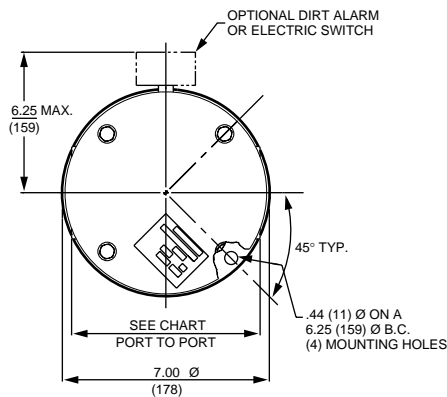


RT Tank-Mounted Filter

SAME DAY SHIPMENT MODEL AVAILABLE!

100 gpm
380 L/min
100 psi
7 bar

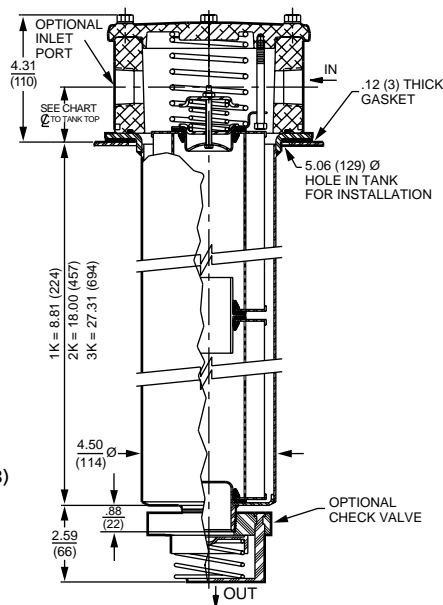


	1 1/4" Standard Ports	1 1/2" Ports 4-Bolt Flange Only	2" Ports
Port to Port	6.38"	7.12"	7.56" (P, S, B) 7.38" (F)
℄ to Casting Base	1.56"	1.75"	1.81"
℄ to Tank Top	1.88"	2.06"	2.12"

Optional mounting ring available to weld to tank.

Metric dimensions in ().

Model No. of filter in photograph is RT1K10S24NP16CY2.



Filter Housing Specifications

Flow Rating:	Up to 100 gpm (380 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	400 psi (28 bar)
Rated Fatigue Pressure:	90 psi (6 bar), per NFPA T2.6.1-1974
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 25 psi (1.7 bar) Full Flow: 48 psi (3.3 bar)
Porting Head & Cap:	Die Cast Aluminum
Element Case:	Steel
Weight of RT-1K:	11.4 lbs. (5.2 kg)
Weight of RT-2K:	14.5 lbs. (6.6 kg)
Element Change Clearance:	8.0" (205 mm) for 1K; 17.50" (445 mm) for KK; 26.5" (673 mm) for 27K

Element Performance Information

Element	Absolute Rating Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Abs. Rating wrt ISO 16889 Using APC calibrated per ISO 11171		Dirt Holding Capacity gm
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$	
K3	6.8	7.5	10.0	N/A	N/A	54
K10	15.5	16.2	18.0	N/A	N/A	44
KZ1	<1.0	<1.0	<1.0	<4.0	4.2	112
KZ3	<1.0	<1.0	<2.0	4.7	5.8	115
KZ5	2.5	3.0	4.0	6.5	7.5	86
KZ10	7.4	8.2	10.0	10.0	12.7	108
KZ25	18.0	20.0	22.5	19.0	24.0	93

Element Collapse Rating: 150 psid (10 bar)
Flow Direction: Outside In
Element Nominal Dimensions: 4.0" (100 mm) O.D. x 9.0" (230 mm) long

See RTI, page 96 for inside out flow version.

Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All Paper (E) and Synthetic (Z) Media
High Water Content	Z1, Z3, Z5, Z10, Z25
Invert Emulsions	Z10, Z25
Water Glycols	Z3, Z5, Z10, Z25
Phosphate Esters	All Z Media with EPR Seals, K3H and K10H E Media
Skydrol	Z3H.5, Z5H.5, Z10H.5, Z25H.5 and WH.5

Note: Contact factory regarding use of E Media in High Water Content, Invert Emulsion and Water Glycol Applications.

For more information, refer to Fluid Compatibility: Fire Resistant Fluids, pages 19 and 20.

- Meets HF4 automotive standard. ■ Top, side or bottom mounting. ■ Optional check valve prevents reservoir siphoning. ■ Up to 3 inlet ports available. ■ RTW model allows filter to be welded to tank instead of bolted. ■ Refer to KFT filter for more porting options.

Features

ST
SKB Housings

Element Selection Based on Flow Rate

MTA
MTB
GT
ZT
KT

Pressure	Element		Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 25 psi (1.7 bar) bypass valve.			
	Series	Part No.	1K3	2K3†	3K3	
Return Line Tank-Mounted	E Media	K3	1K3	2K3†	3K3	
		K10	1K10	2K10†		
		K25	1K25	2K25†		
	Z Media	KZ1	1KZ1	2KZ1†		
		KZ3	1KZ3	2KZ3†		
		KZ5	1KZ5	2KZ5†		
		KZ10	1KZ10			
KZ25	1KZ25					
Flow	gpm	0	40	60	80	100
	(L/min)	0	50	150	250	380

†Double and triple stacking of K-size elements can be replaced by single KK & 27K elements, respectively.

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

Exercise:
Determine ΔP at 80 gpm (300 L/min) for RT1KZ10P24NN using 200 SUS (44 cSt) fluid.

Solution:

$$\Delta P_{\text{housing}} = 3.0 \text{ psi } [.20 \text{ bar}]$$

$$\Delta P_{\text{element}} = 80 \times .05 \times (200 \div 150) = 5.3 \text{ psi}$$

$$\text{or}$$

$$= [300 \times (.05 \div 54.9) \times (44 \div 32) = .38 \text{ bar}]$$

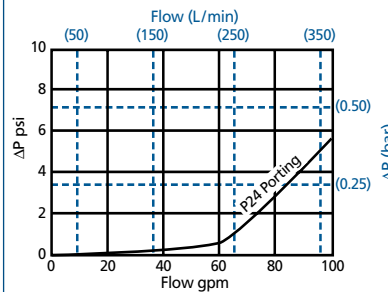
$$\Delta P_{\text{total}} = 3.0 + 5.3 = 8.3 \text{ psi}$$

$$\text{or}$$

$$= [.20 + .38 = .58 \text{ bar}]$$

$\Delta P_{\text{housing}}$

RT $\Delta P_{\text{housing}}$ for fluids with sp gr = 0.86:



sp gr = specific gravity

$\Delta P_{\text{element}}$

$\Delta P_{\text{element}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor}$

El. ΔP factors @ 150 SUS (32 cSt):

	1K	2K
K3	.25	.12
K10	.09	.05
K25	.02	.01
KZ1	.20	.10
KZ3	.10	.05
KZ5	.08	.04
KZ10	.05	.03
KZ25	.04	.02

If working in units of bars & L/min, divide above factor by 54.9.

Viscosity factor:
Divide viscosity by 150 SUS (32 cSt).

Pressure Drop Information Based on Flow Rate and Viscosity

RTI
KFT
LRT
BFT
QT

Accessories for Tank-Mounted Filters

Sizing of elements should be based on element flow information provided in the Element Selection chart above.

Filter Series	No. of Elements†	Element Part No.	Seal Material	Inlet Porting Options—Identify All Ports			Outlet Porting Options	Dirt Alarm® (See Appendix A for complete list of options)
				Port A	Port B	Port C		
RT	1	K3	(Omit) = Buna N	P16	P16	P2	(Omit) = 1½" NPT Male	Located @ Port D: (Omit) = None Y2 = Tri-color Gauge
		K10		P20	P20	P16		
		K25		P24	P24	S16		
RTW	3	KZ1	H = EPR* W = Buna N*	P32	P32	N = None	C = Check Valve D = Diffuser CD = Check Valve & Diffuser T = 13" Tube Extension A = Non-threaded Outlet	Located in Cap: Y2C = Bottom Mounted Gauge Located @ Port C: Y2R = Back Mounted Gauge ESR = Electric Switch ES1R = Electric Switch with Conduit Connector
		KZ3		S16	S16			
		KZ5		S20	S20			
		KZ10		S24	S24			
		KZ25		S32	S32			
		KM60		F20	F20			
		KW		F24	F24			
				F32	F32			
				B24	B24			

If using Port B, Port A & B must always be the same type and size.

Example:

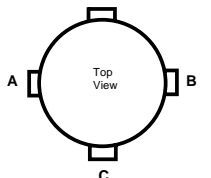
(A) P20 (B) P20 (C) P16

P=NPTF, S=SAE Straight, F=SAE J518 4-Bolt Flange Code 61, B=BSPP

2=1/8", 16=1", 20=1 1/4", 24=1 1/2", 32=2"

S32=2 1/2"-12 SAE Straight

Inlet Porting Location



*When "H" or "W" seals are ordered all aluminum filter parts are anodized.

†Double and triple stacking of K-size elements can be replaced by single KK & 27K elements, respectively.

Note: RTW allows filter to be welded to tank instead of bolted.

Filter Model Number Selection

Same Day Shipment Model

See Appendix E for details.

PAF1
MAF1
MF2
TF1
KF3
LF1—2"

- G501 = Rubber gasket
- G547 = Two 1/8" gauge ports
- G820 = Stamped cap
- N = No-element indicator

- M = Metric thread for SAE 4-bolt flange mounting holes (specify after each F port designation)

See Appendix B for additional information on these options and instructions on how to order.

Other Available Options

K9
QF15
QLF15
QFD5

See also "Accessories for Tank-Mounted Filters," page 106.