



# FLEXIBLE DRIVE COUPLINGS

## Why You Should Specify Vescor Flexible Couplings.



**Vescor uses stronger materials.** Because flexible couplings are subjected to constant torque and stress, they eventually wear out. Obviously, the longer the coupling lasts, the more value you get for your money.

The key to flexible coupling longevity is the elastomeric element that is sandwiched between the coupling halves. Most flexible coupling manufacturers use compression-molded, rubber-like materials for their standard inserts. Reuland, however, uses a high-tech injection molded material called P380 for our standard inserts. Torque tests and shock loads prove P380 is stronger and more durable than most of our competitors' standard elastomeric elements.

**Vescor flexible couplings cost less.** P380 is priced like a standard insert while providing the performance and specifications of a premium selection. This allows us to offer you a superior product that saves you money when you purchase it and that continues to save you money with lowered maintenance and replacement costs.

**Vescor's flexible couplings are made from lightweight aluminum.** Our flexible couplings are lighter than steel and cast iron couplings, which helps prolong bearing and seal life on pumps, gear boxes and motors. Our lightweight aluminum coupling also cost less to ship to your location.

**Vescor flexible couplings are precision machined.** By maintaining tight tolerances, we help eliminate vibration and noise. Alignment is easily made with a straight edge and a feeler gage.

**Vescor flexible couplings offer double set screws standard.** Most manufacturers charge you extra for a double set screw option. Since our couplings

are designed to be the finest on the market, we make double set screws standard on all coupling sizes. The extra set screw offers greater hoop stress generation, creating a more secure fit from coupling to shaft.

### Rigorous Quality Control

We design and manufacture all flexible couplings ourselves. And we subject each one to exacting quality control inspections. This total control allows us to offer you higher quality at a lower price.

### Specials, Metrics and Splines

Vescor stocks one of the industry's largest selections of Vescor flexible couplings. In addition, splines, metric bores and keys and other special options may be available from stock. If not, we can modify any flexible coupling to your exact specifications. please consult the factory for your special needs.

### The One Source for all Your Flexible Couplings and Pump/Motor Adapter Needs

When you connect a pump to a motor, you want a perfect alignment for optimal performance. And that's what you get when you specify Vescor flexible couplings and Vescor pump motor adapters. These two components work together to achieve near perfect concentricity. Together they reduce vibration, heat, noise and wear and tear. In short, they're your best guarantee for increased performance and life expectancy.

### Fast Delivery

Vescor flexible couplings are stocked in Vescor's South Elgin facility for fast response and reduced transportation costs. Most orders are shipped within 24 hours of receiving your order.

### The Vescor Guarantee

All Vescor products are covered by our quality and service guarantee.

## How to Select a Coupling

Just because applications have the same horsepower doesn't mean they require the same size flexible couplings. If you follow these simple steps, you can easily find the flexible coupling in the following Selection Chart that's perfect for your application.

### Step 1: Determine the Service Factor.

Motors with the same horsepower are assigned different Service Factors to reflect the different loads and stresses. For example, a 40HP motor running a standard hydraulic application with infrequent stops carries a Service Factor of 1.00 while another 40HP application on an injection molding machine has a Service Factor of 3.00. This means the second motor requires a larger flexible coupling than the first. Ignoring the Service Factor can cause you to buy a coupling too small for your application, leading to premature wear and maintenance.

For applications with intermittent starts and stops and no reversing, a 1.50 to 1.75 Service Factor would be appropriate. Applications with frequent starts and stops or reversing duty normally carry a 2.00 Service Factor. Typically, motors designed for high torque or reversing applications have a 3.00 Service Factor. Service Factors for other typical applications include:

Application	Service Factor
Hydraulics applications with infrequent stops	1.00-1.50
Hydraulic units with cycling loads	1.50-2.50
Conveyors	1.50-2.50
Internal combustion engines	1.75-2.50
Machine tool, textile, cranes and woodworking machinery	2.0
Saw mill machines	3.0
Injection molding machines	3.0

Note: The standard P380 insert is rated for Service Factors up to 1.5. For applications rated above 1.5, we highly recommend using our hytel insert.

### Step 2: Determine Minimum Torque Rating in Lbs.-In.

If the minimum Torque Rating is not known, it can be calculated using the HP and RPM: Minimum torque = (HP x 63000)/RPM.

### Step 3: Multiply Full Load Torque by the Selected Service Factor.

### Step 4: Determine Shaft Size.

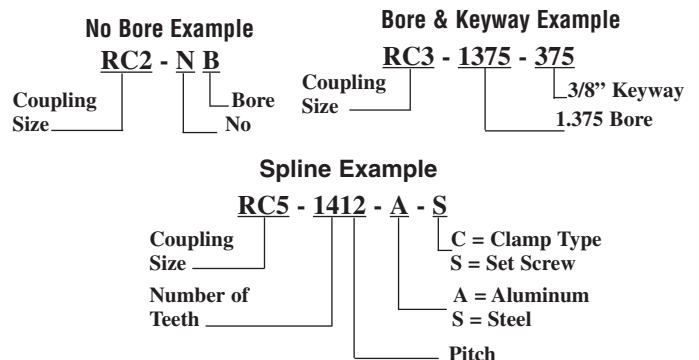
A shaft diameter MUST NOT EXCEED a coupling's maximum bore. For example, RC3 flexible drive coupling has a 1<sup>5</sup>/<sub>8</sub>" maximum bore (shaft diameter). Therefore, 1<sup>5</sup>/<sub>8</sub>" is the largest shaft that can be installed in the coupling.

### Step 5: Go to the Coupling Data Table.

Select the coupling size that meets or exceeds your minimum Torque and Service Factor calculation. Then go to the coupling Availability Chart to match Bore & Key. (Make sure the motor shaft does not exceed the coupling's maximum bore.)

### Part Numbers

Vescor part numbering system is based on the coupling's size, bore & key or spline. The first three digits represent the coupling size. The next four digits refer to the bore or number of teeth/pitch (in inches or millimeters). The last grouping indicates keyways, clamps, set screws or spline options.





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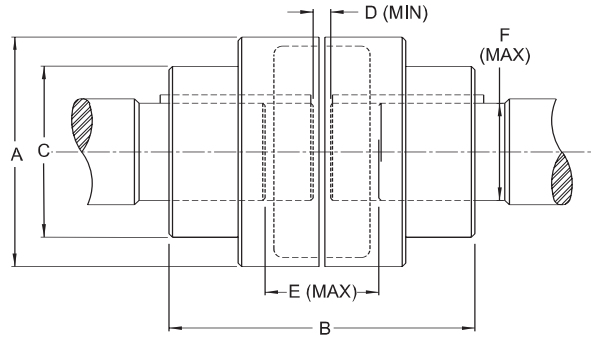
## Coupling Data Table

Size	Maximum Bore Inches	Dimensions Inches			Distance Between Shafts Inches		HP Torque lb.-in.	Rated HP at			Inertia <sup>q</sup> lb.-ft.	Inserts
		F	A	B	C	D (min)		E (max)	100 RPM	1200 RPM		
RC1	1.125	2.62	2.56	2.12	.06	0.75	473	0.75	9	13.5	0.005	P380
RC1	1.125	2.62	2.56	2.12	.06	0.75	630	1	12	18	0.005	Hytrell
RC2	1.375	2.91	3.17	2.31	.06	0.88	630	1	12	18	0.009	P380
RC2	1.375	2.91	3.17	2.31	.06	0.88	1103	1.75	21	31.5	0.009	Hytrell
RC3	1.625	3.44	3.60	2.97	.06	0.88	1261	2	24	36	0.022	P380
RC3	1.625	3.44	3.60	2.97	.06	0.88	2206	3.5	42	63	0.022	Hytrell
RC4	1.875	4.00	4.24	3.12	.06	1.12	1576	2.5	30	45	0.039	P380
RC4	1.875	4.00	4.24	3.12	.06	1.12	3309	5.25	63	94.5	0.039	Hytrell
RC5	2.375	4.81	4.68	4.06	.06	1.25	3466	5.5	66	99	0.100	P380
RC5	2.375	4.81	4.68	4.06	.06	1.25	6933	11	132	198	0.100	Hytrell
RC6	2.625	5.97	6.04	4.56	.06	1.38	7563	12	144	216	0.260	P380
RC6	2.625	5.97	6.04	4.56	.06	1.38	15756	25	300	450	0.260	Hytrell
RC7	2.875	6.91	7.01	5.25	.06	1.88	12605	20	240	360	0.480	P380
RC7	2.875	6.91	7.01	5.25	.06	1.88	28361	45	540	810	0.480	Hytrell
RC8	3.875	8.62	7.92	7.12	.06	2.00	31513	50	600	900	1.560	P380
RC8	3.875	8.62	7.92	7.12	.06	2.00	47269	75	900	1350	1.560	Hytrell

## Spline Coupling Data\*

Spline Specifications				Coupling Sizes
Number of Teeth	Pitch	SAE		
9	16/32	A, AA		RC1-RC5
13	8/16	D, E		RC4-RC8
13	16/32	B		RC1-RC6
14	12/24	C		RC2-RC8
15	8/16	F		RC4-RC8
15	16/32	BB		RC1-RC6
17	12/24	CC		RC3-RC8
21	16/32	-		RC3-RC8
23	16/32	-		RC3-RC8
27	16/32	-		RC4-RC8

\*All splines are SAE 30° PA, flat root, side fit.



Nominal Bore Diameter		
From	To (Including)	Tolerance
.375	1.000	+0.0008/+0.0003
1.00	2.000	+0.0013/+0.0005
2.00	3.000	+0.0018/+0.0008
3.00	3.875	+0.0020/+0.0010

## Insert Part Numbers

Size	Type	
	P380	Hytrell
RC1	RG1-P9	RG1-H5
RC2	RG2-P9	RG2-H5
RC3	RG3-P9	RG3-H5
RC4	RG4-P9	RG4-H5
RC5	RG5-P9	RG5-H5
RC6	RG6-P9	RG6-H5
RC7	RG7-P9	RG7-H5
RC8	RG8-P9	RG8-H5

## Insert Data

Type	Temperature Range	Misalignment		Shore Hardness	Characteristics
		Angular	Parallel Inches		
P380	-30°F to 175°F	1°	.015	38D	Good for moderate cyclic loading, offers good oil and chemical resistance, misalignment and dampening capacity.
Hytrell	-60°F to 250°F	0.5°	.015	55D	Recommended for severe duty applications, excellent oil and chemical resistance. torsionally stiffer than P380.



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## Standard Bore and Key

Bore	KEY	Coupling Part Numbers							
		RC1	RC2	RC3	RC4	RC5	RC6	RC7	RC8
3/8	3/32	RC1-0375-094	RC2-0375-094						
7/16	3/32	RC1-0437-094	RC2-0437-094						
7/16	1/8	RC1-0437-125	RC2-0437-125						
1/2	1/8	RC1-0500-125	RC2-0500-125	RC3-0500-125					
9/16	1/8	RC1-0562-125	RC2-0562-125	RC3-0562-125					
5/8	5/32	RC1-0625-156	RC2-0625-156	RC3-0625-156					
5/8	3/16	RC1-0625-187	RC2-0625-187	RC3-0625-187	RC4-0625-187				
11/16	3/16	RC1-0687-187	RC2-0687-187	RC3-0687-187	RC4-0687-187				
3/4	1/8	RC1-0750-125	RC2-0750-125	RC3-0750-125	RC4-0750-125				
3/4	3/16	RC1-0750-187	RC2-0750-187	RC3-0750-187	RC4-0750-187	RC5-0750-187	RC6-0750-187		
7/8	3/16	RC1-0875-187	RC2-0875-187	RC3-0875-187	RC4-0875-187	RC5-0875-187	RC6-0875-187		
7/8	1/4	RC1-0875-250	RC2-0875-250	RC3-0875-250	RC4-0875-250	RC5-0875-250	RC6-0875-250		
15/16	1/4	RC1-0937-250	RC2-0937-250	RC3-0937-250	RC4-0937-250	RC5-0937-250	RC6-0937-250		
1	3/16	RC1-1000-187	RC2-1000-187	RC3-1000-187	RC4-1000-187	RC5-1000-187	RC6-1000-187		
1	1/4	RC1-1000-250	RC2-1000-250	RC3-1000-250	RC4-1000-250	RC5-1000-250	RC6-1000-250		
1 1/8	1/4	RC1-1125-250	RC2-1125-250	RC3-1125-250	RC4-1125-250	RC5-1125-250	RC6-1125-250	RC7-1125-250	
1 3/16	1/4		RC2-1187-250	RC3-1187-250	RC4-1187-250	RC5-1187-250	RC6-1187-250	RC7-1187-250	
1 1/4	1/4		RC2-1250-250	RC3-1250-250	RC4-1250-250	RC5-1250-250	RC6-1250-250	RC7-1250-250	RC8-1250-250
1 1/4	5/16		RC2-1250-312	RC3-1250-312	RC4-1250-312	RC5-1250-312	RC6-1250-312	RC7-1250-312	RC8-1250-312
1 3/8	5/16		RC2-1375-312	RC3-1375-312	RC4-1375-312	RC5-1375-312	RC6-1375-312	RC7-1375-312	RC8-1375-312
1 3/8	3/8		RC2-1375-375	RC3-1375-375	RC4-1375-375	RC5-1375-375	RC6-1375-375	RC7-1375-375	RC8-1375-375
1 7/16	3/8			RC3-1437-375	RC4-1437-375	RC5-1437-375	RC6-1437-375	RC7-1437-375	RC8-1437-375
1 1/2	5/16			RC3-1500-312	RC4-1500-312	RC5-1500-312	RC6-1500-312	RC7-1500-312	RC8-1500-312
1 1/2	3/8			RC3-1500-375	RC4-1500-375	RC5-1500-375	RC6-1500-375	RC7-1500-375	RC8-1500-375
1 5/8	3/8			RC3-1625-375	RC4-1625-375	RC5-1625-375	RC6-1625-375	RC7-1625-375	RC8-1625-375
1 3/4	3/8				RC4-1750-375	RC5-1750-375	RC6-1750-375	RC7-1750-375	RC8-1750-375
1 3/4	7/16				RC4-1750-437	RC5-1750-437	RC6-1750-437	RC7-1750-437	RC8-1750-437
1 7/8	1/2				RC4-1875-500	RC5-1875-500	RC6-1875-500	RC7-1875-500	RC8-1875-500
1 15/16	1/2					RC5-1937-500	RC6-1937-500	RC7-1937-500	RC8-1937-500
2	1/2					RC5-2000-500	RC6-2000-500	RC7-2000-500	RC8-2000-500
2 1/8	1/2					RC5-2125-500	RC6-2125-500	RC7-2125-500	RC8-2125-500
2 1/4	1/2					RC5-2250-500	RC6-2250-500	RC7-2250-500	RC8-2250-500
2 3/8	5/8					RC5-2375-625	RC6-2375-625	RC7-2375-625	RC8-2375-625
2 1/2	5/8						RC6-2500-625	RC7-2500-625	RC8-2500-625
2 5/8	5/8						RC6-2625-625	RC7-2625-625	RC8-2625-625
2 3/4	5/8							RC7-2750-625	RC8-2750-625
2 7/8	3/4							RC7-2875-750	RC8-2875-750
3	3/4								RC8-3000-750
3 1/4	3/4								RC8-3250-750
3 3/8	7/8								RC8-3375-875
3 1/2	7/8								RC8-3500-875
3 5/8	7/8								RC8-3625-875
3 3/4	7/8								RC8-3750-875
3 7/8	1								RC8-3875-100

NOTE: WITH VESCORS' POLICY OF CONSTANTLY IMPROVING ITS PRODUCTS, SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



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## Metric Bore and Key

BORE	KEY	Coupling Part Numbers							
		RC1	RC2	RC3	RC4	RC5	RC6	RC7	RC8
19	6	RC1-M019-06	RC2-M019-06	RC3-M019-06	RC4-M019-06	RC5-M019-06			
20	6	RC1-M020-06	RC2-M020-06	RC3-M020-06	RC4-M020-06	RC5-M020-06	RC6-M020-06		
24	8	RC1-M024-08	RC2-M024-08	RC3-M024-08	RC4-M024-08	RC5-M024-08	RC6-M024-08		
25	8	RC1-M025-08	RC2-M025-08	RC3-M025-08	RC4-M025-08	RC5-M025-08	RC6-M025-08	RC7-M025-08	
28	8	RC1-M028-08	RC2-M028-08	RC3-M028-08	RC4-M028-08	RC5-M028-08	RC6-M028-08	RC7-M028-08	
30	8		RC2-M030-08	RC3-M030-08	RC4-M030-08	RC5-M030-08	RC6-M030-08	RC7-M030-08	
32	10		RC2-M032-10	RC3-M032-10	RC4-M032-10	RC5-M032-10	RC6-M032-10	RC7-M032-10	
35	10			RC3-M035-10	RC4-M035-10	RC5-M035-10	RC6-M035-10	RC7-M035-10	
38	10			RC3-M038-10	RC4-M038-10	RC5-M038-10	RC6-M038-10	RC7-M038-10	
40	12				RC4-M040-12	RC5-M040-12	RC6-M040-12	RC7-M040-12	RC8-M040-12
42	12				RC4-M042-12	RC5-M042-12	RC6-M042-12	RC7-M042-12	RC8-M042-12
45	14				RC4-M045-14	RC5-M045-14	RC6-M045-14	RC7-M045-14	RC8-M045-14
50	14					RC5-M050-14	RC6-M050-14	RC7-M050-14	RC8-M050-14
60	18						RC6-M060-18	RC7-M060-18	RC8-M060-18

## Steel Set Screw Type – Style SS

Teeth	Pitch	SAE	Coupling Part Numbers							
			RC1	RC2	RC3	RC4	RC5	RC6	RC7	RC8
9	16/32	A, AA	RC1-0916-SS	RC2-0916-SS	RC3-0916-SS	RC4-0916-SS	RC5-0916-SS			
13	8/16	D, E						RC6-1308-SS	RC7-1308-SS	RC8-1308-SS
13	16/32	B	RC1-1316-SS	RC2-1316-SS	RC3-1316-SS	RC4-1316-SS	RC5-1316-SS	RC6-1316-SS		
14	12/24	C			RC3-1412-SS	RC4-1412-SS	RC5-1412-SS	RC6-1412-SS	RC7-1412-SS	RC8-1412-SS
15	8/16	F						RC6-1508-SS	RC7-1508-SS	RC8-1508-SS
15	16/32	BB		RC2-1516-SS	RC3-1516-SS	RC4-1516-SS	RC5-1516-SS	RC6-1516-SS		
17	12/24	CC					RC5-1712-SS	RC6-1712-SS	RC7-1712-SS	RC8-1712-SS
21	16/32						RC5-2116-SS	RC6-2116-SS	RC7-2116-SS	RC8-2116-SS
23	16/32						RC5-2316-SS	RC6-2316-SS	RC7-2316-SS	RC8-2316-SS
27	16/32							RC6-2716-SS	RC7-2716-SS	RC8-2716-SS

\*All Splines are SAE 30° PA, Flat Root, Side Fit

## Steel Clamp Type – Style SC

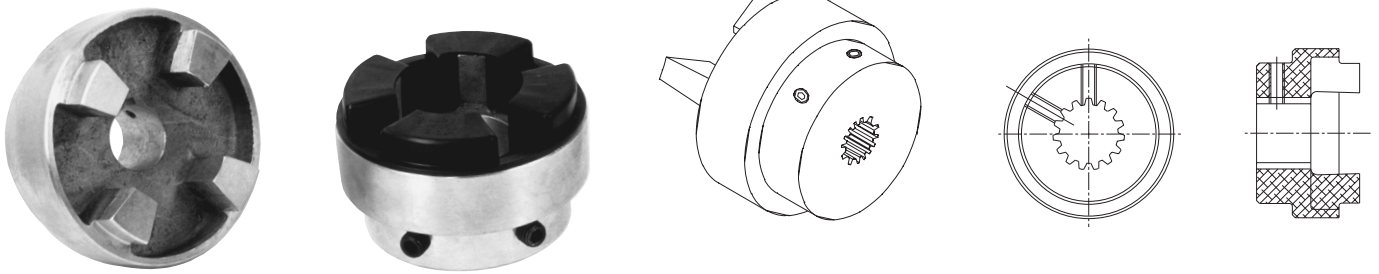
Teeth	Pitch	SAE	Coupling Part Numbers							
			RC1	RC2	RC3	RC4	RC5	RC6	RC7	RC8
9	16/32	A, AA	RC1-0916-SC	RC2-0916-SC	RC3-0916-SC	RC4-0916-SC	RC5-0916-SC			
13	8/16	D, E						RC6-1308-SC	RC7-1308-SC	RC8-1308-SC
13	16/32	B	RC1-1316-SC	RC2-1316-SC	RC3-1316-SC	RC4-1316-SC	RC5-1316-SC	RC6-1316-SC		
14	12/24	C			RC3-1412-SC	RC4-1412-SC	RC5-1412-SC	RC6-1412-SC	RC7-1412-SC	RC8-1412-SC
15	8/16	F						RC6-1508-SC	RC7-1508-SC	RC8-1508-SC
15	16/32	BB		RC2-1516-SC	RC3-1516-SC	RC4-1516-SC	RC5-1516-SC	RC6-1516-SC		
17	12/24	CC					RC5-1712-SC	RC6-1712-SC	RC7-1712-SC	RC8-1712-SC
21	16/32						RC5-2116-SC	RC6-2116-SC	RC7-2116-SC	RC8-2116-SC
23	16/32						RC5-2316-SC	RC6-2316-SC	RC7-2316-SC	RC8-2316-SC
27	16/32							RC6-2716-SS	RC7-2716-SS	RC8-2716-SS

\*All Splines are SAE 30° PA, Flat Root, Side Fit



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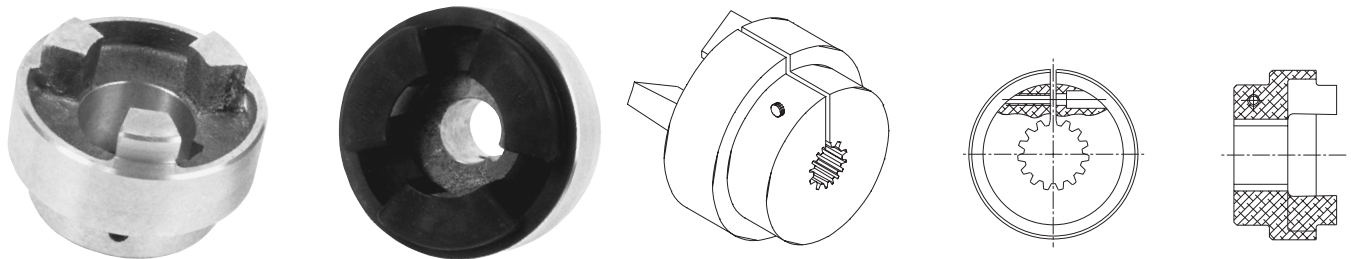
## Set Screw Type-Style AS



No. of Teeth	Pitch	SAE	Style AS – Spline Part Numbers							
			RC1	RC2	RC3	RC4	RC5	RC6	RC7	RC8
9	16/32	A, AA	RC1-0916-AS	RC2-0916-AS	RC3-0916-AS	RC4-0916-AS	RC5-0916-AS	-	-	-
13	8/16	D, E	-	-	-	RC4-1308-AS	RC5-1308-AS	RC6-1308-AS	RC7-1308-AS	RC8-1308-AS
13	16/32	B	RC1-1316-AS	RC2-1316-AS	RC3-1316-AS	RC4-1316-AS	RC5-1316-AS	RC6-1316-AS	-	-
14	12/24	C	-	RC2-1412-AS	RC3-1412-AS	RC4-1412-AS	RC5-1412-AS	RC6-1412-AS	RC7-1412-AS	RC8-1412-AS
15	8/16	F	-	-	-	RC4-1508-AS	RC5-1508-AS	RC6-1508-AS	RC7-1508-AS	RC8-1508-AS
15	16/32	BB	RC1-1516-AS	RC2-1516-AS	RC3-1516-AS	RC4-1516-AS	RC5-1516-AS	RC6-1516-AS	-	-
17	12/24	CC	-	-	RC3-1712-AS	RC4-1712-AS	RC5-1712-AS	RC6-1712-AS	RC7-1712-AS	RC8-1712-AS
21	16/32	-	-	-	RC3-2116-AS	RC4-2116-AS	RC5-2116-AS	RC6-2116-AS	RC7-2116-AS	RC8-2116-AS
23	16/32	-	-	-	RC3-2316-AS	RC4-2316-AS	RC5-2316-AS	RC6-2316-AS	RC7-2316-AS	RC8-2316-AS
27	16/32	-	-	-	-	RC4-2716-AS	RC5-2716-AS	RC6-2716-AS	RC7-2716-AS	RC8-2716-AS

\*All Splines are SAE 30° PA, Flat Root, Side Fit

## Clamp Type-Style AC



No. of Teeth	Pitch	SAE	Style AC – Spline Part Numbers							
			RC1	RC2	RC3	RC4	RC5	RC6	RC7	RC8
9	16/32	A, AA	RC1-0916-AC	RC2-0916-AC	RC3-0916-AC	RC4-0916-AC	RC5-0916-A-C	-	-	-
13	8/16	D, E	-	-	-	RC4-1308-AC	RC5-1308-A-C	RC6-1308-AC	RC7-1308-AC	RC8-1308-AC
13	16/32	B	RC1-1316-AC	RC2-1316-AC	RC3-1316-AC	RC4-1316-AC	RC5-1316-A-C	RC6-1316-AC	-	-
14	12/24	C	-	RC2-1412-AC	RC3-1412-AC	RC4-1412-AC	RC5-1412-A-C	RC6-1412-AC	RC7-1412-AC	RC8-1412-AC
15	8/16	F	-	-	-	RC4-1508-AC	RC5-1508-A-C	RC6-1508-AC	RC7-1508-AC	RC8-1508-AC
15	16/32	BB	RC1-1516-AC	RC2-1516-AC	RC3-1516-AC	RC4-1516-AC	RC5-1516-A-C	RC6-1516-AC	-	-
17	12/24	CC	-	-	RC3-1712-AC	RC4-1712-AC	RC5-1712-A-C	RC6-1712-AC	RC7-1712-AC	RC8-1712-AC
21	16/32	-	-	-	RC3-2116-AC	RC4-2116-AC	RC5-2116-A-C	RC6-2116-AC	RC7-2116-AC	RC8-2116-AC
23	16/32	-	-	-	RC3-2316-AC	RC4-2316-AC	RC5-2316-A-C	RC6-2316-AC	RC7-2316-AC	RC8-2316-AC
27	16/32	-	-	-	-	RC4-2716-AC	RC5-2716-A-C	RC6-2716-AC	RC7-2716-AC	RC8-2716-AC

\*All Splines are SAE 30° PA, Flat Root, Side Fit