

Section 1:

COMPLETE TANK PACKAGES



Reservoir Accessories

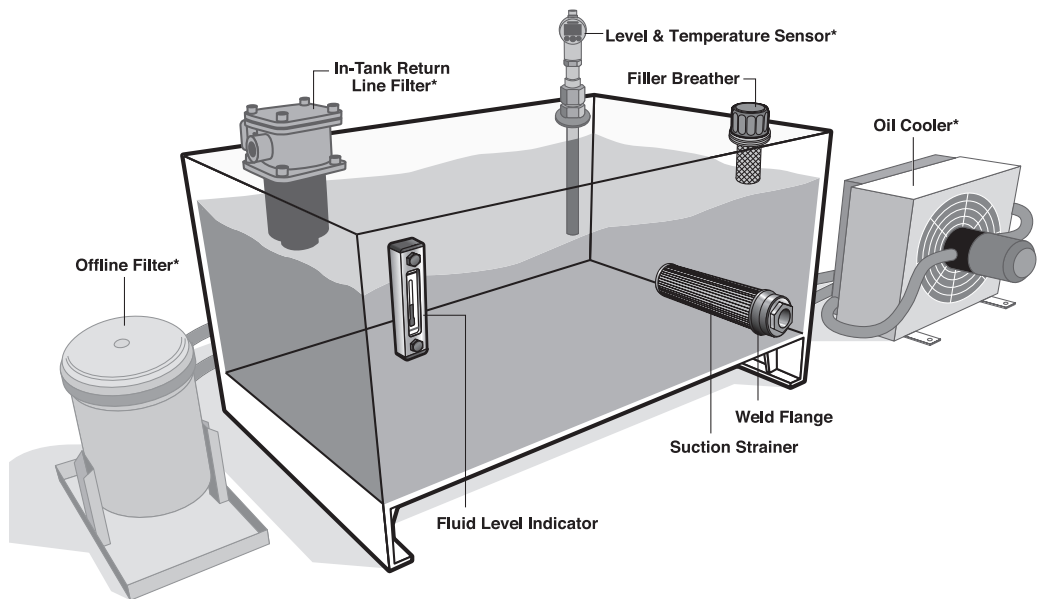
A hydraulic systems' reservoir can play a significant role in the ingress of contamination into the system. Concurrently, the reservoir presents great opportunities to correct the negative fluid conditions. The proper application of Schroeder reservoir accessories will greatly increase a system's cleanliness level. It's good to remember this rule of thumb: "it costs 10 times more to remove contamination from your system than it does to exclude it from your system."

Installing an efficient air breather is critical yet often overlooked when system filtration is considered. In systems operating in dusty atmospheric conditions, the use of an air breather will minimize the ingestion of airborne particles when reservoir levels experience significant change. The sole purpose of an air breather, as with any filtration device, is to reduce the cost of operation. By lowering the rate of ingress, the contamination level of the system will be reduced and the service life of the system fluid filters will be increased.

The fluid replenishment process is another opportunity for contamination to enter the system. Schroeder filler breathers can prevent large contaminants from entering the tank during filling. Most new oil does not meet the cleanliness recommendations of most components within a system when it is delivered from the manufacturer. Removal of the fine particles can be easily accomplished by using Schroeder filter carts. More information regarding filter carts can be found in the filter system catalog.

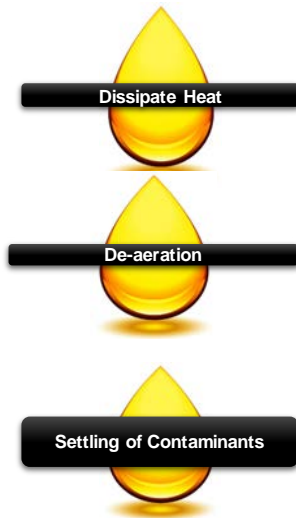
Protecting the pump is an integral step in ensuring system longevity. Installing a suction strainer will stop the larger pieces of unwanted debris from entering the suction line causing catastrophic problems downstream. Schroeder's magnetic suction separators offer unique protection for pumps suction line from all sizes of ferrous particles without starving the pump.

Designed for simple installation on most equipment, Schroeder oil sight glasses provide maintenance and lubrication management professionals a complete and immediate visual oil analysis. Although easy detection and discharge of water contamination are leading benefits, operators can also visually monitor the oil level and condition as discoloration or debris.

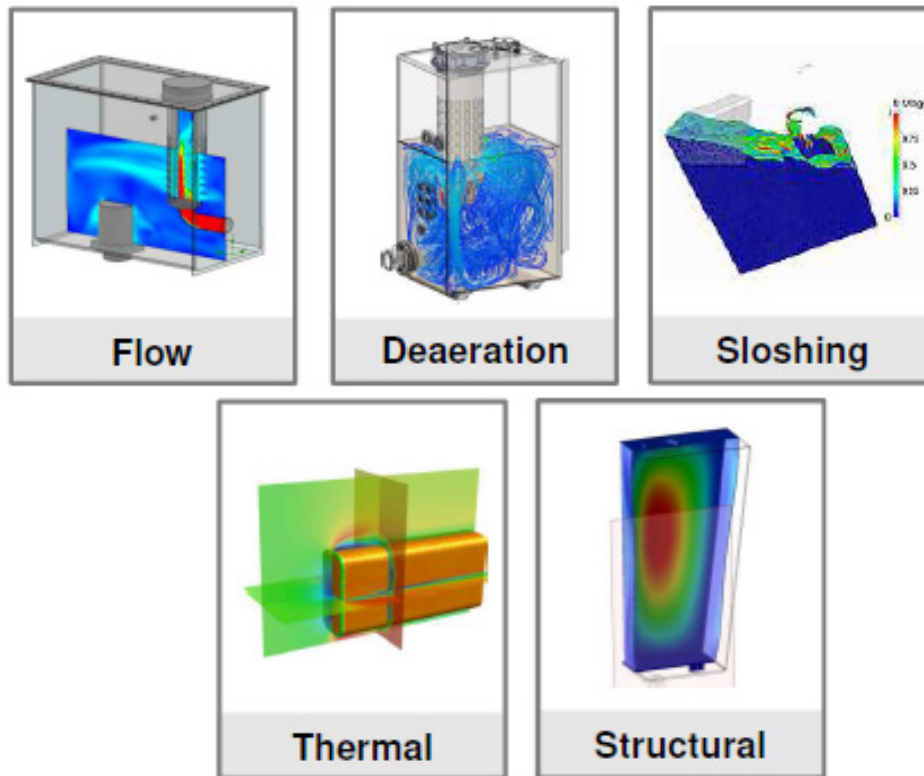


Tank Optimization - Purpose

A fuel tank is a box, a hydraulic tank is a vital system component with several important functions.



A hydraulic reservoir is more than a container of fluid. If properly designed and configured, a hydraulic tank can improve the performance of the entire hydraulic system in the same manner as other active components. A custom made hydraulic tank can improve the hydraulic circuit in areas such as heat dissipation, de-aeration, and settling of contaminants. More than just storage, an expertly engineered hydraulic tank is a versatile toolbox that will improve efficiency of every component in the circuit.



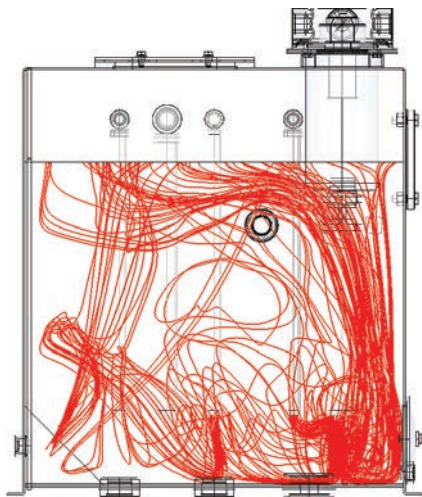
Computer-aided optimization of tank systems

Schroeder Industries ensures every tank we design will perform at the highest level by conducting a series of simulation and analysis before the actual construction. Depending on the customer needs, our engineering team will model the hydraulic reservoir and simulate conditions that can accurately predict application performance in various areas.

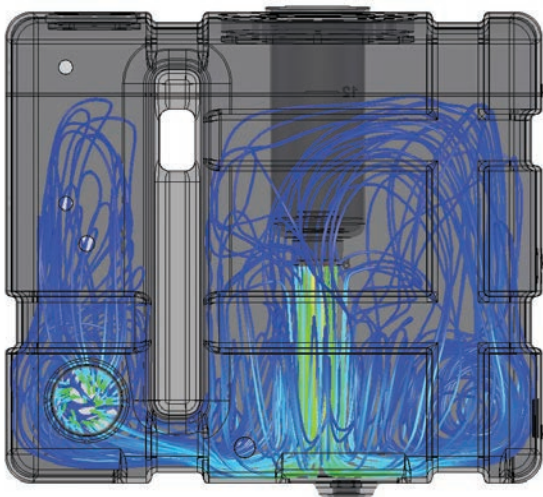
Stimulation and Analysis

**Fluid Optimization:
De-Aeration**

Initial Approach: Study of flow trajectory and residence time using single-phase CFD.



Old Tank

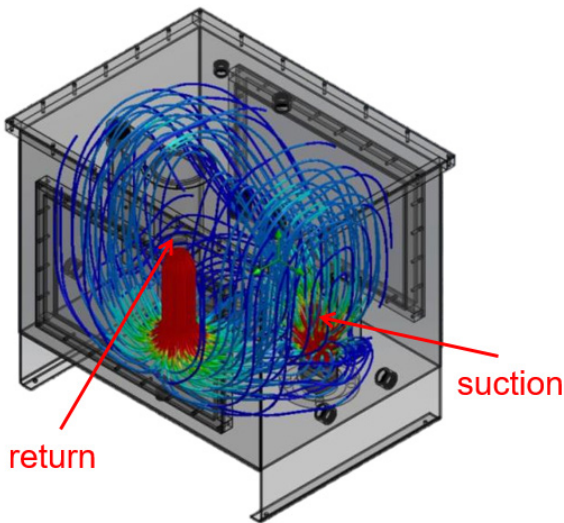
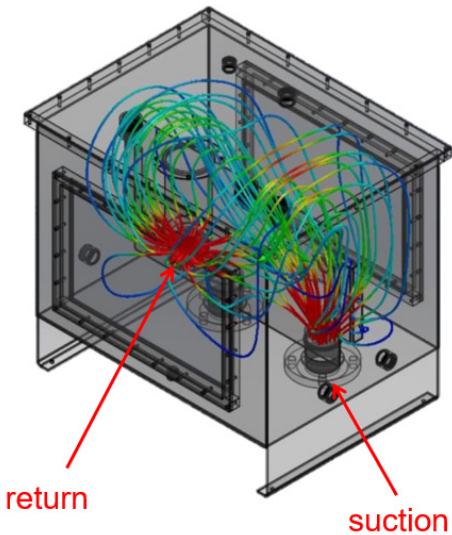


New Tank

An important aspect of tank optimization is maximizing the usage of tank space. A larger tank does not mean better performance if the fluid inside only travels through a small section of the space. By using internal baffles and contours, Schroeder ensures that fluid travels through as much of the tank as possible. This improves space economy by using only the minimally required size for the tank.

Air Residence Time - 5.75 sec

Air Residence Time - 15.25 sec (63% improvement)



Fluid optimization is further assisted by increased dwell time within the tank. Through maximizing the space usage within the tank, we also ensure that fluid spends more time inside the fluid before it passes through. With increased dwell time, the fluid has a chance to go through de-aeration, heat dissipation, and contamination settlement process within the tank.

Complete Tank Solutions



Features and Benefits

- Complete hydraulic reservoir solution with accessories like gauges, in-tank filters, and air breathers already installed
- Patented insertion ring for filter head flange mounting prevents leakage
- Patented integrated baffle wall creates settling zone for returning oil (degassing) with simultaneous cooling effect
- Tank is optimized for air and heat removal
- Tested for leakage (no end-user testing is required)
- Tank is certified clean, eliminating time-consuming flushing processes and testing
- Lightweight and cost efficient
- No risk of corrosion
- Available in five (5) performance optimized sizes (4, 7, 12, 18, & 25 gal.)
- Return-line filter options available with GeoSeal® aftermarket retaining elements

TNK4 - 4 Gallons
TNK7 - 7 Gallons
TNK12 - 12 Gallons
TNK18 - 18 Gallons
TNK25 - 25 Gallons

100 psi
(7 bar)
Return Line
Filter

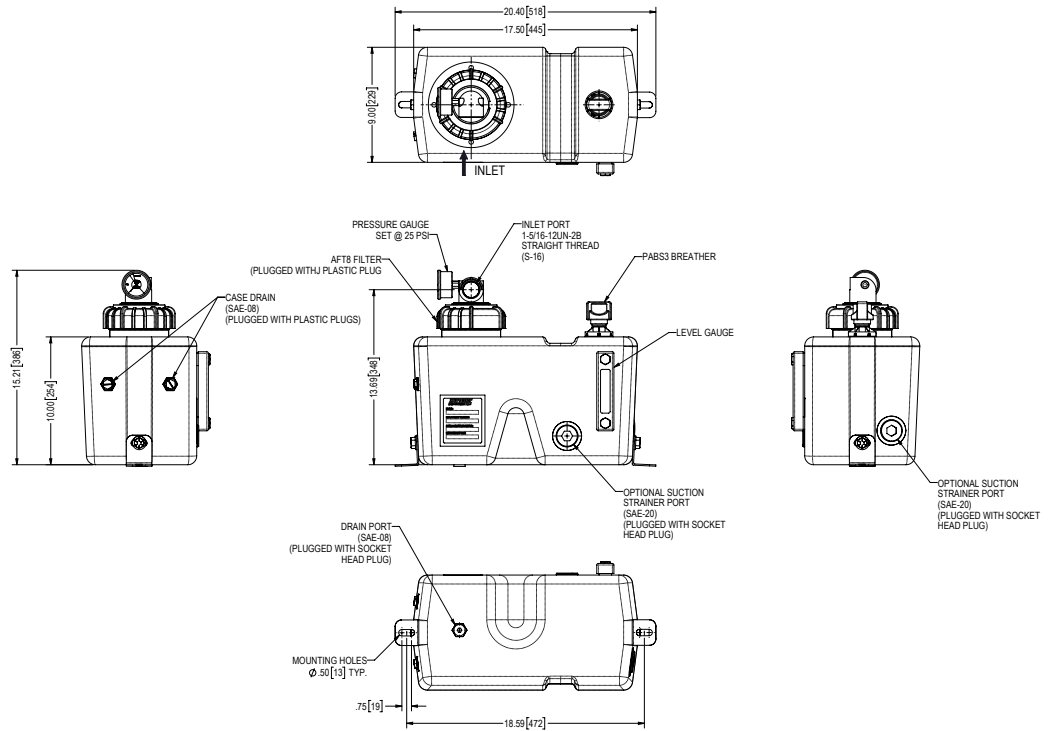
Specifications

Tank Materials:	High Density Polyethylene (HDPE)	
Tank Volumes:	4 gal (15L), 7 gal (26L), 12 gal (45L), 18 gal (70L) or 25 gal (100L)	
Operating Temperature:	High Density Polyethylene (HDPE) - 20°F to 180°F (-29°C to 82°C) Nylon (PA) - 32°F to 240°F (0°C to 116°C)	
Return Line Filter:	TNK4: AFT TNK7: MTB TNK12: ZT & GZT	TNK18: ZT & GZT TNK25: RT & GRT
Max. Return Flow:	TNK4: 25 gpm TNK7: 35 gpm (135 L/min) TNK12: 40 gpm (150 L/min)	TNK18: 40 gpm (150 L/min) TNK25: 75 gpm (284 L/min)
Breather:	3 µ phenolic resin impregnated paper element	
Suction Strainer:	100 µ wire mesh SAE20: 20 gpm SAE24: 30 gpm	
Weight of TNK:	TNK4 (AFT4): 11.5 lbs TNK4 (AFT8): 11.5 lbs TNK7: 16 lbs (7.3 kg) TNK12: 21 lbs (9.7 kg)	TNK18: 33 lbs (15 kg) TNK25: 45 lbs (20 kg)
Element Change Clearance:	TNK4 (AFT4): 5.3" (134mm) TNK4 (AFT8): 8.6" (219 mm) TNK7: 5" (127mm) TNK12: 10" (254mm)	TNK18: 10" (254mm) TNK25: 9.5" (241mm)
Ultra Violet Light Rating*:	HDPE = UV-12 Nylon = UV-10	
Filter and Element Selection:	For proper filter and element selection, information and pressure drop calculations, please refer to the individual filters (MTB, ZT, GZT, RT & GRTB) sections in the Schroeder Hydraulic and Lube Catalog (L-2520).	

*UV Rating is determined by the number of years a material can be exposed to direct sunlight and retain a minimum of 50% of its original mechanical properties (ex. High Density Polyethylene with a UV-12 rating would be recommended to be replaced every 12 years if not painted or coated).

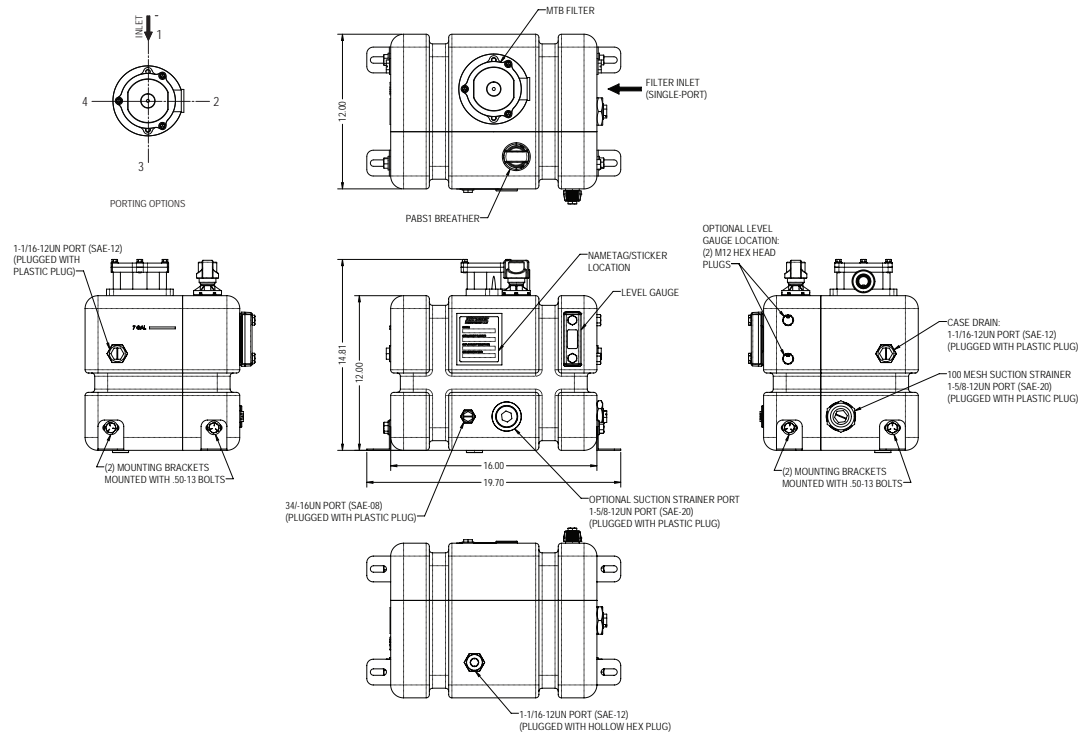
Complete Tank Solutions

TNK4



Metric dimensions in [].

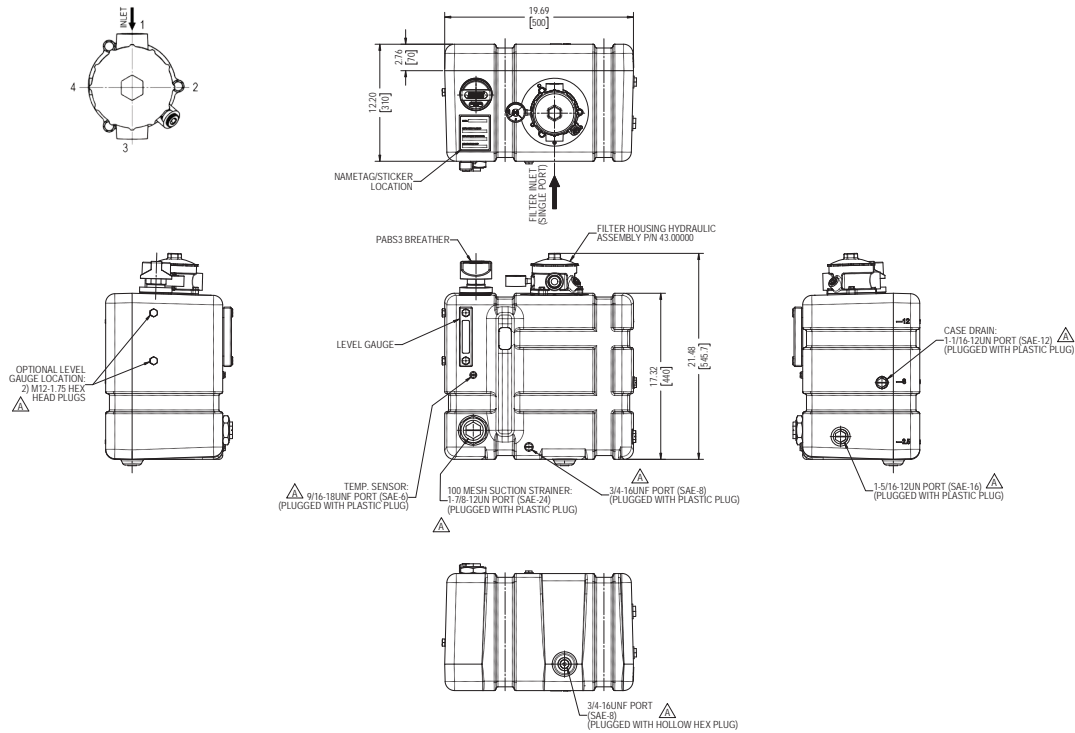
TNK7



Metric dimensions in [].

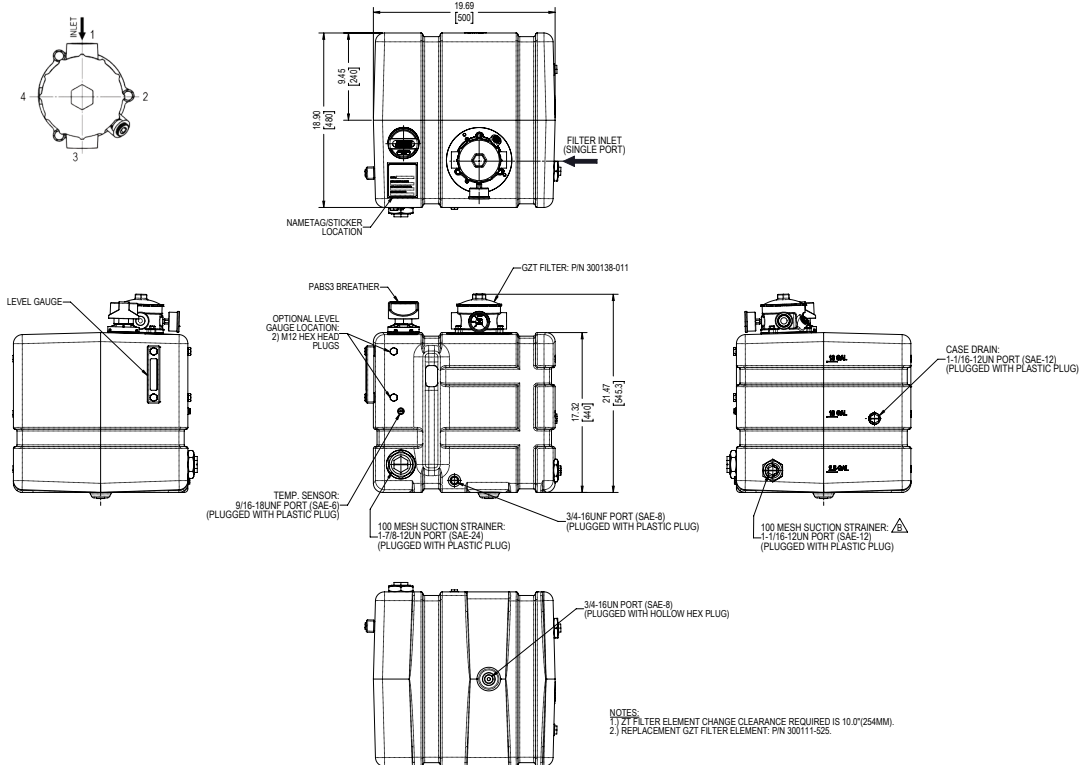
Complete Tank Solutions

TNK12



Metric dimensions in [].

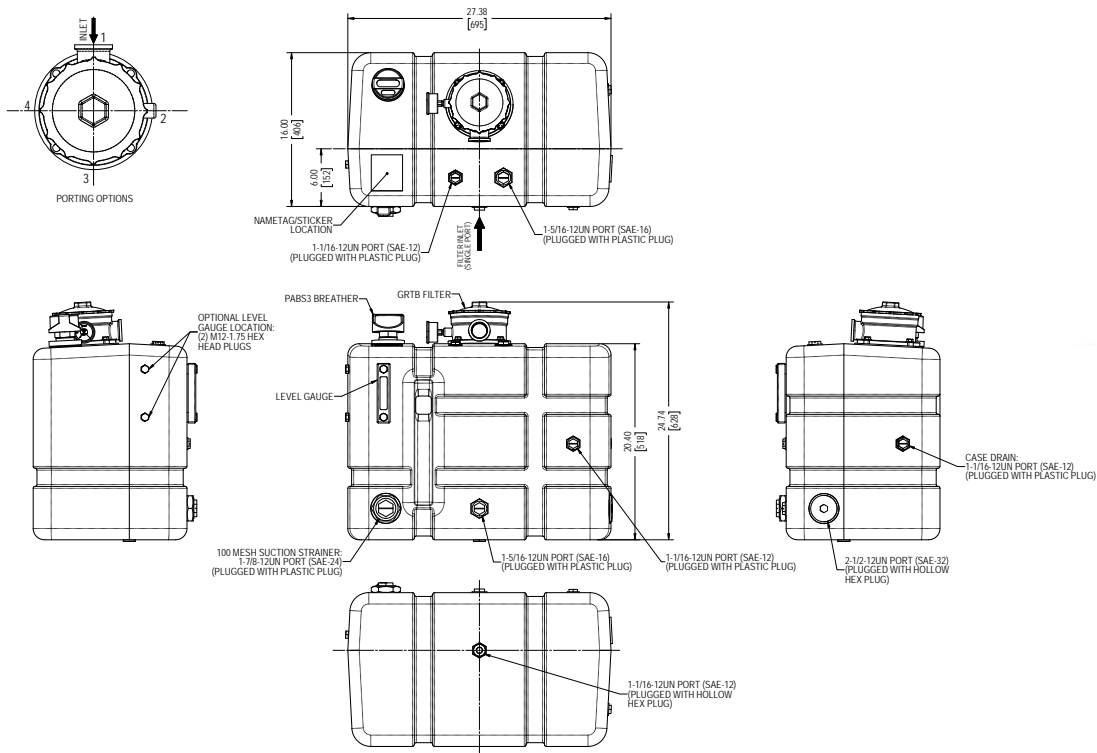
TNK18



Metric dimensions in [].

Complete Tank Solutions

TNK25



Metric dimensions in [].

Usable Fluid Levels

	Middle Level of Gauge (gal)	Top Level of Gauge (gal)
TNK4	2.6	3.7
TNK7	5.4	6.0
TNK12	10.1	11.5
TNK18	14.8	16.6
TNK25	23.4	26.0

Torque Specifications

SAE-06 PORT: 8ft.-lbs. SAE-08 PORT: 10ft.-lbs. SAE-10 PORT: 20ft.-lbs. SAE-12 PORT: 25ft.-lbs. SAE-16 PORT: 25ft.-lbs. SAE-20 PORT: 28ft.-lbs. SAE-24 PORT: 30ft.-lbs. SAE-32 PORT: 30ft.-lbs.	M12 PORT: 8ft.-lbs. M14 PORT: 10ft.-lbs.	1/4-20 PORT: 2ft.-lbs. 3/8-16 PORT: 6ft.-lbs. 1/2-13 PORT: 8ft.-lbs.
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* NOT RECOMMENDED TO EXCEED 30ft.-lbs. TORQUE

Complete Tank Solutions

TNK 4

How to Build a Valid Model Number for a Schroeder TNK4:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
TNK									

Example: NOTE: Only box 10 may contain more than one option

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
TNK	4	HD	AFT	4LKZ10	S16	Y2	F	S1	N

= TNK4HDAFT4LKZ10S16Y2F51N

BOX 1

Product Series
TNK

BOX 2

Size
4 = 4 Gallon

BOX 3

Material
HD = HDPE
PA = Nylon

BOX 4

Return Filter
AFT

BOX 5

Element Micron Selection
4LKZ3 = 4" 3 micron Z-Media®
4LKZ5 = 4" 5 micron Z-Media®
4LKZ10 = 4" 10 micron Z-Media®
4LKZ25 = 4" 25 micron Z-Media®
8LKZ3 = 8" 3 micron Z-Media®
8LKZ5 = 8" 5 micron Z-Media®
8LKZ10 = 8" 10 micron Z-Media®
8LKZ25 = 8" 25 micron Z-Media®

BOX 6

Inlet Porting (AFT)
S16 = SAE-16
L16 = 90 Deg SAE-16

BOX 7

Gauge Port Option (Elbow Only)
N = Plugged
Y2 = Tricolor Visual Indicator (Back Mounted)
Y2C = Tricolor Visual Indicator (Bottom Mounted)
ES = Electric Switch
ES1 = Heavy Duty Electric Switch

BOX 8

Filler/Breather
F = PABS1

BOX 9

Sight Glass
S1 = Sight Glass Side
N = No Sight Glass

BOX 10

Suction Strainer
S = SAE-20, Side - Flow Rate: 25 GPM
F = SAE 20, Front - Flow Rate: 25 GPM
N = No Strainer

**Filter
Model
Number
Selection
For TNK4**

NOTES:

Suction flow rate for the TNK 4 Strainer is 10 GPM.

NOTES:

Box 4. Micron Rating refers to the return filter element rating.

FURTHER INFORMATION:
Tank Mounting Straps sold as a separate part number, please see next page for configurations and options.

Filter Model Number Selection For TNK7

How to Build a Valid Model Number for a Schroeder TNK7:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11
TNK										

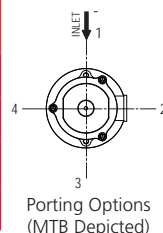
Example: NOTE: Only box 10 may contain more than one option

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11
TNK	7	HD	MTB10	S12	3		F	S1	S	

= TNK7HDTBZ10S123FS1S

BOX 1	BOX 2	BOX 3	BOX 4
Product Series	Size	Material	Return Filter & Element Micron Selection
TNK	7 = 7 Gallon	HD = HDPE PA = Nylon	MTB MTB3 = 3 µm Excellement® Z-Media® (Synthetic) MTB5 = 5 µm Excellement® Z-Media® (Synthetic) MTB10 = 10 µm Excellement® Z-Media® (Synthetic) MTB25 = 25 µm Excellement® Z-Media® (Synthetic)

BOX 5	BOX 6	BOX 7
Inlet Porting (MTB)	Filter Inlet Port Orientation	Filter Options
P12 = ¾" NPTF P16 = 1" NPTF S12 = SAE-12 S16 = SAE-16 B12 = ISO 228 G-¾" B16 = ISO 228 G-1"	1 = Rear 2 = Right 3 = Front 4 = Left	Omit = None Visual Y2C = Bottom-mounted gauge in cap Y5 = Back-mounted gauge in cap Electrical ESC = Electric pressure switch (2 terminals)



BOX 8	BOX 9
Filler/Breather	Sight Glass
F = PABS1	S1 = Sight Glass Side S2 = Sight Glass Front N = No Sight Glass

S1 = side
S2 = front

BOX 10	BOX 11
Suction Strainer	Options
S = SAE-20, Side - Flow Rate: 25 GPM F = SAE-20, Front - Flow Rate: 25 GPM N = No Strainers	Omit = No Feet M = Mounting Feet

NOTES:

Box 4. Micron Rating refers to the return filter element rating.

Box 6. MTB option offers single porting option only. Please align single port with corresponding directional number.

FURTHER INFORMATION:

Tank Mounting Straps sold as a separate part number, please see next page for configurations and options.

How to Build a Valid Model Number for a Schroeder TNK12 & TNK18:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
TNK									

Example: NOTE: Only box 10 may contain more than one option

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
TNK	12	HD	ZT10	S	3	Y2	F	S2	S

= TNK12HDZT10S3Y2FS2S

Filter Model Number Selection For TNK12 & TNK18

BOX 1	BOX 2	BOX 3	BOX 4
Product Series	Size	Material	Return Filter & Element Micron Selection
TNK	12 = 12 Gallon 18 = 18 Gallon	HD = HDPE PA = Nylon	ZT/GZT (GeoSeal®) ZT1/GZT1 = 1 µm Excellement® Z-Media® (Synthetic) ZT3/GZT3 = 3 µm Excellement® Z-Media® (Synthetic) ZT5/GZT5 = 5 µm Excellement® Z-Media® (Synthetic) ZT10/GZT10 = 10 µm Excellement® Z-Media® (Synthetic) ZT25/GZT25 = 25 µm Excellement® Z-Media® (Synthetic)

BOX 5	BOX 6
Inlet Porting (ZT/GZT)	Filter Inlet Port Orientation
P = 1" NPTF PP = Dual 1" NPTF S = SAE-16 SS = Dual SAE-16 B = ISO 228 G-1" BB = Dual ISO 228 G-1"	1 = Rear 2 = Right 3 = Front 4 = Left

BOX 7
Filter Options
Omit = None D = Diffuser Visual Y2 = Back-mounted tricolor gauge Y2C = Bottom-mounted gauge in cap Y5 = Back-mounted gauge in cap Electrical ES = Electric switch ES1 = Heavy-duty electric switch with conduit connection

BOX 8
Filler/Breather
F = PABS3

BOX 9
Sight Glass
S1 = Sight Glass Side S2 = Sight Glass Front N = No Sight Glass

BOX 10
Suction Strainer
S = SAE-20, 100 Mesh Strainer (25 GPM Flow Rate) N = No Strainer / SAE-32 Open Port For TNK18 Only B = SAE-12 Flow Rate: 10 GPM SAE-24 Flow Rate: 25 GPM

Porting Options (ZT Depicted)

NOTES:

Box 4. Micron Rating refers to the return filter element rating.

FURTHER INFORMATION:
 Tank Mounting Straps sold as a separate part number, please see next page for configurations and options.

Filter Model Number Selection For TNK25

How to Build a Valid Model Number for a Schroeder TNK25:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5A	BOX 5B	BOX 6A	BOX 6B	BOX 7	BOX 8	BOX 9	BOX 10
TNK											

Example: NOTE: Only box 10 may contain more than one option

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5A	BOX 5B	BOX 6A	BOX 6B	BOX 7	BOX 8	BOX 9	BOX 10
TNK	25	HD	RT10	S		3		Y2	F	S2	R

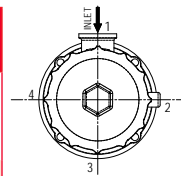
= TNK25HDRT10S3Y2FS2R

BOX 1	BOX 2	BOX 3
Product Series	Size	Material
TNK	25 = 25 Gallon	HD = HDPE PA = Nylon

Choose BOX 5A/6A or 5B/6B

BOX 5A
Inlet Porting (GRTB)
P = 1.25" NPT
S = SAE-20
B = ISO 228 G-1.25"

BOX 6A
Filter Inlet Port Orientation
1 = Rear
2 = Right
3 = Front
4 = Left

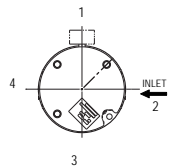


Porting Options (GRTB Depicted)

BOX 4
Return Filter & Element Micron Selection
GRTB/RT/GRT (G= GeoSeal®)
GRTB1/RT1/GRT1 = 1 µm Excellement® Z-Media® (Synthetic)
GRTB3/RT3/GRT3 = 3 µm Excellement® Z-Media® (Synthetic)
GRTB5/RT5/GRT5 = 5 µm Excellement® Z-Media® (Synthetic)
GRTB10/RT10/GRT10 = 10 µm Excellement® Z-Media® (Synthetic)
GRTB25/RT25/GRT25 = 25 µm Excellement® Z-Media® (Synthetic)
Filters chosen here, go to the corresponding inlet porting options in either Box 5A (GRTB) or Box 5B (RT/GRT).

or BOX 5B		
Inlet Porting (RT/GRT) Port A	Inlet Porting (RT/GRT) Port B	Inlet Porting (RT/GRT) Port C
P16 = 1" NPTF	N = None	N = None
P20 = 1¼" NPTF	P16 = 1" NPTF	P2 = ½" NPTF
P24 = 1½" NPTF	P20 = 1¼" NPTF	P16 = 1" NPTF
P32 = 2" NPTF	P24 = 1½" NPTF	S16 = SAE-16
S16 = SAE-16	P32 = 2" NPTF	
S20 = SAE-20	S16 = SAE-16	
S24 = SAE-24	S20 = SAE-20	
S32 = SAE-32	S24 = SAE-24	
F20 = 1¼" SAE 4-bolt flange Code 61	S32 = SAE-32	
F24 = 1½" SAE 4-bolt flange Code 61	F20 = 1¼" SAE 4-bolt flange Code 61	
F32 = 2" SAE 4-bolt flange Code 61	F24 = 1½" SAE 4-bolt flange Code 61	
B24 = ISO 228 G-½"	F32 = 2" SAE 4-bolt flange Code 61	
	B24 = ISO 228 G-½"	

BOX 6B
Filter Inlet Port Orientation
1 = Rear
2 = Right
3 = Front
4 = Left



Porting Options (RT/GRT Depicted)

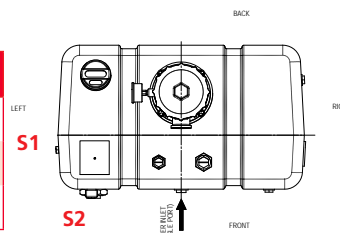
BOX 7
Filter Options
Omit = None
D = Diffuser
Visual
Y2 = Back-mounted tricolor gauge
Y2C = Bottom-mounted gauge in cap
Y5 = Back-mounted gauge in cap
Electrical
ES = Electric switch
ES1 = Heavy-duty electric switch with conduit connection

NOTES:

Box 4. Micron Rating refers to the return filter element rating.
*Box 7. Y2C and Y5 options for RT/GRT only.

FURTHER INFORMATION:
Tank Mounting Straps sold as a separate part number, please see next page for configurations and options.

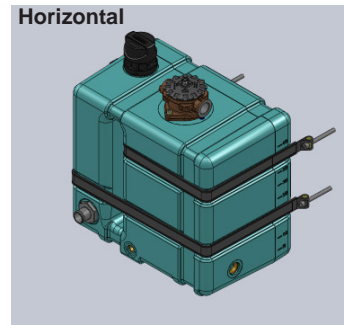
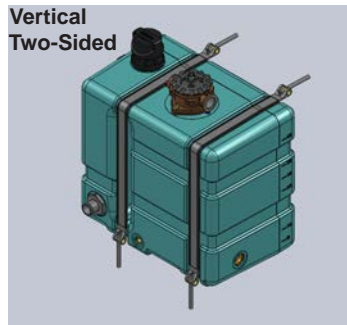
BOX 8	BOX 9
Filler/Breather	Sight Glass
F = PABS1	S1 = Sight Glass Side
	S2 = Sight Glass Front
	N = No Sight Glass



BOX 10
Options
N = No Suction Strainer
R = SAE-24, 100 Mesh Strainer on front side Flow Rate: 25 GPM
B = SAE-24, 100 Mesh Strainer on both sides (25 GPM Flow Rate)

Complete Tank Solutions

Mobile applications have unique requirements for hydraulic components. Often, these components need to be small, compact and as lightweight as possible. Making sure these reservoirs are secure is often overlooked. Schroeder Industries has taken the steps to ensure that customers have all the tools necessary to securely operate their mobile equipment. Schroeder's Plastic Tank (TNK) Reservoir, a money and time-saving solution with an integrated return filter and accessories in one compact package, also includes mounting straps. These mounting straps have been developed to assure a safe and secure connection to the frame or chassis of any mobile vehicle. These straps are offered in three configurations for both sizes of the Plastic Tank in a rubber coated steel strap.



Plastic Tank Strap Arrangement Introduction

Mounting Possibility
Represents 12, 18 & 25 Gallon Strap Locations

TNK7 Straps*			
Vertical Overhead	443635	Horizontal Upper	444066

TNK12 Straps*			
Vertical Overhead	443868	Horizontal Upper	444066
Vertical Two-Sided	443889	Horizontal Lower	444185

TNK18 Straps*			
Vertical Overhead	3054998	Horizontal Upper	444490
Vertical Two-Sided	444183	Horizontal Lower	3521866

TNK25 Straps*			
Vertical Overhead	4231789	Horizontal Upper	444490
Vertical Two-Sided	444183	Horizontal Lower	4389641

*Straps are not sold in sets. Each part number designates one strap.

Ordering Information:

Description

Schroeder Industries FTC (Filter/ Tank/ Cooler) integration is a fluid conditioning unit that cuts down on the use of hydraulic oil. With our advanced de-aeration filter, this package functions in the footprint of a 25 gallon reservoir.



Features and Benefits

- Optimized 5 or 7 gallon reservoir
- Cooler with up to 15hp of heat rejection
- Easily mounts to Truck Frame
- Patent pending De-aeration AFT Filter
- Complete Package to fit in a 25-gallon reservoir footprint
- Hydraulic or DC Fan Motor Available

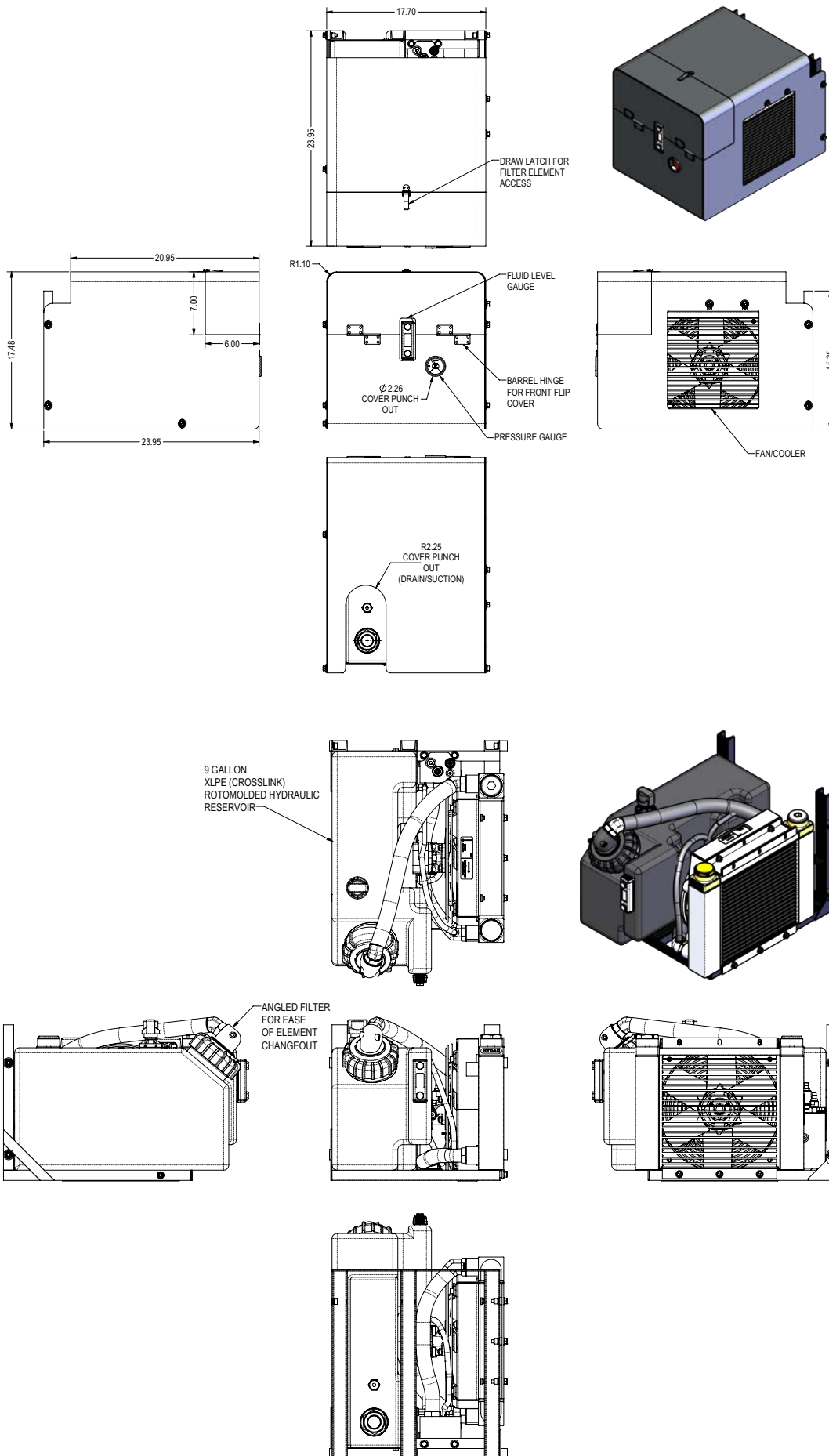
Markets Served

- Automotive
- Environmental
- Forestry
- Industrial
- Machine Tools
- Mobile Vehicles
- Refuse

Specifications

Tank Material:	High Density Polyethylene (HDPE), Nylon (PA)
Tank Volume:	5 Gallon (19L) 7 Gallon (26L)
Operating Temperature:	High Density Polyethylene (HDPE) - 20°F to 180°F (-29°C to 82°C) Nylon (PA) - 32°F to 240°F (0°C to 116°C)
Return Line Filter:	AFT Filter with either 4" or 8" element lengths
Max Return Flow:	40 GPM
Breather:	3 μ phenolic resin impregnated paper element
Suction Strainer:	100 Mesh Strainer
Weight:	Contact Factory
Element Change Clearance:	8"
Ultra Violet Light Rating:	HDPE = UV-12 Nylon = UV-10
Cooler Material:	Housing: welded steel Heat exchanger: aluminum, brazed bar-and-plate Fan: plastic Motor: aluminum housing, steel gears and shaft
Max Cooler Pressure:	230 psi (16 bar)
Fan Noise Level:	69 dBa @ 1 meter

7.5 GAL FTC UNIT



Filter Model Number Selection For FTC

How to Build a Valid Model Number for a Schroeder FTC:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
FTC									

Example: NOTE: Only box 10 may contain more than one option

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
FTC	7	HD	4LKZ5	Y2	FS	S	ELD3	12	

= FTC7HD4LKZ5Y2FSSELD312

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
FTC	Tank Size	Material	Return Filter and Element Micron Selection	Filter Indicator
FTC	7 = 7 Gallon 5 = 5 Gallon	HD = HDPE PA = Nylon	4LKZ5 = 5 micron, 4" element (20 GPM) 4LKZ10 = 10 micron, 4" element (20 GPM) 8LKZ5 = 5 micron, 8" element (40 GPM) 8LKZ10 = 10 micron, 8" element (40 GPM)	Y2 = Tricolor visual indicator ES = Electrical Indicator ES1 = Heavy Duty Electrical Switch ES2 = Heavy-duty electric switch with conduit connection ES3 = Electric switch with DIN connector

BOX 6	BOX 7	BOX 8	BOX 9
Sight Glass	Suction Strainer	Cooler	Cooler Voltage
FSA = FSA Sight Glass FSK = FSK Sight Glass	S = 100 Mesh Strainer N = No Strainer	ELD 3 = DC motor with 15 HP Heat Rejection ELH 3 = Hydraulic Motor with 22 HP of Heat Rejection	12 = 12 volt DC 24 = 24 volt DC Omit = Hydraulic Motor

BOX 10
Cover
Omit = Include N = None