Donaldson
FILTRATION SOLUTIONS

WATER ABSORPTION FILTERS

Industrial Hydraulics

Donaldson® water absorption filters quickly and effectively remove free water from hydraulic or lubrication systems. Using super absorbent polymer technology with a high affinity for water absorption, Donaldson water absorption filters alleviate many of the problems associated with water contamination.

Problems from water contamination:

- Corrosion
- Component seizure
- Microbial growth
- Additive dumping

Solution:

- Donaldson water absorption filters

Donaldson water absorption filters are capable of removing up to 2 liters of system damaging free water and are available in sizes that fit many Donaldson and competitive filter assemblies.

Cartridge and Spin-On Water Absorption Filters

FEATURES

BENEFITS

Fast, efficient free water removal	Greater uptime	Fewer maintenance hassles
Pressure drop indicates when to change filter	Longer component life	Lower energy consumption
No downstream migration of super absorbent polymer	Longer oil life	Greater machine efficiency

APPLICATIONS

Hydraulic system reservoirs	Lube system reservoirs	Multiple tanks
Gear boxes	Small storage tanks	Lube rooms

WATER ABSORPTION FILTERS

SPECIFICATIONS

	Part Number	Maximum Water Holding Capacity $C_{max(mL)}$	Fits Donaldson Head or Housing
Spin-Ons	P565062	90	SP15/25*
	P561183	350	HBK05, SP50/60*
	P560584	170	HMK04
	P179075	320	HMK05
Cartridges	P569527	250	TI25, WL16, W033, W451 (9")**
	P569528	130	HPK03, HPK04, FPK04, W061, W350, W620 (8")†
	P569529	220	FPK04, W061, W620 (13")†
	P569530	300	HPK04, W620 (16")†
	P569531	1800	HRK10
	P569532	800	6x18 standard industrial cartridge
	P569533	1000	W041, W042 (16")††
	P569534	2000	W041, W042 (39")††

Maximum Water Holding Capacity based on tests in ISO 46 hydraulic oil at low flow rate. High flow rates and viscosities will decrease performance.
Terminal pressure drop: 25 psid (172 KPa).
Free water removal only, particle removal: $\beta_{>30(c)} = 200$.

* Also fits many competitive spin-ons
** Also fits Schroeder K series
† Also fits Pall 9600 series
†† Also fits Pall 8300 series

For a complete cross reference, go to donaldson.com.

WATER REMOVAL EFFICIENCY

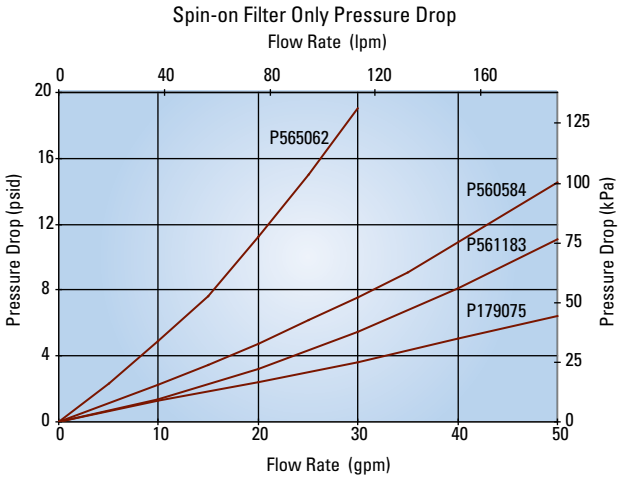
- Typical lifetime efficiency: 95% by mass
- >77% water removal in first volume change
- 95% water removal in 7½ volume changes
- No migration of super absorbent downstream

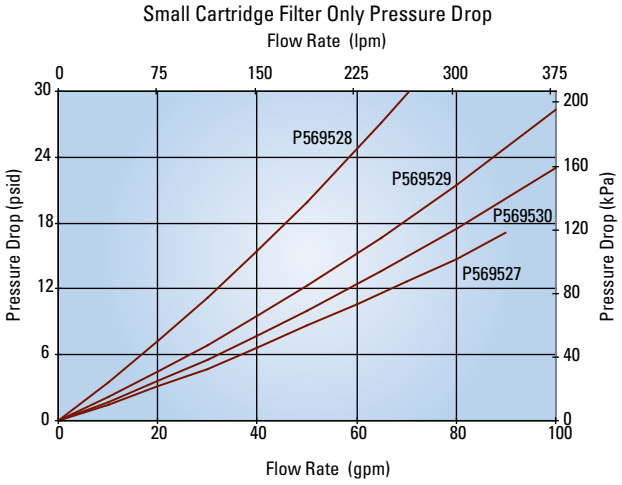
APPLICATION SIZING

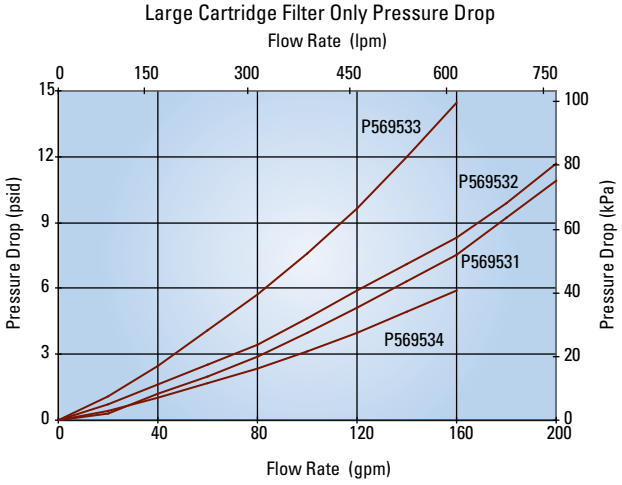
To estimate the number of filters of a particular model, first estimate the amount of water in your system using equation (1): where VH_2O is the estimate of the volume of water in liters, V_{oil} is the volume of oil in your system in liters, and ppm is the concentration of water in your system measured using Karl Fisher titration (usually found in your oil analysis report).

$$V_{H_2O} = V_{oil} \frac{ppm}{1{,}000{,}000} \quad (1) \qquad N = \frac{V_{H_2O}}{C} \quad (2)$$

Then calculate the number of filters required using equation (2): where N is the number of filters required and C is the maximum expected capacity of the filter from the table above. Make sure to use correct units as identified above.







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