Top-Ported Pressure Filter CTF60

Features and Benefits

- Top-ported high pressure filter
- High cyclic fatigue performance (6000 psi)
- Available with non-bypass option with high collapse element
- Offered in pipe, SAE straight thread, flange and ISO 228 porting
- Thread on bowl with optional drain plug for easy element service

75 gpm
284 L/min
6000 psi
415 bar

Model No. of filter in photograph is CTF608CTZ10F20D9.

Applications


INDUSTRIAL


AUTOMOTIVE MANUFACTURING


MACHINE TOOL


MINING TECHNOLOGY


PULP & PAPER

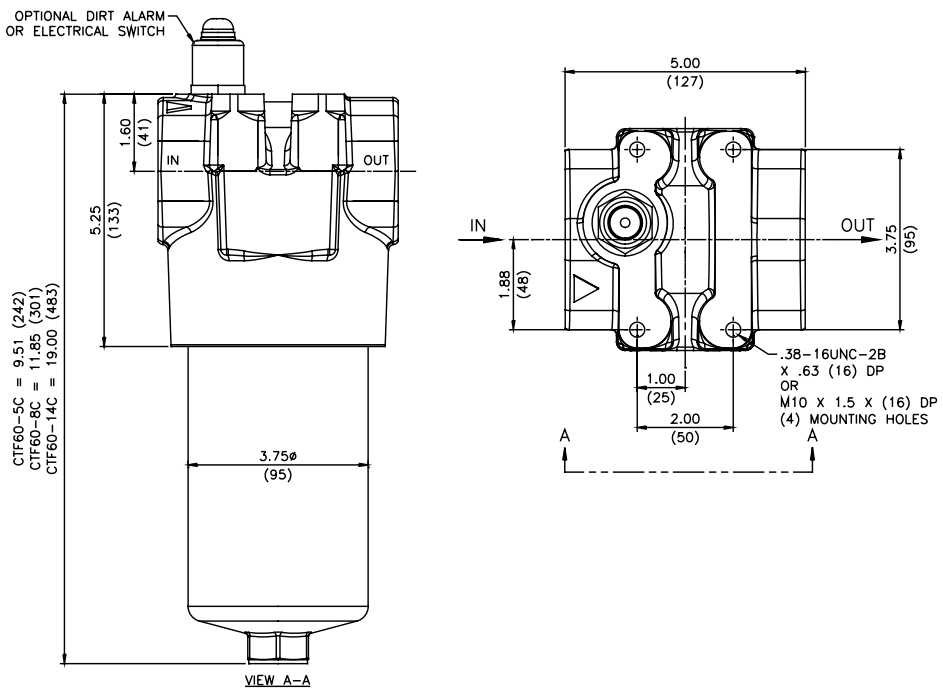

AGRICULTURE


MOBILE VEHICLES

Filter Housing Specifications

Flow Rating:	Up to 75 gpm (284 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	6000 psi (415 bar)
Min. Yield Pressure:	18,000 psi (1241 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	6000 psi (415 bar), per NFPA T2.6.1-R1-2005 (only with F20 4-bolt flange porting)
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 50 psi (3.4 bar) Full Flow: 83 psi (5.7 bar) Non-bypassing model has a blocked bypass.
Porting Head: Element Case:	Ductile Iron Steel
Weight of CTF60-5CT: CTF60-8CT: CTF60-14CT:	25 lbs. (11.4 kg) 29 lbs. (13.2 kg) 38 lbs. (17.3 kg)
Element Change Clearance:	4.0" (103 mm)

CTF60 Top-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 per ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
CTZ1/CTZX1	<1.0	<1.0	<1.0	<4.0	4.2
CTZ3/CTZX3	<1.0	<1.0	<2.0	<4.0	4.8
CTZ5/CTZX5	2.5	3.0	4.0	4.8	6.3
CTZ10/CTZX10	7.4	8.2	10.0	8.0	10.0
CTZ25/CTZX25	18.0	20.0	22.5	19.0	24.0

Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)	Element	DHC (gm)
5CTZ1	19	8CTZ1	31	14CTZ1	66
5CTZ3	16	8CTZ3	27	14CTZ3	57
5CTZ5	18	8CTZ5	30	14CTZ5	64
5CTZ10	21	8CTZ10	34	14CTZ10	72
5CTZ25	17	8CTZ25	28	14CTZ25	60
5CTZX1	14	8CTZX1	24	14CTZX1	53
5CTZX3	11	8CTZX3	18	14CTZX3	41
5CTZX5	10	8CTZX5	17	14CTZX5	38
5CTZX10	12	8CTZX10	20	14CTZX10	44
5CTZX25	11	8CTZX25	18	14CTZX25	39

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: 5CT : 2.64" (67 mm) O.D. x 4.88" (124 mm) long
8CT : 2.64" (67mm) O.D. x 7.25" (184 mm) long
14CT : 2.64" (67 mm) O.D. x 14.38" (365 mm) long

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Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
High Water Content	All Z-Media® (synthetic)
Invert Emulsions	10 and 25 µ Z-Media® (synthetic)
Water Glycols	3, 5, 10 and 25 µ Z-Media® (synthetic)
Phosphate Esters	All Z-Media® (synthetic) with H (EPR) seal designation

Element Selection
Based on Flow Rate

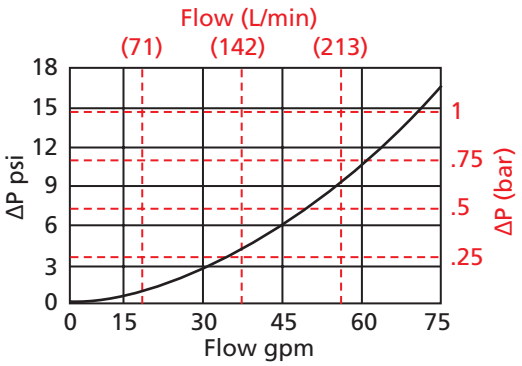
Pressure	Element Series	Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 50 psi (3.4 bar) bypass valve.					
To 6000 psi (415 bar)	Z-Media®	CTZ1	5CTZ1	8CTZ1	14CTZ1	See KC65		
		CTZ3	5CTZ3		8CTZ3	14CTZ3	See KC65	
		CTZ5	5CTZ5		8CTZ5	14CTZ5	See KC65	
		CTZ10	5CTZ10			8CTZ10	14CTZ10	
		CTZ25	5CTZ25				8CTZ25	
	Flow	gpm	0	15	30	45	60	75
		(L/min)	0	60	110	170	230	280

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

Pressure Drop Information
Based on Flow Rate and Viscosity

$\Delta P_{housing}$

CTF60 $\Delta P_{housing}$ 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.

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

Exercise:

Determine ΔP at 70 gpm (115 L/min) for CTF6014CTZ10F20D9 using 150 SUS (44 cSt) fluid.

Solution:

$\Delta P_{housing}$ = 14 psi [0.95 bar]

$\Delta P_{element}$ = 70 x .14 x (150÷150) = 9.8 psi
or
= [265 x (.20÷54.9) x (44÷32) = .68 bar]

ΔP_{total} = 14 + 9.8 = 23.8 psi
or
= [.96 + .68 = 1.64 bar]

$\Delta P_{element}$

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

El. ΔP factors @ 150 SUS (32 cSt):

5CTZ1	1.87	5CTZX1	1.64
5CTZ3	0.77	5CTZX3	0.96
5CTZ5	0.72	5CTZX5	0.68
5CTZ10	0.46	5CTZX10	0.46
5CTZ25	0.19	5CTZX25	0.25
8CTZ1	1.17	8CTZX1	1.00
8CTZ3	0.48	8CTZX3	0.59
8CTZ5	0.45	8CTZX5	0.41
8CTZ10	0.29	8CTZX10	0.28
8CTZ25	0.12	8CTZX25	0.15
14CTZ1	0.55	14CTZX1	0.46
14CTZ3	0.22	14CTZX3	0.27
14CTZ5	0.21	14CTZX5	0.19
14CTZ10	0.14	14CTZX10	0.13
14CTZ25	0.06	14CTZX25	0.07

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

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

CTF60 Top-Ported Pressure Filter

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder CTF60:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
CTF60 –	–	–	–	–	–	–

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
CTF60 –	8 –	CTZ5 –	–	S20 –	–	D9	= CTF608CTZ5S20D9

BOX 1

Filter Series
CTF60
CTFN60 (Non-bypassing: requires ZX high collapse elements)

BOX 2

Element Length (in.)
5
8
14

BOX 3

Element Part Number	
CTZ1	= 1 µ Excellement® Z-Media® (synthetic)
CTZ3	= 3 µ Excellement® Z-Media® (synthetic)
CTZ5	= 5 µ Excellement® Z-Media® (synthetic)
CTZ10	= 10 µ Excellement® Z-Media® (synthetic)
CTZ25	= 25 µ Excellement® Z-Media® (synthetic)
CTZX1	= 1 µ Excellement® Z-Media® (high collapse center tube)
CTZX3	= 3 µ Excellement® Z-Media® (high collapse center tube)
CTZX5	= 5 µ Excellement® Z-Media® (high collapse center tube)
CTZX10	= 10 µ Excellement® Z-Media® (high collapse center tube)
CTZX25	= 25 µ Excellement® Z-Media® (high collapse center tube)

BOX 4

Seal Material	
Omit	= Buna N
V	= Viton®
H	= EPR

BOX 5

Inlet Port	
P20	= 1¼" NPTF
S20	= SAE-20
F20	= 1¼" SAE 4-bolt flange Code 62
B20	= ISO 228 G-1¼"

BOX 6

Options	
Omit	= None
UU	= Series 1215 7/16" UNF Schroeder Check Test Points installed in the filter head (upstream & downstream)
DR	= Drain on bowl
30	= 30 psi bypass setting
40	= 40 psi bypass setting
50	= 50 psi bypass setting

BOX 7

Dirt Alarm® Options		
	Omit =	None
Visual	D9 =	Visual pop-up
Electrical	MS5SS =	Electrical w/ 12 in. 18 gauge 4-conductor cable
	MS5SSLC =	Low current MS5
	MS10SS =	Electrical w/ DIN connector (male end only)
	MS10SSLC =	Low current MS10
	MS11SS =	Electrical w/ 12 ft. 4-conductor wire
	MS12SS=	Electrical w/ 5 pin Brad Harrison connector (male end only)
	MS12SSLC =	Low current MS12
	MS16SS =	Electrical w/ weather-packed sealed connector
	MS16SSLC =	Low current MS16
	MS17SSLC =	Electrical w/ 4 pin Brad Harrison male connector
Electrical with Thermal Lockout	MS5SST =	MS5 (see above) w/ thermal lockout
	MS5SSLCT =	Low current MS5T
	MS10SST =	MS10 (see above) w/ thermal lockout
	MS10SSLCT =	Low current MS10T
	MS12SST =	MS12 (see above) w/ thermal lockout
	MS12SSLCT =	Low current MS12T
	MS16SST =	MS16 (see above) w/ thermal lockout
	MS16SSLCT =	Low current MS16T
	MS17SSLCT =	Low current MS17T
Electrical Visual	MS13SS =	Supplied w/ threaded connector & light
	MS14SS =	Supplied w/ 5 pin Brad Harrison connector & light (male end)
Electrical Visual with Thermal Lockout	MS13SSDCT =	MS13 (see above), direct current, w/ thermal lockout
	MS13SSDCLCT =	Low current MS13DCT
	MS14SSDCT =	MS14 (see above), direct current, w/ thermal lockout
	MS14SSDCLCT =	Low current MS14DCT

NOTES:

Box 2. Replacement element part numbers are identical to contents of Boxes 2, 3 and 4.

Box 4. Viton® is a registered trademark of DuPont Dow Elastomers.

Box 5. B porting option supplied with metric mounting holes.

Box 7. All Dirt Alarm® Indicators must be Stainless Steel. Standard indicator setting is 50 psi. For replacement indicators, contact the factory.