

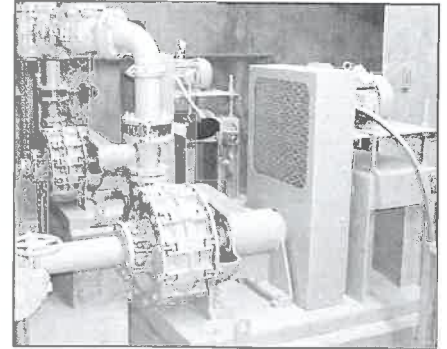
# WEMCO® Hydrogritter® Components

The Hydrogritter components are designed as a system to optimize each piece of equipment - both mechanically and hydraulically - to consistently produce long-term, high performance grit removal automatically with unmatched reliability and low operating and maintenance costs!

**WEMCO Model C or CE Torque-Flow Pump** - The industry standard for nearly 60 years.

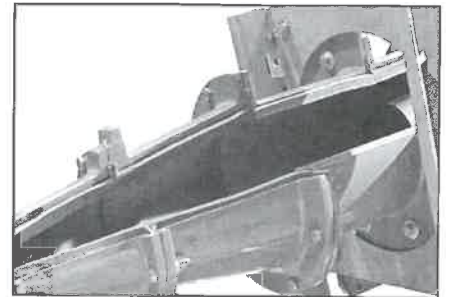
The grit pump's job is to pump the abrasive, destructive grit slurry to the cyclone without clogging or wearing out. The WEMCO Model C severe duty pump for continuous duty or the Model CE heavy duty are superbly designed to do so, and features:

- A recessed impeller that pumps pipe-size solids - truly clog free performance.
- 650 Brinell Ni-Hard or High Chrome material with 1" thick wear sections.
- Cup-type impeller that actually improves the pump's hydraulic performance as wear occurs.
- Robust mechanical design for years and years of trouble/maintenance-free performance.



**WEMCO Cyclone** - Efficient grit separation & concentration

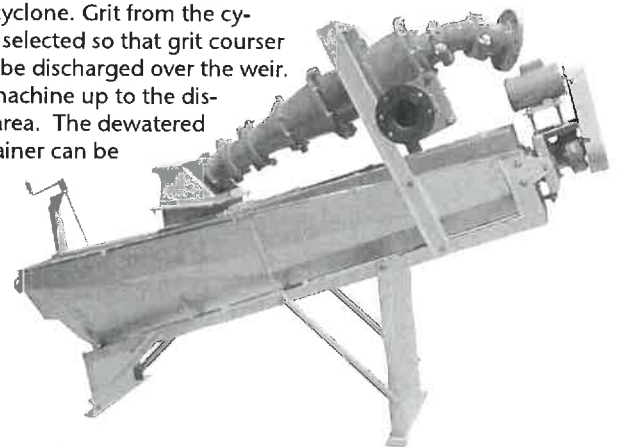
The cyclone's job is to both concentrate the grit and reduce the volume of liquid so that a smaller and more economical/efficient classifier can be used. The slurry from the pump is converted to rotational motion as it enters the cyclone inlet head. The resulting centrifugal force acts on the grit particles, driving them to the cyclone wall where they migrate down the decreasing diameter sections of the unit, eventually discharging through the cyclone apex. The degritted effluent exits the top of the cyclone through an opening called the vortex finder and is returned to the plant. Since the cyclone must also handle concentrated grit, its design, just like the Model C pump, is built to handle it:



- The interior of the cyclone is completely lined with heavy-sectioned natural or neoprene rubber for maximum abrasion resistance - just like they are for mining applications.
- The efficient in-volute inlet head requires only low pressure feed from the pump because it minimizes turbulence and short circulating. Cyclone pressure is directly related to the pump's speed, so low inlet pressure results in low pump speeds and less pump wear.
- A quick disconnect on the apex discharge assembly allows easy and rapid access for inspection or in case an oversized object needs to be cleared.

**WEMCO Classifier** - Optimum grit capture and dewatering. Built for decades of service.

The classifier's job is to wash, dewater, and discharge the grit captured by the cyclone. Grit from the cyclone's apex is introduced into the pool area of the classifier at a specific point, selected so that grit coarser than 150 mesh will settle but organics and finer grit will stay in suspension and be discharged over the weir. The spiral conveyor moves the grit from the pool area at the lower end of the machine up to the discharge point at the top, allowing it to dewater as it transverses the dry incline area. The dewatered product is discharged at a high enough elevation that most any receiving container can be used, making final disposal convenient. The classifier is also built - just as the Model C pump and cyclone are - to handle tough grit!



- Bullet-proof power train. The spiral is completely supported by bearings at the top and bottom ends.
  - Exclusive grit-proof lower bearing requires only yearly inspection, no periodic maintenance required.
  - Cyclodrive® roller reducer - provides unmatched reliability and overload/shock tolerance. Again, no periodic maintenance, only yearly inspection.
- Heavy-walled spiral shaft, with protective wear shoes, up to 3/4" Ni-Hard in larger sizes.
- No tank wear. Since the spiral is completely suspended between two bearings, it can operate with a bed of sand between the screw and the tank, improving dewatering and eliminating tank wear common with shaft less conveyors.
- No need for installed spares! Nearly 60 years of absolute reliable service has proven there is no need for the added cost of an installed spare classifier.

# Weir Specialty Pumps has the right pump for the job with its WEMCO® Brand Pumps & Equipment

Large Solids, Abrasive Solids, High Efficiency, Self-Priming, Non-Clog or Chopping

**• Raw Sewage**

Lift stations, collection basins, CSO discharges, headworks, and our prerotation system skims and cleans the wet-well, too!

**• Screenings/Septage**

Pumps and/or chops raw concentrated solids, stringy materials, latex, organics, plastics, hair, or rags.

**• Clarifier Scum Pits**

Pumps and/or chops primary or secondary scum.

**• Primary Sludge**

Our abrasion-resistant WEMCO® Torque-Flow recessed impeller pumps are the right choice.

**• Return-Activated & Waste-Activated Sludge**

Nothing better than our high-efficiency, solids handling WEMCO®-Hidrostal® screw centrifugal pumps.

**• Digester Service**

- Mixing
- High efficiency WEMCO®-Hidrostal® pumps for the lowest life-cycle costs of any pump available for this application.
- Our WEMCO® Chop-Flow pump for those services with nozzles to mix the digester.
- Heat Exchanger Circulation - Through the heat exchanger, either our WEMCO® Torque-Flow or WEMCO®-Hidrostal® pump, depending on the flow rate required, or the WEMCO® Chop-Flow pump if chopping is required.
- Transfer – Great application for the WEMCO® Chop-Flow pump. Chops and conditions sludge before going to dewatering. For larger flows, the WEMCO®-Hidrostal® pump is a cost-effective solution.

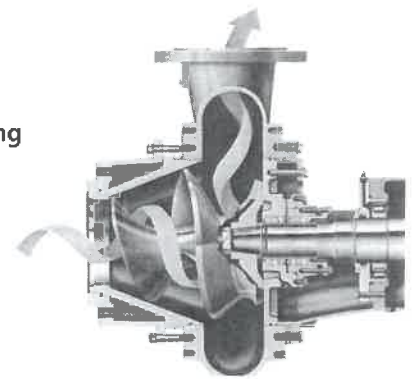
**• Thickened Sludge**

Any of our WEMCO® pumps for gravity-thickened sludges depending on the flow and amount of abrasives present.

*New Product*



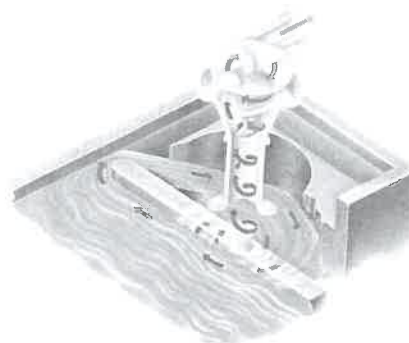
WEMCO® Non-Clog Pumps



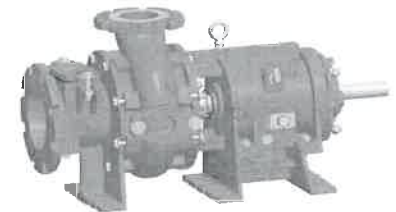
WEMCO®-Hidrostal® Screw Centrifugal Pumps



WEMCO® Self-Primer Pumps



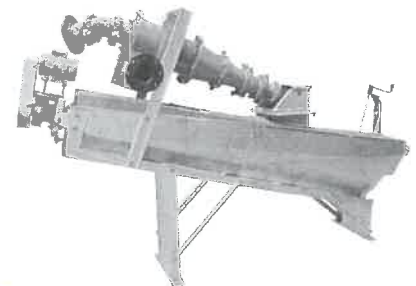
WEMCO®-Hidrostal Prerotation System



WEMCO® Chop-Flow Pumps



WEMCO® Torque-Flow® Model



WEMCO® Hydrogritter™ Grit Removal System

**Weir Specialty Pumps**

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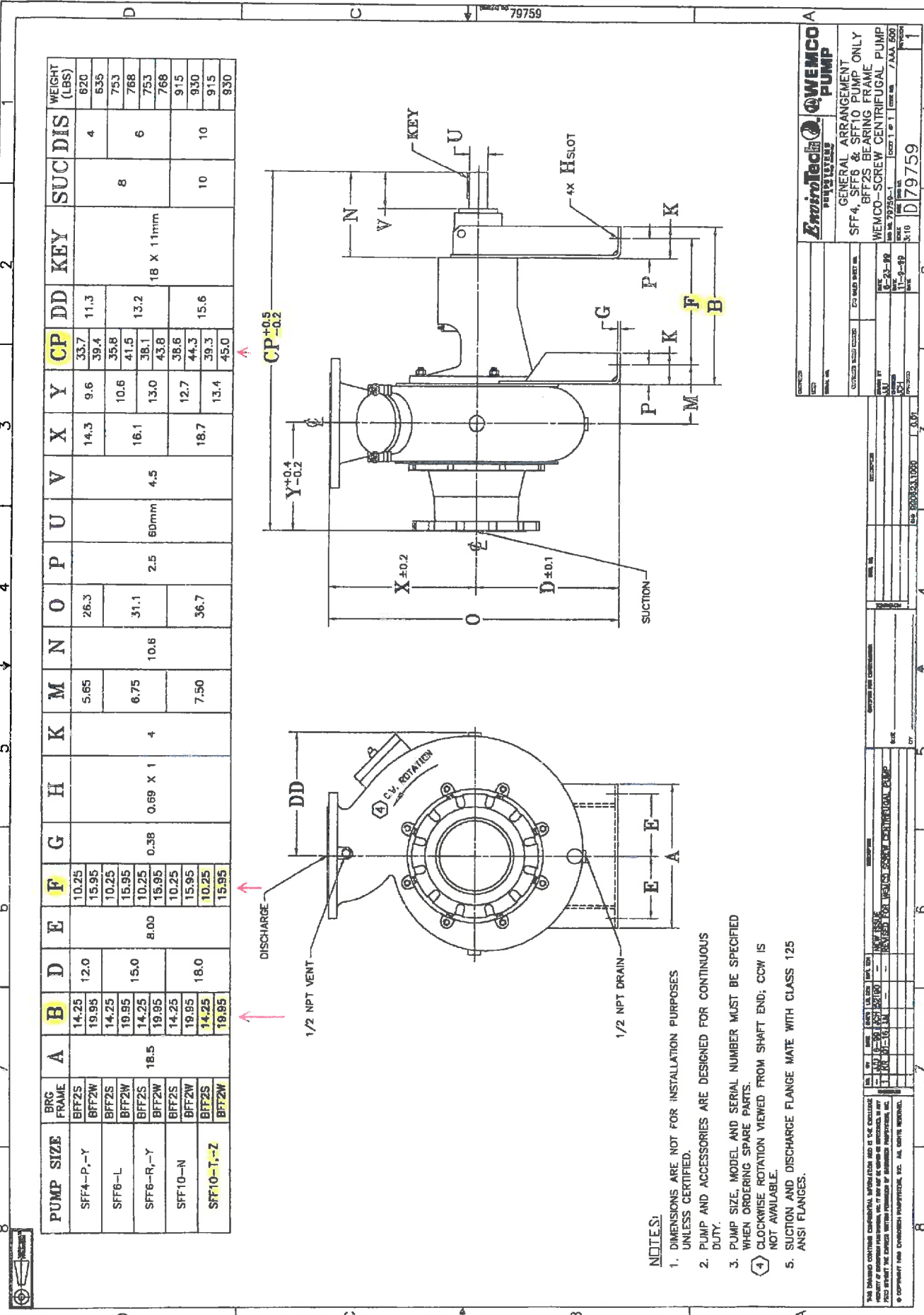
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Excellent  
 Engineering  
 Solutions



THIS DRAWING HAS A CORRESPONDING SHEET FILE. UPDATE AND WHEN REVISING THIS DRAWING.



PUMP SIZE	BRG FRAME	A	B	D	E	F	G	H	K	M	N	O	P	U	V	X	Y	CP	DD	KEY	SUC DIS	WEIGHT (LBS)
SFF4-P-Y	BFF2S	14.25	12.0	10.25	5.65	10.25	0.38	0.89	4	10.8	26.3	2.5	60mm	4.5	14.3	9.6	33.7	11.3	8	4	620	
	BFF2W	19.95	12.0	15.95	5.65	10.25	0.38	0.89	4	10.8	31.1	2.5	60mm	4.5	16.1	10.6	35.8	13.2	8	4	535	
SFF6-L	BFF2W	19.95	15.0	15.95	6.75	15.95	0.38	0.89	4	10.8	31.1	2.5	60mm	4.5	16.1	10.6	41.5	13.2	8	6	768	
	BFF2S	14.25	15.0	10.25	8.00	10.25	0.38	0.89	4	10.8	31.1	2.5	60mm	4.5	16.1	13.0	38.1	13.2	8	6	753	
SFF6-R-Y	BFF2W	19.95	18.0	15.95	7.50	15.95	0.38	0.89	4	10.8	36.7	2.5	60mm	4.5	18.7	12.7	44.3	15.6	10	10	915	
	BFF2S	14.25	18.0	10.25	7.50	10.25	0.38	0.89	4	10.8	36.7	2.5	60mm	4.5	18.7	13.4	45.0	15.6	10	10	930	
SFF10-N	BFF2W	19.95	18.0	15.95	7.50	15.95	0.38	0.89	4	10.8	36.7	2.5	60mm	4.5	18.7	12.7	44.3	15.6	10	10	915	
	BFF2S	14.25	18.0	10.25	7.50	10.25	0.38	0.89	4	10.8	36.7	2.5	60mm	4.5	18.7	13.4	45.0	15.6	10	10	930	

DISCHARGE

1/2 NPT VENT

1/2 NPT DRAIN

4 C.V. ROTATION

- NOTES:
1. DIMENSIONS ARE NOT FOR INSTALLATION PURPOSES UNLESS CERTIFIED.
  2. PUMP AND ACCESSORIES ARE DESIGNED FOR CONTINUOUS DUTY.
  3. PUMP SIZE, MODEL AND SERIAL NUMBER MUST BE SPECIFIED WHEN ORDERING SPARE PARTS.
  4. CLOCKWISE ROTATION VIEWED FROM SHAFT END; CCW IS NOT AVAILABLE.
  5. SUCTION AND DISCHARGE FLANGE MATE WITH CLASS 125 ANSI FLANGES.

**Zwrotec** **WEMCO PUMP**

GENERAL ARRANGEMENT  
SFF 4, SFF 6 & SFF 10 PUMP ONLY  
BFF 2S BEARING FRAME  
WEMCO-SCREW CENTRIFUGAL PUMP

DATE: 11-8-89  
REV: 11-8-89  
SCALE: 3:16  
D79759

NO.	REV.	DATE	BY	CHKD.	DESCRIPTION
1		11-8-89			REVISED FOR WEMCO SCREW CENTRIFUGAL PUMP

