

PRO-GUARD

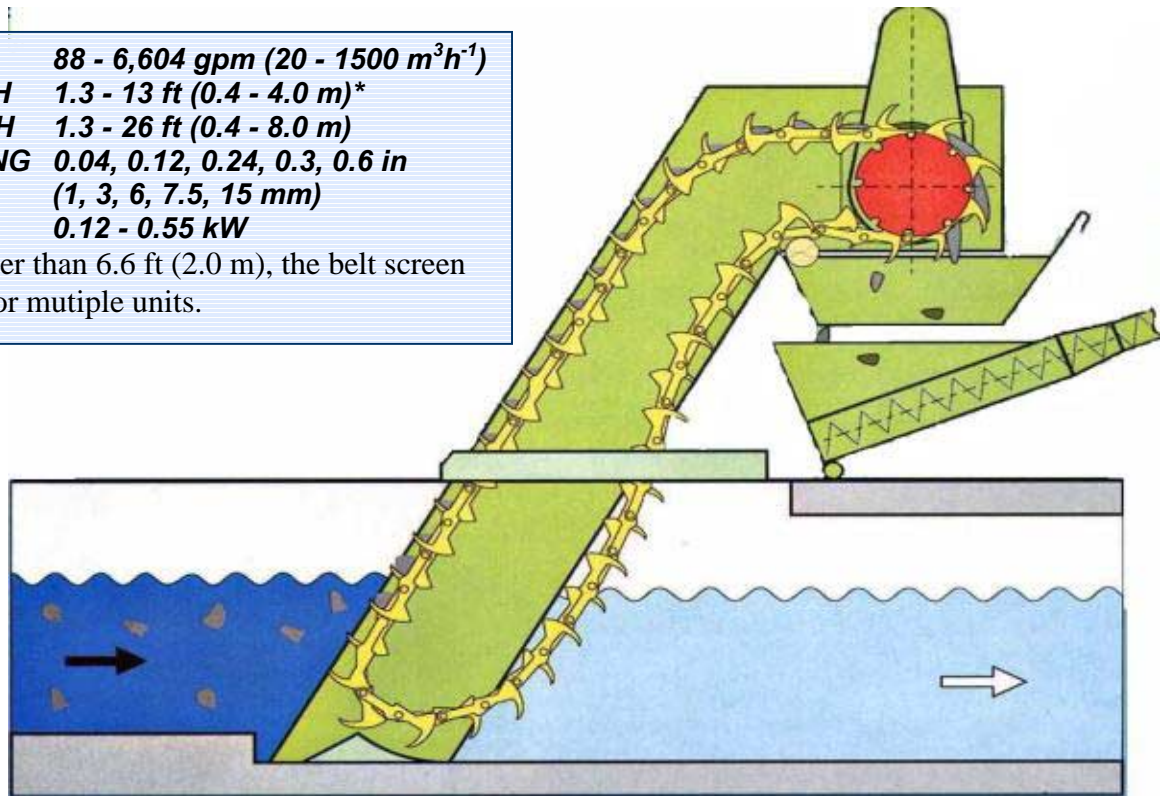
SELF-CLEANING BELT SCREEN

The PRO-GUARD Belt Screen (type SCC) is a general purpose separator of debris (solids) from liquids. It finds its application in wastewater treatment plants, chemical industries, meat processing industries, tanneries, breweries, potato processing, water treatment plants and pumping stations where the belt screen is usually installed in the plant intake structure for pump protection. The self-cleaning belt lifts the retained debris to the ground level, to the next floor, or to a level necessary for subsequent disposal to a container, screw conveyor, and/or compactor. The primary advantage of the SCC screen is its ability to separate smaller particles, work in deep channels with positive removal of debris and absence of plugging.



FLOW RATE	88 - 6,604 gpm (20 - 1500 m ³ h ⁻¹)
CHANNEL WIDTH	1.3 - 13 ft (0.4 - 4.0 m)*
CHANNEL DEPTH	1.3 - 26 ft (0.4 - 8.0 m)
SCREEN OPENING	0.04, 0.12, 0.24, 0.3, 0.6 in (1, 3, 6, 7.5, 15 mm)
POWER INPUT	0.12 - 0.55 kW

*For channels wider than 6.6 ft (2.0 m), the belt screen is applied in dual or multiple units.



PRO-Equipment, Inc. www.proequipment.com
237 Wisconsin Ave., Waukesha, WI 53186
Tel: 1-262-513-8801 Fax: 1-262-513-8897

MATERIALS AND CONSTRUCTION



The Self-Cleaning belt screen is manufactured of various materials (stainless steel, zinc-coated structural carbon steel and plastics). These materials ensure corrosion resistance. Individual functional groups (i.e. filtration belt, belt guideway, drive unit, and/or housing) are assembled on a welded rigid frame fitted with suspension eyes to lift the unit. The gaps between the side plates of the belt screen frame and the channel walls are packed with tightening bands.

As the liquid flows through the belt screen, debris in the stream is retained on the belt. The belt raises the debris into a hopper while liquid flows through the screen. Separation of the main portion of screenings from the filtration belt occurs due to properly shaped and guided racking elements of the belt. The belt is driven by an electric gear motor (a chain and gear shaft which drives the belt) and can be adjusted in the lateral direction and tensioned.

The released screenings are directed to a discharging hopper. PRO-Equipment, Inc. offers additional equipment for removal and/or dewatering (compacting) of the screenings. Such equipment is usually a stainless steel screw conveyor/compactor, for conveying, washing, and dewatering screenings before discharge.

Screenings may be transported to a higher elevation, over a distance of 20 ft (6 m), in any direction away from the screen.

In order to apply the SCC belt screen for different channel depths and hopper elevations above the floor level, or to apply it in an enclosed duct or flow channel, the SCC screen is designed in three basic models: (See drawing – next page)

- SCC-M:** For channel depth (H) greater than or equal to the hopper elevation (V_0) above the channel.
- SCC-V:** For channel depth (H) less than (V_0)
- SCC-K:** The screen may be installed into a flow-through tank with inlet and outlet pipes



Debris characteristics, working conditions, performance expectations, water characteristics and other different requirements are considered when defining specific equipment features.

FEATURES AND ACCESSORIES

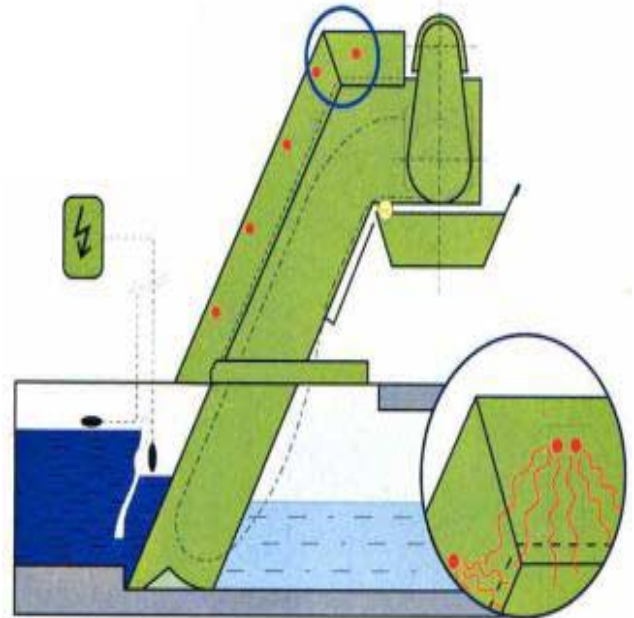
STANDARD FEATURES INCLUDE:

- Frame with a continuous belt. Screen openings of 0.04 in (1 mm), 0.12 in (3 mm), 0.24 in (6 mm), 0.3 in (7.5 mm), 0.6 in (15 mm)
- Anchorage or support of screen
- Discharge chute
- Drip plate for the belt
- Combined materials: stainless steel, zinc-coated steel and plastics
- Stainless steel fasteners
- Rotating brush for final cleaning of the belt, with a self-contained drive of 0.05-0.12kW
- Frontal water spray to remove organics

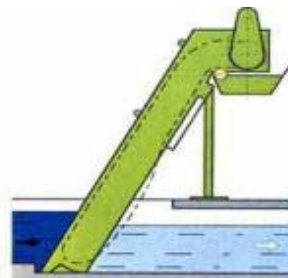


OPTIONS INCLUDE:

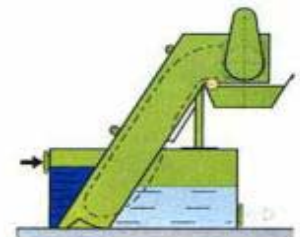
- Air jet cleaning of the belt which enables further removal of solids retained on the belt
- Thermally insulated version with heater for locations with temperatures below 0°C
- Power input varies between 3/4-3 Hp (according to size)
- All stainless steel version in combination with plastic belt screen components.
- Control panel of RPA type, controlled by an adjustable timer and level switch that switches the belt on when the upstream water level rises and returns to the timer when the level decreases; the control panel is fitted with overload protection, rotating brush control, water spray control, service signal and manual or automatic operating option. There are 5 sizes of RPA ensuring the correct functioning of the screen and additional devices for local or remote control. Panel is NEMA 4 enclosed (IP54).



TYPE SCC - M



TYPE SCC - V



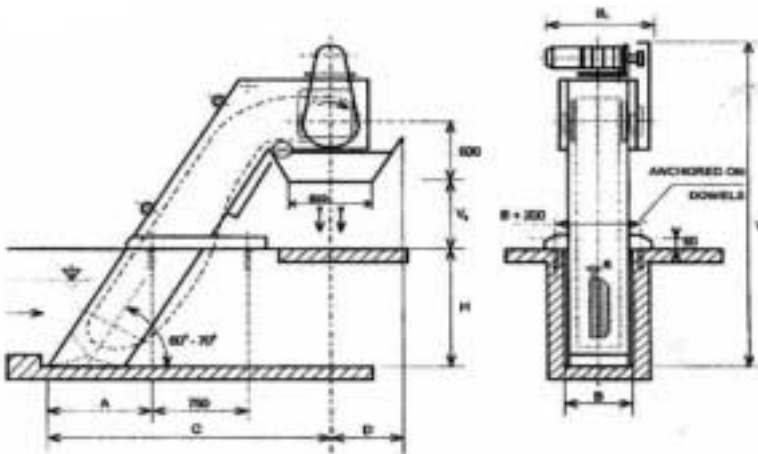
TYPE SCC - K

Dimensions for 60° inclination

e (width of screen opening) = 0.04, 0.12, 0.24, 0.3, 0.6 in (1, 3, 6, 7.5, 15 mm)																
B (nominal channel width) = 15.8, 19.7, 23.6, 31.5, 35.4, 39.4, 49.2 in (400, 500, 600, 800, 900, 1000, 1250 mm)																
H	in	39.4			59			78.7			98.4			118		
	mm	1000			1500			2000			2500			3000		
V₀	in	27.6	39.4	59	27.6	39.4	59	27.6	39.4	59	27.6	39.4	59	27.6	39.4	59
	mm	700	1000	1500	700	1000	1500	700	1000	1500	700	1000	1500	700	1000	1500
A	in	30.4			41.8			53.2			64.6			75.9		
	mm	773			1062			1351			1640			1928		
B₁	in	27.6														
	mm	700														
C	in	83.1	89.9	99.5	94.4	98.9	112	105	112	124	117	124	135	129	135	147
	mm	2110	2283	2527	2399	2512	2860	2687	2860	3150	2976	3150	3438	3265	3438	3727
D	in	25.6														
	mm	650														
V	in	119	131	150	139	150	170	158	170	190	178	190	209	198	209	229
	mm	3020	3320	3820	3520	3820	4320	4020	4320	4820	4520	4820	5320	5020	5320	5820
P	kW	0.12 – 0.55														

Dimensions for 70° inclination

e (width of screen opening) = 0.04, 0.12, 0.24, 0.3, 0.6 in (1, 3, 6, 7.5, 15 mm)																
B (nominal channel width) = 15.8, 19.7, 23.6, 31.5, 35.4, 39.4, 49.2 in (400, 500, 600, 800, 900, 1000, 1250 mm)																
H	in	39.4			59			78.7			98.4			118		
	mm	1000			1500			2000			2500			3000		
V₀	in	27.6	39.4	59	27.6	39.4	59	27.6	39.4	59	27.6	39.4	59	27.6	39.4	59
	mm	700	1000	1500	700	1000	1500	700	1000	1500	700	1000	1500	700	1000	1500
A	in	21.4			28.5			35.7			42.9			50		
	mm	543			725			907			1089			1271		
B₁	in	27.6														
	mm	700														
C	in	64.6	68.9	76	71.7	76	83.2	78.9	83.2	90.4	86.1	90.4	97.5	93.2	97.5	105.7
	mm	1640	1749	1931	1822	1931	2113	2004	2113	2295	2186	2295	2477	2368	2477	2659
D	in	25.6														
	mm	650														
V	in	119	131	150	139	150	170	158	170	190	178	190	209	198	209	229
	mm	3020	3320	3820	3520	3820	4320	4020	4320	4820	4520	4820	5320	5020	5320	5820
P	kW	0.12 – 0.55														



The production series is not limited. We can accommodate customers' demands. The standard size series for 60° and 70° are given in the tables.

PEI suggests individual project consultation to insure selection of the most suitable belt screen and to determine how to incorporate it into treatment facility. We carry spare parts, in stock, and can deliver most parts within 24 hrs.



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