Tank-Mounted Filter ART

Features and Benefits

- Compact, lightweight, low pressure tank mounted filter ideal for mobile applications
- Lightweight plastic bowl
- ART aluminum alloy is designed to be water tolerant - anodization is not required for use with water based fluids (HWCF).
- Special filter element design provides aftermarket benefits.
- Various Dirt Alarm® options

225 gpm
850 L/min
145 psi
10 bar

Model No. of filter in photograph is ART85Z10F43.

Applications


AGRICULTURE

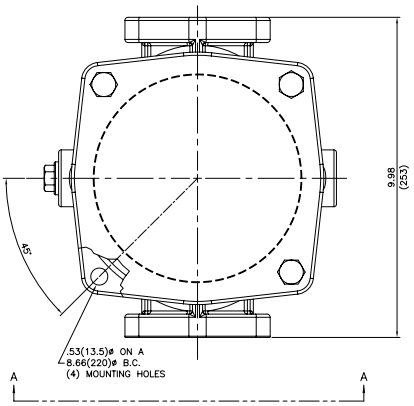

AUTOMOTIVE MANUFACTURING

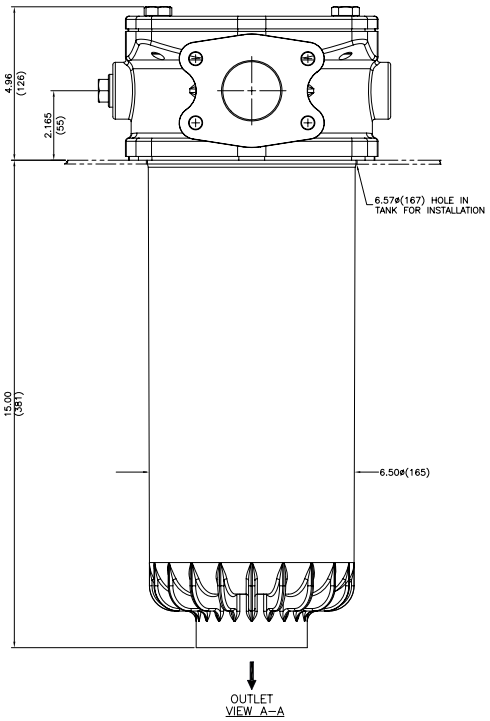

MOBILE VEHICLES

Filter Housing Specifications

Flow Rating:	Up to 225 gpm (850 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	145 psi (10 bar)
Min. Yield Pressure:	535 psi (37 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	145 psi (10 bar), per NFPA T2.6.1
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 43 psi (3 bar) Full Flow: 69 psi (4.75 bar)
Porting Head & Cap: Element Case:	Aluminum Plastic
Weight of ART:	15 lbs. (7 kg)
Element Change Clearance:	16.39" (340 mm)

ART Tank-Mounted Filter





Metric dimensions in ( ).

Element Performance Information

Element	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
85Z1	<4.0	4.2
85Z3	<4.0	4.8
85Z5	4.8	6.3
85Z10	8.0	10.0
85Z25	19.0	24.0

Dirt Holding Capacity

Element	DHC (gm)
85Z1	185
85Z3	147
85Z5	206
85Z10	164
85Z25	167

Element Collapse Rating: 150 psid (10 bar)

Flow Direction: Outside In

Element Nominal Dimensions: 4.5" (114.3 mm) O.D. x 13.8" (350.52 mm) long

Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All Z-Media® (synthetic)
High Water Content	All Z-Media® (synthetic)

Element Selection
Based on Flow Rate

Pressure	Element Series	Element Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 43 psi (1.7 bar) bypass valve (with check valve option).
Return Line Tank-Mounted	Z-Media	85Z1	85Z1
		85Z3	85Z3
		85Z5	85Z5
		85Z10	85Z10
		85Z25	85Z25
	Flow	gpm	0 25 50 75 100 125 150 175 200 225
		(L/min)	0 95 190 285 380 475 570 665 760 850

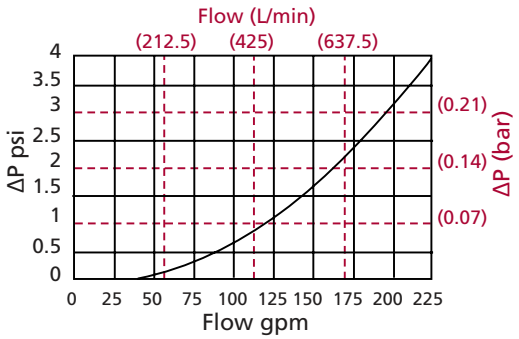
Shown above are the elements most commonly used in this housing.
*Note: Additional per element flow is available up to 300 gpm when using ART filter without check valve option.
See housing pressure drop graph below.

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 21 and 22.

Pressure Drop Information
Based on Flow Rate and Viscosity

$\Delta P_{housing}$

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



sp gr = specific gravity

$\Delta P_{element}$

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

El. ΔP factors @ 150 SUS (32 cSt):

	Z
85Z1	.22
85Z3	.12
85Z5	.1
85Z10	.08
85Z25	.03

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.

Notes

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

Exercise:

Determine ΔP at 160 gpm (600 L/min) for ART85Z5S43Y2 using 175 SUS (44 cSt) fluid.

Solution:

$\Delta P_{housing}$	= 1.9 psi [.17 bar]
$\Delta P_{element}$	= 160 x 0.1 x (175÷150) = 18.67 psi or = [600 x (0.1÷54.9) x (38÷32) = 1.30 bar]
ΔP_{total}	= 1.9 + 18.67 = 20.57 psi or = [.17 + 1.30 = 1.47 bar]

ART Tank-Mounted Filter

Filter Model Number Selection

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
ART						

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
ART	85Z10		F	43		Y2	**= ART85Z10F43Y2**

BOX 1

Filter Series
ART

BOX 2

Element Size and Media	
85Z1	= 1 µ Excellement® Z-Media® (synthetic)
85Z3	= 3 µ Excellement® Z-Media® (synthetic)
85Z5	= 5 µ Excellement® Z-Media® (synthetic)
85Z10	= 10 µ Excellement® Z-Media® (synthetic)
85Z25	= 25 µ Excellement® Z-Media® (synthetic)

BOX 3

Seal Material
Omit = Buna N
H = EPR

BOX 4

Porting
F = 2½" SAE-40 4-bolt flange Code 61
FF = Dual 2½" SAE-40 4-bolt flange Code 61
S = SAE-32
SS = Dual SAE-32

BOX 5

Bypass Setting
43 = 43 lb. Bypass

BOX 6

Outlet Options
Omit = 2" ISO 228 G thread

BOX 7

Dirt Alarm® Options	
	Omit = None
Visual	Y2 = Back-mounted tri-color gauge
	Y2R = Back-mounted gauge mounted on opposite side of standard location
Electrical	ES = Electric switch (normally open)
	ESR = Electric switch mounted on opposite side of standard location
	ES1 = Heavy-duty electric switch with conduit connector
	ES1R = Heavy-duty electric switch with conduit connector mounted on opposite side of standard location
	ES2 = Super duty electric switch with Thermal Lockout and 2 pin Deutsche connector (DT04-2P, SPST, normally closed)

NOTES:

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

Box 3. For option H, all aluminum parts are anodized.