sup>(1)</sup>	24 (.680)	29 (1.82)	48 (3.03)	95 (6.00)	58 (3.64)	96 (6.06)	42x72 (1067x1829)	110 (2794)	54 (1372)	54 (1372)	102 (2591)	3083 (1398)
ACF 42-2.5"	24 (.680)	29 (1.82)	48 (3.03)	96 (6.07)	58 (3.64)	96 (6.06)	42x72 (1067x1829)	107 (2718)	72 (1829)	54 (1372)	104 (2642)	6200 (2813)
ACF 48-2.5"	31 (.878)	38 (2.38)	63 (3.96)	126 (7.92)	76 (4.76)	126 (7.92)	48x72 (1219x1829)	107 (2718)	78 (1982)	60 (1524)	116 (2947)	8050 (3652)
ACF 63-3"	54 (1.53)	65 (4.09)	108 (6.81)	216 (13.63)	130 (8.18)	216 (13.63)	63x86 (1600x2185)	107 (2718)	93 (2363)	75 (1905)	146 (3709)	14,700 (6668)

<sup>(1)</sup> Must have 60 psig available to regenerate the valve at the specified backwash flow.

## AAC SERIES - Activated Carbon Filter

Water containing dissolved or suspended organic material will exhibit tastes, odors and colors which are offensive to potable water users and troublesome to processes such as those used in the food and beverage industry. Excess chlorine can also cause taste and odor problems. WaterGroup's activated carbon filters are specially designed to ensure that water passes down through the filter bed evenly and with sufficient contact time to allow for the effective adsorption of impurities.

### Performance Specifications

Model	Media Volume cu.ft (cu.m.)	Flow Rates - USGPM (LPS)					Tank Dia. x Hgt. In. (mm)	Minimum Space Required				Shipping Weight Single Lbs (Kg)
		Single		Backwash	Duplex			Height	Depth	Width		
		Service	RO <sup>2</sup>		Service	RO <sup>2</sup>				Single	Duplex	
<b>AAC Series</b>												
AAC 14-1"	2.75 (.078)	6 (0.38)	2.5 (0.16)	10 (0.63)	12 (0.76)	5 (0.31)	14x65 (356x1651)	76 (1930)	26 (660)	26 (660)	46 (1168)	260 (118)
AAC 16-1"	3.5 (.099)	8 (0.51)	3.5 (0.22)	15 (0.95)	16 (1.01)	7 (0.44)	16x65 (406x1651)	76 (1930)	28 (711)	28 (711)	50 (1270)	290 (132)
AAC 21-1.5"	6.0 (.170)	14 (0.88)	6 (0.38)	25 (1.58)	28 (1.76)	12 (0.76)	21x69 (533x1753)	85 (2159)	33 (838)	33 (838)	60 (1524)	440 (200)
AAC 24-1.5"	8.0 (.227)	19 (1.20)	8 (0.50)	30 (1.90)	38 (2.40)	16 (1.01)	24x72 (610x1829)	88 (2235)	36 (914)	36 (914)	66 (1676)	560 (255)
AAC 30-2"	12.5 (.354)	29 (1.83)	12 (0.76)	50 (3.16)	58 (3.66)	24 (1.51)	30x72 (762x1829)	99 (2515)	42 (1067)	42 (1067)	78 (1981)	800 (364)
AAC 36-2"	17.6 (.498)	42 (2.65)	18 (1.14)	70 (4.42)	84 (5.31)	36 (2.27)	36x72 (914x1829)	101 (2565)	48 (1219)	48 (1219)	90 (2286)	1100 (500)
AAC 42-2" <sup>(1)</sup>	24 (.680)	58 (3.64)	24 (1.52)	95 (6.00)	116 (7.28)	48 (3.04)	42x72 (1067x1829)	110 (2794)	54 (1372)	54 (1372)	102 (2591)	1991 (903)
AAC 42-2.5"	24 (.680)	58 (3.64)	24 (1.52)	96 (6.07)	116 (7.28)	48 (3.04)	42x72 (1067x1829)	107 (2718)	72 (1829)	54 (1372)	104 (2642)	4500 (2042)
AAC 48-2.5"	31 (.878)	75 (4.75)	31 (1.98)	126 (7.92)	150 (9.50)	62 (3.96)	48x72 (1219x1829)	107 (2718)	78 (1982)	60 (1524)	116 (2947)	6450 (2926)
AAC 63-3"	54 (1.53)	130 (8.18)	54 (3.41)	216 (13.63)	260 (16.36)	108 (6.82)	63x86 (1600x2185)	107 (2718)	93 (2363)	75 (1905)	146 (3709)	11,300 (5126)

<sup>(1)</sup> Must have 60 psig available to regenerate the valve at the specified backwash flow.

Notes for all tables:

- 1- Installation dimensions do not include potassium permanganate chemical feed system (tank 21" diameter x 36" height).
- 2- Use RO column when sizing pre-treatment for reverse osmosis equipment.
- 3- Peak flow rates valid only for short periods of time (5 minutes or less).
- 4- Installation dimensions do not include hydrocharger assembly.

# Technical Specifications & Features

## Filter System

- Maximum recommended operating pressure for all filters is 100 psig (690 kPa)
- Maximum recommended operating temperature for all filters is 110°F (38°C)

## Main Control Valve (Top Mounted Valve Systems)

- Calendar clock regeneration is standard
- Valve body constructed of lead-free brass\*
- Main piston constructed of Teflon coated lead-free brass\* with no raw water bypass feature standard on most models. Raw water bypass is available as an option.
- Standard cycle timer controls service, backwash, and rinse
- Standard 115 volt electrical requirement
- Simple threaded (NPT) service inlet and outlet connections
- CSA Certified valves (in Canada)

\*as defined under Section 1417(d) of the U.S.E.P.A. Safe Drinking Water Act.

## Controls and Valves (Nested Diaphragm Valve Systems)

- Calendar clock initiated regeneration is standard
- Aquamatic® Thermoplastic bodied diaphragm valves nested into a PVC manifold
- Positive valve open and closing action
- Low pressure loss Y-pattern design
- Can be pneumatically or hydraulically actuated
- Valve stager controlled by timer automatically opens and closes valves in the proper sequence
- Electronic controllers, meter or pressure differential initiated regeneration available

## Filter Tanks and Internals

- Seamless polyethylene liner wrapped with a continuous filament wound/epoxy resin fiberglass shell
- PVC hub/lateral flow distributor and riser tube with washed quartz support bed
- Tanks up to and including 24" diameter are manufactured by WaterGroup Companies Inc. in Canada

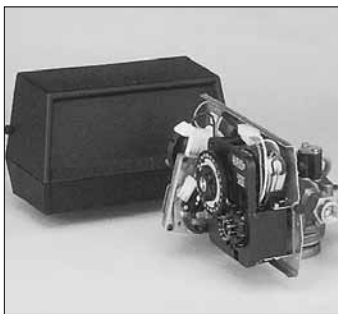
## Optional Features

- Pressure differential initiated regeneration
- Meter initiated regeneration
- Treated water regeneration system
- 3200NXT network timer
- Triplex and quad systems available

## Warranty

All equipment is manufactured by WaterGroup Companies Inc./ WaterGroup Inc. and is warranted against defects in material or workmanship for the following periods:

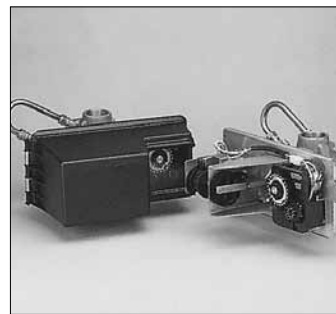
- Fiberglass tanks - 5 years
- Fleck control valves and electronics - 5 years
- All other components are for a period of one year



2750 - 1" Control Valve



2850 - 1-1/2" Control Valve



3150 - 2" Control Valve



Aquamatic® Diaphragm Valves used on larger systems

## Treated Water Backwash Kits

Treated water backwash kits can be added to any commercial filter system. These kits allow a filter to switch the source of supply water for backwash so that clean water is used. Kits consist of two diaphragm valves and all the necessary parts for each Fleck Control valve in the system. Kits also include all the necessary fittings and tubing required.

#19609 - 1" Treated Water Backwash Kit

#19608 - 1.5" Treated Water Backwash Kit

#19610 - 2" Treated Water Backwash Kit



## System Controls & Configurations

Available with optional 3200NXT timers.

### Configurations

Filtration systems are available in single, duplex and multi-unit configurations, operating in parallel. Selection is based on service flow rate, installation space and available regeneration flow rate. Duplex and multi-unit systems feature sequential regeneration with electronic interlock. Standard systems are prewired to allow for future expansion with no electrical modifications required.

### Regeneration Initiation

Initiation of filter regeneration can be by one of the following:

- a. Calendar Clock (standard unit regeneration) - interval determined by preset number of days
- b. Pressure Differential (optional) - regeneration interval determined by preset filter pressure drop
- c. Meter Initiated (optional) - regeneration interval determined by preset water volume

### 3200NXT Network Controller

The 3200NXT Network Controller's technology allows all valves to be identical in configuration. This allows for simple system expansion in the future without needing to replace existing controls. The control also makes initial setup simple and allows modifications to the system operation to be done in the field. The 3200NXT control also includes additional diagnostic functionality to assist with system troubleshooting.

### Control Housings

Two types of control housings are available:

- a. A removable, black designer cover is standard on 2750 and 2850 valves. Also available is a NEMA 3R environmental cover. The environmental cover includes a clear observation window which permits inspection of internal controls.
- b. The NEMA 3R environmental cover is standard on 3150 valves.



3200NXT Network Timer

