



**CMC TEXPAN**

Machinery and Technology

**EXTRACTION SYSTEMS  
FOR STORAGE SILOS**  
Reliability in material handling





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Despite their apparently simple mechanical design, extraction and handling systems play a primary role in a production plant.

In fact, their proper function will ensure a regular material flow, according to production demand, thus enhancing efficiency and availability of the whole plant.

CMC TEXPAN's extraction systems for discharge of material from storage silos are available in different versions to meet any specific requirements and needs.

## MOVING FLOOR EXTRACTORS

This kind of extraction system is widely used in the wood based panel industry to handle loose materials such as chips, sawdust, bark and recycled wood.

A moving floor extractor includes a set of sliding frames (also called "ladders"), arranged side by side on the bottom of a silo and driven through hydraulic pistons. The silo may be fed with material through mechanical conveying systems or directly by truck.

The extraction of the material is achieved through an alternate sliding movement (back and forth) of the ladders; the material is then discharged into a hopper equipped with a dosing screw. Level control in the silo and in the dosing screw is ensured by adequate sensors.

### Advantages:

- high flexibility;
- easy implementation;
- good dosing performance.





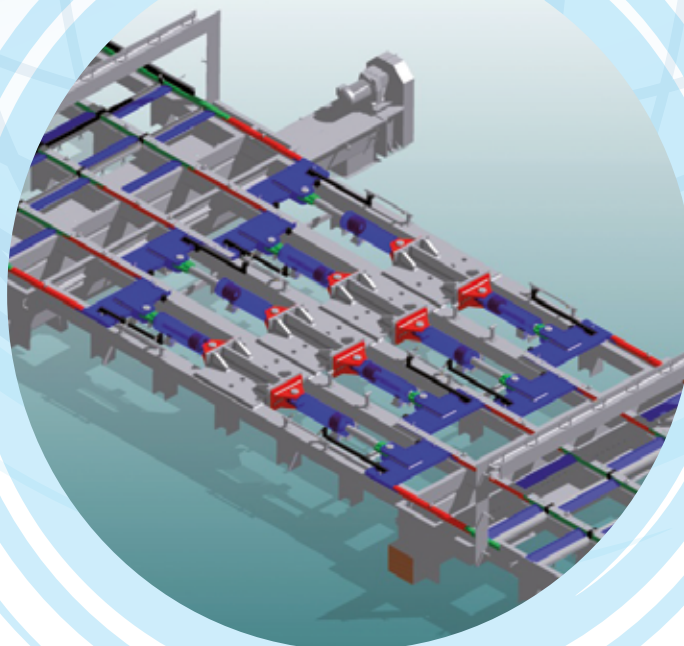
MOVING FLOOR EXTRACTORS - STANDARD RANGE

TYPE	Silo width mm	Silo length mm	Silo height mm	Silo volume m <sup>3</sup>	Extraction capacity m <sup>3</sup> /h	Install. power kW	Dosing screw		
							Diam. mm	Length mm	Install. power kW
MF 3 x 10	4.500	10.000	8.500	400	150	1 x 30	600	6.000	1 x 22 [*]
MF 3 x 15	4.500	15.000		600		1 x 45			
MF 3 x 20	4.500	20.000		800		1 x 45			
MF 4 x 10	6.000	10.000		500	200	2 x 30	600	7.500	1 x 30 [*]
MF 4 x 15	6.000	15.000		750		2 x 45			
MF 4 x 20	6.000	20.000		1.000		2 x 45			
MF 5 x 10	7.500	10.000		650	250	2 x 30	650	9.000	1 x 37 [*]
MF 5 x 15	7.500	15.000		1.000		2 x 45			
MF 5 x 20	7.500	20.000		1.250		2 x 45			
MF 6 x 10	9.000	10.000		750	300	2 x 45	700	10.500	1 x 45 [*]
MF 6 x 15	9.000	15.000		1.100		2 x 45			
MF 6 x 20	9.000	20.000		1.500		2 x 45			

[\*] may vary according to material type and density

## PRE-REQUISITES FOR STORAGE SILO DESIGN:

- sliding frame width = 1.500 mm. Silo width to be a multiple of 1500;
- minimum quantity of sliding frames, arranged side by side: 3 pcs.;
- average throughput of each sliding frame not to exceed 50 m<sup>3</sup>/h.





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## ROUND SILOS WITH SLIDING FRAME EXTRACTORS

They may also be used for several kinds of wooden material (chips, flakes, wet or dry particles, dust etc.). It is particularly suitable for all those applications requiring more than one discharge outlet.

Basically, a sliding frame extractor consists of a sturdy elliptical frame sliding back and forth on the bottom of a round silo; the frame is operated through one or two hydraulic pistons, located outside of the silo and driven by a hydraulic unit.

The back and forth movement of the frame conveys the material into the opening located on the bottom of the silo; from here it is discharged into one or more metering screws to feed the conveyors arranged downstream.

### Advantages:

- maintenance friendliness;
- possibility of being retrofitted to existing silos.



## SLIDING FRAME EXTRACTORS FOR ROUND SILOS - STANDARD RANGE

TYPE	Silo diam. mm	Silo height max. mm	Total volume m <sup>3</sup>	Net volume m <sup>3</sup>	Extraction capacity m <sup>3</sup> /h	Install. power kW	Dosing screw	
							Length mm	Install. power kW
HSF-4,0-1P	4.000	9.000	110	95	wide range available	according to extraction capacity	5.500	according to screw capacity
HSF-4,5-1P	4.500	10.000	160	135			6.000	
HSF-5,0-1P/2P	5.000	10.000	195	165			6.500	
HSF-5,5-1P/2P	5.500	12.000	285	245			7.000	
HSF-6,0-1P/2P	6.000	15.000	425	370			7.500	
HSF-6,5-2P	6.500	16.000	530	460			8.000	
HSF-7,0-2P	7.000	18.000	690	600			8.500	

## ROUND SILOS WITH SWEEPING SCREW EXTRACTORS

This kind of storage and extraction system includes a rotating turret arranged on the bottom of the silo, in central position. One or two metering screws, fastened to the rotating turret, provide for material extraction: the material is discharged in the middle of the turret as the screw rotates and revolves; the turret is driven by a planetary gear motor.

The system is an excellent solution for the extraction of difficult, wet and compact materials, which often create bridging problems in silos.

### Advantages:

- suitable for both wet and dry material, chips and flakes; particularly suitable for wet flakes to be then fed to dryers, as well as for S.L. and C.L. particles;
- no de-mixing, no bridging inside silo;
- constant and regular extraction of material on the whole circular surface of the silo;
- controlled feeding of the units located downstream;
- low power demand;
- no maintenance required inside silo.







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## ROUND SILOS WITH SWEEPING SCREW EXTRACTORS - STANDARD RANGE

TYPE	Silo diam. - max.		Silo height max. mm	Metering extraction screw		Extraction capacity m <sup>3</sup> /h	Install. power kW
	DRY material mm	WET material mm		Qty. (pcs.)	Diam. mm		
EXT-1-250	6.500	5.500	10.000	1	250	5 - 20	4,5
EXT-1-300	6.500	5.500	10.000	1	300	10 - 40	8,0
EXT-2-300	6.500	5.500	10.000	2	300	20 - 80	11,5
EXT-1-350	6.500	5.500	10.000	1	350	15 - 65	15,5
EXT-2-350	6.500	5.500	10.000	2	350	30 - 130	15,5
EXT-1-400	8.000	6.500	15.000	1	400	20 - 85	22,5
EXT-2-400	8.000	6.500	15.000	2	400	42 - 170	22,5
EXT-2-500	8.000	6.500	15.000	2	500	40 - 250	30,5
EXT-2-600	10.000	8.000	20.000	2	600	60 - 360	37,5
EXT-2-700	10.000	8.000	20.000	2	700	125 - 550	45,5

## ROUND SILOS WITH HYDRAULIC SWEEPING SCREW EXTRACTORS

The main field of application for this system is represented by the extraction of wooden particles such as: dust, shavings, chips, rejects and pellets.

Their principle of operation is quite similar to that of "normal" sweeping screw extractors, that's to say extraction is achieved through the rotation of a sweeping screw attached to a turret turning inside the silo; yet they are designed for much bigger capacities, thus requiring different construction and drive systems, capable of withstanding all the loads involved: the rotating screw is driven by a hydraulic motor.

### Advantages:

- high extraction capacity with relatively low power demand;
- constant and regular extraction, no de-mixing;
- suitable for silos with diameter up to 25 m.

**ROUND SILOS WITH HYDRAULIC SWEEPING SCREW EXTRACTORS- STANDARD RANGE**

TYPE	Silo diam. max. mm	Silo height max. mm	Net volume m <sup>3</sup>	Metering extraction screw		Extraction capacity m <sup>3</sup> /h	Install. power kW
				Qty. (pcs.)	Diam. mm		
EXP 15	15.000	20.000	3.000	1	650-1200	400-800	according to extraction capacity
EXP 20	20.000	25.000	6.000				
EXP 25	25.000	30.000	10.000				



*Above data are non-binding and they are provided for information purposes only.*



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