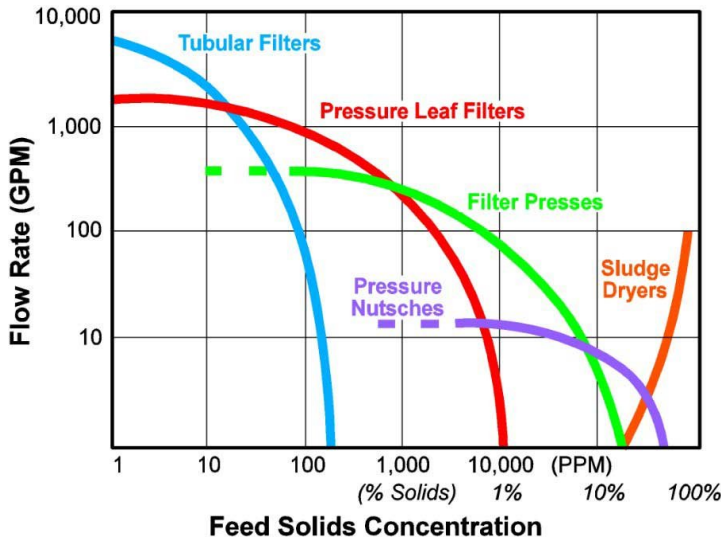
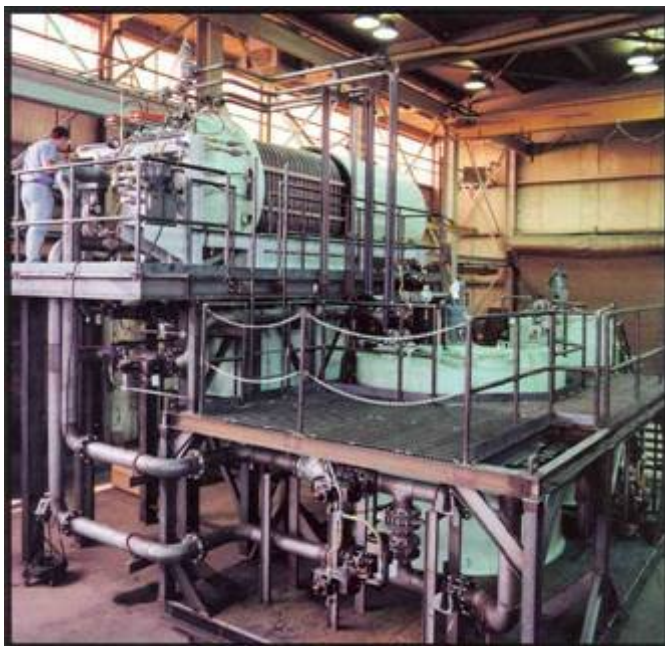


Durco Pressure Leaf Filters Are Specifically Designed For:



- **Industrial Batch Filtration Applications With High Flow Rate Requirements**
- **Process Stream Solids Loadings Up To 6wt% (Depending On Application).**
- **Supreme Durability With Low Maintenance Operation**
- **A Wide Range Of Pressure Leaf Media To Support Your Specific Application**

Durco Also Supplies A Line Of Highly Efficient [Pressure Nutsches](#)



Durco Pressure Leaf Filters Guide

1. Durco Filtration Guidelines
2. Pressure Leaf Filter Types & Features
3. Dry Cake Discharge Horizontal Tank Pressure Leaf Filters
4. Wet Cake Discharge Horizontal Tank Pressure Leaf Filters
5. Dry Cake Discharge Vertical Tank Pressure Leaf Filters
6. Wet Cake Discharge Vertical Tank Pressure Leaf Filters
7. Vertical Tank Horizontal Pressure Leaf Filters
8. Pressure Leaf Designs
9. Durco Product Lines / Applications / Filtration Equipment Field Service

Ascension Industries has purchased & owns all records, drawings, bills of materials and support data for existing: **Duriron (DURCO), Aquacare, FSD Filter Presses, Pressure Leaf Filters & Pressure Nutsches, Tubular Filters & Enviro-Dri Sludge Dryers.** Ascension is the only authorized supplier of certified DURCO OEM Filters & Filter Parts.

Contact Durco Filtration To Design The Optimum Filtration System For Your Industrial Or Municipal Process:

1. Filtration Guidelines

Filtration



The basic objective in solids/liquid separation is efficient particulate removal. There are a number of methods of

achieving this, one method being the pressure leaf filter. This type of equipment is commonly termed cake filtration due to the fact that the solids being removed form a cake. The cake, in fact, acts as a filter medium. The filter leaves are mainly there to retain the cake, as well as to give sufficient cross sectional drainage area to enable the filtered liquid to be evacuated as quickly as possible.

The ability of a specific liquid containing suspended solids to filter through a septum for the removal of solids is called filterability. Factors which affect filterability include: pressure, cake compressibility, specific cake resistance and viscosity.

Regardless of shape, a pressure leaf filter is a closed pressure vessel containing a filter septum. With vertical leaf designs the solids are deposited on both sides of the filter leaves. The two faces of each leaf, therefore, comprise the effective filtration area. The horizontal leaf design only uses the upper face for filtration.

Depending on the application, a precoat and/or body feed may be used to increase the filterability of the cake. This material is termed a filter aid and is available in many grades for specific applications.

Due to the variety of applications, lab and/or "on-site" pilot testing are advisable. Durco has a variety of pilot filters and a complete lab to thoroughly analyze process fluids and test for filterability.

Automation



With the increasing trend toward automation of process equipment, Durco initiated a

development program to design automated systems for filtration equipment supplied to our customers. The range of industries to which Durco has supplied systems include the brewing, chemical, food, metallurgical, petrochemical industries and also waste treatment plants.

Durco automated systems are designed for each specific requirement and may be semi-automatic or fully automatic.

The semi-automatic systems are designed for specific requirement and may be semi-automatic or fully automatic.

The semi-automatic system has a central control panel where the sequence steps are activated by the operator. The various pump drives, agitator drives, valves, etc., are automatically operated to the required mode for the process step.

Fully automated systems are designed to the degree of sophistication required by the customer. Either step drum programmers or programmable controllers are used to insure that the required process steps are carried out automatically. Level controls, pressure differential switches, limit switches, etc., provide signals to initiate the sequencing device. Flow rate and turbidity may be monitored.

Various options are available such as main panel graphics, manual overrides, alarms, remote terminal boxes, station wiring, etc. While Durco has standardized on certain manufacturers equipment, we will supply equipment specified by customers to enable them to standardize within their plant.

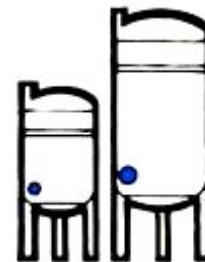
Completely piped and wired, skid mounted systems are available to insure minimum installation time.

In the continental United States and Canada we provide start-up services and also instruct plant operators in the functioning and maintenance of the system.

Select The "Right" Size

Filter sizing

Filters are rated for the most part in square feet of active filtration area. Exactly how much area is needed depends on a number of things.



A. Flow

Each square foot of area will filter a slurry at a certain rate - GPH (m³/h). This rate will vary for each slurry and will depend on the type of solids in suspension, the viscosity of the liquid, the filter media, the pressure available and many other variables.

If the slurry is already being filtered, data from the present operation is a good guide for the filtration rate to be expected. Our case history file provides this information for many customers who are now filtering. In the case of new or untried applications, laboratory or pilot scale filtration studies are in order. Rates range from 6 to 120 gph/ft.² (.244 to 4.889 m³/h/m²). A good average for slurries with non-sliming solids and low viscosity would be 20-30 gph/ft.² (.815 to 1.222 m³/h/m²). Once filtration rate is determined, calculate the required area as follows:

$$\frac{\text{Flow required through filter} \text{ -GPH (m}^3\text{/h)}}{\text{Filtration rate} \text{ -GPH/sq. ft. (m}^3\text{/h/m}^2\text{)}} = \text{Area, ft.}^2 \text{ (m}^2\text{)}$$

However, this may not be the correct filter size! For the right selection, also consider:

B. Cake load

A filter large enough to handle the flow might fill up with cake too quickly; therefore, sizing must be checked based on the desired cycle length.

If the volume of cake to be filtered out during a single cycle, and the maximum cake thickness that can be built up within normal filtration pressures is known, the required area can be calculated by:

$$\frac{\text{Total ft.}^3 \text{ (m}^3\text{) cake per cycle}}{\text{Cake thickness - ft. (m)}} = \text{ft.}^2 \text{ (m}^2\text{) of area}$$

Past experience or test filtration are the best guides. At times, it will be more convenient to make this calculation based on gallons throughput per sq. ft. of area as follows:

$$\frac{\text{Gallons (m}^3\text{) To be filtered per cycle}}{\text{Throughput -gal / ft.}^2 \text{ (m}^3\text{/m}^2\text{)}} = \text{ft.}^2 \text{ (m}^2\text{) of area}$$

The calculation (A or B) which gives the largest area requirements is the one to be used.



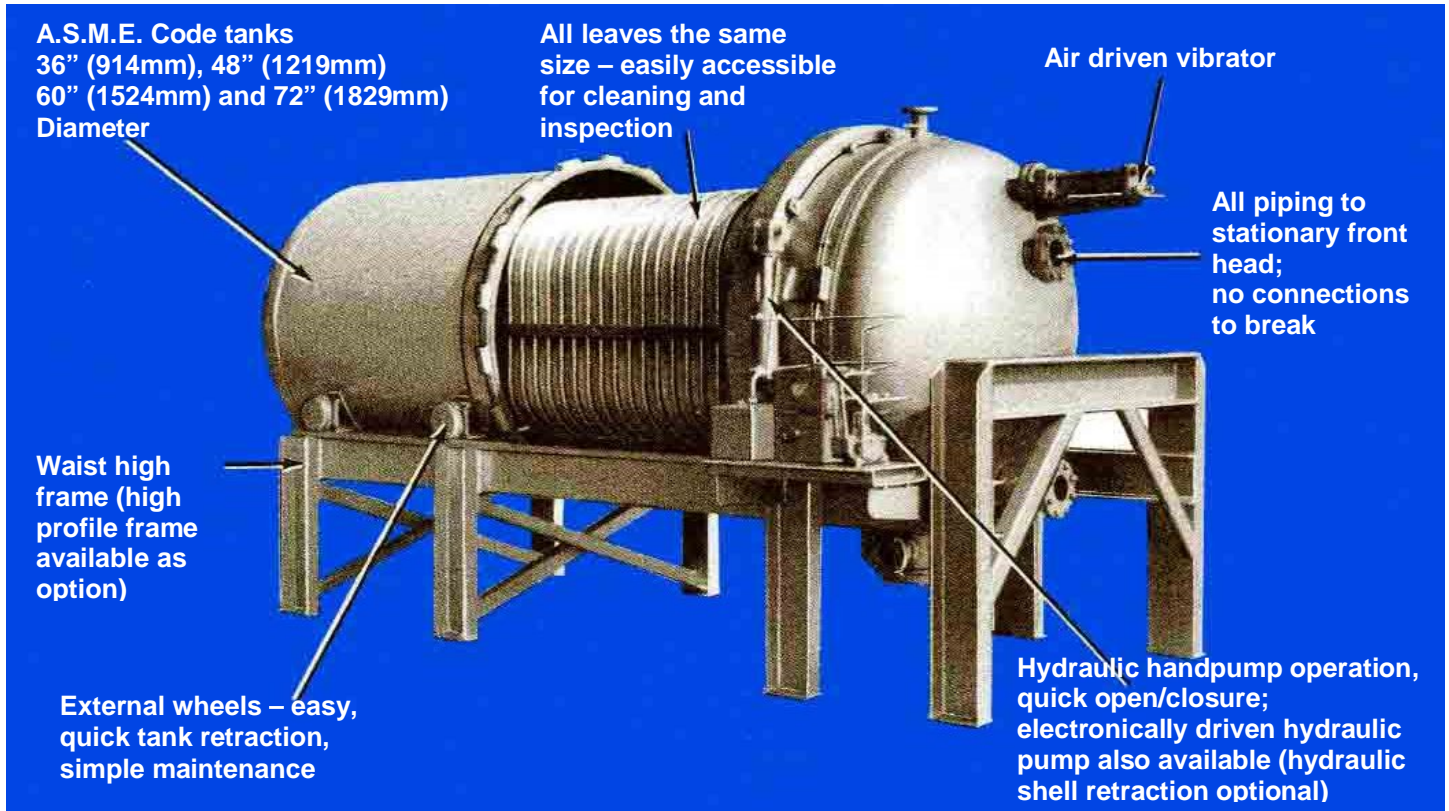
2. Pressure Leaf Filter Types & Features

TYPES AND AVAILABLE PRINCIPAL FEATURES		VERTICAL TANK				HORIZONTAL TANK	
		TYPE V	TYPE DV	TYPE VH	TYPE N	TYPE HC	TYPE DHC
Maximum size filtration area ft ²		950	429	206	72 DIA	1600	1600
Maximum cake volume ft ³		*39	36	17	2.3	133	133
Tank closure	Bolted	▪	▪	▪	▪	▪	▪
	Quick open/close	▪	▪		▪	▪	▪
	Top or bottom opening		▪		▪		
Filter medium	Metal screen	▪	▪	▪	▪	▪	▪
	Fabric	▪		▪	▪	▪	
	Paper			▪	▪		
Feed arrangement	Baffled inlet	▪	▪		▪	▪	▪
	Internal distribution	▪	▪	▪	▪	▪	▪
Filtrate arrangement	Common manifold	▪	▪	▪		▪	▪
	External manifold	▪	▪				
	Sectionalized manifold					▪	▪
	Other				▪		
Top or front head	Dished	▪	▪	▪	▪	▪	▪
	Flat				▪		
Bottom or rear head	Dished	▪	▪	▪	▪	▪	▪
	Cone	▪	▪	▪	▪		
	Flat				▪		
Top or bottom head lifting device	Counterweight	▪	▪		▪		
	Toggle & lever	▪	▪		▪		
	Lift lug			▪			
	Hydraulic ram	▪	▪		▪		
Cake discharge Dry	Vibrator (air)		▪				▪
	Manual		▪	▪	▪		▪
Cake discharge Wet	Oscillating sluice	▪			▪	▪	
	Rotating sluice			▪			
	Hydro jet sluice	▪			▪	▪	
ASME coded		▪	▪	▪	▪	▪	▪
Jacket-Steam/Water/Cooling		▪	▪	▪	▪	▪	▪

- Based on one half inch - All others based on one inch cake thickness.

[Find Out More About The Full Range Of Durco Filtration Systems Online](#)
Or Call Durco Filtration To Discuss Your Requirements With A Filtration Engineer:

3. Dry Cake Discharge HORIZONTAL Tank (Type DHC) Pressure Leaf Filters



- Non-metallic linings available
- Automatic operation
- Large filtration area and solids holding capacity

- Hydraulic Quick Opening Closure and shell retraction minimizes down time for solids removal.
- Dry solids removal can eliminate solids disposal problems.

MODEL NUMBER	AREA ALLOY SCREEN		TANK DIA.	NO. OF LEAVES	LEAF* SPACING	GROSS TANK VOLUME		SHIPPING WEIGHT APPORX.	
	ft ²	(m ²)				In (mm)	gal (m ³)	lbs (kg)	
36DHC47	46.8	(4.35)	36 (914)	6	4 (102)	210 (.79)	2250 (1021)		
36DHC62	62.4	(5.79)	36 (914)	8	3 (76)	210 (.79)	2350 (1066)		
36DHC78	78	(7.24)	36 (914)	10	4 (102)	278 (1.05)	2500 (1134)		
36DHC101	101.4	(9.42)	36 (914)	13	3 (76)	278 (1.05)	2650 (1202)		
48DHC120	120	(11.14)	48 (1219)	8	4 (102)	461 (1.74)	4100 (1860)		
48DHC165	165	(15.33)	48 (1219)	11	3 (76)	461 (1.74)	4280 (1942)		
48DHC195	195	(18.11)	48 (1219)	13	4 (102)	584 (2.21)	4380 (1987)		
48DHC225	225	(20.9)	48 (1219)	15	3 (76)	584 (2.21)	4550 (2064)		
60DHC304	303.6	(28.2)	60 (1524)	12	4 (102)	909 (3.44)	4645 (2130)		
60DHC354	354.2	(32.9)	60 (1524)	14	3 (76)	909 (3.44)	4750 (2155)		
60DHC405	404.8	(37.6)	60 (1524)	16	4 (102)	1100 (4.16)	4895 (2220)		
60DHC506	560	(47)	60 (1524)	20	3 (76)	1100 (4.16)	5050 (2291)		
72DHC613	612.8	(56.93)	72 (1829)	16	4 (102)	1500 (5.68)	5300 (2405)		
72DHC843	842.6	(78.27)	72 (1829)	22	3 (76)	1550 (5.87)	5825 (2643)		
72DHC996	995.8	(92.5)	72 (1829)	26	3 (76)	1700 (6.43)	6200 (2813)		
72DHC1302	1302.2	(120.97)	72 (1829)	34	3 (76)	2100 (7.95)	7000 (3176)		

* Based on a maximum cake thickness of 1 inch (25mm) for 2 inch spacing and 1-1/2 inch (38mm) for 4 inch spacing.

Note: Models given above are typical, Intermediate sizes available.



4. Wet Cake Discharge HORIZONTAL Tank (Type HC) Pressure Leaf Filters

Durco DHC and HC Retractable Shell Pressure Leaf Filters are designed to operate with a minimum amount of maintenance.

The retractable shell design eliminates interior wheels and tracks, minimizes corrosion problems and allows the entire filter leaf bundle to be fully exposed for inspection.

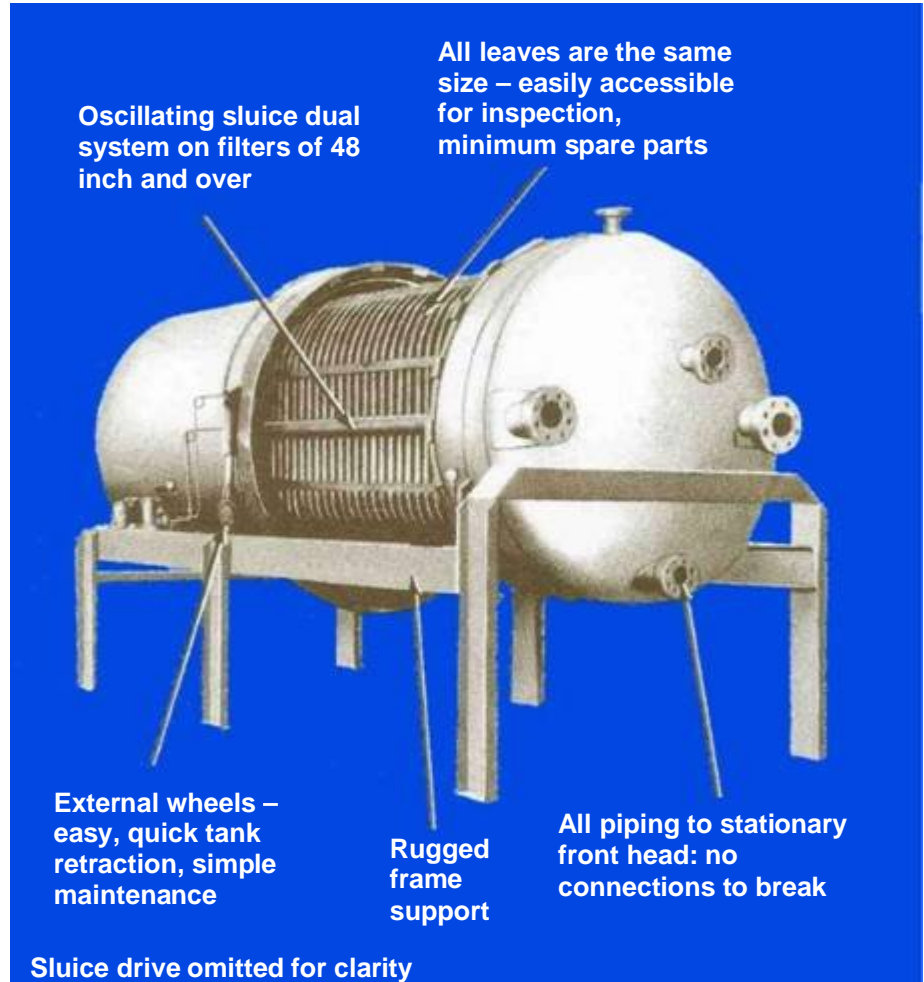
The supporting wheel assemblies are mounted on the filter shell exterior. All process piping is connected to the stationary section. There is no need to disconnect the filter piping system to open the vessel.

[More Information About Durco DHC & HC Horizontal Pressure Leaf Filters Online](#)

[Durco Horizontal Pressure Leaf Filter - Downloadable PDF File](#)

Durco will design and supply Your total filtration system. Contact your local Durco Sales Office for more detailed information.

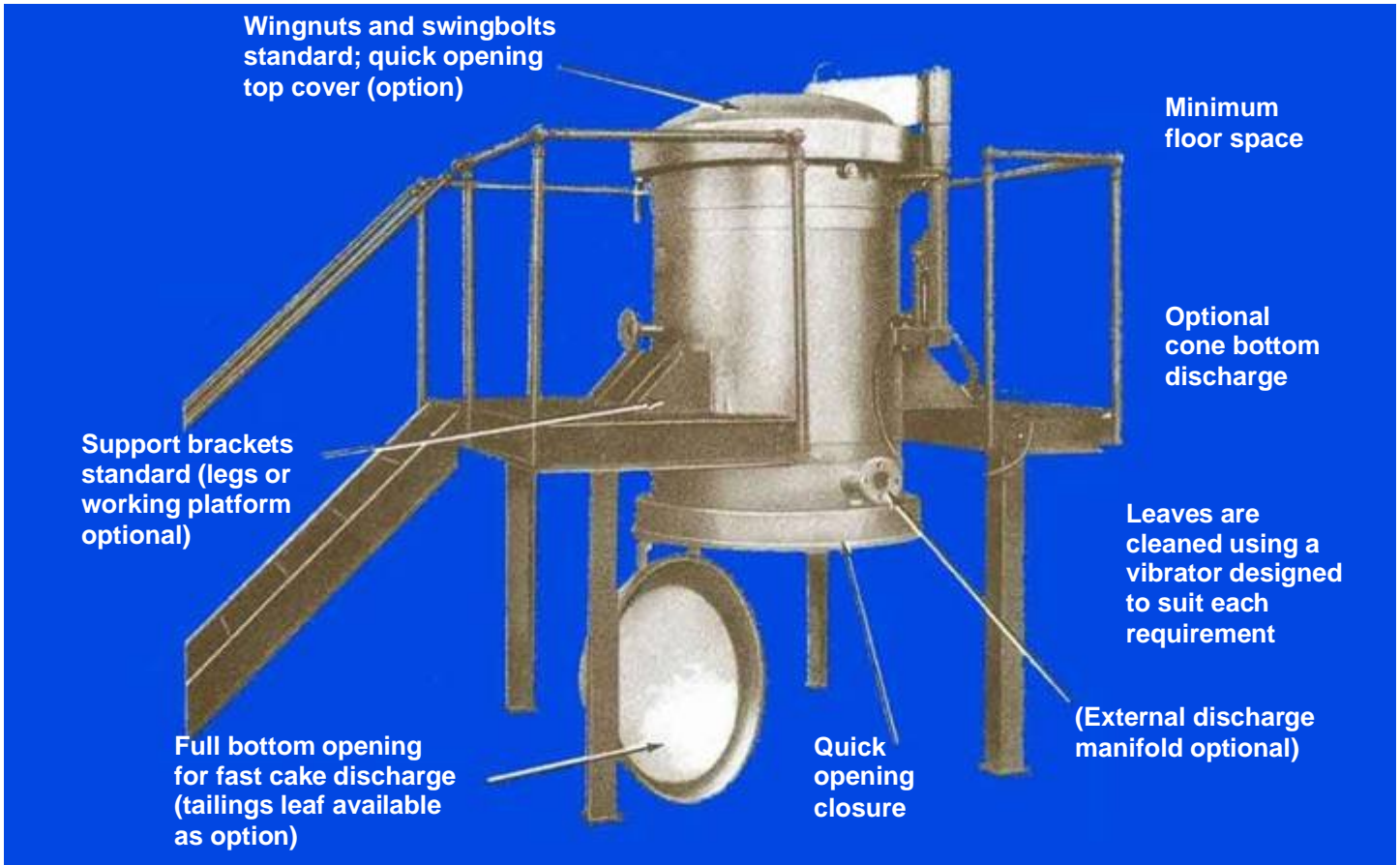
[Contact Durco Filtration Online](#)



MODEL NUMBER	AREA FABRIC SCREEN	TANK DIA.	NO. OF LEAVES	LEAF SPACING	GROSS TANK VOLUME	SHIPPING WEIGHT APPROX.
	ft ² (m ²)	in (mm)		in (mm)	gal (m ³)	lbs (kg)
36HC74	73.6 (6.84)	36 (914)	8	2½ (64)	190 (.72)	2365 (1073)
36HC110	110.4 (10.25)	36 (914)	12	2 (51)	210 (.79)	2480 (1125)
36HC147	147.2 (13.67)	36 (914)	16	2½ (64)	280 (1.06)	2750 (1248)
36HC184	184 (17.09)	36 (914)	20	2 (51)	280 (1.06)	2820 (1279)
48HC208	207.6 (19.28)	48 (1219)	12	2½ (64)	450 (1.70)	4255 (1930)
48HC277	276.8 (25.71)	48 (1219)	16	2½ (64)	550 (2.08)	4435 (2012)
48HC346	346 (32.14)	48 (1219)	20	2½ (64)	640 (2.42)	4745 (2153)
48HC415	415.2 (38.57)	48 (1219)	24	2½ (64)	720 (2.73)	4795 (2175)
60HC440	440 (40.87)	60 (1524)	16	3 (76)	930 (3.52)	4975 (2257)
60HC550	550 (51.09)	60 (1524)	20	3 (76)	1110 (4.20)	5325 (2416)
60HC660	660 (61.31)	60 (1524)	24	3 (76)	1270 (4.81)	5440 (2468)
60HC770	770 (71.53)	60 (1524)	28	3 (76)	1435 (5.43)	5740 (2604)
72HC826	826 (76.73)	72 (1829)	20	4 (100)	2000 (7.57)	5950 (2699)
72HC1074	1073.8 (99.75)	72 (1829)	26	4 (100)	2200 (8.33)	6825 (3097)
*72HC1322	1321.6 (122.77)	72 (1829)	32	4 (100)	2400 (9.08)	7100 (3221)
72HC1569	1569.4 (145.79)	72 (1829)	38	4 (100)	2600 (9.84)	7675 (3482)

Note: Models given are typical, intermediate sizes are available.

5. Dry Cake Discharge VERTICAL Tank (TYPE DV) Pressure Leaf Filters



MODEL NUMBER	FILTER AREA				NO. OF LEAVES	LEAF SPACING	CAKE VOLUME*	TANK VOLUME		MIN. HEAD ROOM	SHIPPING WEIGHT APPORX.
	ALLOY SCREEN		TANK DIA.					GROSS**	HEEL***		
	ft ²	(m ²)	in	(mm)							
18DV15	15	(1.4)	18	(457)	4	3¼ (95)	1.9 (.05)	65 (.25)	35 (.13)	89 (2261)	650 (295)
24DV30	30	(2.8)	24	(610)	5	3¼ (95)	3.9 (.11)	150 (.57)	62 (.23)	95 (2413)	790 (359)
24DV60	60	(5.6)	24	(610)	5	3¼ (95)	7.5 (.21)	195 (.74)	97 (.37)	144 (3658)	910 (413)
30DV83	83	(7.7)	30	(762)	6	4½ (114)	12.1 (.34)	225 (.85)	153 (.58)	154 (3912)	1690 (767)
30DV100	100	(9.3)	30	(762)	7	3¼ (95)	12.5 (.35)	225 (.85)	153 (.58)	154 (3912)	1780 (808)
36DV123	123	(11.4)	36	(914)	7	4½ (114)	18.0 (.51)	310 (1.17)	220 (.83)	159 (4039)	1810 (822)
36DV140	140	(13.0)	36	(914)	8	3¼ (95)	17.5 (.50)	310 (1.17)	220 (.83)	159 (4039)	2050 (931)
42DV167	167	(15.5)	42	(1067)	8	4½ (114)	24.4 (.69)	446 (1.69)	300 (1.14)	167 (4242)	2390 (1085)
42DV209	209	(19.4)	42	(1067)	10	3¼ (95)	26.2 (.74)	446 (1.69)	300 (1.14)	167 (4242)	2480 (1126)
48DV231	231	(21.5)	48	(1219)	10	4½ (114)	33.7 (.95)	594 (2.25)	405 (1.53)	173 (4394)	2940 (1335)
48DV279	279	(25.9)	48	(1219)	12	3¼ (95)	34.9 (.99)	594 (2.25)	405 (1.53)	173 (4394)	3180 (1444)
54DV295	295	(27.4)	54	(1372)	11	4½ (114)	43.0 (1.22)	768 (2.91)	513 (1.94)	178 (4521)	3880 (1762)
54DV350	350	(32.5)	54	(1372)	13	3¼ (95)	43.8 (1.24)	768 (2.91)	513 (1.94)	178 (4521)	4750 (2156)
60DV365	365	(33.9)	60	(1524)	12	4½ (114)	53.2 (1.51)	955 (3.62)	645 (2.44)	183 (4648)	5600 (2542)
60DV429	429	(39.9)	60	(1524)	14	3¼ (95)	53.6 (1.52)	955 (3.62)	645 (2.44)	183 (4648)	5750 (2610)

* Based on maximum cake thickness of 1-1/2 in (38mm) for 3-3/4 in (95mm) leaf spacing and 1-3/4 in (44mm) for 4-1/2 in (114mm) leaf spacing and surface screen. ** For units with vibrator (without vibrator volume is 10% less), and full bottom opening.

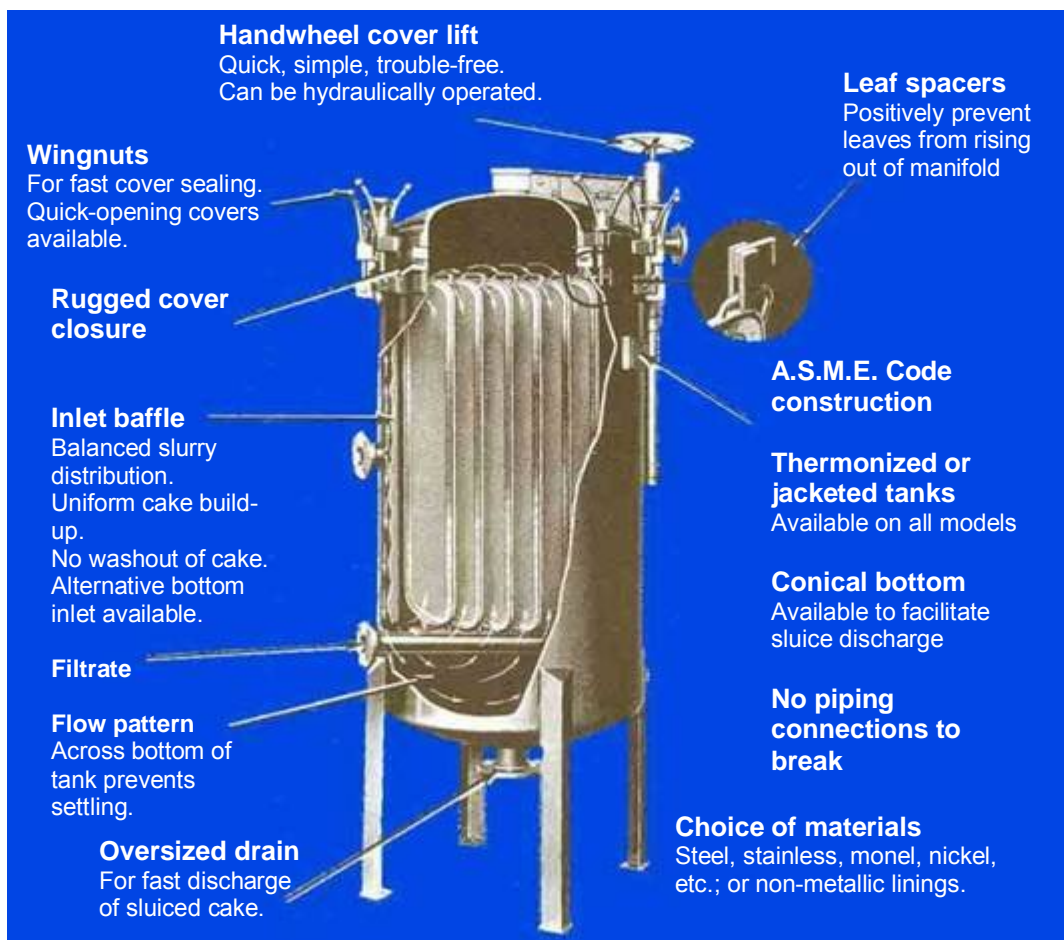
*** Volume of unfiltered liquid remaining in tank when maximum cake is accumulated on leaves. Intermediate areas and leaf spacing available. All data approximate.

6. Wet Cake Discharge VERTICAL Tank (TYPE V) Pressure Leaf Filters

[More Information About Durco Type DV & V Vertical Pressure Leaf Filters Online](#)

[Durco Vertical Pressure Leaf Filters – Printable PDF](#)

Contact [Durco Filtration Online](#)



Handwheel cover lift
Quick, simple, trouble-free.
Can be hydraulically operated.

Leaf spacers
Positively prevent leaves from rising out of manifold

Wingnuts
For fast cover sealing.
Quick-opening covers available.

Rugged cover closure

Inlet baffle
Balanced slurry distribution.
Uniform cake build-up.
No washout of cake.
Alternative bottom inlet available.

Filtrate

Flow pattern
Across bottom of tank prevents settling.

Oversized drain
For fast discharge of sluiced cake.

A.S.M.E. Code construction

Thermonized or jacketed tanks
Available on all models

Conical bottom
Available to facilitate sluice discharge

No piping connections to break

Choice of materials
Steel, stainless, monel, nickel, etc.; or non-metallic linings.

MODEL NUMBER		TANK DIA.	FILTER AREA		NO. OF LEAVES	LEAF SPACING	CAKE VOLUME*	TANK VOLUME		SHIPPING WEIGHT APPROX.
ALLOY	FABRIC		ALLOY	FABRIC				GROSS**	HEEL***	
		in (mm)	ft ² (m ²)	ft ² (m ²)			gal (m ³)	gal (m ³)	lbs (kg)	
18V21	18V27	18 (457)	21 (2.0)	27 (2.5)	5	2 $\frac{3}{8}$ (60)	1.42 (.04)	49 (.19)	28 (.11)	640 (291)
18V29	18V37	18 (457)	29 (2.7)	37 (3.4)	7	1 $\frac{1}{2}$ (48)	1.36 (.03)	49 (.19)	28 (.11)	660 (300)
24V45	24V55	24 (610)	45 (4.2)	55 (5.1)	8	2 $\frac{3}{8}$ (60)	3.04 (.08)	97 (.37)	50 (.19)	790 (359)
2459	24V75	24 (610)	59 (5.5)	75 (7.0)	11	1 $\frac{1}{2}$ (48)	2.76 (.07)	97 (.37)	50 (.19)	835 (379)
24V93	24V110	24 (610)	93 (8.6)	110 (10.2)	8	2 $\frac{3}{8}$ (60)	6.29 (.17)	132 (.50)	85 (.32)	1250 (568)
24V123	24V138	24 (610)	123 (11.4)	138 (12.8)	11	1 $\frac{1}{2}$ (48)	5.76 (.16)	132 (.50)	85 (.32)	1310 (595)
30V159	30V183	30 (762)	159 (14.8)	183 (17.0)	11	2 $\frac{3}{8}$ (60)	10.76 (.30)	209 (.79)	135 (.51)	1620 (735)
30V193	30V212	30 (762)	193 (17.9)	212 (19.7)	13	1 $\frac{1}{2}$ (48)	9.05 (.25)	209 (.79)	135 (.51)	1750 (794)
36V232	36V253	36 (914)	232 (21.6)	253 (23.5)	13	2 $\frac{3}{8}$ (60)	15.70 (.44)	330 (1.25)	195 (.74)	1850 (840)
36V300	36V338	36 (914)	300 (27.9)	338 (31.4)	17	1 $\frac{1}{2}$ (48)	14.06 (.39)	330 (1.25)	195 (.74)	1980 (899)
42V325	42V370	42 (1067)	325 (30.2)	370 (34.4)	16	2 $\frac{3}{8}$ (60)	22.00 (.62)	427 (1.62)	265 (1.00)	2450 (1112)
42V413	42V464	42 (1067)	413 (38.4)	464 (43.1)	20	1 $\frac{1}{2}$ (48)	19.36 (.54)	427 (1.62)	265 (1.00)	2610 (1185)
48V430	48V481	48 (1219)	430 (39.9)	481 (44.7)	18	2 $\frac{3}{8}$ (60)	29.11 (.82)	582 (2.21)	360 (1.36)	3100 (1407)
48V547	48V609	48 (1219)	547 (50.8)	609 (56.6)	23	1 $\frac{1}{2}$ (48)	25.64 (.73)	582 (2.21)	360 (1.36)	3500 (1589)
54V545	54V603	54 (1372)	545 (50.6)	603 (56.0)	20	2 $\frac{3}{8}$ (60)	39.90 (1.04)	843 (3.19)	455 (1.72)	4100 (1861)
54V683	54V760	54 (1372)	683 (63.5)	760 (70.6)	25	1 $\frac{1}{2}$ (48)	32.01 (.96)	843 (3.19)	455 (1.72)	4850 (2202)
60V675	60V742	60 (1524)	675 (62.7)	742 (68.9)	22	2 $\frac{3}{8}$ (60)	45.70 (1.29)	1009 (3.82)	575 (2.18)	5650 (2565)
60V855	60V951	60 (1524)	855 (79.4)	951 (88.3)	28	1 $\frac{1}{2}$ (48)	40.07 (1.13)	1009 (3.82)	575 (2.18)	6300 (2860)

* Based on maximum cake thickness of 9/16 in (14.28mm) for 1-7/8 in (48mm) leaf spacing and 13/16 in (20.6mm) for 2-3/8 in (60mm) leaf spacing and surface screens.

** For units with oscillating sluice (without sluice or with hydrospray sluice volume is approximately 15% less.

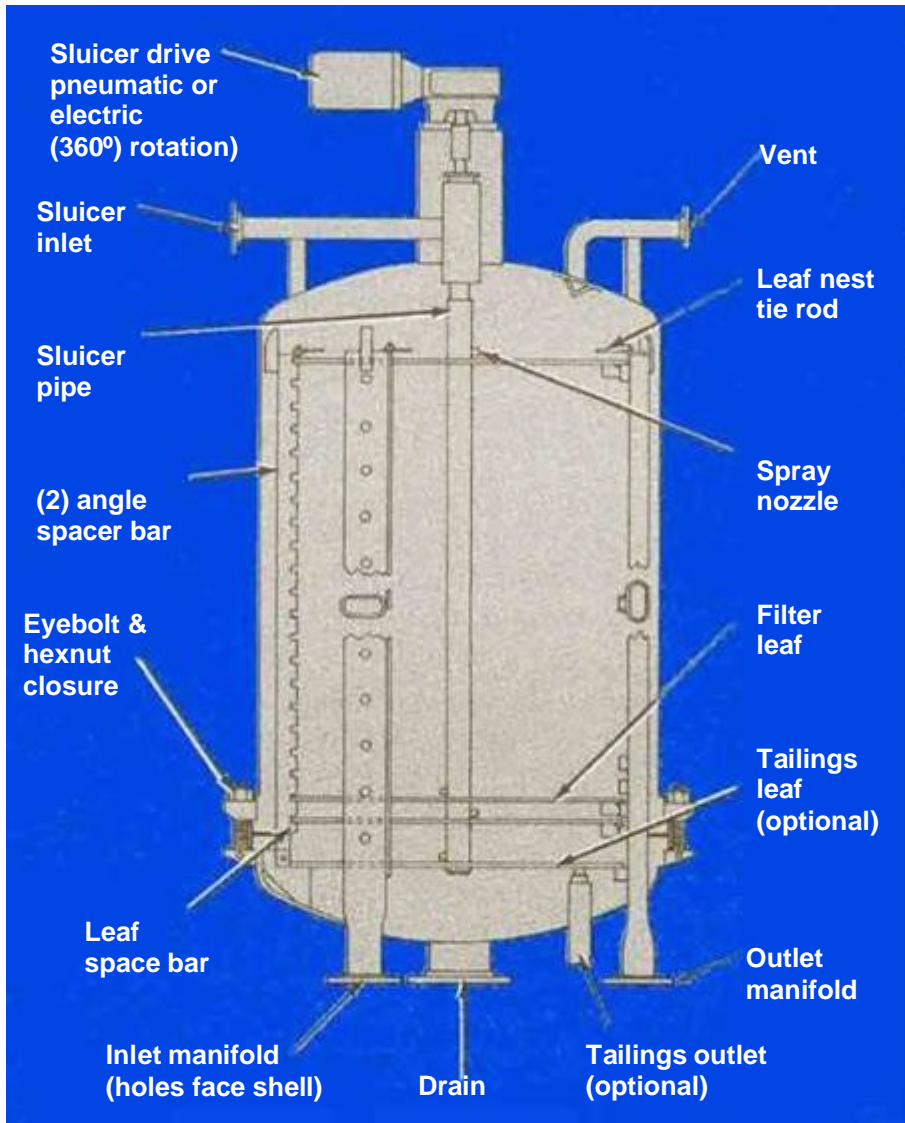
*** Volume of unfiltered liquid remaining in tank when maximum cake is accumulated on leaves.

Intermediate areas and leaf spacing available.

All data approximate.

7. Vertical Tank HORIZONTAL (TYPE VH) Pressure Leaf Filters

For batch operation, cake retention and cake washing.



CAKE REMOVAL

Rotating jet sluice

The DURCO type VH filter offers all the advantages of a horizontal leaf unit along with the labor saving capability of sluicing away the cake without opening the tank! The cake is washed through the filter drain in minutes.

Downtime and labor are minimized especially in comparison with other horizontal leaf units that must be opened and completely disassembled to discharge the filter cake.

Dry cake discharge

If it is undesirable to sluice the cake down the drain, and it must be "dry cake discharged", the VH filter (less sluicer) minimizes the labor involved. There is no need to lift, remove and disassemble the entire leaf bundle (as in most horizontal leaf units).

Each leaf is individually removed from the filter, cleaned and returned to its position. The operator can lift each leaf with no need for a hoist. Cleaning labor is reduced at least 25%. The "O" ring seal is positive, thus minimizing the danger of cake bypassing the leaves during filtration.

More Information About [Durco Type VH Horizontal Pressure Leaf Filters Online](#)

MODEL NUMBER	TANK DIA.	AREA	TANK VOLUME	CAKE VOLUME	NO. OF LEAVES	SHIPPING WEIGHT. APPROX.
	in (mm)	ft ² (m ²)	gal (m ³)	ft ³ (m ³)		lbs (kg)
24VH21	24 (610)	21 (1.95)	80 (.30)	2.63 (.07)	10	1300 (590)
24VH32	24 (610)	31.5 (2.93)	93 (.35)	3.94 (.11)	15	1375 (624)
36VH52	36 (914)	51.7 (4.80)	210 (.79)	6.46 (.18)	11	1800 (817)
36VH94	36 (914)	94 (8.73)	240 (.91)	11.75 (.33)	20	1920 (871)
42VH99	42 (1067)	99 (9.20)	350 (1.32)	12.38 (.35)	15	2430 (1103)
42VH139	42 (1067)	138.6 (12.88)	375 (1.42)	17.33 (.49)	21	2500 (1134)
48VH169	48 (1219)	169.2 (15.72)	382 (1.45)	21.15 (.60)	18	3100 (1407)
48VH207	48 (1219)	206.8 (19.21)	458 (1.73)	25.85 (.73)	22	3300 (1497)

(1) Cake volumes cake thickness of 1-1/2 in (38mm).

(2) Dimensions are not to be used for construction purposes.

(3) Standard leaf spacing, 2-1/2 in (64mm).

(4) Models shown are typical, intermediate sizes available.

8. Durco Pressure Leaf Filter Media Designs

Over its history, DURCO has been in the forefront of development in the design and manufacture of filter leaves to suit each application.

There are three basic criteria in the construction of filter leaves. First, sufficient drainage area to insure the quickest filtration rate for the given application. Secondly, rugged construction to insure years of satisfactory service. And lastly, compatibility of materials of construction with process liquid and/or solids at the operating temperature.

Additional consideration should be given to the "O" ring seal to insure compatibility with the temperature of the process liquid.

Available leaf constructions

3-ply, 5 ply and 7 ply design.

Materials of construction

Carbon steel, stainless steel 304, 316, 304 ELC, 316 ELC, Titanium, Hastelloy, Incolloy, Polypropylene and Rubber Coated Carbon Steel.

Type of constructions

Spotwelded, Riveted, Bolted, and Laser Welded.

Frame

Keyhold, Bar, Capped, U-Channel.

Drainage Member

4 X 4 X 063, 4 X 4 X 080 mesh, tubular slit, Solid Polypropylene.

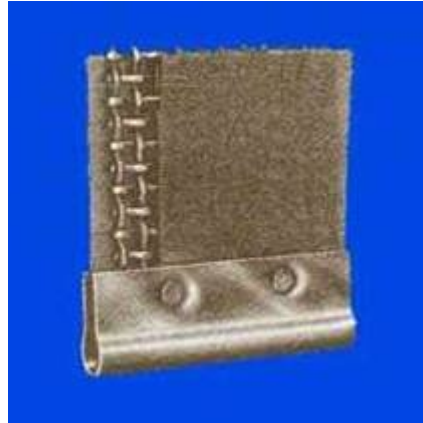
Intermediate Member

Perforated plate, polypro 4 X 4 X 060, 8 X 8 mesh

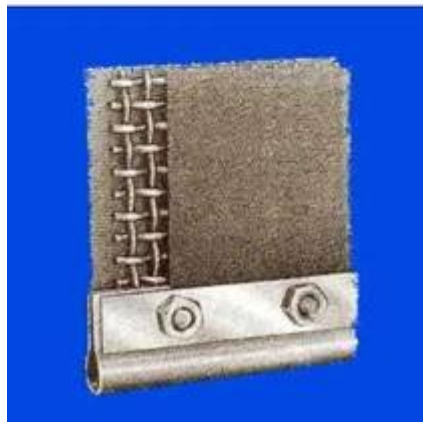
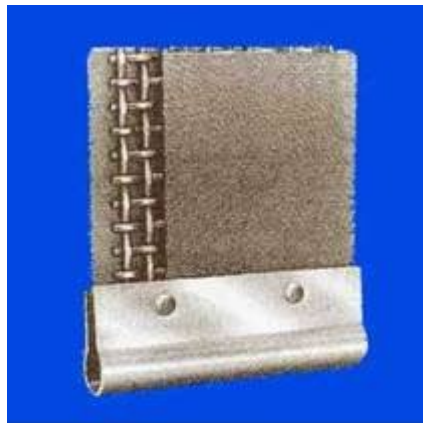
Surface Members

Durco standard is 24 X 110 POW (Plain Dutch Weave); most commercially woven metals can be supplied; bags from most natural and man made fibers.

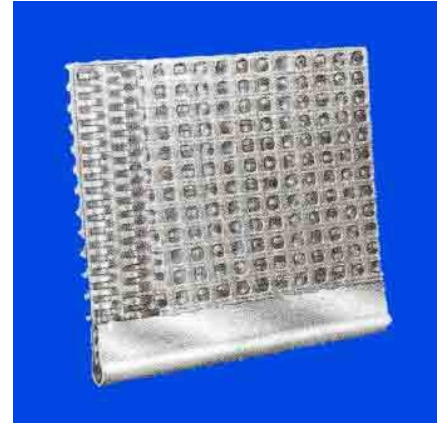
[More Information About Durco Pressure Leaf Designs Online](#)



1. This construction is the most economical metallic leaf manufactured by Durco. It has a keyhole frame, 4 X 4 mesh drainage member with 24 X 110 P.D.W. screen. The whole system is spotwelded together.



2. and 3. Same as No. 1 except that NO.2 has riveted construction and No.3 has bolted construction to facilitate screen replacement.



4. This leaf is our standard construction for sluicing filters. The leaf comprises of a keyhole frame with a tubular slit drainage member welded to the frame. Polypropylene netting is attached to the drainage member and the whole leaf covered with a fabric bag (not shown for clarity).

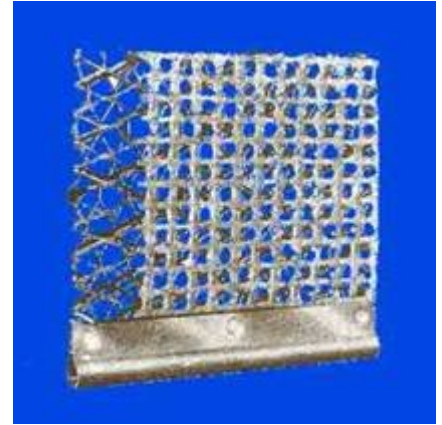


5. Heavier construction than 1 through 4. An intermediate screen of perforated plate has been added to give a 5 ply construction.



6. A circular leaf of 7 ply construction developed for the brewing industry.

Using a bar frame with heavy duty 1 X 1 drainage member, perforated plate and 16 meash intermediate members with a 24 X 128 surface screen (60 micron nom.). The surface screen is laser welded to the bar frame by a method developed by Durco (patent applied for)



8. Titanium leaf - this construction is the choice for highly corrosive applications. It is strong, but light in weight. The design incorporates a keyhole frame with a 2 X 1 and two 1-1/4 X 1/2 expanded metal screens for drainage. A polypropylene netting is then attached to the screen prior to a bag being fitted.

Nozzles

Machined 316 S.S. (standard), Polypropylene, and all commercially available metals.

Durco is able to offer most types of leaf construction for various pressure leaf filters.

[More Information About Durco Pressure Leaf Designs Online](#)



7. This shows nozzle outlet area of typical polypropylene leaf. This leaf, which is only used on a sluicing filter, requires a fabric bag while in operation. The grade of polypropylene used is the best available and is inert to most chemicals. There is, however, a temperature limitation of 194° F (90° C).



9. Typical outlet nozzle. Standard material is 316 stainless steel which is investment cast then machined to very close tolerances. A positive seal is obtained by the use of an "o" ring.

Durco Filtration Engineers Are Available To Help You Design Your Optimum Filtration System:

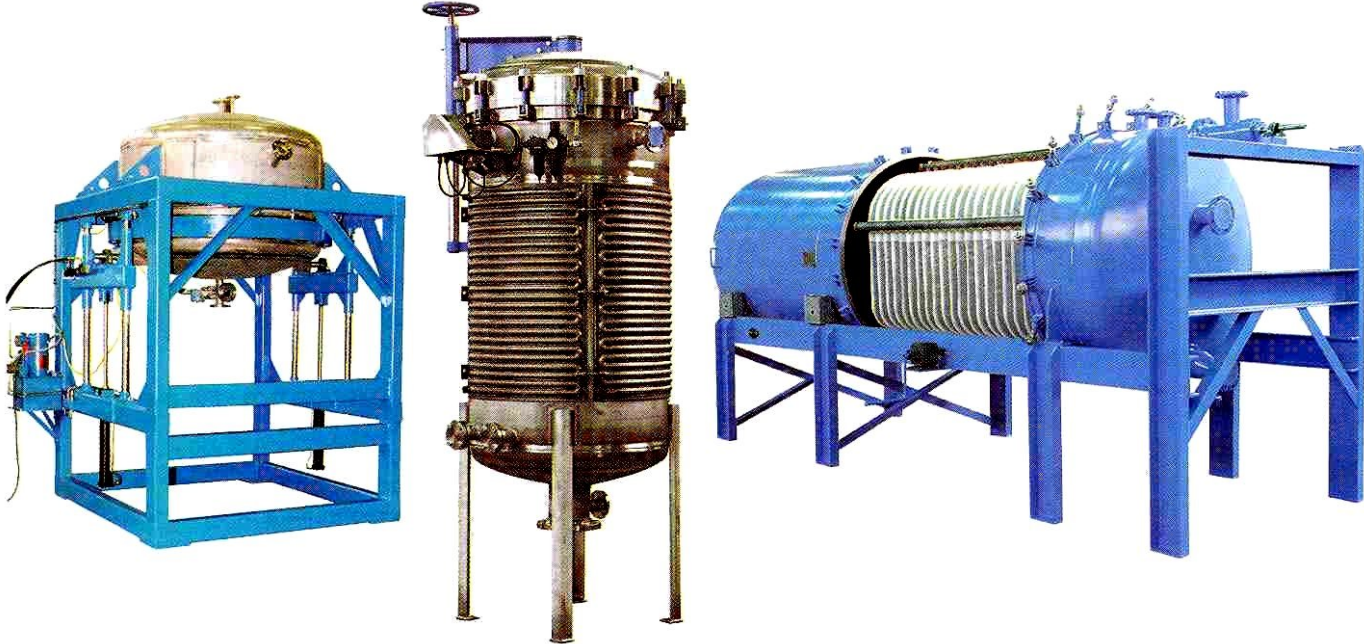
Pressure Leaf Filters

Tubular Backwashing Filters

Pressure Nutsches

Filter Presses

Sludge Dryers



Durco Industrial Filtration Applications

Food / Beverage

Juice	Vinegar
Beer	Wine
Sugar	Vegetable Oil
Cooking Oil (fry oil)	Sweeteners

Petro Refining/Production

Amine:
 MEA
 DEA
 TEG
 Catalyst Fines Removal

Metal Finishing/Steel

Pickle Liquor
 Electrolyte
 Electroplating Solution

Brine

Brine KCL, NaCl, Chlorate

Mining

Merrill Crowe Gold Recovery (Clarifiers)
 Soda Ash
 Pregnant Liquor (Solutions)
 * Copper
 * Nickel
 * Zinc
 * Moly
 * Lead

Acid

H2S04
 HCL
 Nitric
 Phosphoric
 Terephthalic Acid

Molten Sulfur

[Durco Pressure Leaf Filters For Molten Sulfur Filtration - pdf](#)

Various

Sodium Thiocyanate
 Sodium Hypochlorite
 Tallow
 Carbon Removal
 Fly Ash
 Condensate
 Catalyst Removal
 50% Sodium Hydroxide
 Sodium Silicate
 Potable Water
 Water Flooding (Produced Water)

Durco Industrial Filtration Equipment Field Service

Our Field Service Team travels the world to keep filtration systems performing at peak efficiency. Services offered include:

- System Startup
- Training
- Preventative Maintenance and Maintenance Contracts
- Emergency Repair and Service
- Equipment Upgrades and Refurbishments