



Mix&Match to Get What You Need

Donaldson's Mix&Match system provides the great performance and functional advantages of custom-engineered filters with the convenience and speedy delivery of in-stock parts. Choose your options and build a filter model that exactly suits your cleanliness requirements.

Technical Data

- Operating pressure up to 3,45 MPa (34,5 bar).
- Static pressure testing up to 6,9 MPa (69 bar).
- By-pass valve setting 170 kPa (1,7 bar) differential per ISO 3968.
- Available by-pass valve with setting 350 kPa (3,5 bar) differential.
- Operating temperature -20 +120°C.
- Pressure fatigue strength per NFPA T3.10.17 0 - 3,45 MPa (0-34,5 bar) for 100.000 cycles.
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop determined per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm³.

Filter Elements

- Operating pressure up to 3,45 MPa (34,5 bar).
- Static spin-on burst resistance 6,9 MPa (69 bar).
- Element collapse resistance 2 MPa (20 bar) per ISO 2941.
- Cellulose paper: 23 micron.
- Synteq® synthetic media: 7-11-33-50 micron.
- Heavy duty steel can with die cast baffle for added strength and a special head-to-spin-on O-ring seal.
- Available intermediate length spin-on L=180 mm.



Components

Family	CELLULOSE MEDIA		SYNTHETIC MEDIA						CARTRIDGE CODE		
	#10		#20		#7		XP10			XP5	
	$\beta_{23\mu m(c)} \geq 1000$		$\beta_{50\mu m(c)} \geq 1000$		$\beta_{33\mu m(c)} \geq 1000$		$\beta_{11\mu m(c)} \geq 1000$			$\beta_{7\mu m(c)} \geq 1000$	
RMF		RMF		RMF		RMF		RMF			
HMK405	100	P163419	120	P165335	110	P164381	110	P164375	100	P165354	K405
HMK409	110	P163324	140	P165338	130	P164384	130	P164378	120	P165332	K409

RMF = Recommended Maximum Flow in liters/minute with use of standard head.
BPV = Bypass Valve Setting.

Heads Choices



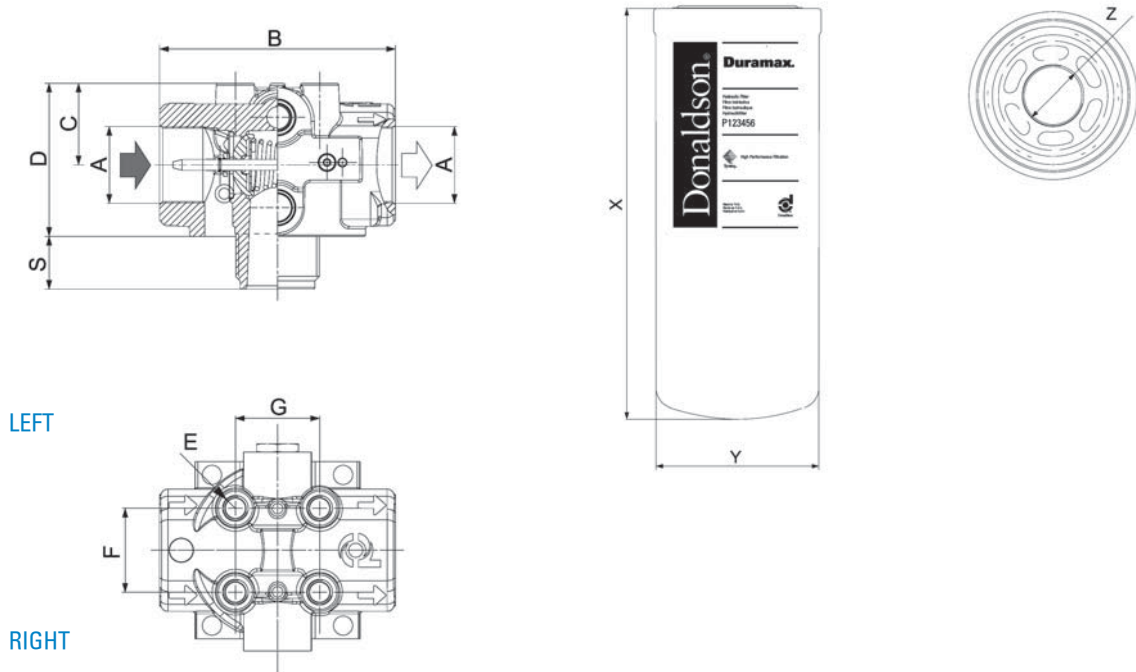
Head for Family	Head	Ports	Bypass Valve Setting	Indicator Info				Snout	Mounting holes
				Drilled holes for indicator	Indicator hole plugged	Side	Indicator to use		
HMK04	P167473	1 1/16-12 UN	1,7 bar	no	-	-	none	1 3/8-12 UNF	3/8-16 UNC
	P173918	1 1/16-12 UN	3,5 bar	plugged	yes	left	P165194, P167455, P171087, P170926 or P173893	1 3/8-12 UNF	3/8-16 UNC
	P764322	1 1/16-12 UN	3,5 bar	used	-	left	P165194 (installed)	1 3/8-12 UNF	3/8-16 UNC
	P762801	1 5/16-12 UN	1,7 bar	plugged	yes	left	P162400, P163839, P171143 or P173944	1 3/8-12 UNF	M10
	P761378	1 5/16-12 UN	2,5 bar	plugged	yes	left	P162400, P163839, P171143 or P173944	1 3/8-12 UNF	M10
	P763139	1 5/16-12 UN	3,5 bar	no	-	-	none	1 3/8-12 UNF	M10
	P173438*	G 1	1,7 bar	plugged	yes	left	P162400, P163839, P171143 or P173944	1 3/8-12 UNF	M10
	P766296	G 1	1,7 bar	plugged used	yes -	left left	P162400, P163839, P171143 or P173944 P162696 (installed)	1 3/8-12 UNF	M10
	P762982	G 1	3,5 bar	plugged	yes	left	P165194, P167455, P171087, P170926 or P173893	1 3/8-12 UNF	M10
	P173132	G 1	3,5 bar	used	no	left	P165194 (installed)	1 3/8-12 UNF	M10
	P760924	G 1	3,5 bar	used	-	left	P167455 (installed)	1 3/8-12 UNF	M10
	P173386*	G 3/4	1,7 bar	plugged	yes	left	P162400, P163839, P171143 or P173944	1 3/8-12 UNF	M10
	P762554	G 3/4	1,7 bar	no	-	-	none	1 3/8-12 UNF	M10
	P766295	G 3/4	1,7 bar	used	-	left	P162696 (installed)	1 3/8-12 UNF	M10
	P173385	G 3/4	3,5 bar	no	-	-	none	1 3/8-12 UNF	M10
	P175029	G 3/4	no opening	used	-	left	P165194 (installed)	1 3/8-12 UNF	M10

HMK 04 – Duramax Filters aren't delivered with drilled holes for indicators or bypass valve, heads are.
Unless otherwise mentioned, the usage of indicators is mandatory, because the drilled holes for indicators are not plugged.

* Standard Head



Standard Head	HEAD DIMENSIONS									SPIN-ON DIMENSIONS		
	A	B	C	D	E	F	G	S	BPV	X	Y	Z
		mm	mm	mm		mm	mm	mm	bar	mm	mm	
P173386	G3/4	98	34	64	M10	35	35	22	1,7	152	94	1 3/8-12 UNF 2B
P173438	G1	98	34	64	M10	35	35	22	1,7	240	94	1 3/8-12 UNF 2B

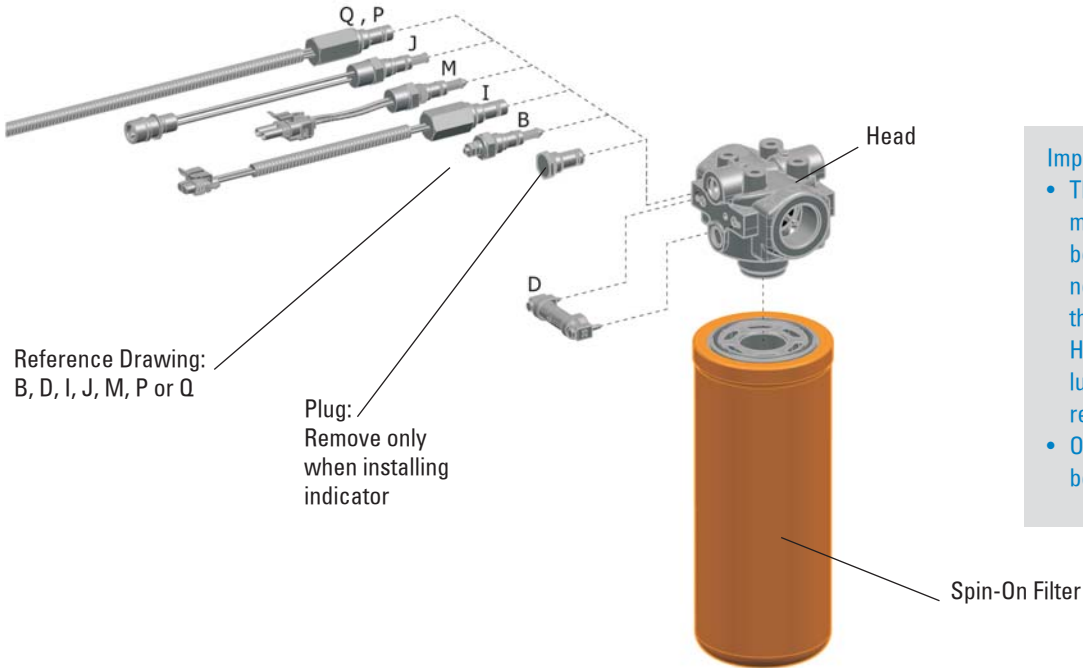


MEDIUM PRESSURE FILTERS

Indicator Choices

Indicator	Kind		Reference Drawing	Setting (bar)	Contact	Cable Clamp	Max. Values
P162400	Electrical	Differential	B	1,25	Normally Open		6-30 V DC; 200 mA
P163839	Electrical	Differential	B	1,25	Normally Closed		6-30 V DC; 200 mA
P165194	Electrical	Differential	B	2,75	Normally Open		30 V DC; 0,2A
P167455	Electrical	Differential	B	2,75	Normally Closed		30 V DC; 0,2A
P162696	Visual	Differential	D	1,7			
P167580	Visual	Differential	D	3,4			
P170926	Electrical	Differential	I	2,75	Normally Closed	Packard Connector	6-30 V DC; 100 mA
P171087	Electrical	Differential	M	2,75	Normally Open	Packard Connector	6-30 V DC; 200 mA
P171143	Electrical	Differential	J	1,25	Normally Open	Canon Connector	6-30 V DC; 200 mA
P173944	Electrical	Differential	Q	1,4	Normally Open or Closed	3 Wires	24V DC; 110 V AC; 2A
P173893	Electrical	Differential	P	2,75	Normally Open or Closed	3 Wires	6-30 V DC; 100 mA

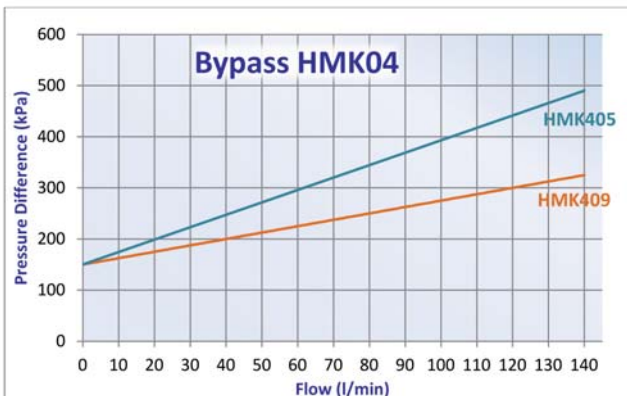
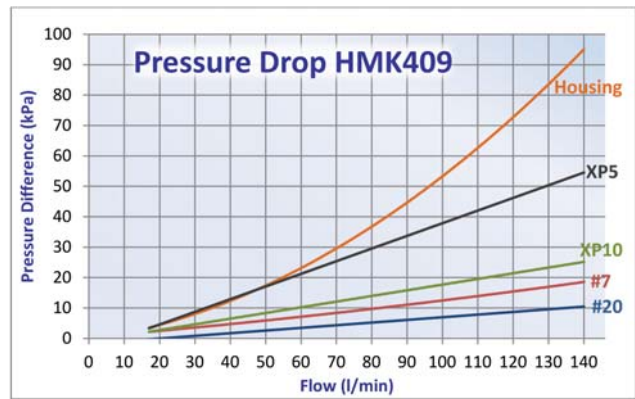
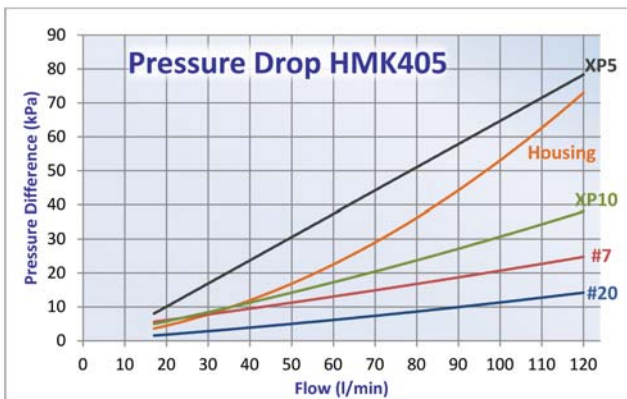
Installation & Service Guidelines



Important

- The filter head snout must be lubricated before spinning on a new filter to prevent thread damage. Heavyweight gear lube is recommended.
- Oil the O-Rings before assembly.

Performance Curves



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