



# LANFRANCHI

## unscrambler



The technological leadership of Lanfranchi unscramblers is based on numerous patents aimed at optimizing product handling (N.S.T.– No Scuffing Technology) and in meeting very high production rates with unmatched efficiency. (Lo.Re.S.T. – Low Relative Speed Technology).

Outputs of up to 72,000 bph (0.5 L) have been reached using just **one** unscrambler with zero bottle scuffing.

A vast range of standard machines allows the right solution to be selected for all processing needs. While meeting the toughest quality standards: the best and only “**the best**” for our Customers.

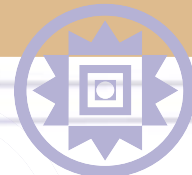


# unscrambler output



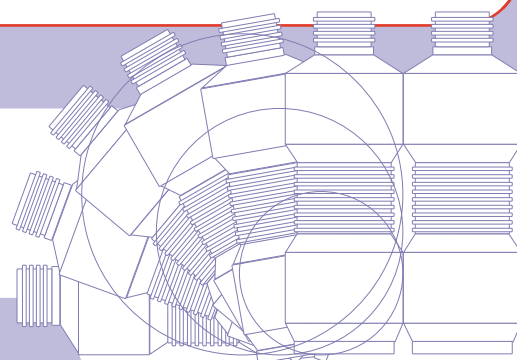
## low speed machines

Diameter (mm)	55	60	66	72	84	94	98	104	115
Height (mm)	160	195	235	250	277	322	330	344	366
MACHINE	0,25 L	0,33 L	0,5 L	0,75 L	1 L	1,25 L	1,5 L	2 L	2,5 L
RM-ST-9-9	5.635	5.635	5.987	5.987	5.987	5.987	5.987		
RM-ST-9-10	6.261	6.261	6.652	6.652	6.652				
RM-ST-9-11	6.887	6.887	7.317	7.317	7.317				
RM-ST-9-12	7.513	7.513	7.983	7.983					
RM-ST-9-13	8.139	8.139							
RM-MAXI-12	7.344	7.344	7.776	7.776	7.776	7.776	7.776	7.776	
RM-MAXI-13	7.956	7.956	8.424	8.424	8.424	8.424	8.424	8.424	
RM-MAXI-14	8.568	8.568	9.072	9.072	9.072	9.072	9.072		
RM-MAXI-15	9.180	9.180	9.720	9.720	9.720				
RM-MAXI-16	9.792	9.792	10.368	10.368	10.368				
RM-MAXI-17	10.404	10.404	11.016	11.016					
RM-MAXI-18	11.016	11.016	11.664						
RC-2400-15	9.346	9.346	9.865	9.865	9.865	9.865	9.865		
RC-2400-16	9.969	9.969	10.523	10.523	10.523				
RC-2400-8/16	9.969	9.969	10.523	10.523	10.523	10.523	5.262	5.262	
RC-2400-18	11.215	11.215	11.838	11.838					
RC-2400-9/18	11.215	11.215	11.838	11.838	11.838	5.919	5.919	5.919	
RC-2400-20	12.462	12.462	13.154						
RC-2400-10/20	12.462	12.462	13.154	6.577	6.577	6.577	6.577	6.577	
RC-2600-16	9.257	9.257	9.771	9.771	9.771	9.771	9.771	9.771	
RC-2600-8/16	9.257	9.257	9.771	9.771	9.771	9.771	9.771	9.771	
RC-2600-18	10.414	10.414	10.993	10.993	10.993				
RC-2600-9/18	10.414	10.414	10.993	10.993	10.993	5.496	5.496	5.496	
RC-2600-20	11.571	11.571	12.214	12.214					
RC-2600-10/20	11.571	11.571	12.214	12.214	6.107	6.107	6.107	6.107	
RC-2600-22	12.729	12.729	13.436						
RC-2600-11/22	12.729	12.729	13.436	6.718	6.718	6.718	6.718	6.718	



Diameter (mm)	55	60	66	72	84	94	98	104	115
Height (mm)	160	195	235	250	277	322	330	344	366
MACHINE	0,25 L	0,33 L	0,5 L	0,75 L	1 L	1,25 L	1,5 L	2 L	2,5 L
L1-STD-20	11.171	11.172	11.793	11.793	11.793	11.793	11.793	11.793	
L1-STD-20-22	12.290	12.290	12.972	12.972	12.972				
L1-STD-20-11/22	12.290	12.290	12.972	12.972	12.972	6.486	6.486	6.486	
L1-STD-20-24	13.407	13.407	14.152	14.152	14.152				
L1-STD-20-12/24	13.407	13.407	14.152	14.152	14.152	7.076	7.076	7.076	
L1-STD-20-26	14.524	14.524	15.331	15.331					
L1-STD-20-13/26	14.524	14.524	15.331	15.331	7.666	7.666	7.666	7.666	
L1-STD-20-28	15.641	15.641							
L1-STD-20-14/28	15.641	15.641	16.510	8.255					
L2-SR-14	14.662	15.212	16.128	16.128	15.578	15.578	15.578	15.578	15.578
L2-SR-14-16	16.756	17.385	18.432	18.432	17.804	17.804			
L2-SR-14-8/16	15.919	16.515	17.510	17.510	16.913	16.913	8.457	8.457	8.457
L2-SR-14-18	18.851	19.558	20.736	20.736	20.029				
L2-SR-14-20	20.945	21.731	23.040						
L2-SR-14-10/20	19.898	20.644	21.888	10.944	10.571	10.571	10.571	10.571	10.571
L2-SR-14-22	23.040	23.904							
L2-SR-16	15.360	15.936	16.896	16.896	16.320	16.320	16.320	16.320	16.320
L2-SR-16-8/16	14.592	15.139	16.051	16.051	15.504	15.504	15.504	15.504	15.504
L2-SR-16-18	17.280	17.928	19.008	19.008	18.360	18.360			
L2-SR-16-20	19.200	19.920	21.120	21.120	20.400				
L2-SR-16-10/20	18.240	18.924	20.064	20.064	19.380	9.690	9.690	9.690	9.690
L2-SR-16-22	21.120	21.912	23.232	23.232					
L2-SR-16-24	23.040	23.904							
L2-SR-16-12/24	21.888	22.709	12.038	12.038	11.628	11.628	11.628	11.628	11.628
L2-SR-18	15.951	16.549	17.546	17.546	16.948	16.948	16.948	16.948	16.948
L2-SR-18-20	17.723	18.388	19.495	19.495	18.831	18.831	18.831		
L2-SR-18-10/20	16.837	17.468	18.521	18.521	17.889	17.889	17.889	8.945	8.945
L2-SR-18-22	19.495	20.226	21.445	21.445	20.714				
L3-SR-16-21	25.920	26.892	28.512	28.512					
L3-SR-16-24	29.623	30.734							
L3-SR-16-12/24	28.142	29.197	15.478	15.478	14.950	14.950	14.950	14.950	14.950
L3-SR-16-27	33.326								
L3-SR-18	20.736	21.514	22.810	22.810	22.032	22.032	22.032	22.032	22.032
L3-SR-18-9/18	19.699	20.438	21.669	21.669	20.930	20.930	20.930	20.930	20.930
L3-SR-18-21	24.192	25.099	26.611	26.611	25.704				
L3-SR-18-24	27.648	28.685	30.413	30.413					
L3-SR-18-12/24	26.266	27.251	28.892	28.892	13.954	13.954	13.954	13.954	13.954
L3-SR-18-27	31.104	32.270							
L3-SR-18-30	34.560	34.560							
L3-SR-18-15/30	32.832	34.063	18.058	18.058	17.442	17.442	17.442	17.442	17.442

## medium speed machines



Diameter (mm)	55	60	66	72	84	94	98	104	115
Height (mm)	160	195	235	250	277	322	330	344	366
MACHINE	0,25 L	0,33 L	0,5 L	0,75 L	1 L	1,25 L	1,5 L	2 L	2,5 L
L3-SR-21	23.262	24.134	25.588	25.588	24.715	24.715	24.715	24.715	24.715
L3-SR-21-24	26.585	27.582	29.243	29.243	28.246				
L3-SR-21-12/24	26.585	27.582	29.243	29.243	28.246	14.123	14.123	14.123	14.123
L3-SR-21-27	29.908	31.029	32.898	32.898					
L3-SR-21-30	33.231	34.477	36.554						
L3-SR-21-15/30	33.231	34.477	36.554	18.277	17.654	17.654	17.654	17.654	17.654
L3-SR-21-33	36.554	37.925							
L3-SR-21-36	39.877								
L3-SR-21-18/36	39.877	20.686	21.932	21.932	21.185	21.185	21.185	21.185	21.185
L3-SR-24	25.920	26.892	28.512	28.512	27.540	27.540	27.540	27.540	27.540
L3-SR-24-12/24	25.920	26.892	28.512	27.540	27.540	27.540	27.540	27.540	27.540
L3-SR-24-27	29.160	30.254	32.076	32.076	30.983	30.983			
L3-SR-24-30	32.400	33.615	35.640	35.640	34.425				
L3-SR-24-15/30	32.400	33.615	35.640	35.640	34.425	17.213	17.213	17.213	17.213
L3-SR-24-33	35.640	36.977	39.204	39.204					
L3-SR-24-36	38.880	40.338							
L3-SR-24-18/36	38.880	40.338	21.384	21.384	20.655	20.655	20.655	20.655	20.655
L3-SR-27	28.106	29.160	30.917	30.917	29.863	29.863	29.863	29.863	29.863
L3-SR-27-30	31.229	32.400	34.352	34.352	33.181	33.181	33.181		
L3-SR-27-15/30	31.229	32.400	34.352	34.352	33.181	33.181	33.181	16.590	16.590
L3-SR-27-33	34.352	35.640	37.787	37.787	36.499				
L3-SR-27-36	37.475	38.880	41.222	41.222					
L3-SR-27-18/36	37.475	38.880	41.222	41.222	19.908	19.908	19.908	19.908	19.908
L3-SR-27-39	40.598	42.120	44.657						
L3-SR-27-42	43.720	45.360							
L3-SR-27-21/42	43.720	45.360	24.046	24.046	23.227	23.227	23.227	23.227	23.227
L3-SR-30	30.140	31.270	33.153	32.023	32.023	32.023	32.023	32.023	32.023
L3-SR-30-15/30	30.140	31.270	33.153	32.023	32.023	32.023	32.023	32.023	32.023
L3-SR-30-33	33.153	34.397	36.469	36.469	35.226	35.226	35.226		
L3-SR-30-36	36.167	37.524	39.784	39.784	38.428				
L3-SR-30-18/36	36.167	37.524	39.784	39.784	38.428	19.214	19.214	19.214	19.214
L3-SR-30-39	39.181	40.651	43.100	43.100	41.630				
L3-SR-30-42	42.195	43.778	46.415	46.415					
L3-SR-30-21/42	42.195	43.778	46.415	46.415	22.416	22.416	22.416	22.416	22.416
L3-SR-33	31.680	32.868	34.848	34.848	33.660	33.660	33.660	33.660	
L3-SR-33-36	34.560	35.856	38.016	38.016	36.720	36.720			
L3-SR-33-18/36	34.560	35.856	38.016	38.016	36.720	36.720	36.720	18.360	18.360
L3-SR-33-39	37.440	38.844	41.184	41.184	39.780				
L3-SR-33-42	40.320	41.832	44.352	44.352					
L3-SR-33-21/42	40.320	41.832	44.352	44.352	21.420	21.420	21.420	21.420	21.420
L3-SR-33-45	43.200	44.820	47.520						
L3-SR-33-48	46.080	47.808							
L3-SR-33-24/48	46.080	47.808	25.344	25.344	24.480	24.480	24.480	24.480	24.480
L3-SR-33-51	48.960	50.796							
L3-SR-33-54	51.840								
L3-SR-33-27/54	51.840	53.784	28.512	28.512	27.540	27.540	27.540	27.540	27.540
L4-SR-36	43.655	45.292	48.020	48.020	46.383	46.383	46.383	46.383	
L4-SR-36-40	48.505	50.324	53.356	53.356	51.537	51.537			
L4-SR-36-20/40	48.505	50.324	53.356	53.356	51.537	51.537	25.768	25.768	25.768
L4-SR-36-44	53.356	55.357	58.691	58.691	56.691				
L4-SR-36-48	58.206	60.389	64.027	64.027					
L4-SR-36-24/48	58.206	60.389	64.027	64.027	30.922	30.922	30.922	30.922	30.922
L4-SR-40	48.505	50.324	53.356	53.356	51.537	51.537	51.537		
L4-SR-40-20/40	48.505	50.324	53.356	53.356	51.537	51.537	51.537	51.537	25.768
L4-SR-40-44	53.356	55.357	58.691	58.691	58.691				
L4-SR-40-48	58.206	60.389	64.027	64.027					
L4-SR-40-24/48	58.206	60.389	64.027	64.027	61.844	30.922	30.922	30.922	30.922
L4-SR-40-52	63.057	65.421	69.363						
L4-SR-40-56	67.907	70.454							
L4-SR-40-28/56	67.907	70.454	37.349	37.349	36.076	36.076	36.076	36.076	36.076

high speed machines



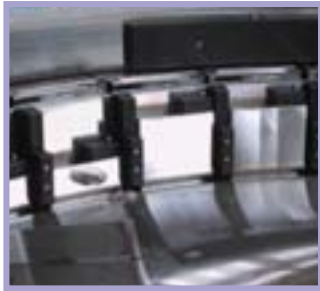


- ▶ The tables relating to the
- ▶ output of the various
- ▶ unscramblers can be
- ▶ found internally and is
- ▶ divided into low,
- ▶ medium, high speed.

# unscrambler

Bottles slide gently on to a fixed stainless steel cone and are positioned on the circumference of the unscrambler. From here, bottles are selected by Lifters (Lift Master patent) that convey them smoothly to the upper part of the unscrambler. In this way the bottles avoid being re-scrambled and knocked about due to the high relative velocities typical of other technologies.

The fast speed unscramblers carry out this operation up to 4 times per machine cycle, allowing 4 bottles to be positioned vertically on the



## Lift Master Patent

The Lifters, controlled by a mechanical system, ensure that bottles are smoothly hoisted during the sorting phase, allowing profiled or unstable bottles to be processed with zero scuffing.

Loading is repeated on fast machines up to 4 times/cycle.



## SR Patent

The two overlapped horizontal carousels turn at differentiated speeds.

This, together with the Lifter system enables outputs - rotation speed of the unscrambler being equal - up to 4 times greater than those obtained using traditional technology.

carousel underneath (SR patent) in the space, which, in the upper part, is normally occupied by a single bottle lying down.

The efficiency of the unscrambler is further increased by the bottle extractor systems that remove (normally without stopping the machine) any damaged bottles that are conveyed to the unscrambler. Machines are constructed in stainless steel.

Exceptionally high construction standards guarantee a solid design for continuous three-shift use, with very little maintenance required.



**NEW**

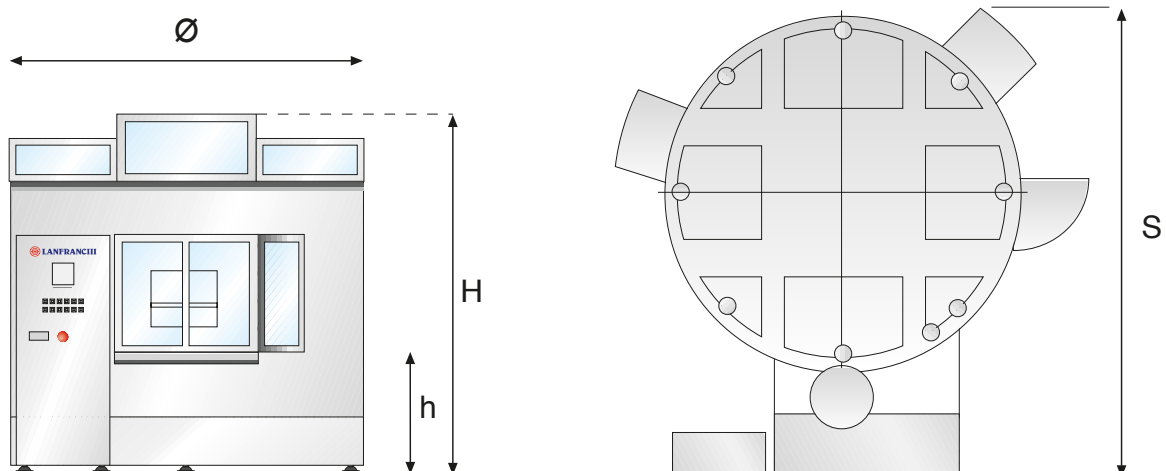
## Vacuum Starwheel Patent

This system actually increases the efficiency of the unscrambler, since it reduces any possibility of a bottle jam, between the outfeed of the unscrambler to the starwheel and also between the starwheel transfer to the air conveyor or to the table-top conveyor. An added advantage is that, within certain limits, the starwheel need not be substituted when changing the bottle size to be handled. This new starwheel runs without any counterweights.

## DIMENSIONS

MOD	RM ST	RM MAXI	RC 2400	RC 2600	L1 STD	L2 SR-14	L2 e L3 SR-16	L2 e L3 SR-18	L3 SR-21	L3 SR-24	L3 e L4 SR-27	L3 e L4 SR-30	L3 e L4 SR-33	L4 SR-36	L4 SR-40
Ø	1.690	2.240	2.400	2.600	3.130	2.640	2.920	3.200	3.620	4.040	4.500	4.950	5.170	5.640	5.950
H	2.320	2.320	2.320	2.870	2.870	2.940	3.020	3.020	3.020	3.020	3.220	3.220	3.220	3.320	3.320
S	2.540	3.090	3.250	3.450	3.980	3.590	3.870	4.050	4.470	5.040	5.500	5.950	6.170	6.640	6.950

The dimensions relating to the height of the machine refer to a bottle discharge height of 1200 mm.



LANFRANCHI - unscrambler - GB 03/2007



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