



30 ton double deck horizontal screen for dewatering application

Schenck Horizontal Screens For Many Applications

■ **Built tough for long service life.** Your investment in Schenck is protected by many years of experience in designing and building screens. No welding is carried out on the side plates thus eliminating associated heat induced stresses, distortion and metallurgical discontinuities.

■ **Corrosion protection is taken very seriously, especially for dewatering use.** There are no internal ledges or crevices below the screen deck—minimising the effect of moisture that causes corrosion resulting in stress cracking or fracture. The sideplates are extended below the bottom stiffener making the need for bolt on drip angles redundant. This also allows the protective coating on the side plates to be carried around the bottom edge of the side plate and up the outside, providing protection along the bottom edge of the sideplate, where corrosion can cause stress cracking. Prior to assembly, components are grit blasted and primed with two-pack epoxy primer. Components are assembled with a 'wet sealing' technique that protects the mating surfaces from corrosion.

- **Attention to detail, especially the effect of stress.** Cross members on our banana screens are stress relieved rectangular hollow sections (RHS) which are sized with a significant safety factor to accommodate unexpected, but normal, overloads.
- The end flanges are attached to the RHS by full penetration welds.
 - The longitudinal rails are Huck-bolted to the crossbeam cleats.
 - The drive beam is a torsionally rigid fabricated box beam specially designed to accommodate the forces generated by the excitors.
 - The beam is stress relieved and machined with particular attention paid to the exciter mounting pads.
 - This beam is critical to the performance of the screen, and all welding exceeds the requirements of AS1554 for *special purpose welds*.
 - High tensile precision bolts with self-locking nuts are used for connections where replaceable parts are attached to the screen.
 - Critical parts that may require adjustment after assembly are also attached with high strength precision bolts and the remainder of the connections are Huckbolted.
 - Minimal bolting in wetted areas.



1 - Sealed cross beam connection;
 2 - Longitudinal rail cleat connection;
 3 - Exciter beam flange stress relieved and machined;
 4 - Lay shaft drive assembly.



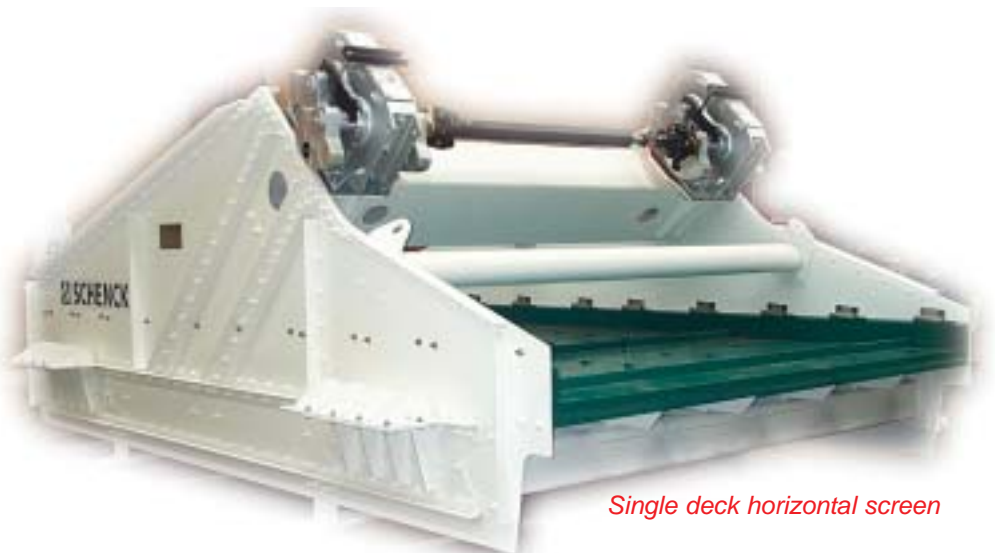
10 Horizontal screens being assembled at Schenck works

■ **Schenck horizontal screens are robust construction..**

- Feature Schenck Directional Force Exciters
- On-line monitoring using Schenck Vibromac systems
- Custom designed to your specification
- Huckbolted construction.
- No welding on sideplate
- Suitable for modular screen decks.
- 96-98% vibration isolation.
- Can be supplied with an isolation frame for better vibration isolation to 99.9%.
- Open end cross beam with replaceable cleats
- Low noise operation.

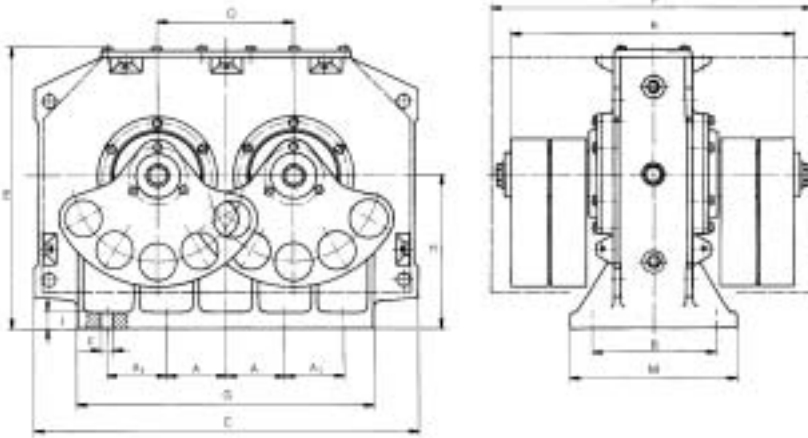
■ **Making sure that our screens work to your specifications.**

We design and build our screens to meet and, in most cases exceed our clients' requirements. Each screen is fully assembled in our workshop and test run to ensure correct operation. Dynamic analysis forms a vital part of Schenck's design philosophy. The accuracy of the test procedure and the correct interpretation of the results are vital for the longevity of the screen. Testing is done using equipment and procedures designed by Schenck specifically for screen testing.



Single deck horizontal screen

Schenck DF Directional Force Exciters



The Direction Force (DF) Exciter is used on linear motion vibrating screens and feeders. Two shafts equipped with eccentric masses (swing segments) are geared to counter-rotate at the same speed thus producing a force in a constant direction, the "Line of Stroke" of the screen or feeder. The magnitude of the force produced can be changed by the addition or removal of plug weights in the swing segments. The "Static Moment" of an exciter is the measurement of the exciter force capability independent of the operating speed. The exciter "Working Moment" is twice the static moment.

| Technical Data | DF100S | DF200S | DF300S | DF401S | DF401V | DF501S | DF501V | DF601S | DF601V | |
|---|----------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Max. speed in rpm | 1000 | 1000 | 1000 | 1000 | 750 | 1000 | 750 | 1000 | 750 | |
| Working moment in kg cm | min. | 416 | 624 | 968 | 1680 | 2400 | 2816 | 2320 | 4592 | 7184 |
| | max. | 904 | 1402 | 2072 | 3248 | 4632 | 5600 | 7680 | 9000 | 15200 |
| Static moment in kg cm | min. | 208 | 312 | 484 | 840 | 1200 | 1408 | 1160 | 2296 | 3592 |
| | max. | 452 | 701 | 1036 | 1624 | 2316 | 2800 | 3840 | 4500 | 7600 |
| Maximum exciter force in kN | 50 | 77 | 114 | 178 | 143 | 307 | 237 | 493 | 467 | |
| Motor rating in kW | 3 | 4 | 5.5 | 7.5 | 7.5 | 15 | 15 | 22 | 30 | |
| Weight with unbalances and protective box in kg | 265 | 310 | 460 | 520 | 550 | 910 | 1010 | 1300 | 1580 | |
| Dimensions in mm | A | 2x125 | 1 x75 | 4x120 | 4x120 | 4x120 | 5x120 | 5x120 | 4x120 | 4x120 |
| | A ₁ | - | 115 | - | - | - | - | - | 150 | 150 |
| | B | 240 | 260 | 260 | 260 | 260 | 300 | 300 | 390 | 390 |
| | C | 515 | 636 | 690 | 780 | 780 | 830 | 830 | 1040 | 1040 |
| | E | 435 | 437 | 537 | 568 | 568 | 580 | 580 | 660 | 675 |
| | F | φ 31 | φ 25 | φ 31 | φ 25 | φ 25 | φ 31 | φ 31 | φ 31 | φ 31 |
| | G | 380 | 435 | 600 | 600 | 600 | 730 | 730 | 910 | 910 |
| | H | 250 | 250 | 310 | 310 | 310 | 315 | 315 | 370 | 370 |
| | I | 18 | 18 | 18 | 34 | 34 | 23 | 23 | 25 | 25 |
| | K | 434 | 494 | 522 | 580 | 708 | 883 | 883 | 934 | 998 |
| | M | 320 | 320 | 340 | 340 | 340 | 380 | 380 | 470 | 470 |
| | O | 190 | 230 | 250 | 275 | 275 | 300 | 300 | 376 | 376 |
| | P | 486 | 550 | 576 | 650 | 780 | 900 | 900 | 1068 | 1068 |



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