

1900 SERIES ELEVATOR SCREENS

INTRODUCTION

The Morrill Industries, Inc. 1900 Series Elevator Screen is designed to pre-filter water from surface water sources such as; Irrigation Boxes, Canals, Ponds, or other surface water sources with heavy organic debris. The unit is to be installed as the first step of filtration, prior to the pump and primary filtration source. The 1900 Series Elevator Screen is constructed of 3/16" thick 304/304L Frame to provide a strong, rigid support structure for the Wire Chain Belt. 1-1/4" 304/304L Solid Round shafting supports the UHMWP Idler and Lower Rollers, and the main Drive Roll, ensuring the screen has a solid support structure to rotate on.

OPERATION

The 1900 Series Elevator Screen is an electrically powered/driven, vertically installed, self-cleaning, wire chain filter. The electric motor drives a Drive Roll that rotates the Filtering Chain Screen (36-30-12) that lifts and removes debris such as; algae, moss, leaves, sticks, trash, etc., from the water source. The screen is cleaned of debris using pressurized washing nozzles as the chain screen rotates past them. The debris that is washed from the screen is captured in a dewatering tray screen; this provides re-capturing of the water used for cleaning the screen. The dewatering screen is periodically maintained to remove debris buildup. This is a continuous cycle that is tied into your pumping system.



FILTER CONSTRUCTION

- Drive Motor - 1 HP 230-460 Three Phase (Optional 1 HP 12 VDC)
- The Gear Box is an Industrial Grade with Aluminum housing
- The Variable Frequency Drive options
 - GS2-21P0- Input Single/Three-Phase 200/208/220/230/240 VAC 50-60 HZ / Output 230V Three-Phase
 - GS2-41P0- Input Three-Phase 380/400/415/440/460/480 VAC 50/60 HZ / Output Corresponds to Input Voltage
- Support Structure is 3/16" 304/304L ASTM A240 Plate
- Drive, Idler, Bottom Roller Axles are 1-1/4" 304/304L Solid Round to ASTM A276
- Drive Roll Bearing NANF 4-Bolt Flange, Cast Iron Housing, Type B Seal, Wide inner race bearing.
- Washing Nozzles - 304 Stainless Steel Flood Jet Nozzles (.35")
- Filtering Chain Screen is 36-30-12 304 Stainless Steel Construction. Screen openings are .250 (Other screens may be available)
- Chain Slip Plates - UHMWP
- Top Drive Roll has a rubber lagging to grip the chain screen
- UHMWP (ultra-high molecular weight polyethylene) is an ultra-tough plastic with high abrasion and wear resistance. It is used thoroughly for industrial applications that require high durability, low friction (heat) and chemical resistance. The UHMWP helps guarantee that the structure of the 1900 Series Elevator Screen lasts through many seasons with little to no wear.

DIMENSIONS				
WIDTH	12"	24"	36"	48"
A*	Varies	Varies	Varies	Varies
B	Varies	Varies	Varies	Varies
C	15-9/16	27-9/16	39-9/16	51-9/16
D**	25-3/4	37-3/4	49-3/4	61-1/2
E	27-1/2	39-1/2	51-1/2	63-1/2
F	12	24	36	48
G	14-3/4	14-3/4	14-3/4	14-3/4
H	25-1/2	25-1/2	25-1/2	25-1/2
I	10-1/2	10-1/2	10-1/2	10-1/2

Available in lengths from 8ft. to 20ft. in 1ft. increments

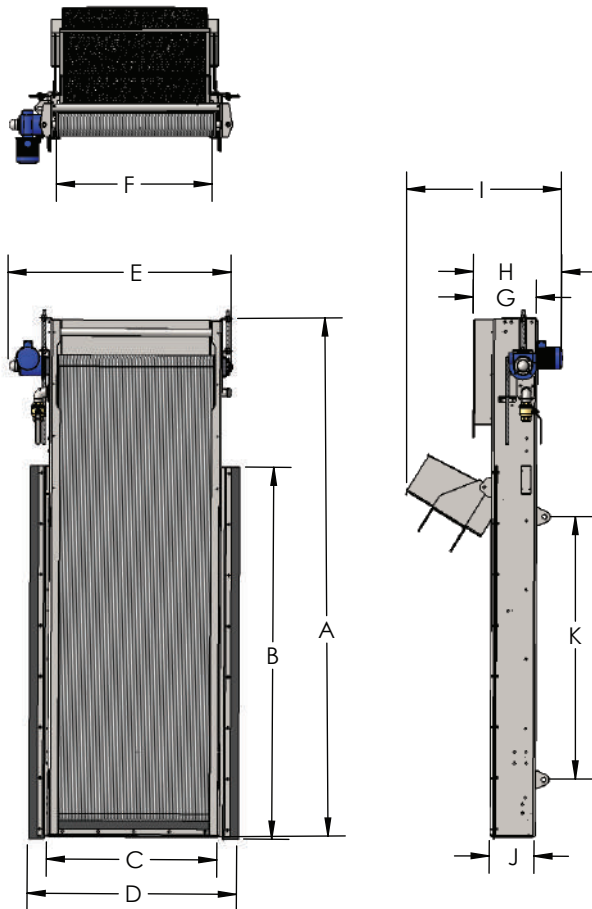
INSTALLATION:

Concrete Boxes

Installation is a drop-in design, no bolting required. Screen rests at base and one side of the box. Side gaps are sealed with EPDM rubber.

Canal Banks and other open water sources

When installing on canal banks or open water sources, full information must be provided to accurately provide anchoring and sealing surfaces to mount the Elevator Screens. These are typically provided with a bolt/lag down structure.



FLOW RATES:

To Determine Flow Rate in GPM, multiply the width of the Screen in inches x the depth of the screen in the water in inches x 1.562 to get GPM (this will equal 225 GPM per square foot of screen per minute) (M3/H use .355 Multiplier)

For Heavy Debris conditions use a multiplier of 1.215 for your GPM flow rate (this will equal 175 GPM per square foot of screen per minute) (.276 for M3/H)

Example: 36" (Screen Width) x 60" (Screen in Water Depth) = 2160 x 1.562 = 3374 GPM

(Flow Rates are approximate only to assist in system design, actual flow rates will vary)

CALL FOR ORDERING DETAILS

*+/- 12" WHEN GOING UP OR DOWN IN SIZE

**WIDTH VARIES BY APPLICATIONS (SHOWN WITH STANDARD DIMENSIONS)



PRICES, PRODUCTS, AND DESIGNS ARE SUBJECT TO CHANGE WITHOUT NOTICE



CHAIN TENSIONER
ADJUSTER

DRIVE ROLL

DRIVE MOTOR &
GEARBOX

REMOVABLE
SPRAY BAR WITH
CONTROL VALVE

WIRE CHAIN BELT

DEBRIS DUMP
SHOOT

EPDM SEAL TO
BOX OR
STRUCTURE

UHMW IDLER
ROLLER

UHMW SLIP
PLATES FOR
CHAIN BELT

304 SST
STRUCTURAL
FRAME

LIFT EYES (4X)

UHMW LOWER
ROLLER

