VIBRO-MAC

Submill

The SUBMILL complies with modern grinding technology: instead of one or two passes through the mill with reduced throughput, it is more effective to increase the number of passes with higher output. In fact, it is proven that the disadvantage of a continuous mill - vertical or horizontal, is that the residual time of the different pigment particles is not the same. Some particles stay longer in the grinding chamber whereas others will exit more quickly. The SUBMILL system on the other hand has a combination of expulsion and suction ensuring that all the base product passes through the grinding chamber many hundreds of times during the operation and is progressively and uniformly processed. With the SUBMILL process system, there is a direct relationship between particle residual time and particle size distribution. At the and of the process, the finess spectrum is very narrow and the colour strength is duly achieved.

The advantages of the Submill:

- Coating products can be manufactured from start to finish using the same container. The premixing operation is reduced to a minimum.
- The Grinding process can be carried out entirely in automatic mode. No supervision is required.
- If viscosity is increased during grinding, binder or solvent can be added to the mill base without stopping the process.
- In comparison with the conventional Grinding Mills, the SUBMILL System is highly efficient, therefore, grinding times are greatly reduced. Similarly against conventional Grinding Mills, the SUBMILL effectively decreases energy costs.
- The Grinding Chamber is designed as an open system so that Grinding Media remains in a floating state. Therefore, flotation and compression are no longer a problem.
- Replacement of worn media can be carried out in a matter of seconds without removing any parts.
- Cleaning is very easy and very quick. Following the Grinding operation, the basket is raised out of the process material, partially emptied by the slowing running the disc and then finally submerged in the cleaning solvent. The SUBMILL is virtually self cleaning when its runs for a few minutes in a suitable solvent. In respect of colour changes, 10- to 15 minutes are enough to pass from one batch colour to another.

Grinding Media

Milling time is directly proportional to the diameter and density of Grinding Media. The number of contact points in a given volume depends on the diameter of the beads. Small media particles are important to obtain better grinds. Grinding Media with high density is suitable for formulations of high pigment concentration. However, all kinds of Grinding Media such as glass, steatite, zirconium oxide and steel can be used.

Mechanical Features

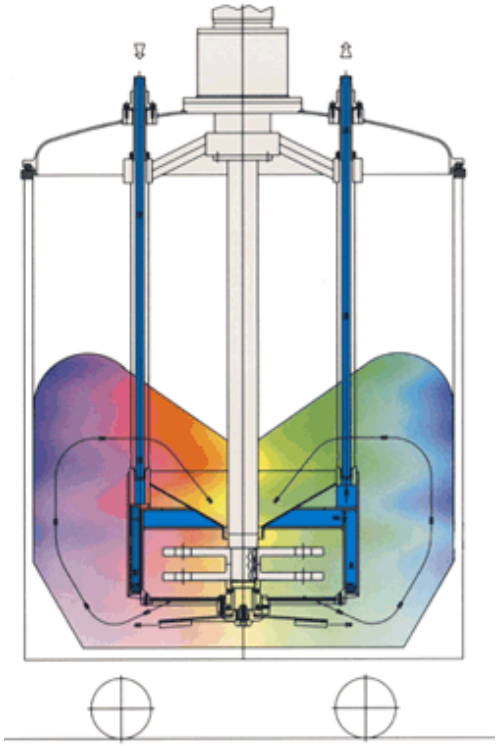
The SUBMILL has all the advantages of our world renowned mixer-dispernsers with elevating rams and infinitely variable speed controls

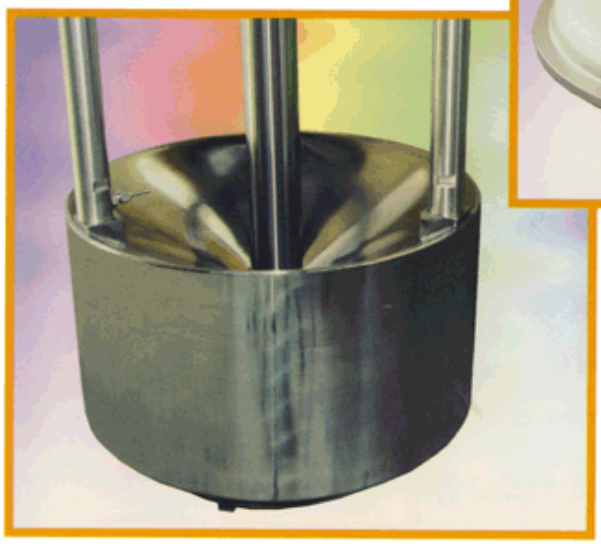
- All parts coming into contact with the Grinding Media have smooth extremely hard surfaces, which result in minimum wear and tear.
- All parts coming into contact with the material being processed are of high microfinished stainless steel, to reduce clean down time.
- A pressurised lid enables processing in a controlled atmosphere or vacuum.
- The Grinding Chamber is fitted with a specialised jacket for the circulation of cooling water. This cooling system effectively dissipates heat during the grinding operation and efficiently decreases the temperature of the product during grinding.
- Alternatively the interchangeable dispersing/grinding vessel is fitted with a spiral flow water jacket for optimum temperature control. The coned bottom ensures optimum circulation of the product during grinding. Should the machine be required to run at less than maximum capacity the above design also facilitates operation with a smaller batch.
- The rotor can be driven by a teo speed motor or by a frequency inverter with infinitely variable speed.

Environment

- Only the SUBMILL can work under vacuum. The vacuum can de-aerate the material to be processed, decrease viscosity, modify thyxotropy, in other words improve rheological properties of the base product.
- The SUBMILL works in a closed system as a sealed unit. There is no risk from loss of solvent and consequently prevents contamination of the environment.
- The SUBMILL shows that the sole solution of the environmental problem is to avoid the need for removal of all emissions by not producing them in the first place
- The laboratory size has the same features and performance as the production machines

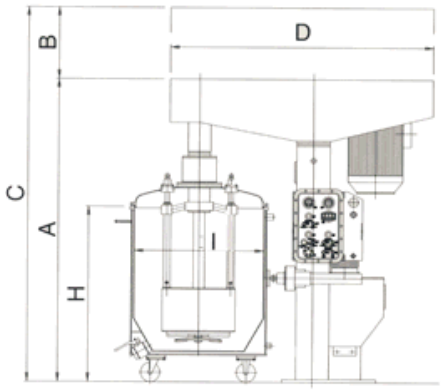
Gallery



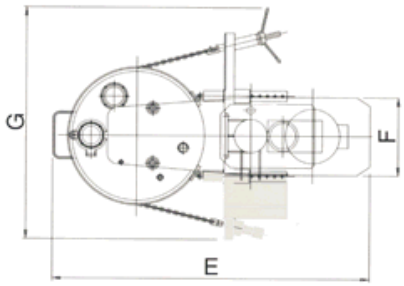


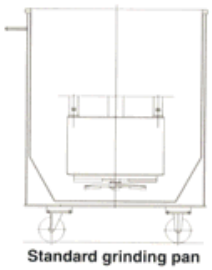
SUBMILL with grinding chambercooled inside, specially designed for thermosensitive products or to be used for already existing pans without cooling jackets.

TECHNICAL FEATURES	SUBMILL				
	SM LABOR/I/R	SM 20/I/R	SM 30/I/R	SM 50/I/R	SM 75/I/R
INSTALLED POWER HP (KW)	2 (1,5)	20 (15)	30 (22)	50 (37)	75 (55)
TOTAL CAPACITY OF STD GRINDING PAN (Lt)	7	300	500	1000	1780
BATCH VOLUME MAX/MIN(Lt)	3/2,5	240/140	400/200	800/300	1350/730
TOTAL CAPACITY OF CONICAL PAN (Lt)	/	200	320	620	/
BATCH VOLUME MAX/MIN (Lt)	/	180/90	220/80	450/115	/
MEDIA CHARGE					
GLASS (1,6 Kg/Lt)	400 cc	10/12 Kg	20/24 Kg	40/45 Kg	60/69 Kg
ZIRCONIUM OXYDE (2,3 Kg/Lt)	400 cc	15/17 Kg	30/35 Kg	60/65 Kg	90/100 Kg
ZIRCONIUM SILICATE (2,45 Kg/Lt)	400 cc	16/18 Kg	32/37 Kg	64/69 Kg	96/106 Kg
STEEL (4,8 Kg/Lt)	400 cc	31/35 Kg	62/73 Kg	128/135 Kg	186/208 Kg



WEIGHTS AND DIMENSIONS	SM 20/I/R	SM 30/I/R	SM 50/I/R	SM 75/I/R
WEIGHT (KG)	700	1300	2000	2500
A (mm)	1665	2000	2250	2680
B (mm)	800	1100	1300	1500
C (mm)	2465	3100	3550	4180
D (mm)	1460	1730	1865	2020
E (mm)	1800	2090	2320	2600
F (mm)	400	520	620	620
G (mm)	1500	1500	1500	1500
H (mm)	923	1156	1426	1660
I (mm)	750	850	1050	1300




Standard grinding pan


Conical grinding pan


Cleaning tank

About Us

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