NEXGEN™
VACUUM RECIRCULATION MILLING TECHNOLOGY

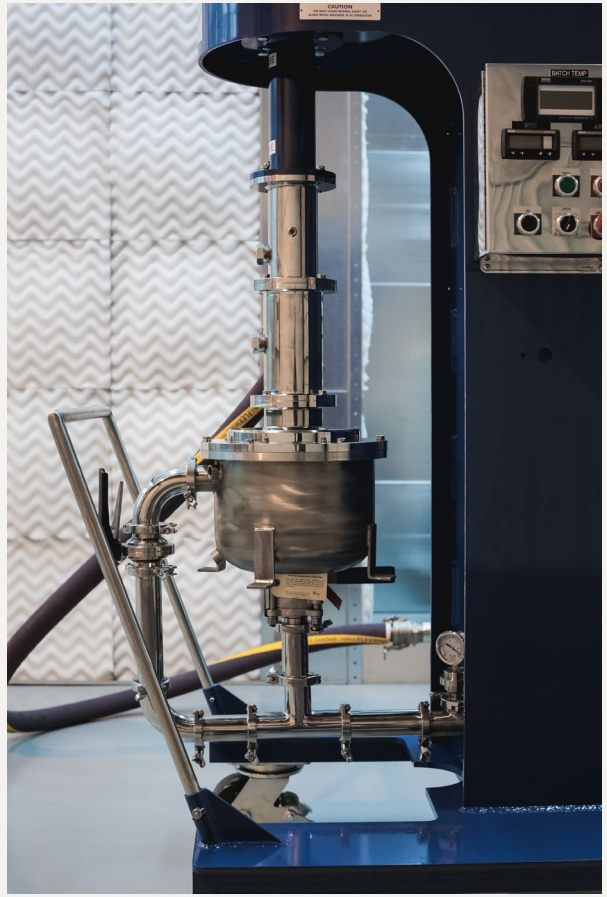
MILL & DEARATE ... AT ONCE

NO AIR, NO BUBBLES, NO FOAM, **JUST PRODUCT**

Proven excellence in processing dispersions for printing inks, conductive inks, coatings, agrochemicals, pharmaceuticals, and renewable energy components down to nanoparticle sizes.

- Recirculation efficiency; 50 GPM through 2.5-liter mill sg:1
- Fast Production & easy cleaning = More batch turnovers
- Tight particle size distribution
- Small footprint and low ceiling clearance required
- Versatile for a wide range of batch volumes
- Hook up to any tank, portable or permanent
- Sanitary fittings for fast and easy cleanup

The 2.5



2.5 | 5 | 20

60

100

Lab Model

STANDARD SETUP

Feed from the supply tank into the upper part of the mill chamber

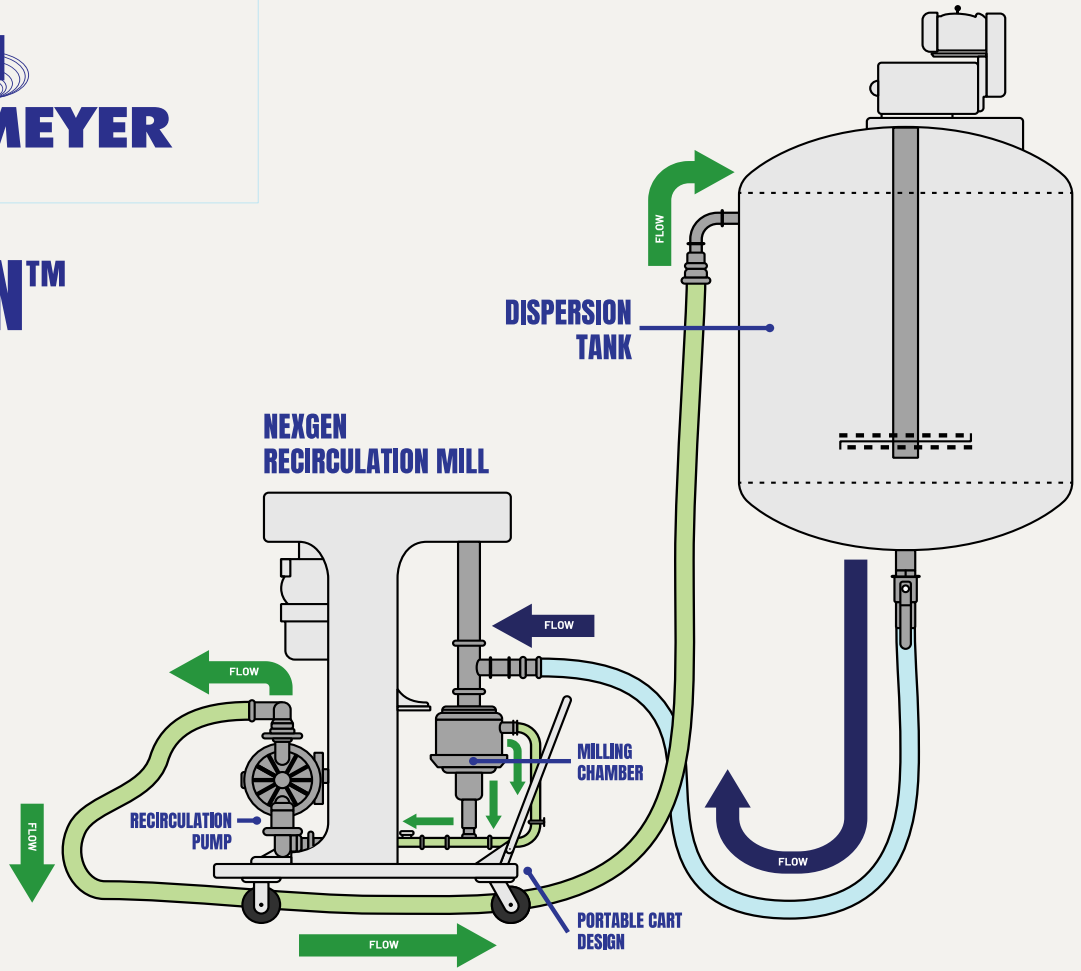
Material passes through the media field and screen into cooling chamber

Material passes from the cooling chamber through the diaphragm pump back into supply tank

Recirculation for continuous passes through this aggressive shear zone

HOCKMEYER

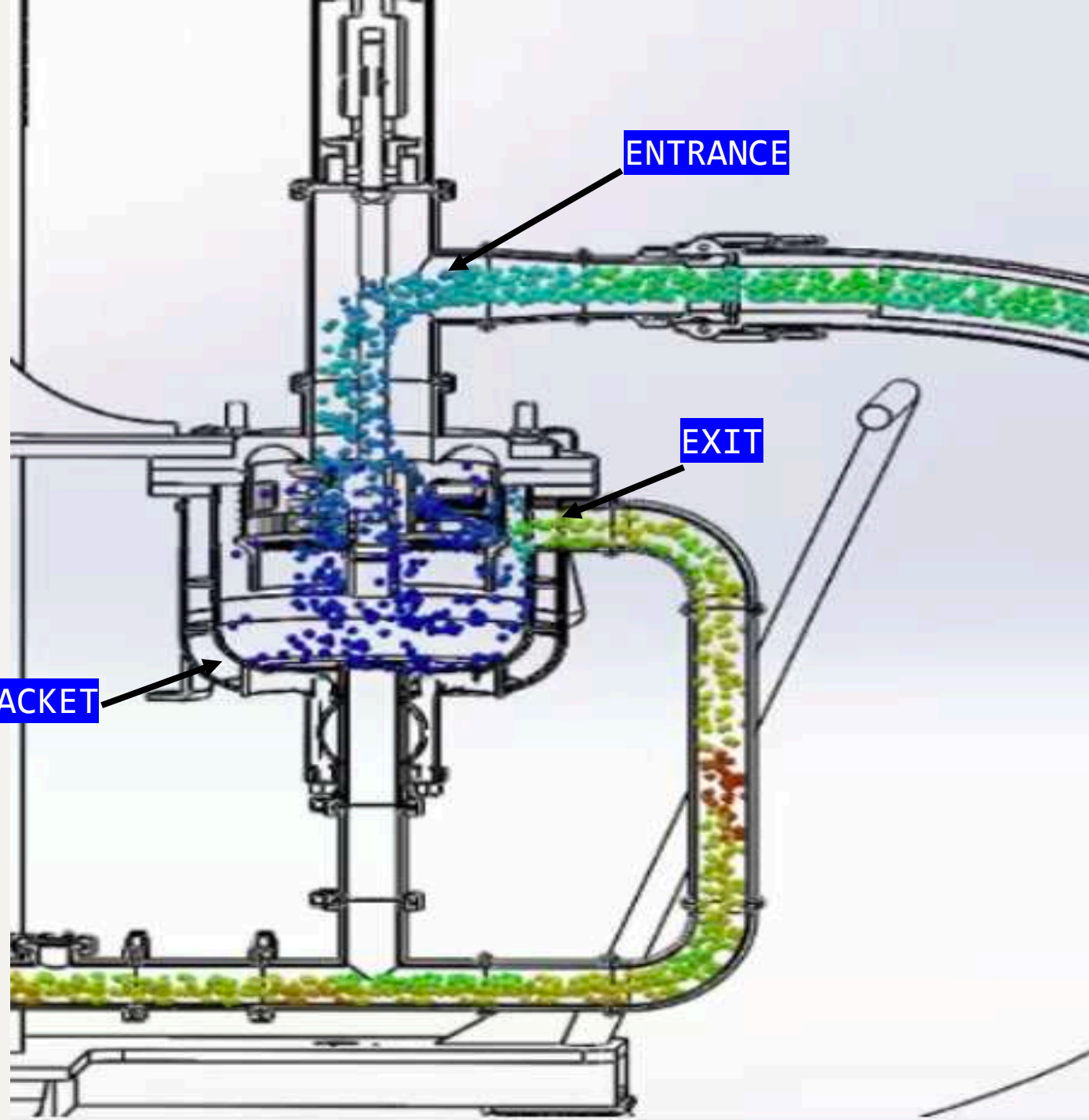
NEXGEN™
RAPID RECIRCULATION
VACUUM MILL



Covered by one or more of the following patents: 5,184,783; 5,497,948; 5,820,040; 7,175,118; 7,559,493; 7,828,234; 7,883,036; 7,914,200; 8,182,133; 8,376,252; 8,733,677; 9,597,691 B1

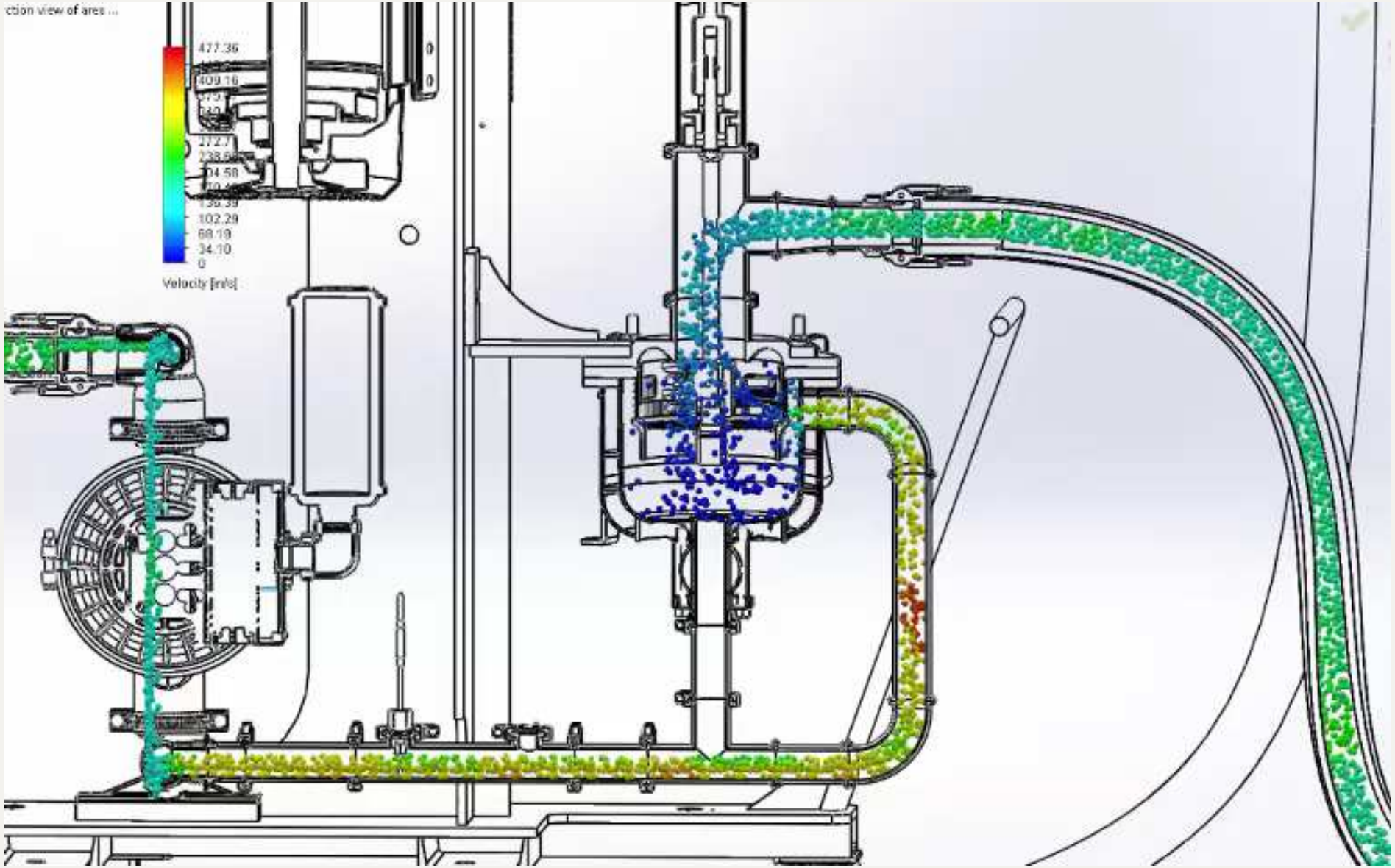
MILL CHAMBER

An aggressive field of bi-directional pegs, media, screens and vacuum forces



FLOW

Click image for video



HOCKMEYER

www.hockmeyer.com/nexgen-recirculation-mill/

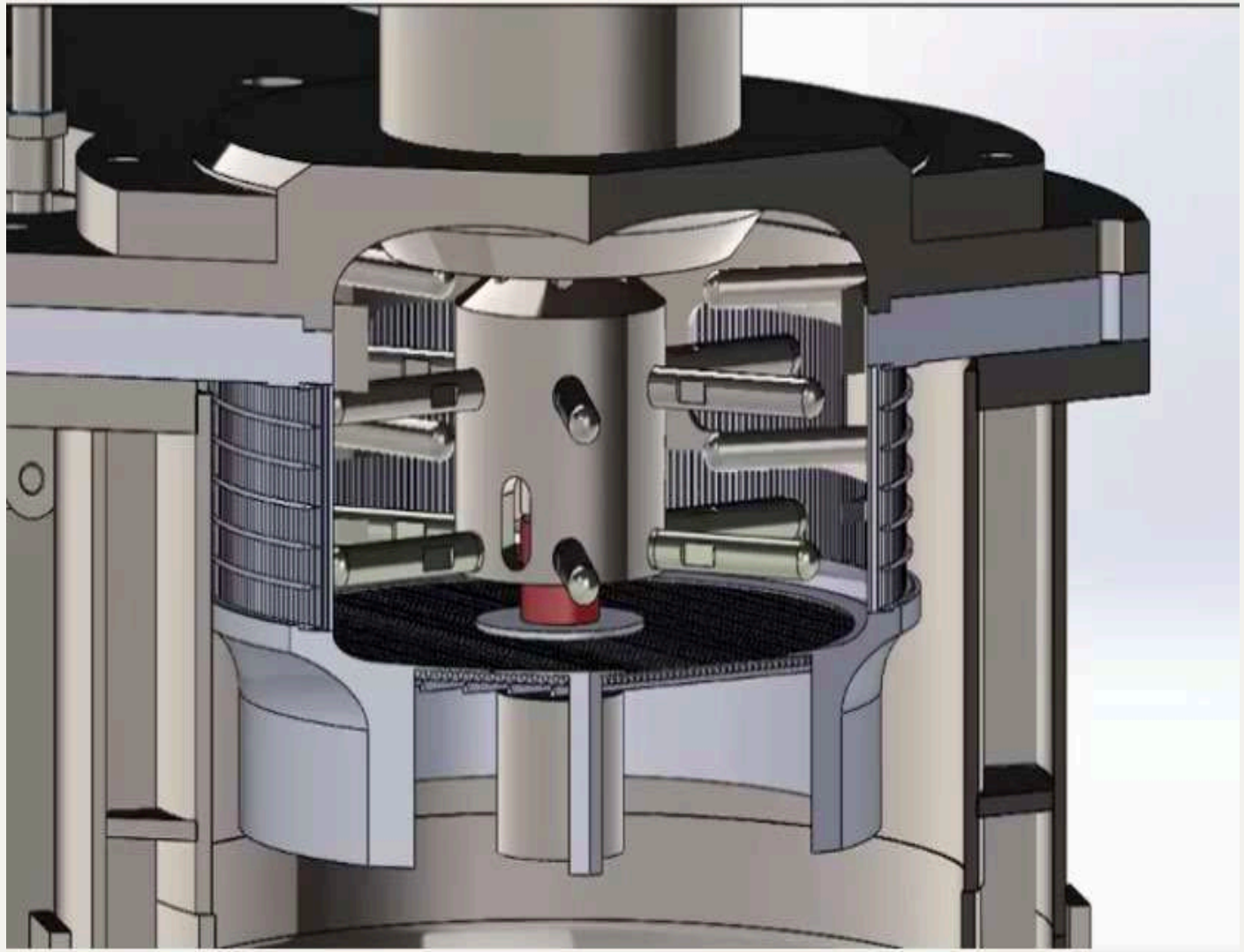
MILL OPERATION

Rotating Pegs spin in the media field up to 3000 fpm

Counter pegs disrupt the media field and stop the media from the effects of centrifugal force

Shaft rotation speed and material feed are controlled separately

Diaphragm pump and ball valves control the material feed and vacuum level

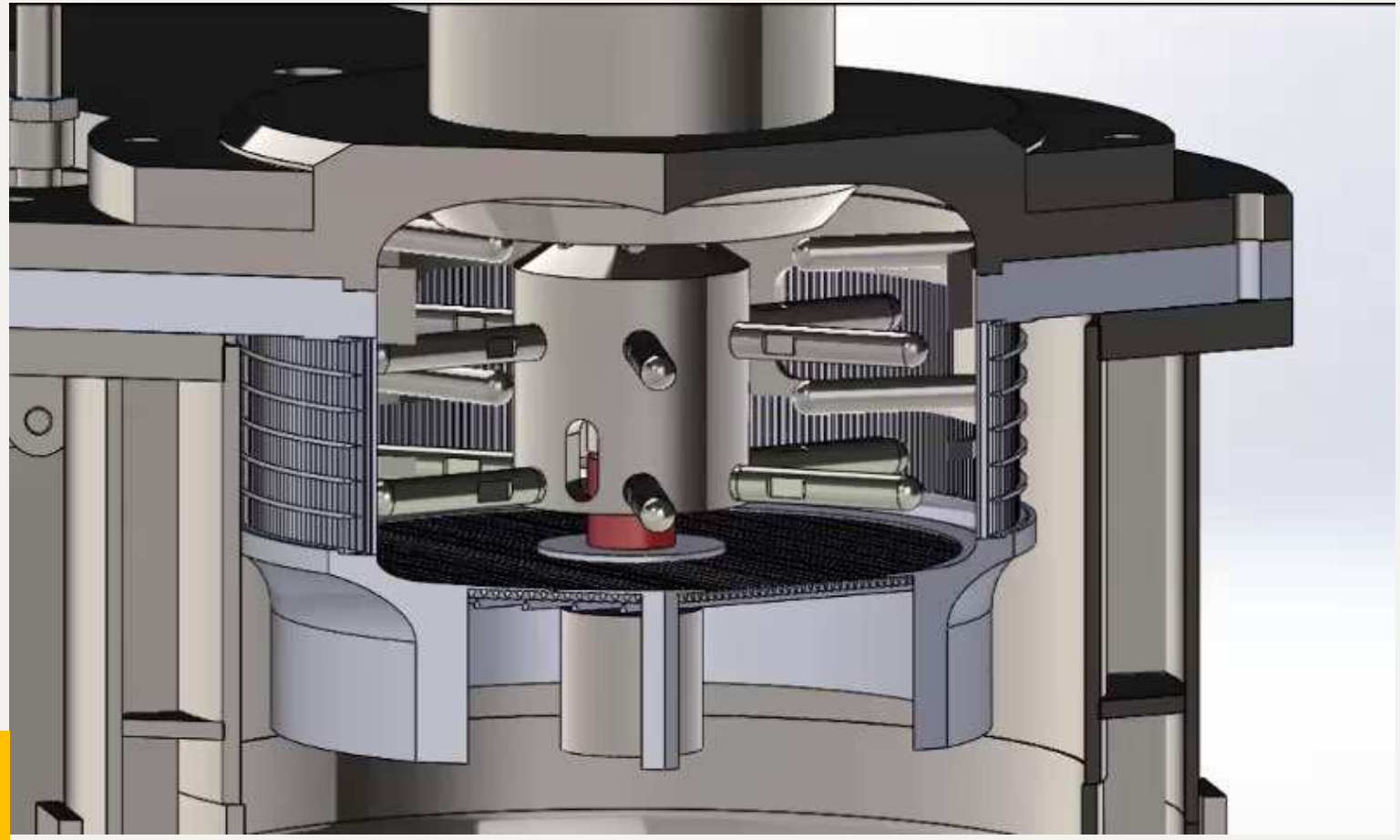


MEDIA FIELD

Maximum screen open surface area to media ratio

Rotating & Stationary pegs for maximum shear

Wide selection of screen sizes to cover all media sizes from 1.5 mm to .03 mm



Click image for video

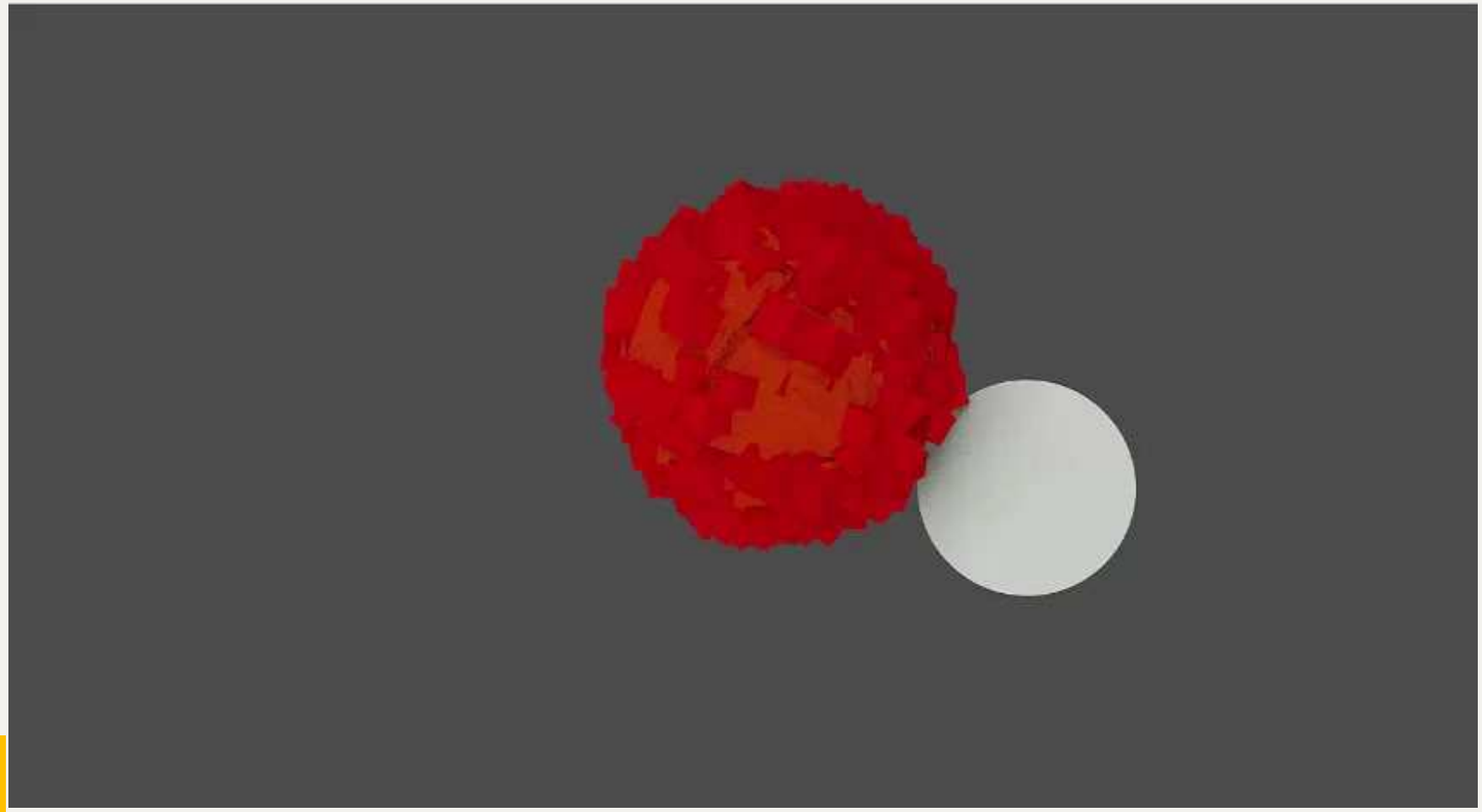
AIR ACCUMULATION

As media breaks down the agglomerate, the trapped air escapes

Air accumulates in the upper portion of the cooling chamber

Once enough air accumulates, it is pulled out through the diaphragm pump as a large slug of air

The large air bubble returns to the supply tank and rises quickly to the top of the batch and is removed from the feedstock



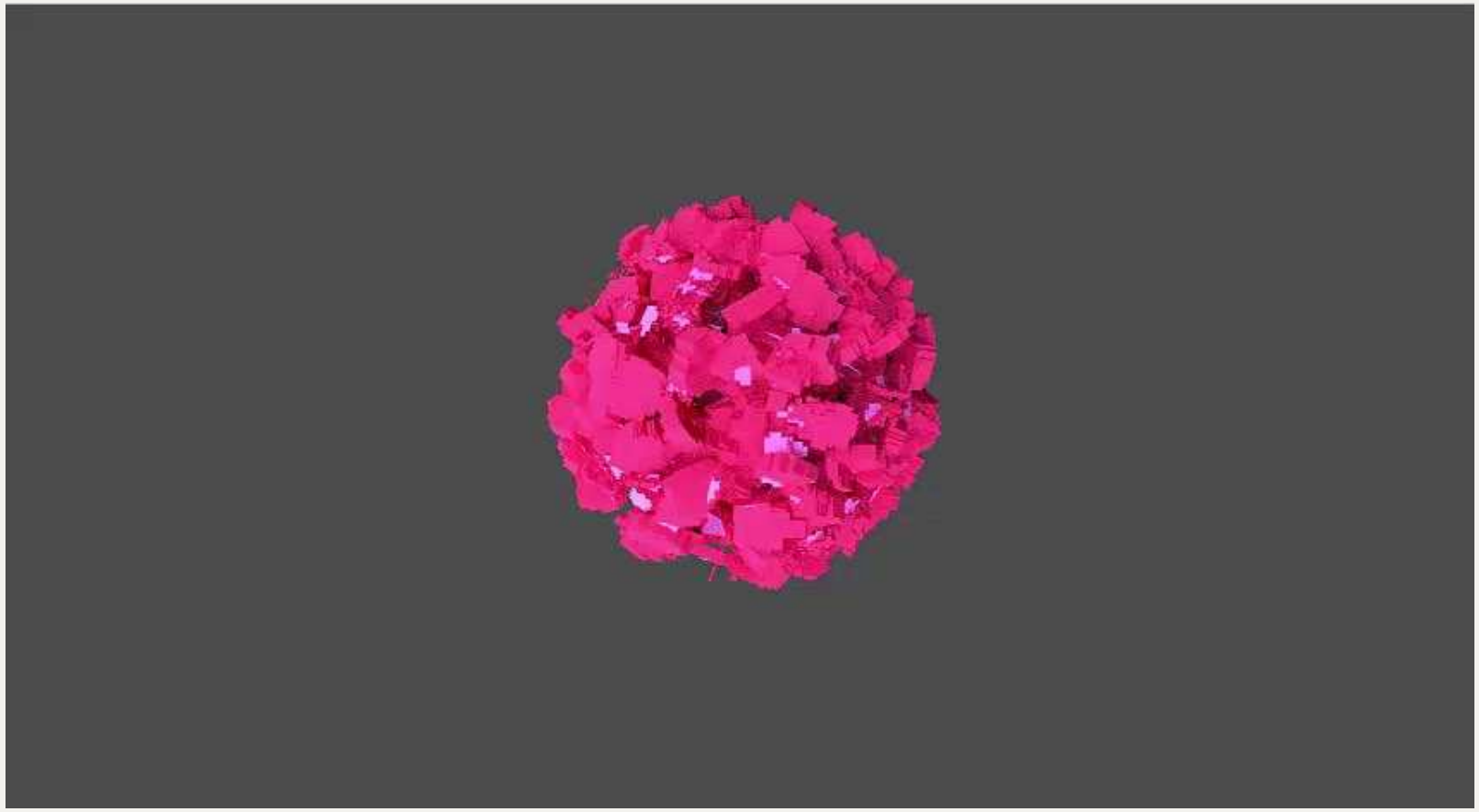
Click image for video

DEAERATION: THE EFFECT OF VACUUM ON AIR BUBBLES

When vacuum is pulled on a liquid containing air bubbles, the bubbles will expand

Under vacuum, bubbles rise to the surface faster than they will at atmospheric conditions

Removing air trapped inside agglomerates allows for faster wetting with liquids and resins.



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NEXGEN MILL SIZES & CAPACITIES

MODEL	BATCH SIZE MIN/MAX (Gal)	MEDIA VOLUME
MICROMILL	1L-1 Gal	49 mL
HNG – 2.5	15/50	2.5L
HNG - 5	35/100	4.5L
HNG - 20	150/400	18.5L
HNG - 60	400/1000	46L

AUTOMATED DIGITAL CONTROLS

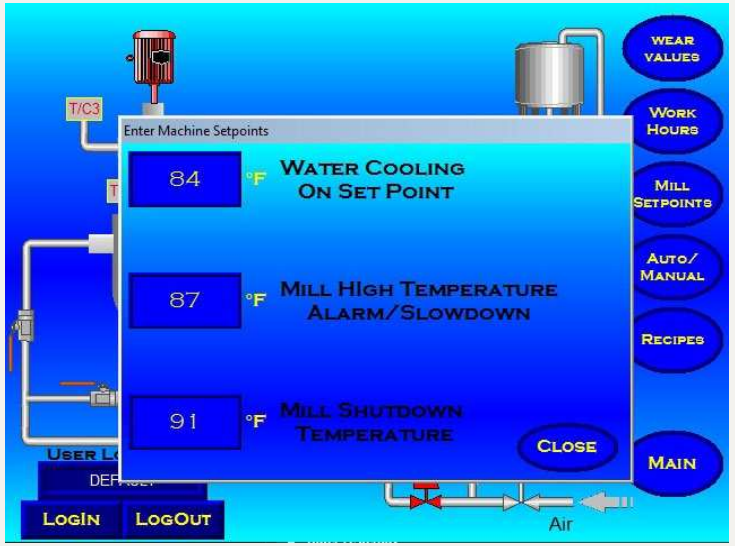
- Recipes
- Monitoring
- Data Collection
- Remote Supervision

Control Screen examples

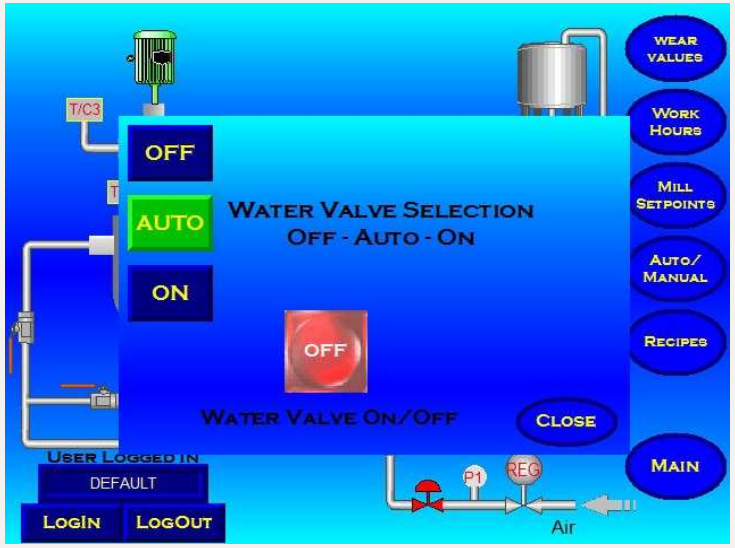
Login

Reset Wear Values

Water Set Point



Auto Shutoff



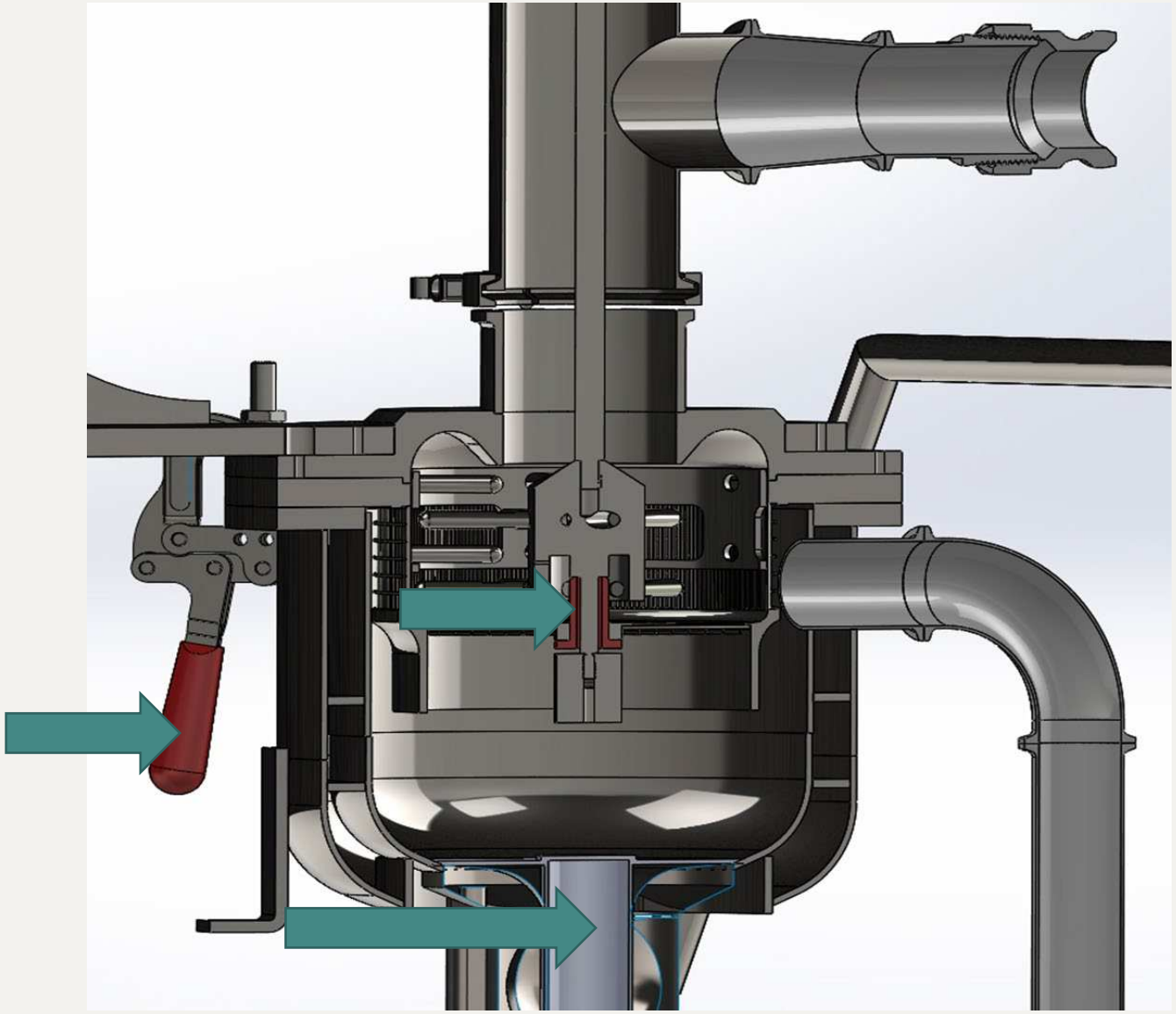
ASSEMBLY & DISASSEMBLY OF HNG

Low point drain to ensure all product is removed and piping is empty

Simple sanitary fittings to remove piping section

Remove chamber bolts to fully expose mill chamber to allow for in-place cleaning

Utilization of wash cart allows quick disassembly and changeover of screens & media



MAINTENANCE/WASH CART

A must-have for convenience, safety and speed when servicing the NEXGEN Vacuum Recirculation Mill.

HOCKMEYER www.hockmeyer.com/nexgen-recirculation-mill/

Case Studies: Process Time Improvement

		CURRENT PROCESS				HOCKMEYER NEXGEN™				
TEST DATE	MILLED PRODUCT	MODEL	BATCH SIZE (GAL)	MEDIA : GALLONS	PROCESS TIME (HOURS)	MODEL	BATCH SIZE (GAL)	MEDIA: GALLONS	PROCESS TIME (HOURS)	TIME REDUCTION (%)
2017	INORGANIC BLACK	HORIZONTAL	11	1:3	12	HNG – 2.5	45	1:20	5	93.75%
2018	CALCIUM CARBONATE	VERTICAL SAND	2000	1:20	16	HNG – 2.5	45	1:20	0.75	95.31%
2019	RED OXIDE	HORIZONTAL 20L	600	1:30	168	HNG - 5	96	1:20	4.5	96.23%
2020	CARBON BLACK	HORIZONTAL 50L	500	1:10	6	HNG - 20	180	1:10	1.75	70.80%
2020	CARBON BLACK	HORIZONTAL 50L	500	1:10	6	HNG - 60	450	1:10	1.75	70.80%
2020	YELLOW/RED PIGMENT BLEND	HORIZONTAL 20L	250	1:17.5	2	HNG - 5	50	1:10	0.75	34.50%
2020	PTHALO BLUE	HORIZONTAL 20L	250	1:17.5	7	HNG - 5	50	1:10	2	50%
2021	CARBON BLACK	HORIZONTAL 60L	580	1:12	4	HNG – 20	180	1:10	1.5	55%
2021	IRON BLUE	HORIZONTAL 60L	415	1:22	4.5	HNG – 20	180	1:10	1.75	14.40%
2021	INKJET RED	HORIZONTAL 20L	450	1:22	7	HNG - 20	180	1:10	0.5	84.30%

NEXGEN LINEUP

HNG Micromill

HNG-2.5
HNG-5

HNG-20

HNG-60

HOCKMEYER EQUIPMENT CORPORATION

6 Kitty Hawk Lane Elizabeth City, NC 27909

W

https://hockmeyer.com/products/nexgen-recirculation-mill/

T

(973) 482-0225

@

sales@hockmeyer.com

FOR MORE INFORMATION