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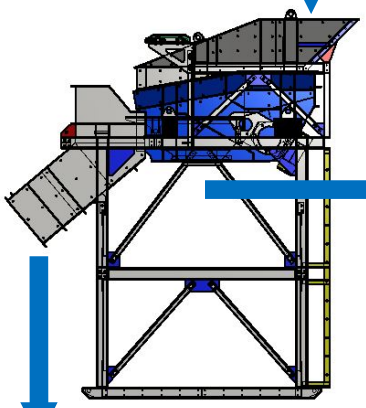
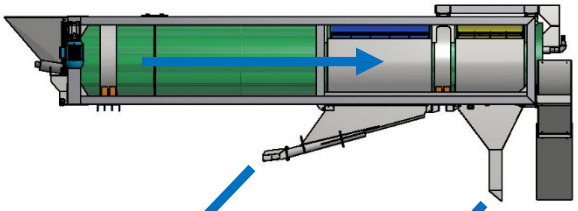
System-50 Material Flow

(*) HPC-50 Screen sizes are selected to suit each operation. Typical selection is -4mm for Undersize, 4-10mm for Middling's and +10mm for Oversize.
For a high-capacity operation, this minimizes the amount of Undersize material, enabling the HPC-50 Concentrator Belt to achieve an unbeatable fine gold recovery rate (98%) whilst all larger gold particles are reliably recovered in the Middling's Sluice.

1) Run of Mine material (-600mm) is dumped onto the VF-50 Grizzly positioned above the HPC-50 Trommel Feed Chute.



3) The HPC-50 Trommel thoroughly scrubs all -150mm material in the 3-chamber high-retention-time Scrubber. Material is then split into 3 size fractions

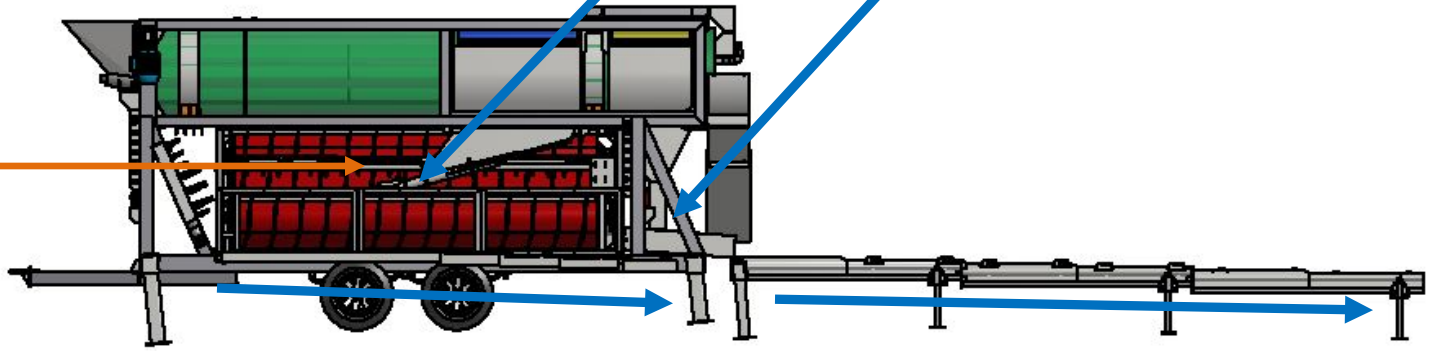


2) Oversize Rocks are discharged while undersize material (-100mm / -4") falls into the HPC-50 Trommel Feed Chute

4*) Undersize material flows onto the Concentrator Belt

5*) Middling's fraction reports to the Middling's Sluice together with light Undersize slurry from Concentrator Belt

6*) Oversize fraction rejected as Tailings



7) Heavy Undersize particles are fed off the top of the Concentrator Belt to the Concentrate Sluice. Gold-bearing concentrate is then removed from the Concentrate Sluice and sent to final cleaning step on a periodic basis when cleanups are done

8) Middling's fraction flows over Middling's Sluice. Concentrate is removed from this Sluice on a periodic basis when cleanups are done.

9) Middling's Sluice Concentrate can be manually fed onto the HPC-50 Concentrate Belt for further upgrade. This significantly reduces the volume of concentrate sent to final cleaning step.

For additional information
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HPC-50 Specifications

Applications	The HPC-50 is an ideal solution for medium-scale Alluvial Gold Mining operations. High capacity can be achieved through installation of multiple lines.
Capacity	Capacity of HPC machines is defined according to the rate at which they will consume / process a stockpile of raw feed material ("Run of Mine" or "Bank-run" material). This is material typical of Placer deposits which contain large and small rocks, gravel, stones and sandy material. Processing capacity is limited primarily by the fraction of undersize material screened from this raw feed and fed onto the HPC's Concentrator Belt. Accordingly, should you feed the HPC machine with material which is already undersize (or the deposit you are processing consists mostly of fine/sandy material), all of this material will pass directly to the concentrator belt and the effective operating capacity of the machine will be based on this. Please refer to the attached Production Capacity Tables and Material Flow Diagrams for capacity information corresponding to the material to be processed.
Drive System	The Concentrator Belt and Trommel are independently driven, each with the following components • Digital Variable Frequency Controller housed within a waterproof enclosure • 2.2kW (3.0 HP) 3-phase Drive Motor for the belt and a 7.5kW-380V for the Trommel • Reduction Gearbox Note: Power supplied to the HPC-50 is supplied directly to the Variable Frequency Controllers which converts the power to 3-phase power required by the Drive Motors. The Variable Frequency Controllers can be adjusted to set the speed of the Concentrator Belt and Scrubbing / Screening Trommel independently.
Electrical Supply Requirements	Electrical Supply must be 3- Phase 380-480V and 50/60Hz. The motors on the HPC-50 and VF-50 have a combined rating of 13.7kW so any generator or power supply capable of delivering this power will be adequate (excludes power required for vibratory feeders and electrical water pump). Note: Electrical Generator is not supplied with the HPC-50 unless specifically ordered.
Water Supply Requirements	The HPC-50 requires water supply of approx. 500 liters/minute or 30m3/hour (125 gallons/minute) at a pressure of approximately 310 kPa (45psi). Any electrical, petrol or diesel powered pump capable of providing this water flow may be used. The Water Supply must be connected via a 4" hose ("lay-flat" or discharge hose) clamped onto the inlet nipple on the Water Manifold. Note: Water Pump and connection hose are not supplied with the HPC-50.
Feed material	HPC-50 accepts: 6" (150 mm) minus material from VF-50. See VF-50 Specifications for maximum feed size.
Trommel	Scrubbing & Screening Trommel is 228" (5.8 m) long with 35" (0.9m) diameter and 125" (3.2 m) 3-stage Scrubber. Screen is 2 stage: Undersize ¼" (6mm) and Middling's 1/3" (8 mm). Trommel inclination, height and speed are independently adjustable.
Feed Hopper	Fixed Feed Chute designed to receive feed from Vibratory Feeder VF-50
Dimensions	
- Length	291" (7.4 m) without Tail Sluice / 559" (14.2 m) with Tail Sluice
- Width	88" (2.224 m) in storage position / 104" (2.64 m) Operating
- Height	109" (2.78 m) with Trommel fully Lowered / 134" (3.4 m) with Trommel raised
- Weight	12 026 lbs. (5,455 kg) / 13 227 lbs. (6,000kg) with Tail sluice
Shipping info	Optimal shipping configuration: 1 HPC-50 in 40' container. International customs code: HS #: 8474.10.00 (1). Sorting, screening, separating or washing machines
Trailer	Double-axle trailer with Pintle-hitch. Detachable Dusselboom
Manning	1 equipment operator required. Note: for safety reasons, it is always best to have at least 2 people present when operating machinery.

Note: Specifications may be changed without notice

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VF-50 Specifications

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Applications	Vibratory screening of raw material to feed HPC-50
Capacity	Up to 75 tons/hour (to be confirmed based on composition of feed material)
Drive System	2 x SPV30.0B (2.0 kW - 1500 rpm) Vibratory motors
Electrical Supply Requirements	Electrical Supply must be 3- Phase 380-480V and 50/60Hz. Note: Electrical Generator is not supplied with the VF-50.
Water Supply Requirements	Approximately 50-100 liters/min (13-26 gpm) - In cases where the VF-50 is ordered with Grizzly Spray Bars
Feed material	VF-50 will accept feed of -600mm (-24”) material. Grizzly Bars are 1460mm (57”) long and spaced to feed material of -100mm (4”) to the HPC-50
Dimensions	
- Length	4670 mm / 184”
- Width	3150 mm / 124”
- Height	5310 mm / 209”
- Weight	4600 kg / 10 141 lbs.
Shipping info	Optimal shipping configuration: 1 VF-50 in 20’ container. International customs code: HS #: 8474.10.00 (1). Sorting, screening, separating or washing machines
Manning	1 equipment operator required. Note: for safety reasons, it is always best to have at least 2 people present when operating machinery.

Note: Specifications may be changed without notice

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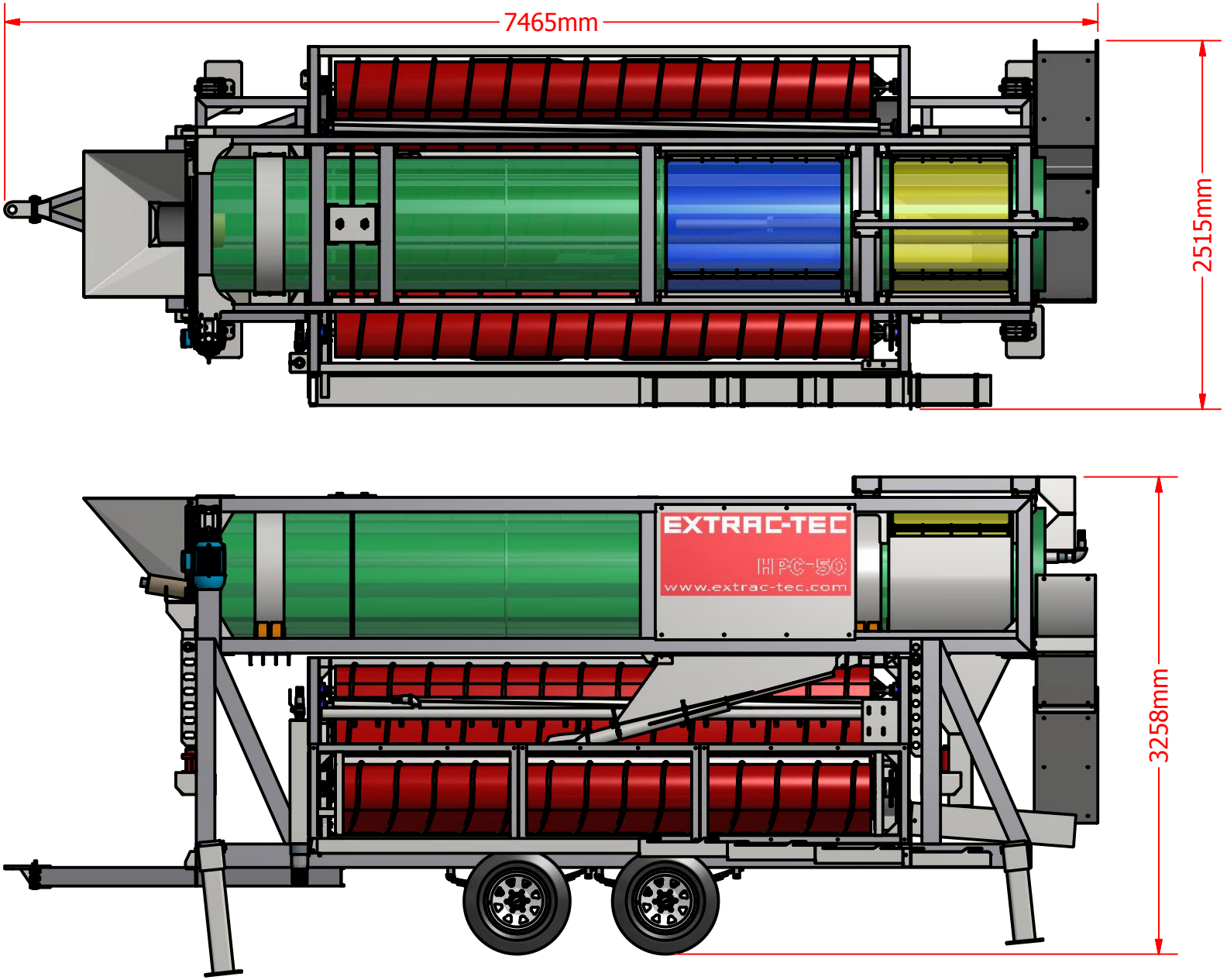

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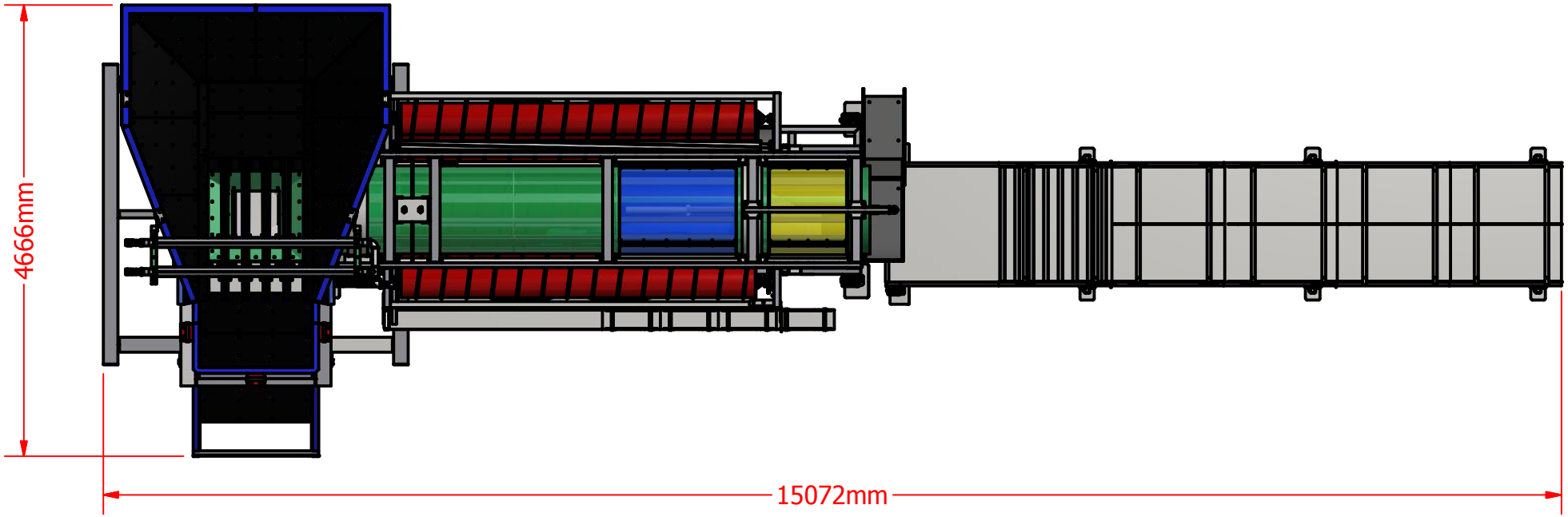

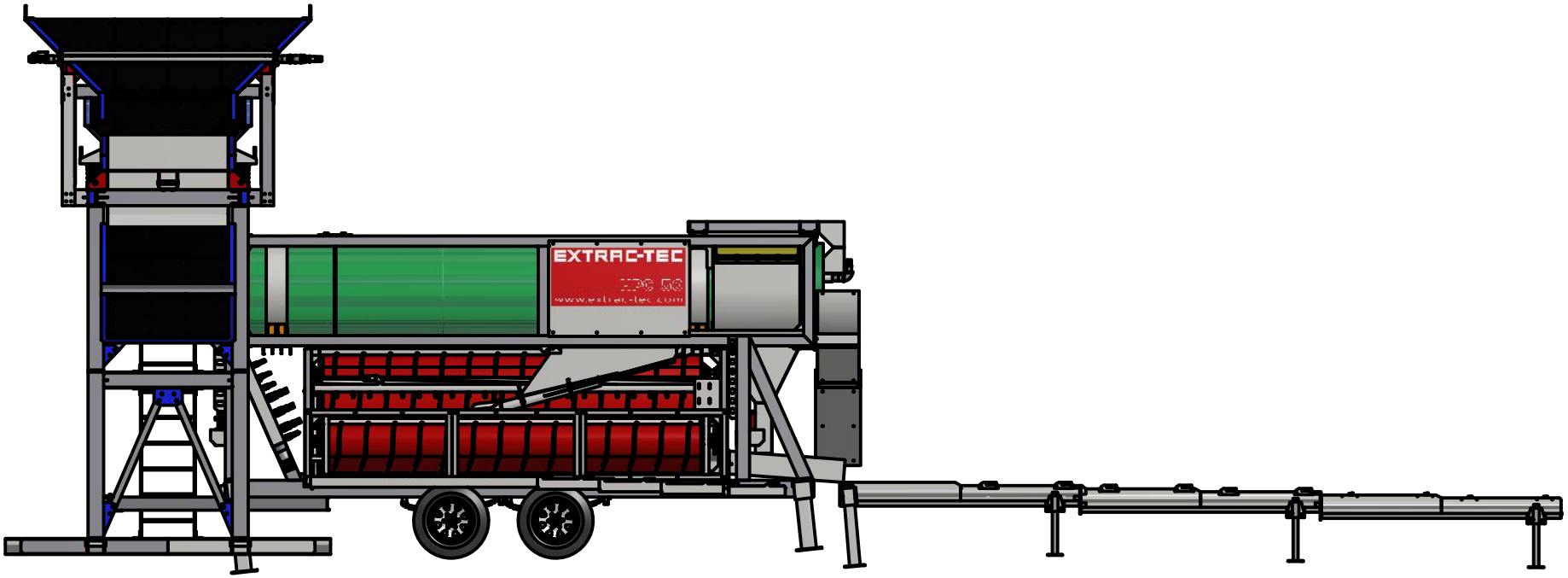

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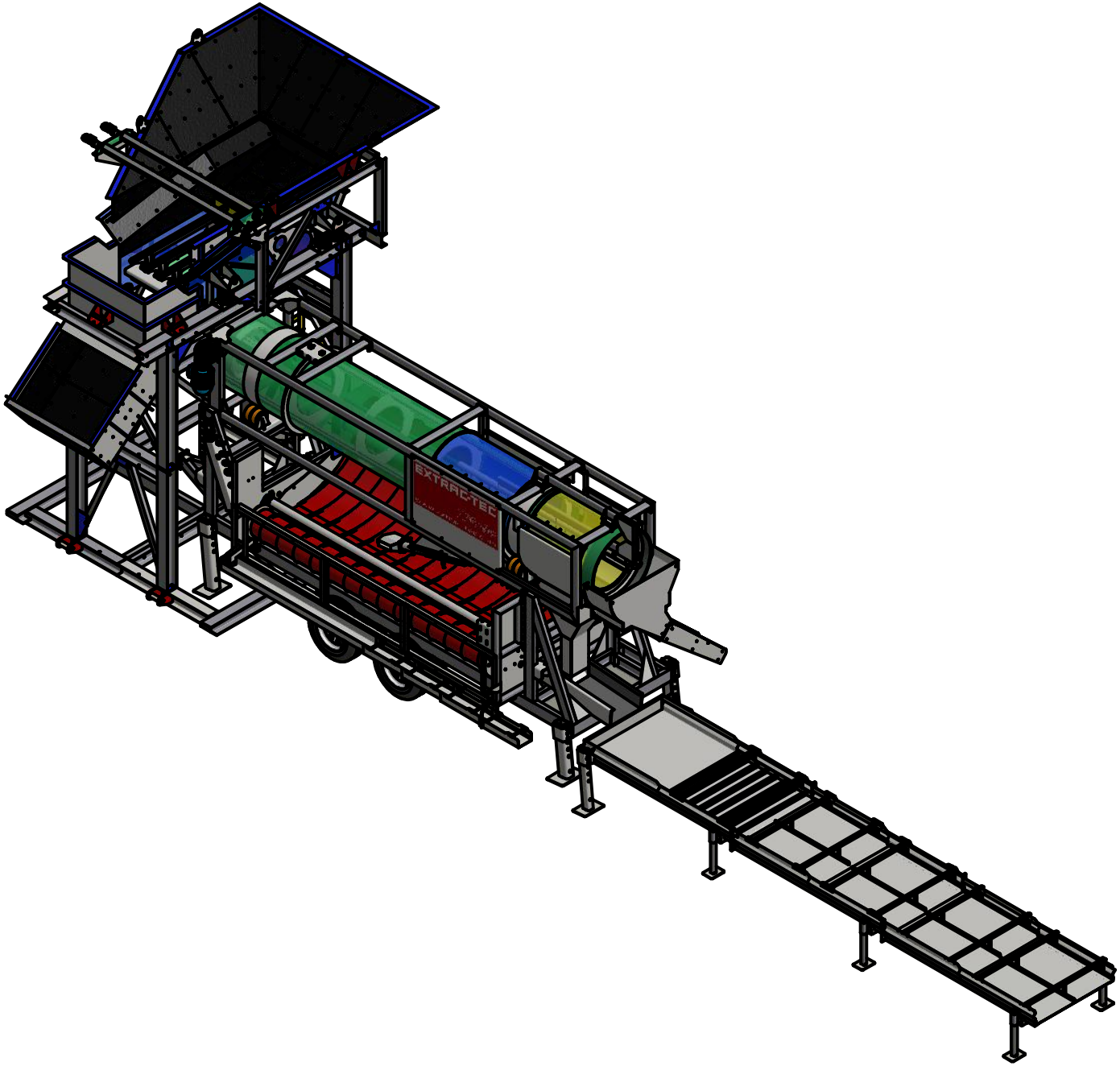

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HPC-50 Production Capacity Guideline for Alluvial Gold Recovery (tons/hour)

	HPC-50	
GRG Fraction	**Fine**	**Normal**
100%	8 tph	16 tph
90%	9 tph	18 tph
80%	10 tph	20 tph
70%	11 tph	23 tph
60%	13 tph	27 tph
50%	16 tph	32 tph
40%	20 tph	40 tph
30%	27 tph	53 tph

GRG Fraction = Undersize + Middlings = Total Fraction of raw feed containing Gravity Recoverable Gold For Example, GRG Fraction = Fraction of raw feed which is below 10mm in size	
Undersize	Fraction of raw feed which reports to the Concentrator Belt (typically -4mm material) This corresponds to #4 on Material Flow Diagram
Middlings	Fraction of raw feed which reports to the Middlings Sluice (typically +4mm -10mm material) This corresponds to #5 on Material Flow Diagram
Fine	Feed material where there is a very high % of gold particle sizes below 150 mesh / 100 microns
Normal	Feed material where the majority of gold particle are larger than 150 mesh / 100 microns

This is a guideline only – it is impossible to guarantee capacity without testing specific materials.