Base-Ported Pressure Filter KC65

Patent No. 6,843,378 for filter cap seal.

Features and Benefits

- Base-ported high pressure filter
- Patented dirt-tolerant cap design
- Can be installed in vertical or horizontal position
- Meets HF4 automotive standard
- Element changeout from top minimizes oil spillage
- Offered in flanged porting
- No-Element indicator option available
- Available with non-bypass option with high collapse element
- Integral inlet and outlet female test points option available
- Double and triple stacking of K-size element can be replaced by single KK or 27K-size element

100 gpm
380 L/min
6500 psi
450 bar

Model No. of filter in photograph is KC651K10FHV5.

Applications


INDUSTRIAL


AUTOMOTIVE MANUFACTURING


MINING TECHNOLOGY


POWER GENERATION


STEEL MAKING


PAPER INDUSTRY

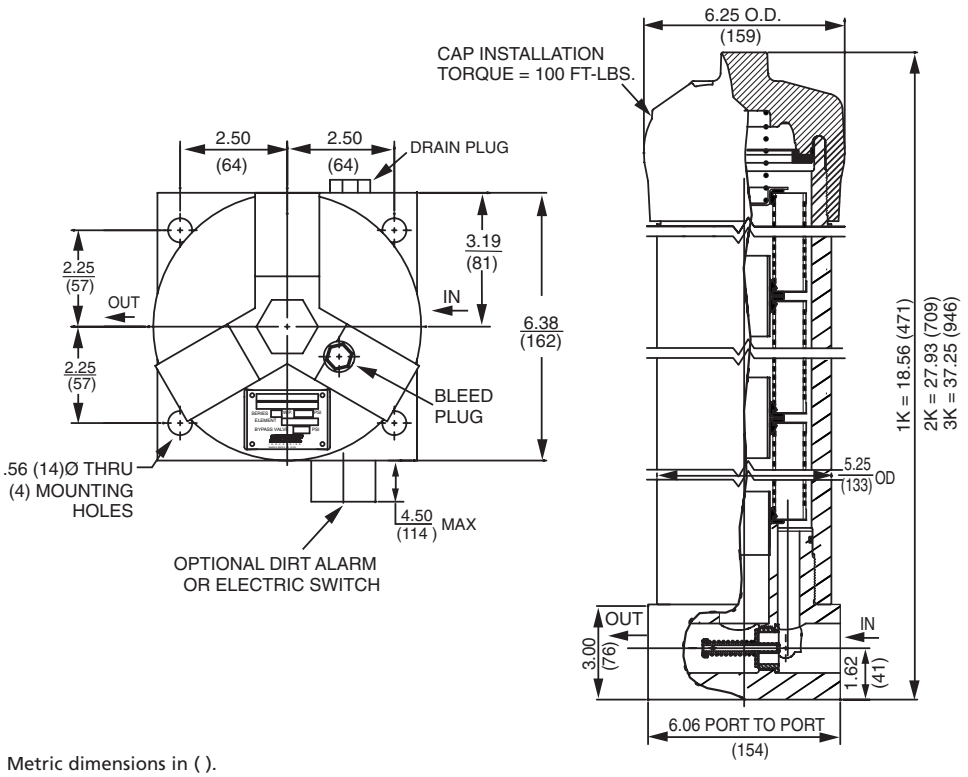

AGRICULTURE


MOBILE VEHICLES

Filter Housing Specifications

Flow Rating:	Up to 100 gpm (380 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	6500 psi (450 bar)
Min. Yield Pressure:	21,000 psi (1450 bar)
Rated Fatigue Pressure:	5000 psi (345 bar), per NFPA T2.6.1-2005
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 40 psi (2.8 bar) Full Flow: 62 psi (4.3 bar) Non-bypassing model has a blocked bypass.
Porting Base & Cap: Element Case:	Ductile Iron Steel
Weight of KC65-1K: Weight of KC65-2K: Weight of KC65-3K:	80 lbs. (36.3 kg) 102 lbs. (46.3 kg) 124 lbs. (56.3 kg)
Element Change Clearance:	8.50" (215 mm) for 1K; 17.50" (445 mm) for KK; 26.5" (673 mm) for 27K

KC65 Base-Ported Pressure Filter



Metric dimensions in ( ).

Element Performance Information

Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio wrt ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
K3/KK3/27K3	6.8	7.5	10.0	N/A	N/A
K10/KK10/27K10	15.5	16.2	18.0	N/A	N/A
KZ1/KKZ1/27KZ1	<1.0	<1.0	<1.0	<4.0	4.2
KZ3/KKZ3/27KZ3	<1.0	<1.0	<2.0	<4.0	4.8
KZ5/KKZ5/27KZ5	2.5	3.0	4.0	4.8	6.3
KZ10/KKZ10/27KZ10	7.4	8.2	10.0	8.0	10.0
KZ25/KKZ25/27KZ25	18.0	20.0	22.5	19.0	24.0
KZX3/KKZX3/27KZX3	<1.0	<1.0	<2.0	4.7	5.8
KZX10/KKZX10/27KZX10	7.4	8.2	10.0	8.0	9.8

Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)	Element	DHC (gm)
K3	54	KK3	108	27K3	162
K10	44	KK10	88	27K10	132
KZ1	112	KKZ1	224	27KZ1	336
KZ3	115	KKZ3	230	27KZ3	345
KZ5	119	KKZ5	238	27KZ5	357
KZ10	108	KKZ10	216	27KZ10	324
KZ25	93	KKZ25	186	27KZ25	279
KZX3	40*	KKZX3	80	27KZX3	120
KZX10	49*	KKZX10	98	27KZX10	147

*Based on 100 psi terminal pressure

Element Collapse Rating: 150 psid (10 bar) for standard elements
3000 psid (210 bar) for high collapse (ZX) versions

Flow Direction: Outside In

Element Nominal Dimensions:
K: 3.9" (99 mm) O.D. x 9.0" (230 mm) long
KK: 3.9" (99 mm) O.D. x 18.0" (460 mm) long
27K: 3.9" (99 mm) O.D. x 27.0" (690 mm) long

Base-Ported Pressure Filter KC65

Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All E (cellulose) and Z (synthetic) media
High Water Content	All Z (synthetic) media
Invert Emulsions	10 and 25 µ Z (synthetic) media
Water Glycols	3, 5, 10 and 25 µ Z (synthetic) media
Phosphate Esters	All Z (synthetic) media with H (EPR) seal designation and 3 and 10 µ E (cellulose) with H (EPR) seal designation
Skydrol®	3, 5, 10 and 25 µ Z (synthetic) media with H.5 seal designation and W (water removal) media with H.5 seal designation (EPR seals and stainless steel wire mesh in element, and light oil coating on housing exterior)

Skydrol is a registered trademark of Solutia Inc.

Element Selection
Based on Flow Rate

Pressure	Element Series	Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve.
To 6500 psi (450 bar)	E Media	K3	1K3 | 2K3† | 3K3
		K10	1K10 | 2K10† | 3K10†
		K25	1K25
	Z Media	KZ1	1KZ1 | 2KZ1† | 3KZ1†
		KZ3	1KZ3 | 2KZ3† | 3KZ3†
		KZ5	1KZ5 | 2KZ5† | 3KZ5†
		KZ10	1KZ10 | 2KZ10†
		KZ25	1KZ25 | 2KZ25†
	Flow	gpm	0 20 40 60 80 100
		(L/min)	0 150 250 380

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

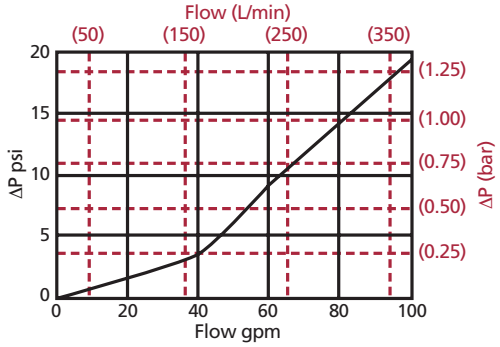
Shown above are the elements most commonly used in this housing.

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.*

Pressure Drop Information
Based on Flow Rate and Viscosity

$\Delta P_{housing}$

KC65 $\Delta P_{housing}$ for fluids with sp gr = 0.86:



sp gr = specific gravity

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

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

Notes

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

Exercise:
Determine ΔP at 60 gpm (230 L/min) for KC652KZ3FHV5 using 200 SUS (44 cSt) fluid.

Solution:

$\Delta P_{housing}$ = 8.0 psi [.55 bar]

$\Delta P_{element}$ = 60 x .05 x (200÷150) = 4.0 psi
or
= [230 x (.05÷54.9) x (44÷32) = .29 bar]

ΔP_{total} = 8.0 + 4.0 = 12.0 psi
or
= [.55 + .29 = .84 bar]

KC65 Base-Ported Pressure Filter

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder KC65:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
KC65							

Example: *NOTE: Only boxes 6 and 8 may contain more than one option*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	
KC65	1	KZ5		F				= **KC651KZ5F**

BOX 1

Filter Series
KC65
KCN65 (Non-bypassing: requires ZX high collapse elements)

BOX 2

Number of Elements
1
2
3

BOX 3

Element Part Number			
K Length	KK Length	27K Length	
K3	KK3	27K3	= 3 µ E media (cellulose)
K10	KK10	27K10	= 10 µ E media (cellulose)
K25			= 25 µ E media (cellulose)
KZ1	KKZ1	27KZ1	= 1 µ Excellement® Z media (synthetic)
KZ3	KKZ3	27KZ3	= 3 µ Excellement Z media (synthetic)
KZ5	KKZ5	27KZ5	= 5 µ Excellement Z media (synthetic)
KZ10	KKZ10	27KZ10	= 10 µ Excellement Z media (synthetic)
KZ25	KKZ25	27KZ25	= 25 µ Excellement Z media (synthetic)
KZX1	KKZX1	27KZX1	= 1 µ Excellement Z media (high collapse center tube)
KZX3	KKZX3	27KZX3	= 3 µ Excellement Z media (high collapse center tube)
KZX5	KKZX5	27KZX5	= 5 µ Excellement Z media (high collapse center tube)
KZX10	KKZX10	27KZX10	= 10 µ Excellement Z media (high collapse center tube)
KZX25	KKZX25	27KZX25	= 25 µ Excellement Z media (high collapse center tube)
KW	KKW	27KW	= W media (water removal)
KM10			= K size 10 µ M media (reusable metal)
KM25			= K size 25 µ M media (reusable metal)
KM60			= K size 60 µ M media (reusable metal)
KM150			= K size 150 µ M media (reusable metal)
KM260			= K size 260 µ M media (reusable metal)

BOX 4

Seal Material
Omit = Buna N
V = Viton®
H = EPR
H.5 = Skydrol® compatibility

BOX 5

Porting
F = 1½" SAE 4-bolt flange Code 62

BOX 6

Options
Omit = None
M = Magnet inserts (not available w/ indicator in cap)
X = Blocked bypass
50 = 50 psi bypass setting
L = Two ¼" NPTF inlet and outlet female test ports
U = Series 1215 7/16 UNF Schroeder Check® Test Point installation in cap (upstream)
UU = Series 1215 7/16 UNF Schroeder Check Test Point installation in base (upstream and downstream)

BOX 7

Dirt Alarm® Options	
	Omit = None
Visual	HV5 = High pressure pop-up HV5C = High pressure pop-up in cap
Electrical	Contact factory for electrical indicator availability

BOX 8

Additional Options
Omit = None
N = No-Element indicator
G509 = Dirt alarm and drain opposite standard
G1906 = KF50 style cap w/ longer thread engagement

NOTES:

Box 2. Number of elements must equal 1 when using KK or 27K elements.

Box 3. Replacement element part numbers are identical to contents of Boxes 3 and 4. Double and triple stacking of K-size elements can be replaced by single KK and 27K elements, respectively.

Box 4. H.5 seal designation includes the following: EPR seals, stainless steel wire mesh on elements, and light oil coating on housing exterior.
Viton is a registered trademark of DuPont Dow Elastomers.
Skydrol is a registered trademark of Solutia Inc.

Box 5. For option F, bolt depth 1.12" (30 mm).

Box 6. X and 50 options are not available with KCN65.

Box 7. Standard indicator setting for non-bypassing model is 50 psi unless otherwise specified.

Box 8. Options N, G509 and G1906 are not available with KCN65.
N option should be used in conjunction with dirt alarm.