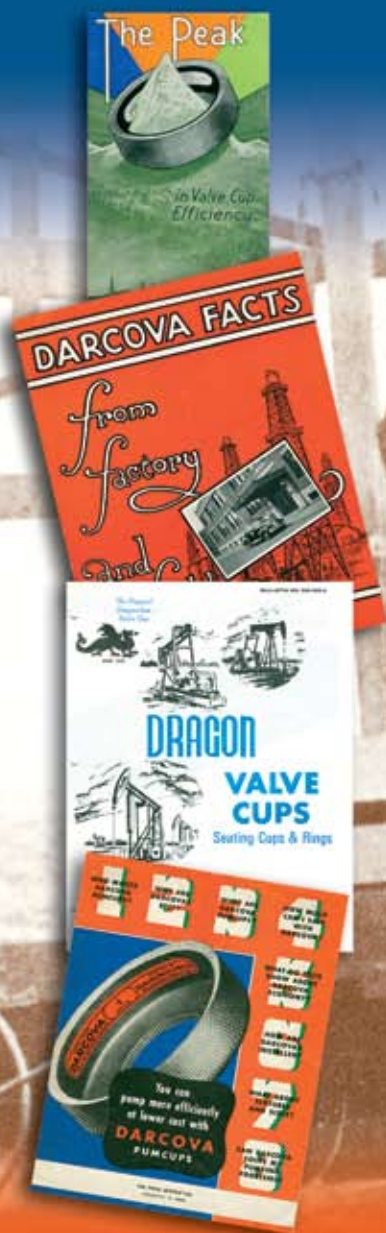




# VALVE CUPS



BRINGING TOGETHER A CENTURY OF EXPERIENCE  
DESIGNED & MANUFACTURED BY PRODUCERS FOR PRODUCERS



# VALVE CUPS



## “DARCOVA” The First Name in Composition Valve Cups

In 1904, after several years of testing new materials to replace leather, the Darling Valve Co. presented the first composition valve cup to the oilfields.

The DARling COmposition VAlve cup was named the “DARCOVA” cup.



DARCOVA'S 1938  
Select-a-Size Guide

**TODAY**, all **DARCOVA** and The Dragon composition cups have an extremely durable polyester outer layer laminated with our custom formulated elastomers. Our lathe-cut lip won't lose its shape even under the toughest pumping conditions. In addition to manufacturing valve cups to precise API dimensional specifications, **DARCOVA** and The Dragon make every size cup for every sucker rod pump that was ever made. No kidding! You can't stump us. We make 'em all!

**DARCOVA** and The Dragon cups are available in hard, medium and soft flexures.

## DARCOVA PLASTIC VALVE CUPS

**DARCOVA** produces a full line of thermoplastic valve cups. Our plastic valve cups are made from Nylon®-based or Teflon®-based resins to fit your well conditions. Plastic valve cups are preferred on the wiper cup extensions used by many pump shops to prevent abrasives from contacting the pump plunger.

## The DRAGON'S Specialized Composition Valve Cups

By 1938, **DARCOVA** was still the largest valve cup manufacturer in the USA. **LubriKup** was running second and **The Dragon** was still coming up with innovative products that have withstood the test of time. All of the companies made about the same composition cup, but **LubriKup** knew a little something about marketing. They started packaging their cups in pretty red, green and blue boxes, which were wrapped in cellophane. **The Dragon** couldn't afford such frills, so in 1939 they came up with a little marketing strategy of their own. **The Dragon** introduced the cup whose name says it all – no-B.S. (which became **NOBS** after a few decades of social correctness).



Today the **NOBS** valve cup remains the most popular shallow well cup in the industry.



Developed for the 1950 Tulsa Oil Expo, **The Dragon** premiered a deep-well composition valve cup, the **New Tulsa Special**, which is still widely used across the South.



If that clean and pretty lip on our competitor's cup held its shape and performed as well as our lathe-cut lip, we would have changed our design a long time ago. If you're looking for clean and pretty, you're in the wrong line of work. If you're looking for the best damn composition product on the market...

*“You're gonna love our ugly cup!”*

## THE DRAGON LEATHER VALVE CUPS

**The Dragon** is the only manufacturer of oil-tanned leather cups in the industry today.

CUP TYPE	MAX. TEMP.	DEPTHS AND WELL CONDITIONS
<b>Hard</b>	<b>275°F</b>	For depths over 2,000' and/or severe well conditions encountered <ul style="list-style-type: none"> <li>unusually high abrasion due to excessive sand</li> <li>higher bottom hole temperatures</li> <li>water-to-oil ratio is higher resulting in a greater fluid load should result in longer cup life and greater efficiency</li> <li>where extremely corrosive fluids are being pumped, (it is recommended that corrosion-resisting barrels and pump parts be used to reduce cup wear caused by pitting and corrosion of barrel)</li> </ul>
<b>Medium</b>	<b>250°F</b>	For well depths 800' to 2,000', where fluid load is reduced and a softer cup results in increased pumping efficiency
<b>Soft</b>	<b>250°F</b>	For shallow wells of approximately 800' in depth, where fluid loads are less and a soft cup with a more flexible lip will provide maximum lift and increased cup life.

## DIMENSIONS FOR API VALVE CUPS

NOMINAL CUP SIZE		SK	SL	SM	SJ	
<b>1</b>	#	-15	0.985	<b>0.755</b>	<b>0.620</b>	<b>0.500</b>
		Base	1.000			
		+15	1.015			
		+30	1.030			
<b>1 1/16</b>	#	-15	1.037	<b>0.854</b>	<b>0.687</b>	<b>0.500</b>
		Base	1.052			
		+15	1.067			
		+30	1.082			
<b>1 1/8</b>	#	-15	1.100	<b>0.897</b>	<b>0.718</b>	<b>0.531</b>
		Base	1.115			
		+15	1.130			
<b>1 1/4</b>	#	-15	1.225	<b>0.991</b>	<b>0.750</b>	<b>0.593</b>
		Base	1.250			
		+15	1.265			
		+30	1.270			
<b>1 3/8</b>	#	-15	1.350	<b>1.086</b>	<b>0.875</b>	<b>0.625</b>
		Base	1.365			
		+15	1.380			
		+30	1.520			
<b>1 1/2</b>	#	-15	1.475	<b>1.161</b>	<b>0.870</b>	<b>0.688</b>
		Base	1.490			
		+15	1.505			
		+30	1.520			
<b>1 5/8</b>	#	-15	1.600	<b>1.276</b>	<b>1.000</b>	<b>0.687</b>
		Base	1.615			
		+15	1.630			
		+30	1.645			
<b>1 5/8</b>	McGregor	-15	1.600	<b>1.276</b>	<b>0.969</b>	<b>0.687</b>
		Base	1.615			
		+15	1.630			
		+30	1.645			
<b>1 3/4</b>	#	-15	1.725	<b>1.411</b>	<b>1.182</b>	<b>0.750</b>
		Base	1.740			
		+15	1.755			
		+30	1.770			

NOMINAL CUP SIZE		SK	SL	SM	SJ	
<b>1 25/32</b>	#	-15	1.755	<b>1.411</b>	<b>1.182</b>	<b>0.750</b>
		Base	1.770			
		+15	1.785			
		+30	1.800			
<b>1 7/8</b>	#	-15	1.865	<b>1.539</b>	<b>1.250</b>	<b>0.750</b>
		Base	1.880			
		+15	1.895			
<b>2</b>	#	-15	1.975	<b>1.630</b>	<b>1.370</b>	<b>0.750</b>
		Base	1.990			
		+15	2.005			
		+30	2.020			
<b>2 1/8</b>	#	-15	2.100	<b>1.787</b>	<b>1.447</b>	<b>0.812</b>
		Base	2.115			
		+15	2.130			
		+30	2.145			
<b>2 1/4</b>	#	-15	2.225	<b>1.850</b>	<b>1.557</b>	<b>0.812</b>
		Base	2.240			
		+15	2.255			
		+30	2.270			
<b>2 1/2</b>	#	-15	2.475	<b>2.100</b>	<b>1.745</b>	<b>0.812</b>
		Base	2.490			
		+15	2.505			
		+30	2.520			
<b>2 3/4</b>	#	-15	2.725	<b>2.350</b>	<b>1.995</b>	<b>0.875</b>
		Base	2.740			
		+15	2.755			
		+30	2.770			
<b>3 3/4</b>	#	-15	3.720	<b>3.255</b>	<b>2.807</b>	<b>1.188</b>
		Base	3.735			
		+15	3.750			
		+30	3.765			
<b>4 3/4</b>	#	-15	4.720	<b>4.193</b>	<b>3.745</b>	<b>1.375</b>
		Base	4.735			
		+15	4.750			
		+30	4.765			

# Designates API Standard valve Cup Dimensions. Valve Cups are available in Composition and Plastic, with Hard, Medium, Soft, and Super Soft flexures.

API Tolerances			
SK	SL	SM	SJ
<b>+0.005</b>	<b>+0.016</b>	<b>+0.010</b>	<b>+0.000</b>
<b>-0.005</b>	<b>-0.000</b>	<b>-0.000</b>	<b>-0.060</b>

Basic OD Dimensions shall be less 0.010" on all cups, except  
1 25/32                      Shall be: -0.011  
3 3/4 & 4 3/4              Shall be: -0.015

Questions? Call the **DARCOVA** or The Dragon rep in your area,  
or call our technical staff directly at the numbers listed below.

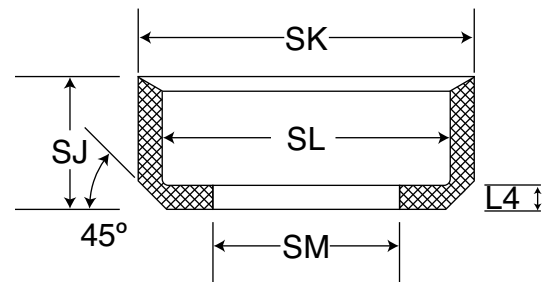
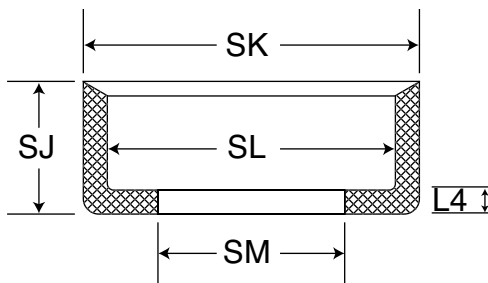
# DIMENSIONS FOR NON-API VALVE CUPS

## LIP TYPE

## WOOD TYPE

NOMINAL CUP SIZE		SK	SL	SM	SJ	L4
1 1/4	-15	1.225	1.000	0.843	0.500	0.137
	Base	1.240				
1 3/8	Base	1.365	1.087	0.906	0.625	
1 1/2	-30	1.460	1.176	0.968	0.687	0.138
	-15	1.475				
	Base	1.490				
	+15	1.505				
1 1/2 oversize	-30	1.460	1.250	1.000	0.687	0.138
	-15	1.475				
	Base	1.490				
1 3/4	Base	1.740	1.475	1.285	0.750	0.145
1 25/32	-30	1.740	1.475	1.285	0.750	0.145
	-15	1.755				
	Base	1.770				
	+15	1.785				
	+30	1.800				
2	-30	1.960	1.687	1.500	0.750	0.145
	-15	1.975				
	Base	1.990				
	+15	2.005				
2 1/4	-30	2.210	1.910	1.688	0.812	0.157
	-15	2.225				
	Base	2.240				
	+15	2.255				
2 1/4 oversize	Base	2.240	1.937	1.750	0.812	0.157
2 1/2	-30	2.460	2.140	1.844	0.812	0.185
	-15	2.475				
	Base	2.490				
2 3/4	-30	2.710	2.360	2.125	0.875	0.185
	-15	2.725				
	Base	2.740				
	+15	2.755				
3 1/4	Base	3.240	2.850	2.125	0.875	0.185
3 3/4	-30	3.710	3.346	2.625	0.875	
	Base	3.740				

NOMINAL CUP SIZE		SK	SL	SM	SJ	L4
1 1/16	-15	1.047	0.810	0.688	0.500	0.100
	Base	1.077				
	+15	1.077				
1 1/4	-15	1.225	1.000	0.812	0.562	0.135
	Base	1.240				
1 1/2	-30	1.460	1.150	0.968	0.688	0.150
	-15	1.475				
	Base	1.490				
	+15	1.505				
1 5/8	-30	1.575	1.290	1.125	0.750	0.160
	-15	1.600				
	Base	1.615				
	+15	1.630				
1 3/4	-15	1.725	1.380	1.250	0.750	0.160
	Base	1.740				
1 25/32	-30	1.740	1.380	1.250	0.750	0.160
	-15	1.775				
	Base	1.770				
	+15	1.785				
	+30	1.800				
2	-30	1.960	1.635	1.500	0.750	0.176
	-15	1.975				
	Base	1.990				
	+15	2.005				
2 1/8	-30	2.085	1.765	1.562	0.812	0.156
	-15	2.100				
	Base	2.115				
	+15	2.130				
2 1/4	-30	2.210	1.860	1.687	0.812	0.185
	-15	2.225				
	Base	2.240				
	+15	2.255				
2 1/2	-30	2.460	2.140	1.968	0.812	0.187
	-15	2.475				
	Base	2.490				
	+15	2.505				
2 3/4	-30	2.710	2.350	2.125	0.875	0.189
	-15	2.725				
	Base	2.740				
	+15	2.755				
3 1/4	Base	3.240	2.850	2.500	1.125	0.195
3 3/4	-15	3.720	3.225	2.937	1.125	0.190
	Base	3.735				



If you have any questions or requests for sizes not listed (remember, you can't stump us!), please call our technical staff.