

APPLICATIONS:

- » HVAC
- » POTABLE/WASTEWATER
- » PROCESS/INDUSTRIAL
- » AQUATIC FEATURES



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PUROFLUX

C O R P O R A T I O N
FILTRATION AND CONTROL SYSTEMS



Description of Operation: Hydrocyclone Separator

The basis for solid-liquid separation in the PF-60 series is the centrifugal forces created in the body of the separator. As the pressurized process carrying fluid¹ enters tangentially into the entrance chamber of the separator, it starts a downward helical flow. This downward spiral motion causes high centrifugal forces to act on the carrying fluid. The solids in suspension are pushed to the wall of the separator and then move downward to the accumulation chamber (underflow)² at the bottom of the separator. The clean process fluid then reverses its axial direction and moves upward in a helical flow exiting the separator (overflow)³.

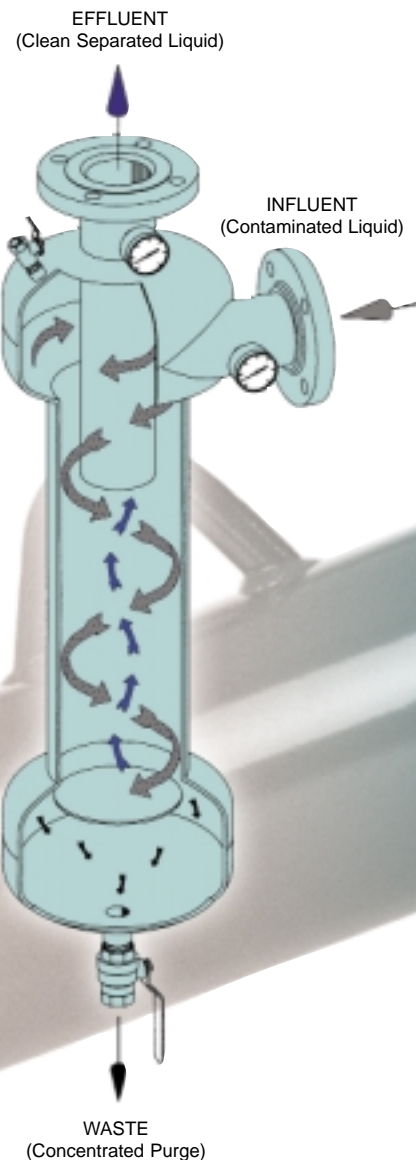
There are many factors that can contribute to the success of the solid-liquid separator. It is important to understand and consider several issues when installing a hydrocyclone separator on a process system: system flow, velocity of the process fluid through the separator, pressure loss, specific gravity of the carrying fluid and particulate to be removed, and the purge cycle.

It is vital that the velocity of the carrying fluid be kept high in order to develop centrifugal forces in the body of the separator. Puroflux separators are designed with varying flow rates to insure that the separator selected will perform as expected.

Flow rate versus pressure loss are given for various PF-60 series separators to aid in selection (see individual specification sheets). The ideal operating pressure drop through a Puroflux separator is between 4-10 psi.

It is also important to note that the specific gravity of the solid to be separated from the carrying fluid must be higher than the specific gravity of the carrying fluid. The greater the specific gravity of the contaminate, the higher the removal efficiency of the separator. Puroflux separators can remove particulate as low as 45 micron (nominal) with a specific gravity greater than 1.2 on a recirculating basis.

Purging is necessary to eliminate the high concentration of solids build-up in the separator's accumulation chamber and can be performed while the separator remains on-line. The level of contaminants in the process system will dictate the purge frequency and may warrant the use of an optional recovery system. If a recovery system is used, the separator will purge constantly at a low flow rate.



- 1 Carrying fluid: Process fluid which carries suspended particulate into the separator.
- 2 Underflow: Carrying fluid which contains high concentration of solids to be disposed.
- 3 Overflow: Clean process fluid which leaves the separator.



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PF-61 & PF-62 SERIES - Separator

Ref. S-61

- Available in flow rates from 6 to 12,000 GPM.
- Removes suspended particulate as low as 45 micron.
- 150 psi working pressure.
- Fusion bonded polyester coated carbon steel vessel.
- Accumulation chamber clean-out (std. on 4" unit and larger).
- True tangential entry.
- Industrial grade manual purge valve.
- 1/4" manual air bleed valve.
- 0-160 psi gauges on inlet/outlet.
- Options: Auto purge, higher pressure ratings, ASME code stamp and stainless steel construction available.



MODEL	FLOW RANGE	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	Size	Size	Gallons	L	H	W	Shipping	Oper.
PF-61-005	6 - 12	1/2" mpt	1/2" fpt	1	8"	32"	8"	17	26
PF-61-007	12 - 24	3/4" mpt	3/4" fpt	1	8"	32"	8"	18	28
PF-61-010	20 - 40	1" mpt	3/4" fpt	2	9"	34"	8"	25	38
PF-61-012	30 - 50	1 1/4" mpt	1" fpt	2	9"	37"	8"	26	39
PF-61-015	40 - 75	1 1/2" mpt	1" fpt	2	9"	37"	8"	27	40
PF-61-020	60 - 115	2" mpt	1" fpt	7	13"	45"	12"	74	125
PF-61-025	80 - 150	2 1/2" mpt	1" fpt	7	13"	45"	12"	77	130
PF-61-030	130 - 250	3" flng	1" fpt	7	14"	48"	13"	98	156
PF-61-040	250 - 475	4" flng	1 1/2" fpt	12	24"	58"	15"	175	275
PF-61-050	350 - 675	5" flng	1 1/2" fpt	19	25"	70"	16"	256	414
PF-61-060	645 - 1200	6" flng	1 1/2" fpt	32	28"	82"	18"	385	650
PF-61-080	850 - 1625	8" flng	1 1/2" fpt	52	30"	96"	20"	570	1002
PF-61-100	1600 - 3100	10" flng	2" fpt	98	38"	117"	25"	996	1809

Consult factory for larger sizes not shown.

PF-62 - Features Removable Dome

Ref. S-62



MODEL	FLOW RANGE	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	Size	Size	Gallons	L	H	W	Shipping	Oper.
PF-62-010	20 - 40	1" mpt	3/4" fpt	2	11"	36"	11"	67	80
PF-62-012	30 - 50	1 1/4" mpt	1" fpt	2	11"	39"	11"	69	82
PF-62-015	40 - 75	1 1/2" mpt	1" fpt	2	11"	39"	11"	70	83
PF-62-020	60 - 115	2" mpt	1" fpt	7	16"	46"	16"	180	234
PF-62-025	80 - 150	2 1/2" mpt	1" fpt	7	16"	46"	16"	182	236
PF-62-030	130 - 250	3" flng	1" fpt	7	18"	49"	16"	202	260
PF-62-040	250 - 475	4" flng	1 1/2" fpt	13	25"	60"	19"	335	443
PF-62-050	350 - 675	5" flng	1 1/2" fpt	21	26"	71"	21"	463	637
PF-62-060	645 - 1200	6" flng	1 1/2" fpt	34	29"	82"	24"	648	932
PF-62-080	850 - 1625	8" flng	1 1/2" fpt	56	31"	96"	25"	865	1330
PF-62-100	1600 - 3100	10" flng	2" fpt	107	38"	118"	28"	1415	2306

Consult factory for larger sizes not shown.

PF-63 SERIES - 150 PSI Package Recovery System

Ref. S-63

- Available in flow rates from 40 to 1,200 GPM.
- Standard unit equipped with PF-61 series separator.
- Recovery vessel - fusion bonded epoxy lined/polyester coated carbon steel vessel with hinged T-bolt cover, stainless steel support basket, 25 micron bag, pressure differential gauge and manual air relief valve.
- Close coupled, end suction centrifugal pump & TEFC motor.
- Cast iron pre-strainer with removable SST basket.
- Control Panel - NEMA 4X fiberglass enclosure with motor start/stop and short circuit/overload protection.
- Skid - fusion bonded polyester coated carbon steel.
- Sch. 80 PVC interconnecting piping, includes flow controller and isolation ball valves.
- Options: Auto purge, pump HOA switch, dry contact for alarm, removable dome, 22 1/2" profile.



MODEL	FLOW RATE	MOTOR	CONNECTION		VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	HP	Inlet	Outlet	Gallons	L	H	W	Shipping	Oper.
PF-63-012	40	1.5	2" flng	1 1/4" mpt	8	33"	41"	28"	288	356
PF-63-015	65	2	2" flng	1 1/2" mpt	8	33"	41"	28"	290	358
PF-63-020	100	3	2" flng	2" mpt	13	35"	48"	30"	365	475
PF-63-025	150	5	2 1/2" flng	2 1/2" mpt	14	38"	48"	30"	403	515
PF-63-030	200	5	3" flng	3" flng	15	40"	50"	30"	452	572
PF-63-040A	280	7.5	4" flng	4" flng	26	46"	62"	38"	635	852
PF-63-040B	400	10	4" flng	4" flng	26	52"	62"	38"	755	983
PF-63-050	550	15	6" flng	5" flng	36	60"	74"	43"	1088	1560
PF-63-060A	880	20	6" flng	6" flng	53	66"	86"	45"	1495	1935
PF-63-060B	1200	25	8" flng	6" flng	53	72"	86"	49"	1615	2055

PF-64 SERIES - 150 PSI Pump Package System

Ref. S-64

- Available in flow rates from 40 to 1,200 GPM.
- Standard unit equipped with PF-61 series separator.
- Close coupled, end suction centrifugal pump & TEFC motor.
- Control panel - NEMA 4X fiberglass enclosure with motor start/stop and short circuit/overload protection.
- Skid - fusion bonded polyester coated carbon steel.
- Sch. 80 PVC interconnecting piping.
- Automatic purge complete with electrically actuated industrial grade ball valve and adjustable purge timer.
- Options: Manual purge, cast iron pre-strainer, pump HOA switch, removable dome, 22 1/2° profile.



MODEL	FLOW RATE	MOTOR	CONNECTION		PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	HP	Inlet	Outlet	Size	Gallons	L	H	W	Shipping	Oper
PF-64-012	40	1.5	2" fpt	1 1/4" mpt	1" fpt	2	28"	41"	26"	176	192
PF-64-015	65	2	2" fpt	1 1/2" mpt	1" fpt	2	28"	41"	26"	178	194
PF-64-020	100	3	2" fpt	2" mpt	1" fpt	7	32"	48"	28"	258	315
PF-64-025	150	5	2 1/2" fpt	2 1/2" mpt	1" fpt	8	31"	48"	30"	285	346
PF-64-030	200	5	3" fpt	3" fng	1" fpt	8	33"	50"	30"	332	398
PF-64-040A	280	7.5	3" fpt	4" fng	1 1/2" fpt	15	45"	62"	39"	439	565
PF-64-040B	400	10	3" fng	4" fng	1 1/2" fpt	15	51"	62"	39"	490	617
PF-64-050	550	15	6" fng	5" fng	1 1/2" fpt	24	52"	62"	39"	816	1016
PF-64-060A	880	20	6" fng	6" fng	1 1/2" fpt	40	60"	86"	45"	1037	1369
PF-64-060B	1200	25	6" fng	6" fng	1 1/2" fpt	40	60"	86"	45"	1157	1489

PF-64 LP SERIES - 50 PSI Pump Package System

Ref. S-64LP

- Available in flow rates from 40 to 100 GPM.
- Standard unit equipped with PF-61 series separator.
- Close coupled, bronze constructed centrifugal pump, TEFC motor and Noryl pre-strainer with clear lid.
- Control panel - NEMA 4X fiberglass enclosure with motor start/stop and short circuit/overload protection.
- Sch. 80 PVC interconnecting piping.
- Automatic purge complete with electrically actuated industrial grade ball valve and adjustable purge timer.
- Skid - fusion bonded polyester coated carbon steel.
- Options: Manual purge, pump HOA switch, removable dome.



MODEL	FLOW RATE	MOTOR	CONNECTION		PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	HP	Inlet	Outlet	Size	Gallons	L	H	W	Shipping	Oper.
PF-64LP-012	40	1	2" fpt	1 1/4" mpt	1" fpt	2	30"	40"	26"	119	135
PF-64LP-015	65	2	2" fpt	1 1/2" mpt	1" fpt	2	30"	40"	26"	134	150
PF-64LP-020	100	2	2" fpt	2" mpt	1" fpt	7	34"	48"	30"	200	258

PF-65 & PF-66 SERIES - 22 1/2° Separator

Ref. S-65

- Available in flow rates from 250 to 12,000 GPM.
- Removes suspended particulate as low as 45 micron.
- 150 psi working pressure.
- Fusion bonded polyester coated carbon steel vessel.
- Accumulation chamber clean-out standard.
- True tangential entry.
- Industrial grade manual purge valve.
- 1/4" manual air bleed valve.
- 0-160 psi gauges on inlet/outlet.
- Options: Auto purge, higher pressure ratings, ASME code stamp and stainless steel construction available.



MODEL	FLOW RANGE	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	Size	Size	Gallons	L	H	W	Shipping	Oper.
PF-65-040	250 - 475	4" flng	1 1/2" fpt	12	55"	49"	30"	200	300
PF-65-050	350 - 675	5" flng	1 1/2" fpt	19	63"	53"	30"	278	436
PF-65-060	645 - 1200	6" flng	1 1/2" fpt	32	74"	58"	30"	410	675
PF-65-080	850 - 1625	8" flng	1 1/2" fpt	52	87"	69"	40"	625	1056
PF-65-100	1600 - 3100	10" flng	2" fpt	98	104"	82"	40"	1056	1870

Consult factory for larger sizes not shown.

PF-66 - Features Removable Dome

Ref. S-66



MODEL	FLOW RANGE	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	Size	Size	Gallons	L	H	W	Shipping	Oper.
PF-66-040	250 - 475	4" flng	1 1/2" fpt	13	55"	50"	30"	360	468
PF-66-050	350 - 675	5" flng	1 1/2" fpt	21	63"	54"	30"	485	660
PF-66-060	645 - 1200	6" flng	1 1/2" fpt	34	74"	60"	30"	670	952
PF-66-080	850 - 1625	8" flng	1 1/2" fpt	56	87"	70"	40"	922	1387
PF-66-100	1600 - 3100	10" flng	2" fpt	107	104"	83"	40"	1480	2368

Consult factory for larger sizes not shown.