

## Technical News Bulletin

Cham, September 2014

### Scoop Overview

The already extensive Emhart Glass scoop portfolio continues to grow substantially in breadth and depth. There are different ways for a user to take advantage of the latest developments, depending on the current installation and operating requirements. This document shows the current scoop range and indicates the upgrade paths available.

### Individual characteristics of different materials

#### *Aluminum scoop*

This well established line of scoops belongs to the lower standard price segment. The low weight of the aluminium leads to a small moment of inertia and allows running the machine with high velocities.

To avoid porosity problems which may occur with cast profiles, all Emhart Glass aluminium scoops are machined from solid material.

This group is a basic and uncoated assortment with a relatively moderate wear resistance.



#### *Aluminum coated scoop*

For an increased lifetime and an improved wear resistance it is recommended to take advantage of the aluminium coated scoop range. They are coated with a thin surface-impregnated hard-wearing layer of Tungsten Carbide which significantly increases the life of the scoop, without additional treatment.



The longitudinal inner profile of these scoops has been additionally optimised to ensure better gob guidance, through an improved interface and an increased length.

For customers who opt to apply their own surface treatments, uncoated scoops of an identical form can be supplied, under the range 523-157.

It should be borne in mind that the process of coating a scoop may involve the use of abrasives or high temperatures, both of which can damage the profile accuracy. For this reason, Emhart Glass recommends the use of our well known and excellent coated range.

*Stainless steel scoop*

Emhart Glass has further extended its comprehensive family of scoops with the addition of stainless steel models for universal sizes 0-2 and 2-3.

The stainless steel versions have a highly polished contact surface offering low frictional characteristics. Owing to the wear resistance of stainless steel, extraordinary long service life can be achieved without the necessity to apply coatings.

Stainless steel also offers excellent chemical resistance, reducing corrosion effects from low quality water systems, and permitting the removal of internal lime scale by internal chemical cleaning.

Due to their relatively high weight and the augmented moment of inertia these scoops are suited best for moderated machine speeds. The listed scoops below use the same standard interface, and can thus be used interchangeably.



For All Sections			
Delivery Center Distance	Material	0 - 2	2 - 3
DG 4 3/8"	Stainless steel	523-8510	523-8511
	Equivalent aluminum coated	523-5213-COAT	523-5215-COAT
	Equivalent aluminum uncoated	523-5213	523-5215

*Titanium scoop*

This premium line of scoops combines the advantages of the stainless steel and the aluminium scoops without their disadvantages.

On the one hand the titanium scoops are very light in weight; on the other hand they are characterized with a high corrosion and oxidation resistance and are predestined for low quality water systems.

The superior titanium scoops can thus be cleaned from internal lime scale and meets the increasing demand for long-life scoops.



## Scoop Range Overview

*Current scoop portfolio*

Designed and manufactured to the latest standard with superior loading characteristics and a variety of different materials to fit the needed requirements. Referring to the functionality the selection below is interchangeable and differs only in the material.

	Delivery Center Distance	Scoop Size	Aluminum	Aluminum coated	Stainless steel	Titanium
For 6 - 8 Sections	3" - DG / TG	0 - 2	523-158-9	523-143-7	- on request -	- on request -
		2 - 3	523-158-10	523-143-8	523-8531	523-8534
	4 3/8" - SG	0 - 2	523-157-1	523-160-1	- on request -	- on request -
		2 - 3	523-157-2	523-160-2	- on request -	- on request -
		3 - 4	523-157-7	523-160-7		
		4 - 5	523-157-9	523-160-9		
	4 3/8" - DG / TG	0 - 2	523-157-1	523-160-1	- on request -	- on request -
		3 - 4	523-157-2	523-160-2	- on request -	- on request -
		3 1/2	523-8473	523-8474		
	For 10 - 16 Sections	3" - DG / TG	0 - 2	523-158-11	523-143-5	523-8530
2 - 3			523-158-12	523-143-6	523-8539	523-85340
4 3/8" - SG		0 - 2	523-157-5	523-160-5		
		2 - 3	523-157-6	523-160-6		
		3 - 4	523-157-8	523-160-8		
		4 - 5	523-157-10	523-160-10		
4 3/8" - DG / TG		0 - 2	523-157-3	523-160-3	523-8529	523-8536
		2 - 3	523-157-4	523-160-4	523-8532	523-8535
		3 1/2	523-8473	523-8474		
5" - DG		0 - 2	523-157-3	523-160-3	523-8529	523-8536
	2 - 3	523-157-4	523-160-4	523-8532	523-8535	

*Additional scoop overview*

- Special scoops

Even with the extensive range of Emhart Glass scoops, some customers have applications where they feel that a specially designed scoop would better meet their requirements. Emhart Glass is always prepared to consider special cases and to work with customers to achieve an optimal result at an appropriate cost. Your Emhart Glass office will be pleased to discuss your requirements.

- Obsolete scoops

Some older scoops are no longer produced, and due to their specialized nature have no defined upgrade path. Emhart Glass can propose upgrade strategies for such scoops or provide the customer with an equivalent current scoop on request. Please contact your Emhart Glass office if further information is necessary.

## **Upgrade to the latest 4<sup>3</sup>/<sub>8</sub>" center distance scoop technology**

*Historical summary of DG 4<sup>3</sup>/<sub>8</sub>" scoops*

The first Double Gob gob-distributor delivery systems were supplied with different scoop profiles for the upper (inner cavity) and lower (outer cavity) positions. The different profiles caused dissimilar accelerations to be experienced by the two gobs, resulting in the inner gob arriving at the blank mould earlier than the outer, and in unequal gob deformations. Both effects are unwelcome.

The simple solution was to raise the gob distributor using a spacer, thus allowing two identical (lower) scoops to be used. To maintain the height difference between scoops, a spacer is mounted above the scoop in the lower position.

The interface between gob distributor and scoop was further improved to provide a more easily repeatable alignment, without the need to adjust trough alignment at each job change. Further improvements included the elimination of gaskets to seal the cooling water, through the use of O-rings.

*Upgrade path*

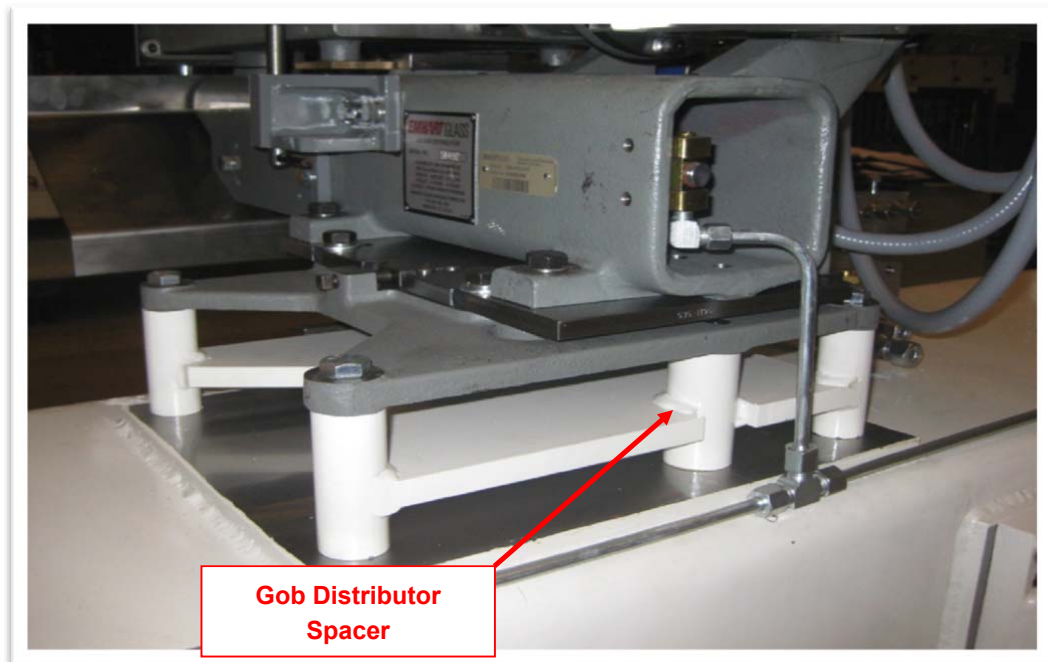
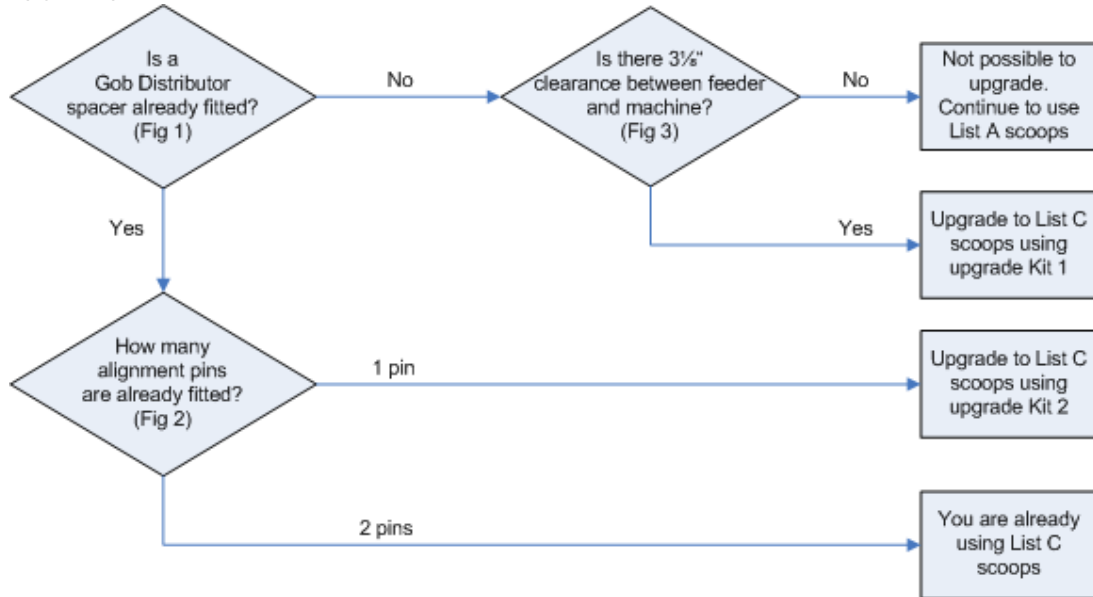


Fig 1 – Gob distributor spacer

Fig 2a - Old-style scoop spacer

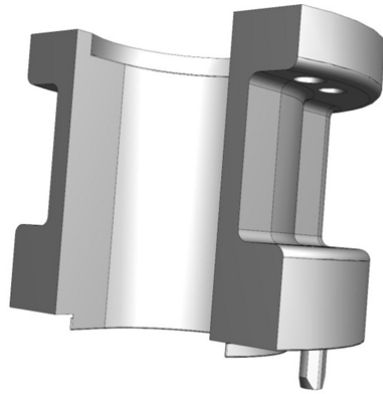


Fig 2b - New-style scoop spacer

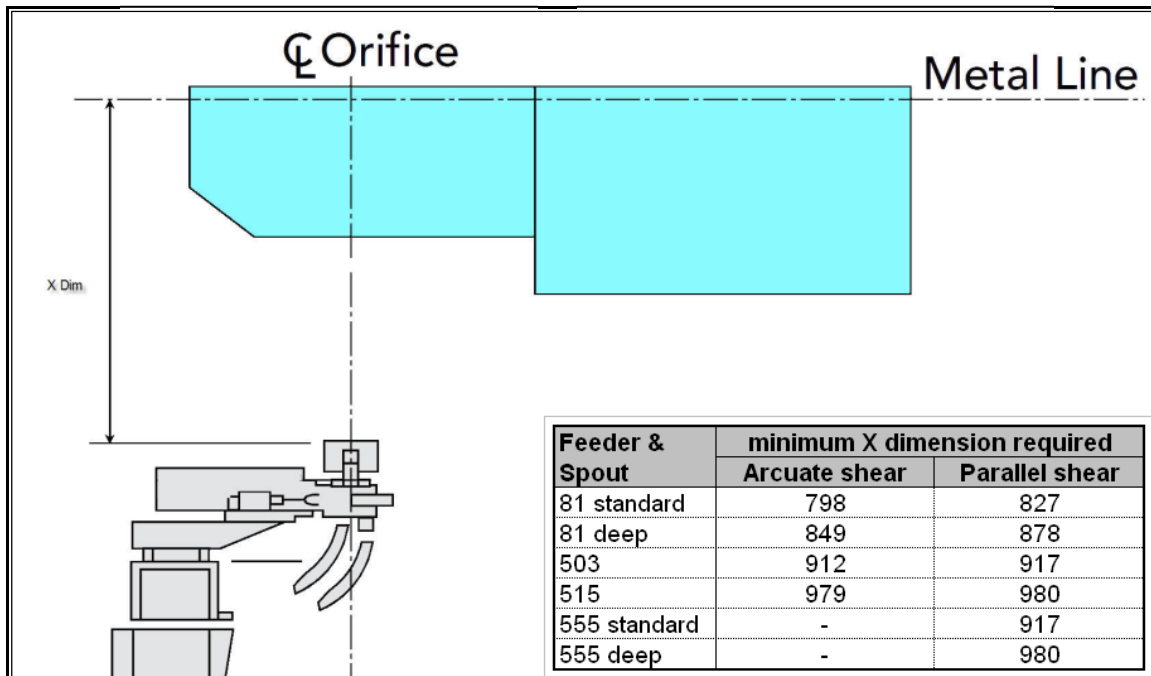
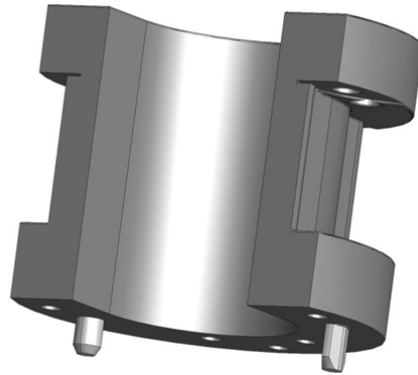


Fig 3 – How to check for minimum clearance to raise Gob Distributor.

*Scoop Upgrade Kit 1*

**For 4<sup>3/8</sup>" delivery center distance only.**

This kit contains Gob Distributor spacer, scoop, scoop spacer and mounting parts required to upgrade an existing non-raised installation to the latest scoop technology.

Delivery Center Distance	Machine Sections	Universal Scoop Size	Scoop Upgrade Kit 1
<b>SG 4<sup>3/8</sup>"</b>	<b>6 ; 8</b>	0 - 2	523-162-1KU
		2 - 3	523-162-2KU
		3 - 4	523-162-3KU
		4 - 5	523-162-4KU
	<b>10</b>	0 - 2	523-162-6KU
		2 - 3	523-162-7KU
		3 - 4	523-162-8KU
		4 - 5	523-162-9KU
	<b>16</b>	0 - 2	523-162-25KU
		2 - 3	523-162-26KU
		3 - 4	523-162-27KU
		4 - 5	523-162-28KU
<b>DG 4<sup>3/8</sup>"</b>	<b>6 ; 8</b>	0 - 2	523-164-1KU
		2 - 3	523-164-2KU
	<b>10</b>	0 - 2	523-164-5KU
		2 - 3	523-164-6KU
	<b>16</b>	0 - 2	523-164-9KU
		2 - 3	523-164-10KU

*Scoop Upgrade Kit 2*

**For 4<sup>3/8</sup>" delivery center distance only.**

This kit contains scoop, scoop spacer and mounting parts required to upgrade an already-raised Gob Distributor installation to the latest scoop technology.

Delivery Center Distance	Machine Sections	Universal Scoop Size	Scoop Upgrade Kit 2
<b>SG 4<sup>3/8</sup>"</b>	<b>6 ; 8</b>	0 - 2	523-161-1KU
		2 - 3	523-161-2KU
		3 - 4	523-161-3KU
		4 - 5	523-161-4KU
	<b>10</b>	0 - 2	523-161-8KU
		2 - 3	523-161-9KU
		3 - 4	523-161-10KU
		4 - 5	523-161-11KU
	<b>16</b>	0 - 2	523-161-15KU
		2 - 3	523-161-16KU
		3 - 4	523-161-17KU
		4 - 5	523-161-18KU
<b>DG 4<sup>3/8</sup>"</b>	<b>6 ; 8</b>	0 - 2	523-163-1KU
		2 - 3	523-163-2KU
	<b>10</b>	0 - 2	523-163-5KU
		2 - 3	523-163-6KU
	<b>12</b>	0 - 2	523-163-24KU
		2 - 3	523-163-25KU
	<b>16</b>	0 - 2	523-163-9KU
		2 - 3	523-163-10KU



Aluminum scoops

List C

**For Gob Distributors which are raised by a 3 $\frac{1}{8}$ " spacer.**

Delivery Center Distance	Machine Sections	Scoop Size	Aluminum Scoop Coated	Aluminum Scoop Uncoated
SG 4 $\frac{3}{8}$ "	6 ; 8	0 - 2	523-160-1	523-157-1
		2 - 3	523-160-2	523-157-2
		3 - 4	523-160-7	523-157-7
		4 - 5	523-160-9	523-157-9
	10 ; 12 ; 16	0 - 2	523-160-5	523-157-5
		2 - 3	523-160-6	523-157-6
		3 - 4	523-160-8	523-157-8
		4 - 5	523-160-10	523-157-10
DG 4 $\frac{3}{8}$ "	6 ; 8	0 - 2	523-160-1	523-157-1
		2 - 3	523-160-2	523-157-2
	10 ; 12 ; 16	0 - 2	523-160-3	523-157-3
		2 - 3	523-160-4	523-157-4
	All	3 $\frac{1}{2}$	523-8474	523-8473
DG 5"	10 ; 12 ; 16	0 - 2	523-160-3	523-157-3
		2 - 3	523-160-4	523-157-4
TG 3"	6 ; 8	0 - 2	523-143-7	523-158-9
		2 - 3	523-143-8	523-158-10
	10	0 - 2	523-143-5	523-158-11
		2 - 3	523-143-6	523-158-12

*Old-style aluminum scoops*

List B

Old-style aluminium scoops, which may still be in regular use, but whose format is based on older design considerations.

Although their design and performance may not meet the most modern standards, these scoops are well established, and in wide-spread use. For this reason they are still supplied by Emhart Glass.

The scoops available, and the scoop spacers required, depend on whether or not the Gob Distributor has been raised by means of a Gob Distributor spacer:

***Old-style scoop range***

***For Gob Distributors which have been raised by a 3 1/8" spacer.***

Delivery Center Distance	Machine Sections	Scoop Size	Aluminum Scoop Coated	Aluminum Scoop Uncoated
<b>SG (4 3/8")</b>	<b>6 ; 8</b>	0 - 2	-	523-5384
		2	-	523-5139
		3	-	523-5135
		4	-	523-5136
		5	-	523-5137
	<b>10 ; 16</b>	2	-	523-5775
		3	-	523-5776
		4	-	523-5777
		5	-	523-5778
	<b>DG 4 3/8"</b>	<b>6 ; 8</b>	3/8	-
1/2			-	523-8070
5/8			-	523-8057
3/4			-	523-8058
7/8			-	523-8063
1			-	523-8064
<b>All</b>		3/4	-	523-8439
		7/8	-	523-8440
		1	-	523-8441
		0 - 2	523-5213-COAT	523-5213
		2 - 3	523-5215-COAT	523-5215

List A

**Old-style scoop range**  
**For Gob Distributors which have not been raised.**

Delivery Center Distance	Machine Sections	Scoop Size	Aluminum Scoop Coated	Aluminum Scoop Uncoated
SG (4 <sup>3/8</sup> " )	6 ; 8	0 - 2	-	523-5384
		2	-	523-5139
		3	-	523-5135
		4	-	523-5136
		5	-	523-5137
	10 ; 16	2	-	523-5775
		3	-	523-5776
		4	-	523-5777
		5	-	523-5778
	DG 4 <sup>3/8</sup> " )	6 ; 8	3/8	-
1/2			-	523-8070
5/8			-	523-8057
3/4			-	523-8058
7/8			-	523-8063
1			-	523-8064
0 - 2			-	523-5213
0 - 2			-	523-5214
2 - 3			-	523-5215
2 - 3			-	523-5216
2 - 3			523-153-2	523-158-2
0 - 2			523-153-4	523-158-1
10 ; 16			0 - 2	523-153-5
		2 - 3	523-153-3	523-158-4
		3/8 - 3/4	-	523-8022