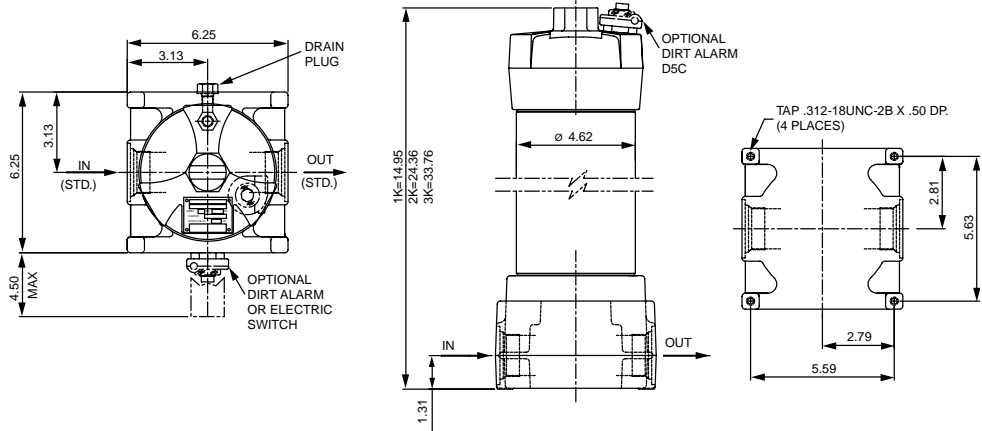
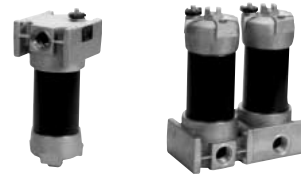


K9 Medium Pressure Filter Patent Pending

100 gpm
380 L/min
900 psi
60 bar



This filter is available in additional porting options not explicitly shown here. Contact factory for details.



Metric dimensions in ().
Model No. of filter in photograph is K91KZ5BP20NP20ND5C.

Filter Housing Specifications

Flow Rating:	Up to 100 gpm (380 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	900 psi (60 bar)
Min. Yield Pressure:	3200 psi (220 bar)
Rated Fatigue Pressure:	750 psi (52 bar) per NFPA T2.6.1-R1-1991
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 40 psi (2.8 bar) Full Flow: 80 psi (5.5 bar)
Porting Base & Cap:	Cast Aluminum
Element Case:	Steel
Weight of K9-1K:	19 lbs. (8.6 kg)
Weight of K9-2K:	30 lbs. (13.6 kg)
Weight of K9-3K:	41 lbs. (18.6 kg)
Element Change Clearance:	8.50" (215 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
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(t)} \geq 200$	$\beta_{x(t)} \geq 1000$	
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

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.

- Extremely versatile multiple inlet and outlet ports; can be used alone or in series with another K9.
- Meets HF4 automotive standard.

Features

- ST
- SKB Housings
- MTA
- MTB
- GT
- ZT
- KT
- RT

Element Selection Based on Flow Rate

Pressure	Element Series		Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve.				
	Part No.						
To 900 psi (60 bar)	E Media	K3	1K3		2K3†	3K3	
		K10	1K10				
		K25	1K25				
	Z Media	KZ1	1KZ1		2KZ1†		
		KZ3	1KZ3				
		KZ5	1KZ5				
		KZ10	1KZ10				
	KZ25	1KZ25					
Flow	gpm	0	20	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.

Pressure Drop Information Based on Flow Rate and Viscosity

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

Exercise:
Determine ΔP at 80 gpm (303 L/min) for K93KZ3BP20NP20ND5C using 200 SUS (44 cSt) fluid.

Solution:

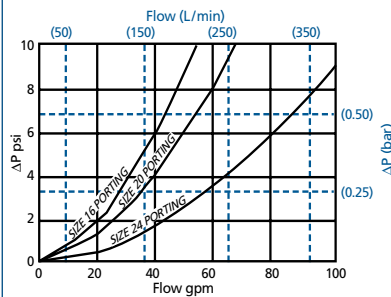
$\Delta P_{housing} = 6.0 \text{ psi } [.41 \text{ bar}]$

$\Delta P_{element} = 80 \times .03 \times (200 \div 150) = 3.2 \text{ psi}$
or
 $= [303 \times (.03 \div 54.9) \times (44 \div 32) = .23 \text{ bar}]$

$\Delta P_{total} = 6.0 + 3.2 = 9.2 \text{ psi}$
or
 $= [.41 + .23 = .64 \text{ bar}]$

$\Delta P_{housing}$

K9 $\Delta P_{housing}$ for fluids with sp gr = 0.86:



sp gr = specific gravity

$\Delta P_{element}$

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

El. ΔP factors @ 150 SUS (32 cSt):

	1K	2K	3K
K3	.25	.12	.08
K10	.09	.05	.03
K25	.02	.01	.01
KZ1	.20	.10	.05
KZ3	.10	.05	.03
KZ5	.08	.04	.02
KZ10	.05	.03	.02
KZ25	.04	.02	.01

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

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

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

Filter Model Number Selection

Filter Series	No. of Elements	Element Model No.	Seal Material	"In" Porting		"Out" Porting		Dirt Alarm*** (See Appendix A for complete list of options)													
				Port 1 (STD)	Port 2 (OPT)	Port 3 (STD)	Port 4 (OPT)														
K9	1	K3	B = Buna N H = EPR* V = Viton*	N	N	N	N	D5 = Cartridge D5C = Cartridge in Cap Electric Cartridge: MS5AC/DC/LC Family													
		K10							P16	P20	P16	P20									
		K25						P24					P20	P24	P24						
	2	KZ1							S16	S20	P24	S16				S20					
		KZ3						S24					S20	S24	S24						
		KZ5															F16	S24	F16	F20	
	3	KZ10						F20	F24	B16	B20	B24									
		KZ25											B16	B20	B24	B16	B20				
		KM10																B20	B24	B16	B20
		KM25																			
KM60	B16	B20	B24	B16	B20																
KM150						B20	B24	B16	B20	B24											
KM260	B24	B16	B20	B24	B16						B20										
KW						B24	B16	B20	B24	B16		B20									
Porting Options				N=None																	
				P=NPTF, S=SAE Straight, F=SAE J518 4-Bolt Flange Code 61, B=BSP 16=1", 20=1 1/4", 24=1 1/2"																	

*Aluminum parts are anodized.

**If location 1 is used as inlet port, dirt alarm will occupy location 2. If location 2 is used as inlet port, dirt alarm will occupy location 1. If dual inlet ports are specified, the only dirt alarm option is pop-up indicator in cap (D5C).

D8 = D5 with thermal lockout
U = Test point installation in cap (upstream)

UU = Test point installation in block (upstream and downstream)
X = Blocked bypass valve

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

Other Available Options

- K9
- QF15
- QLF15
- QFD5