Section 1:

COMPLETE TANK PACKAGES

Reservoir Accessories

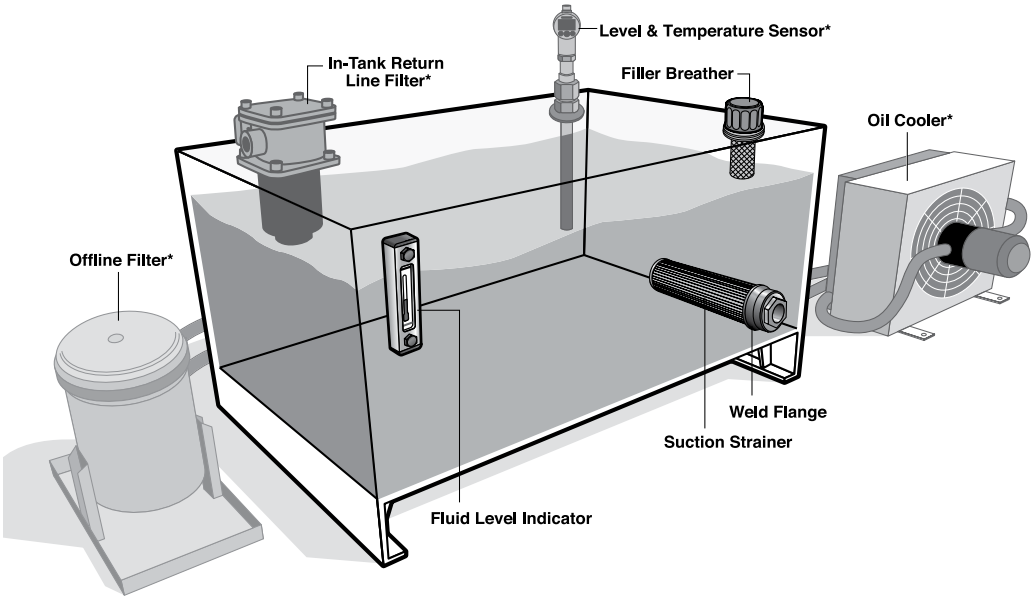
A hydraulic systems' reservoir can play a significant role in the ingression of contamination into the system. Concurrently, the reservoir presents great opportunities to correct the negative fluid conditions. The proper application of Schroeder reservoir accessories will greatly increase a system's 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 ingression, 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 filters 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.

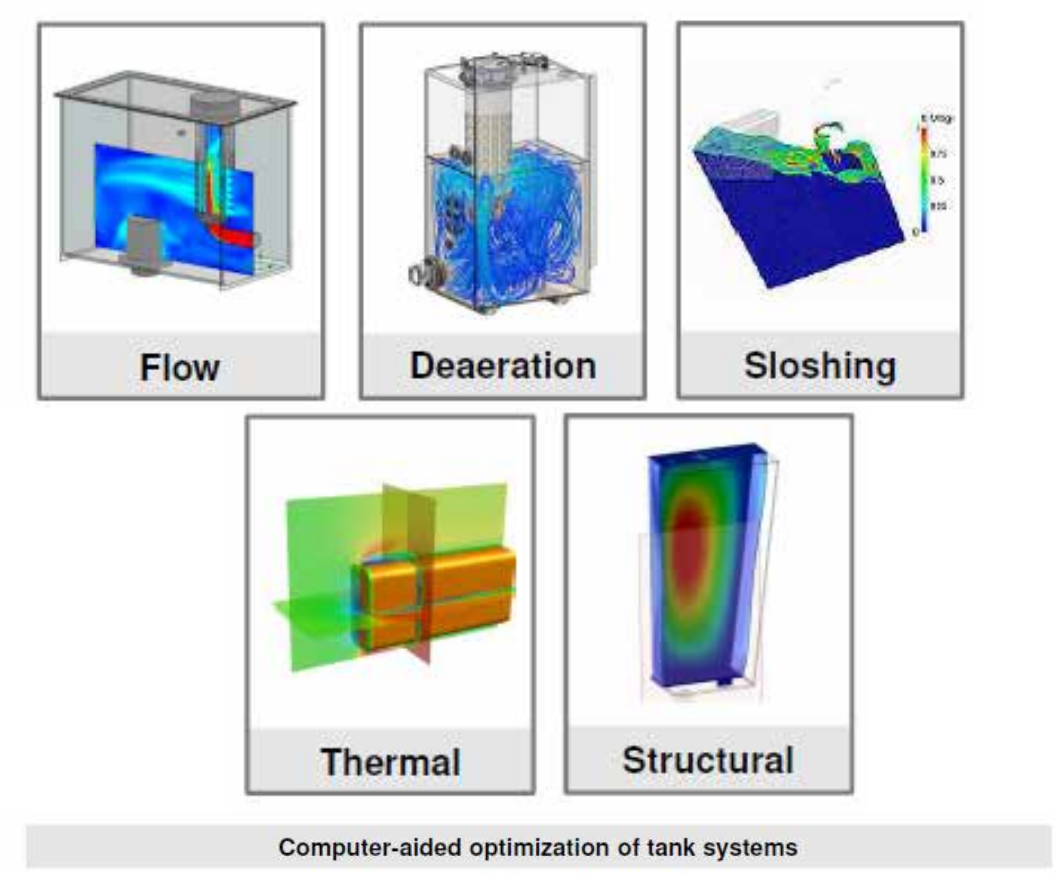


Tank Optimization - Purpose

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.

Stimulation and Analysis

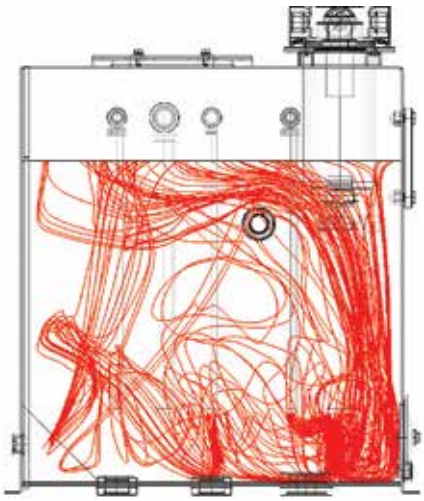


Computer-aided optimization of tank systems

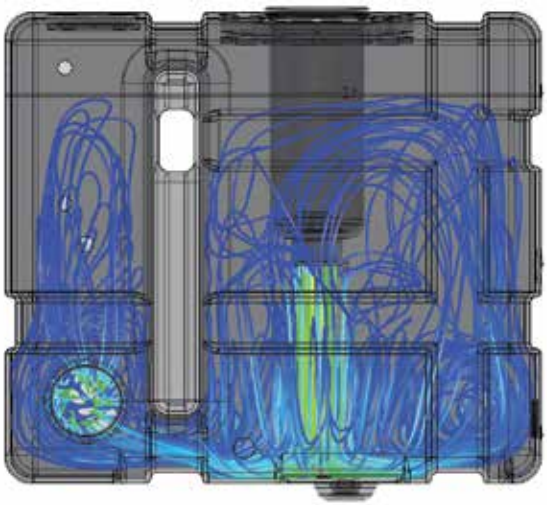
Schroeder Industries ensures every tank we design will perform at the highest level by conducting a series of simulation and analysis before the actual construction. Depending on the customer needs, our engineering team will model the hydraulic reservoir and simulate conditions that can accurately predict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

Fluid Optimization: De-Aeration

Initial Approach: Study of flow trajection an residence time using single-phase CFD.



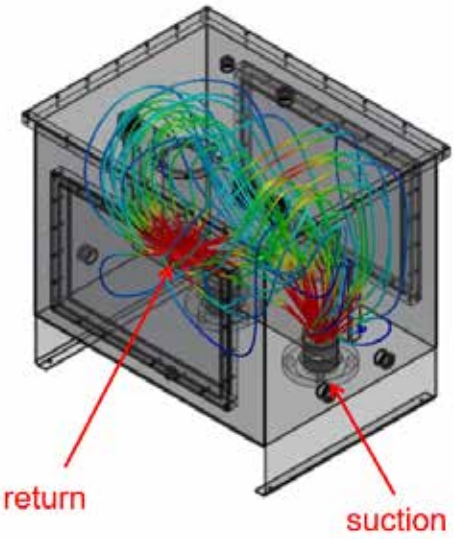
Old Tank



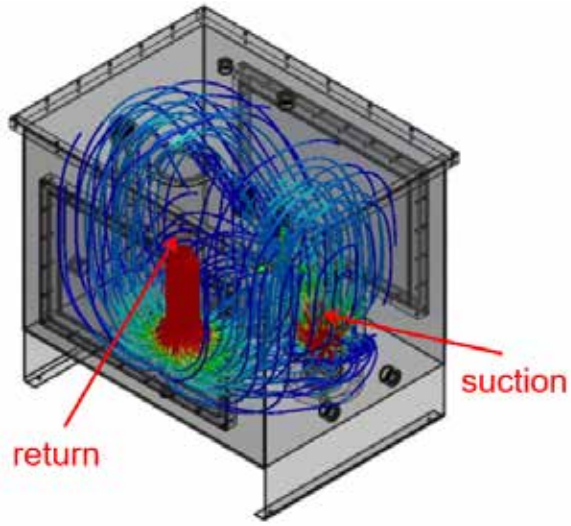
New Tank

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 on 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 four (4) performance optimized sizes (7, 12, 18, & 25 gal.)
- Return-line filter options available with GeoSeal® aftermarket retaining elements

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

100 psi
(7 bar)
Return Line Filter

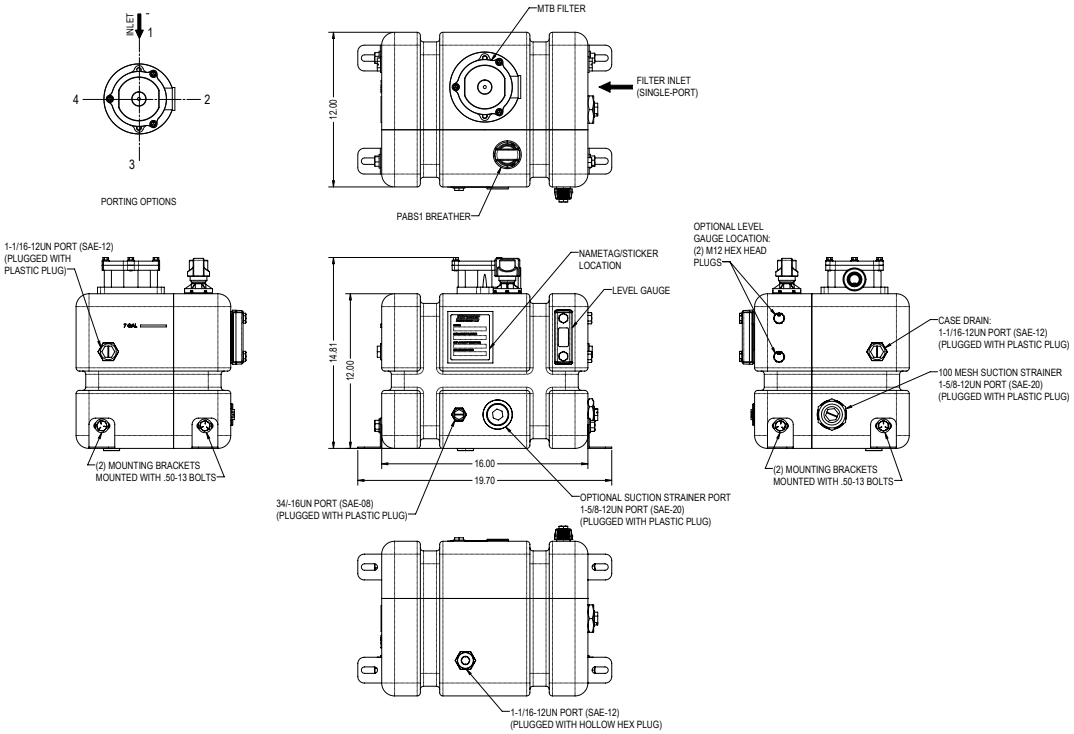
Specifications

Tank Materials:	High Density Polyethylene (HDPE)
Tank Volumes:	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:	TNK7: MTB TNK12: ZT & GZT TNK18: ZT & GZT TNK25: RT & GRT
Max. Return Flow:	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:	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:	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).

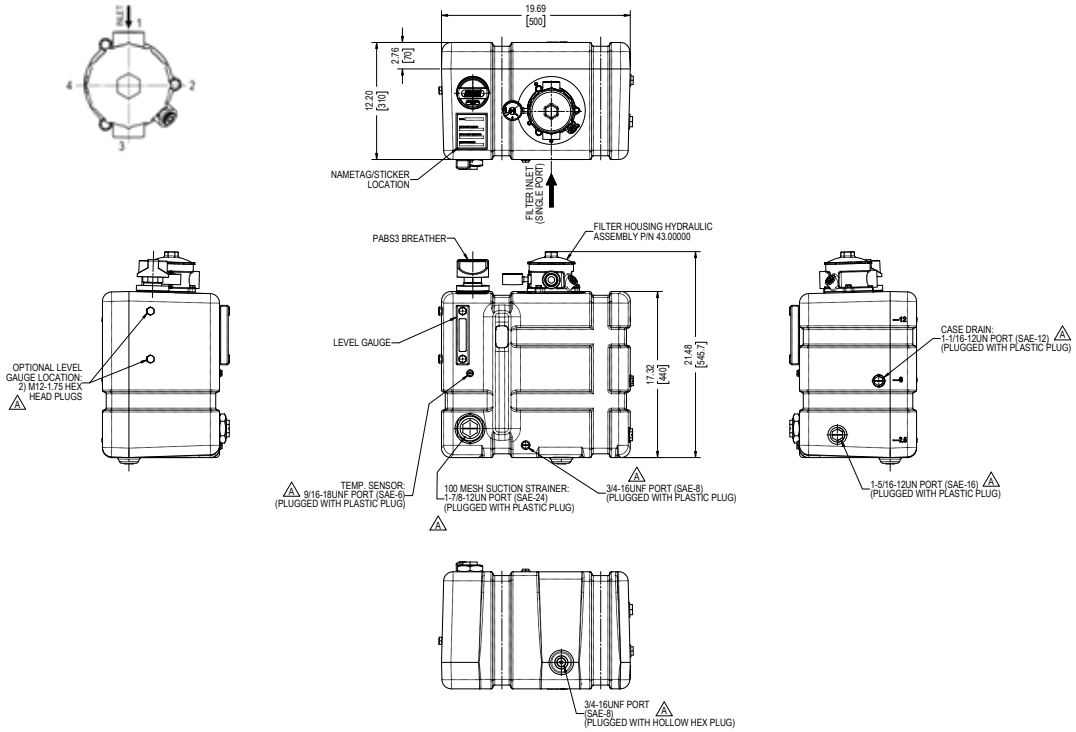
Complete Tank Solutions

TNK7



Metric dimensions in [ ].

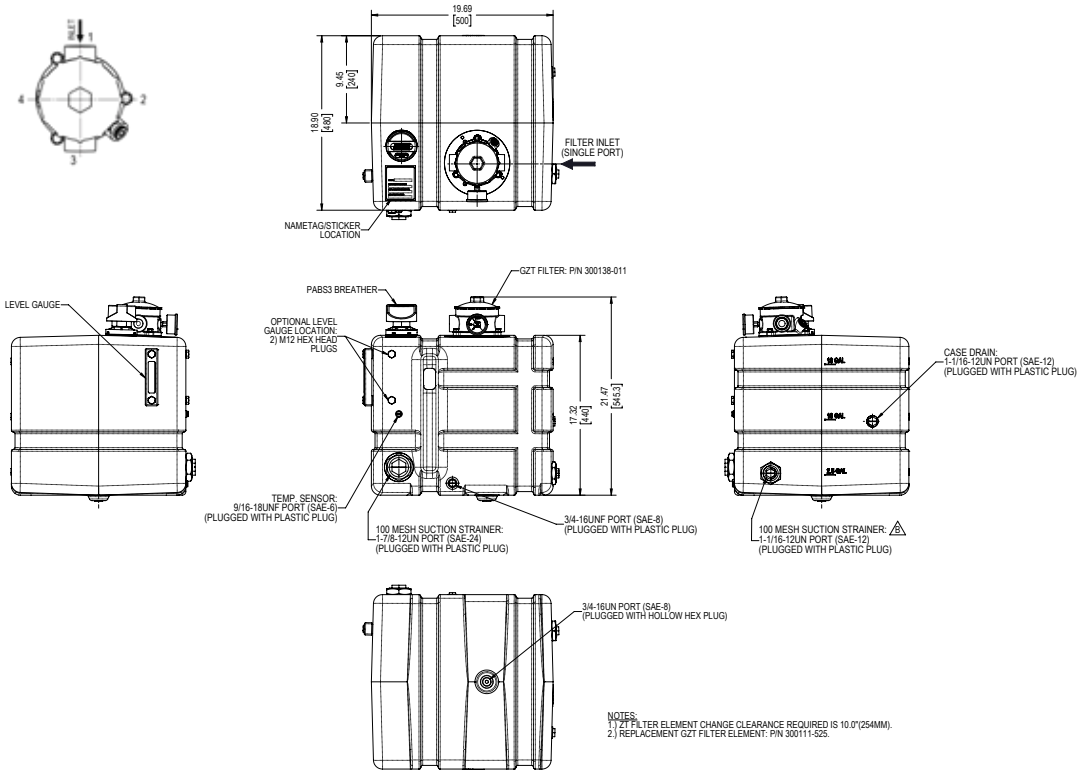
TNK12



Metric dimensions in [ ].

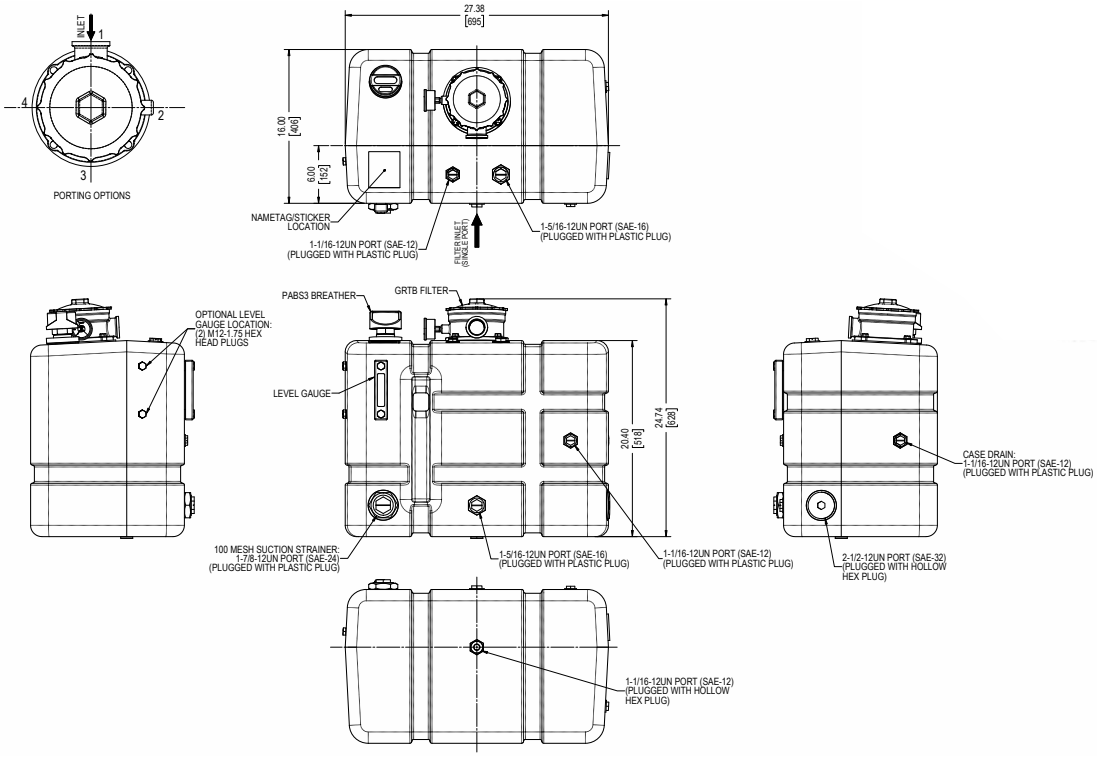
Complete Tank Solutions

TNK18



Metric dimensions in [ ].

TNK25



Metric dimensions in [ ].

Complete Tank Solutions

Filter Model Number Selection For TNK7

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	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

Product Series
TNK

BOX 2

Size	
7 =	7 Gallon

BOX 3

Material	
HD =	HDPE
PA =	Nylon

BOX 4

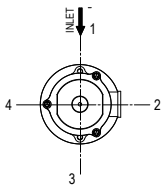
Return Filter & Element Micron Selection	
MTB	
MTB3 =	3 µm Excellement® Z-Media® (Synthetic)
MTB5 =	5 µm Excellement® Z-Media® (Synthetic)
MTB10 =	10 µm Excellement® Z-Media® (Synthetic)
MTB25 =	25 µm Excellement® Z-Media® (Synthetic)

BOX 5

Inlet Porting (MTB)	
P12 =	¾" NPTF
P16 =	1" NPTF
S12 =	SAE-12
S16 =	SAE-16
B12 =	ISO 228 G-¾"
B16 =	ISO 228 G-1"

BOX 6

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



Porting Options (MTB Depicted)

BOX 7

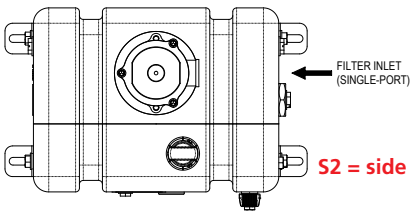
Filter Options		
	Omit =	None
Visual	Y2C =	Bottom-mounted gauge in cap
	Y5 =	Back-mounted gauge in cap
Electrical	ESC =	Electric pressure switch (2 terminals)

BOX 8

Filler/Breather	
F =	PABS1

BOX 9

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



S2 = side

S1 = front

BOX 10

Suction Strainer	
S =	SAE-20, side
F =	SAE-20, front
N =	No Strainers

BOX 11

Options	
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

BOX 1

Product Series
TNK

BOX 2

Size	
12 =	12 Gallon
18 =	18 Gallon

BOX 3

Material	
HD =	HDPE
PA =	Nylon

BOX 4

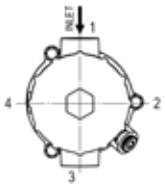
Return Filter & Element Micron Selection	
ZT/GZT (GeoSeal®)	
ZT1/GZT1 =	1 µm Excellement® Z-Media® (Synthetic)
ZT3/GZT3 =	3 µm Excellement® Z-Media® (Synthetic)
ZT5/GZT5 =	5 µm Excellement® Z-Media® (Synthetic)
ZT10/GZT10 =	10 µm Excellement® Z-Media® (Synthetic)
ZT25/GZT25 =	25 µm Excellement® Z-Media® (Synthetic)

BOX 5

Inlet Porting (ZT/GZT)	
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"

BOX 6

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



Porting Options (ZT Depicted)

BOX 7

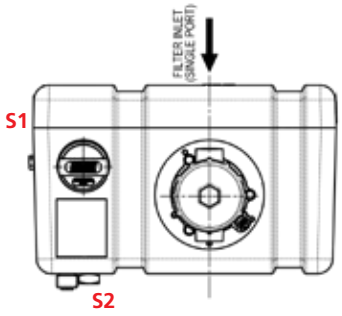
Filter Options		
	Omit =	None
	D =	Diffuser
Visual	Y2 =	Back-mounted tricolor gauge
	Y2C =	Bottom-mounted gauge in cap
	Y5 =	Back-mounted gauge in cap
Electrical	ES =	Electric switch
	ES1 =	Heavy-duty electric switch with conduit connection

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
N =	No Strainer / SAE-32 Open Port
For TNK18 Only	
B =	SAE-12 and SAE-24 Strainers

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.

TNK25 Complete Tank Solutions

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	BOX10	
TNK–	25 –	HD –	RT10 –	S –		3 –		Y2 –	F –	S2 –	R	= TNK25HDRT10S3Y2FS2R

BOX 1

Product Series
TNK

BOX 2

Size	
25 =	25 Gallon

BOX 3

Material	
HD =	HDPE
PA =	Nylon

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).

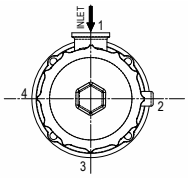
Choose BOX 5A/6A or 5B/6B

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)

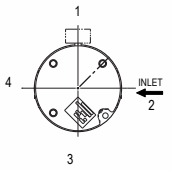
or

BOX 5B

Inlet Porting (RT/GRT) Port A		Inlet Porting (RT/GRT) Port B		Inlet Porting (RT/GRT) Port C	
		N =	None	N =	None
P16 =	1" NPTF	P16 =	1" NPTF	P2 =	⅛" NPTF
P20 =	1¼" NPTF	P20 =	1¼" NPTF	P16 =	1" NPTF
P24 =	1½" NPTF	P24 =	1½" NPTF	S16 =	SAE-16
P32 =	2" NPTF	P32 =	2" NPTF		
S16 =	SAE-16	S16 =	SAE-16		
S20 =	SAE-20	S20 =	SAE-20		
S24 =	SAE-24	S24 =	SAE-24		
S32 =	SAE-32	S32 =	SAE-32		
F20 =	1¼" SAE 4-bolt flange Code 61	F20 =	1¼" SAE 4-bolt flange Code 61		
F24 =	1½" SAE 4-bolt flange Code 61	F24 =	1½" SAE 4-bolt flange Code 61		
F32 =	2" SAE 4-bolt flange Code 61	F32 =	2" SAE 4-bolt flange Code 61		
B24 =	ISO 228 G-½"	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

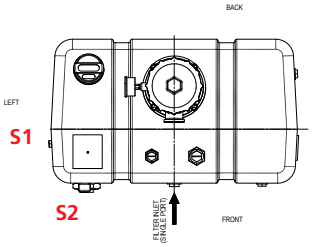
Filter Options	
Omit =	None
D =	Diffuser
Visual	Y2 = Back-mounted tricolor gauge
	Y2C = Bottom-mounted gauge in cap
	Y5 = Back-mounted gauge in cap
Electrical	ES = Electric switch
	ES1 = Heavy-duty electric switch with conduit connection

BOX 8

Filler/Breather	
F =	PABS1

BOX 9

Sight Glass	
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
B =	SAE-24, 100 Mesh Strainer on both sides

NOTES:

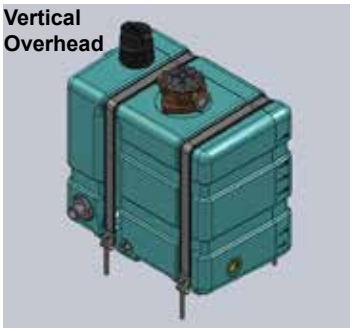
Box 4. Micron Rating refers to the return filter element rating.
*Box 7. Y2C and Y5 options for RT/GRT only.

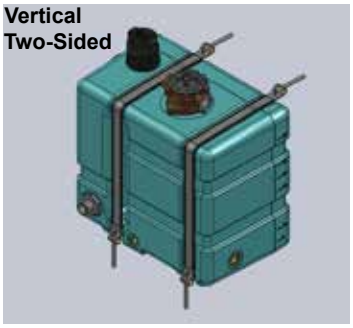
FURTHER INFORMATION: Tank Mounting Straps sold as a separate part number, please see next page for configurations and options.

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

Ordering Information:

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.

Notes Section: