



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.

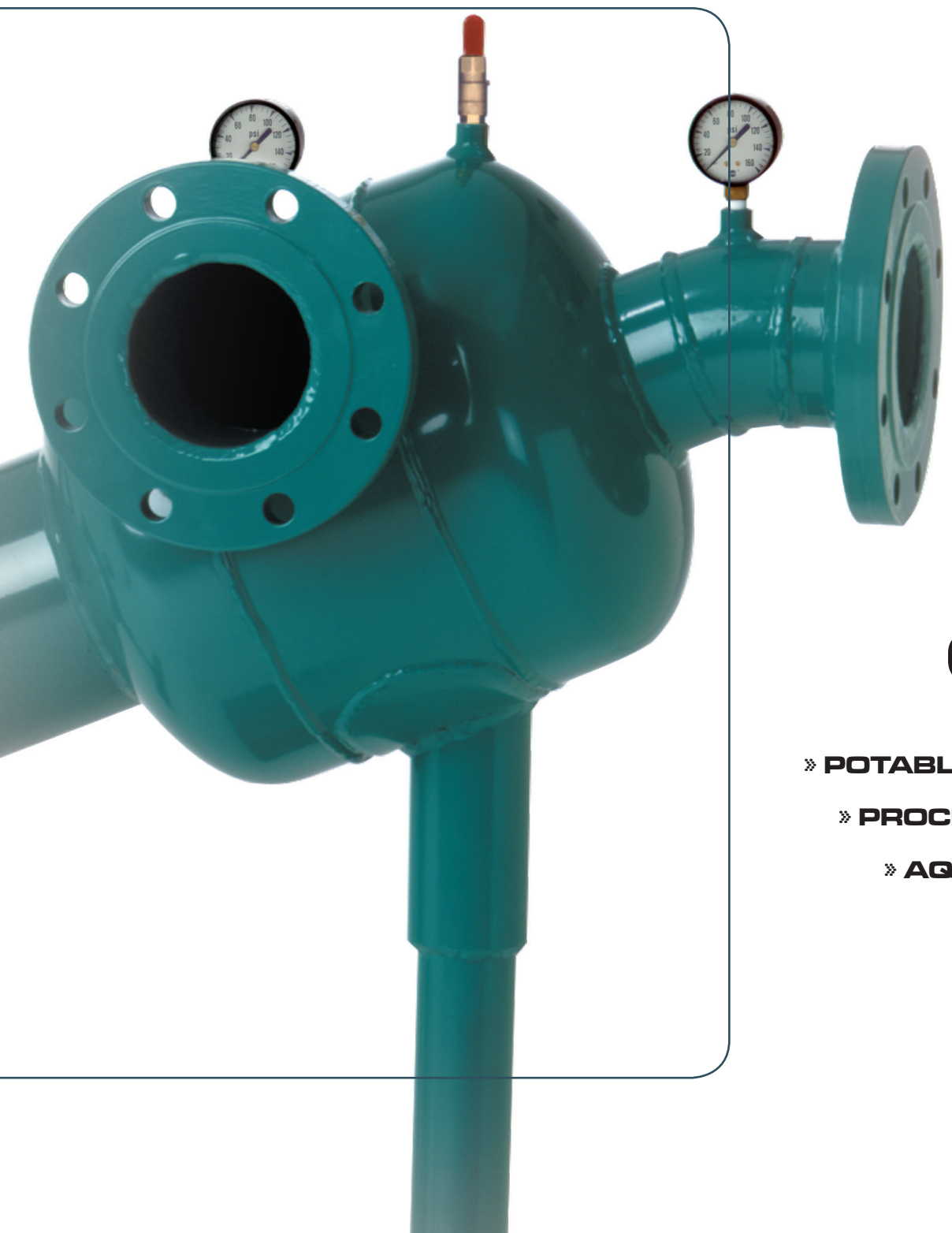
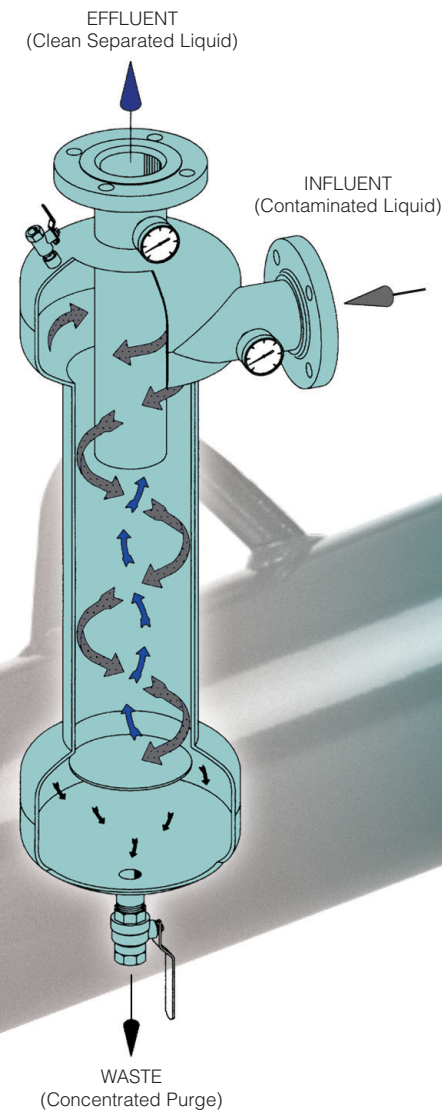
There are many factors that can contribute to the success of the solid-liquid separator. It is important to understand and consider several issues when installing a hydrocyclone separator on a process system: system flow, velocity of the process fluid through the separator, pressure loss, specific gravity 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 be expected to remove particulate as low as 25-micron (nominal) with a specific gravity of 2.6 and higher 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 contaminates 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.



APPLICATIONS:

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

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.

PF-61 & PF-62 SERIES - Separator

Ref. PF-61

- Available in flow rates from 6 to 18,000 GPM.
- Particle removal efficiencies of 98% at 74-microns and larger expected on a single pass.
- 150 psi working pressure.
- Fusion bonded polyester coated carbon steel vessel.
- Accumulation chamber clean-out & legs (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"	34"	8"	18	28
PF-61-010	20 - 45	1" mpt	3/4" fpt	2	9"	33"	8"	25	38
PF-61-012	35 - 70	1 1/4" mpt	1" fpt	2	9"	36"	8"	26	39
PF-61-015	50 - 100	1 1/2" mpt	1" fpt	2	9"	39"	8"	27	40
PF-61-020	65 - 135	2" mpt	1" fpt	7	12"	48"	12"	74	125
PF-61-025	100 - 200	2 1/2" mpt	1" fpt	7	12"	48"	12"	77	130
PF-61-030	160 - 315	3" flng	1" fpt	7	14"	45"	13"	98	156
PF-61-040	220 - 440	4" flng	1 1/2" fpt	12	24"	59"	15"	175	275
PF-61-050	375 - 750	5" flng	1 1/2" fpt	19	25"	70"	16"	256	414
PF-61-060	620 - 1245	6" flng	1 1/2" fpt	32	28"	82"	18"	385	650
PF-61-080	1170 - 2355	8" flng	1 1/2" fpt	52	30"	96"	20"	570	1002
PF-61-100	1965 - 3930	10" flng	2" fpt	98	38"	117"	25"	996	1809

Consult factory for larger sizes not shown.

PF-62 - Features Removable Dome

Ref. PF-62



MODEL	FLOW RANGE	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	Size	Size	Gallons	L	H	W	Shipping	Oper.
PF-62-010	20 - 45	1" mpt	3/4" fpt	2	11"	33"	11"	67	80
PF-62-012	35 - 70	1 1/4" mpt	1" fpt	2	11"	36"	11"	69	82
PF-62-015	50 - 100	1 1/2" mpt	1" fpt	2	11"	39"	11"	70	83
PF-62-020	65 - 135	2" mpt	1" fpt	7	12"	48"	16"	180	234
PF-62-025	100 - 200	2 1/2" mpt	1" fpt	7	12"	48"	16"	182	236
PF-62-030	160 - 315	3" flng	1" fpt	7	18"	45"	16"	202	260
PF-62-040	220 - 440	4" flng	1 1/2" fpt	13	25"	59"	19"	335	443
PF-62-050	375 - 750	5" flng	1 1/2" fpt	21	26"	71"	21"	463	637
PF-62-060	620 - 1245	6" flng	1 1/2" fpt	34	29"	82"	24"	648	932
PF-62-080	1170 - 2355	8" flng	1 1/2" fpt	56	31"	96"	25"	865	1330
PF-62-100	1965 - 3930	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. PF-63

- Available in flow rates from 50 to 1,670 GPM.
- Standard unit equipped with PF-61 series separator.
- Recovery vessel - 304 stainless steel construction, stainless steel support basket, 25 micron bag, swing type eye-bolt cover, pressure differential gauge, manual air relief valve, flow controller and isolation ball valves.
- Cast iron bronze fitted, close-coupled end suction centrifugal pump with TEFC motor.
- Cast iron pre-strainer with removable SST basket.
- Control Panel - UL labeled NEMA type 4X cabinet with door disconnect switch, motor starter with short circuit/overload protection and pump HOA switch.
- Skid - fusion bonded polyester coated carbon steel.
- Sch. 80 PVC interconnecting piping.
- Options: Auto purge, dry contact alarm for recovery vessel, removable dome, 22 1/2° profile separator.



MODEL	FLOW RATE	MOTOR	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	HP	Inlet	Outlet	Gallons	L	H	W	Shipping	Oper.
PF-63-012	50	2	2" flng	1.25" mpt	8	35"	42"	28"	370	438
PF-63-015	80	3	2" flng	1.5" mpt	8	35"	42"	28"	372	440
PF-63-020	110	5	3" flng	2" mpt	13	40"	50"	34"	530	640
PF-63-025	160	5	3" flng	2.5" mpt	14	40"	50"	34"	640	752
PF-63-030	220	7.5	3" flng	3" flng	15	40"	51"	34"	689	809
PF-63-040A	330	10	4" flng	4" flng	26	56"	63"	36"	835	1027
PF-63-040B	400	10	4" flng	4" flng	26	56"	63"	36"	955	1158
PF-63-050	600	15	6" flng	5" flng	36	61"	75"	42"	1335	1782
PF-63-060A	900	20	6" flng	6" flng	53	61"	88"	46"	1742	2157
PF-63-060B	1200	25	8" flng	6" flng	53	64"	88"	46"	1858	2277
PF-63-080	1670	30	10" flng	8" flng	80	78"	102"	54"	2095	2838

Consult factory for alternate flows not listed.

PF-64 & PF-64H SERIES - 150 PSI Pump Package System

Ref. PF-64

- Available in flow rates from 50 to 1,670 GPM.
- Standard unit equipped with PF-61 series separator.
- Cast iron bronze fitted, close-coupled end suction centrifugal pump with TEFC motor.
- Std. units @ 60' TDH, "H" units @ 100' TDH (nominal)
- Cast iron pre-strainer with removable SST basket.
- Skid - fusion bonded polyester coated carbon steel.
- Sch. 80 PVC interconnecting piping.
- Control Panel - UL labeled NEMA type 4X cabinet with door disconnect switch, motor starter with short circuit/overload protection, adjustable purge timer, purge and pump HOA switches.
- Automatic purge complete with electrically actuated industrial grade ball valve.
- Options: Manual purge, removable dome, 22 1/2° profile separator.



MODEL	FLOW RATE	MOTOR HP	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS		
Number	GPM	Std / H	Inlet	Outlet	Size	Gallons	L	H	W	Shipping	Oper.
PF-64-012	50	2 / 5	2" flng	1.25" mpt	1" fpt	2	30"	42"	28"	314	330
PF-64-015	80	3 / 5	2" flng	1.5" mpt	1" fpt	2	30"	42"	28"	316	332
PF-64-020	110	5 / 7.5	3" flng	2" mpt	1" fpt	7	32"	50"	34"	380	437
PF-64-025	160	5 / 7.5	3" flng	2.5" mpt	1" fpt	8	32"	50"	34"	530	591
PF-64-030	220	7.5 / 10	3" flng	3" flng	1" fpt	8	33"	51"	34"	577	643
PF-64-040A	330	10 / 15	4" flng	4" flng	1.5" fpt	15	40"	63"	36"	800	926
PF-64-040B	400	10 / 15	4" flng	4" flng	1.5" fpt	15	40"	63"	36"	861	968
PF-64-050	600	15 / 20	6" flng	5" flng	1.5" fpt	24	47"	75"	42"	1045	1245
PF-64-060A	900	20 / 30	6" flng	6" flng	1.5" fpt	40	49"	88"	46"	1400	1732
PF-64-060B	1200	25 / 40	8" flng	6" flng	1.5" fpt	40	55"	88"	46"	1520	1852
PF-64-080	1670	30 / 50	10" flng	8" flng	1.5" fpt	78	72"	102"	54"	1860	2838

Consult factory for alternate flows not listed.

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

Ref. PF-65

- Available in flow rates from 220 to 18,000 GPM.
- Particle removal efficiencies of 98% at 74-microns and larger expected on a single pass.
- 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	220 - 440	4" flng	1 1/2" fpt	12	55"	49"	30"	200	300
PF-65-050	375 - 750	5" flng	1 1/2" fpt	19	63"	53"	30"	278	436
PF-65-060	620 - 1245	6" flng	1 1/2" fpt	32	74"	58"	30"	410	675
PF-65-080	1170 - 2355	8" flng	1 1/2" fpt	52	87"	69"	40"	625	1056
PF-65-100	1965 - 3930	10" flng	2" fpt	98	104"	82"	40"	1056	1870

Consult factory for larger sizes not shown.

PF-66 - Features Removable Dome

Ref. PF-66



MODEL	FLOW RANGE	CONNECTION	PURGE	VOLUME	DIMENSIONS			WEIGHT, LBS	
Number	GPM	Size	Size	Gallons	L	H	W	Shipping	Oper.
PF-66-040	220 - 440	4" flng	1 1/2" fpt	13	55"	50"	30"	360	468
PF-66-050	375 - 750	5" flng	1 1/2" fpt	21	63"	54"	30"	485	660
PF-66-060	620 - 1245	6" flng	1 1/2" fpt	34	74"	60"	30"	670	952
PF-66-080	1170 - 2355	8" flng	1 1/2" fpt	56	87"	70"	40"	922	1387
PF-66-100	1965 - 3930	10" flng	2" fpt	107	104"	83"	40"	1480	2368

Consult factory for larger sizes not shown.

All weights and dimensions are approximates.

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