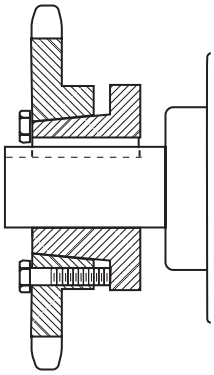
Stock QD Bushings

MARTIN MOUNTING PROCEDURE – QD BUSHINGS

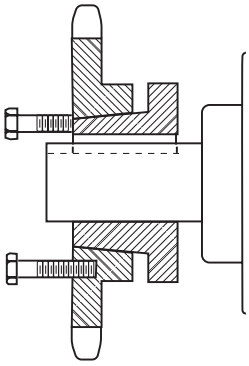
IMPORTANT – BE SURE TAPERED CONE SURFACES OF QD BUSHING AND INSIDE OF SHEAVE OR SPROCKET HUB ARE DRY AND FREE OF ALL FOREIGN SUBSTANCES SUCH AS PAINT, GREASE, OR DIRT.

STANDARD MOUNTING ASSEMBLY FOR QD SHEAVES AND SPROCKETS



MOUNTING

1. Be sure the tapered cone surfaces of the bushing and the inside of the driven product are clean and free of anti-seize lubricants.
2. Slide QD bushing on shaft, flange end first. Assemble key.
3. Position QD bushing on shaft. Tighten set screw over key "hand tight" with standard Allen wrench only. Do not use excessive force.
4. Slide large end of sheave or sprocket taper bore into position over cone aligning drilled bolt holes in sheave or sprocket with tapped holes in flange of bushing. Assemble pull-up bolts and lock washers.
   NOTE: Install M thru S bushings in the hub so that the two extra holes in the hub are located as far as possible from the bushing's saw cut.
5. Tighten pull-up bolts alternately and evenly to tightness indicated in torque table on back. Do not use extensions on wrench handles. There should be a gap between the face of the sheave or sprocket hub and the flange of the QD bushing to insure a satisfactory cone grip and press fit.
   CAUTION: THIS GAP MUST NOT BE CLOSED.



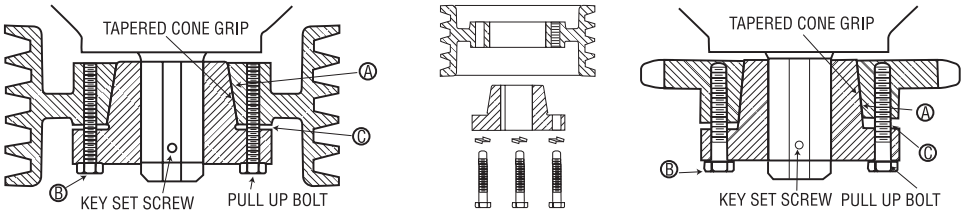
DISMOUNTING

1. Remove pull-up bolts and screw them into TAPPED holes in sheave or sprocket and against flange of QD bushing to break cone grip.
1. Loosen set screw and slide QD bushing from shaft.

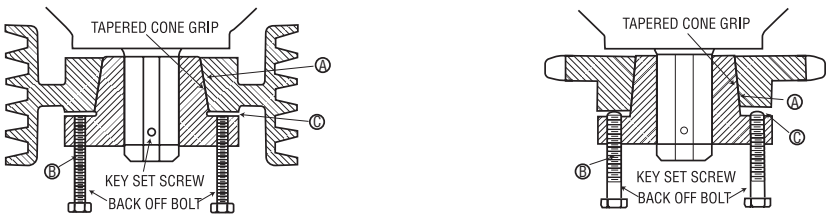
WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed: Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions given above must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. All rotating power transmission products when used in a drive are potentially dangerous and must be guarded by the user as required by applicable laws, regulations, standards, and good safety practice. (Refer to ANSI Standard B15.1.)

REVERSE Mounting Assembly
FOR QD SHEAVES AND SPROCKETS USING JA, SH, SD, SDS, SK, SF, E, F, AND J BUSHINGS

These bushings, as well as the sprockets and sheaves for them, are each drilled with six holes (three drilled and three tapped) to allow pull-up bolts to be inserted from either side. This enables variations of mounting characteristics to suit a particular installation.



1. Be sure the tapered cone surfaces of the bushing and the inside of the driven product are clean and free of anti-seize lubricants.
2. Assemble sheave or sprocket with bolts inserted (But not tightened) through DRILLED holes in bushing flange into TAPPED holes in sheave, sprocket, or other Martin QD part.
3. With key in shaft keyseat, slide assembly into approximate position on shaft with flange end of bushing away from bearing.
4. Position QD bushing on shaft by tightening set screw over key "hand tight" with standard Allen wrench only. Do not use excessive force.
5. Tighten pull-up bolts alternately and evenly to tightness indicated in torque table below. Do not use extensions on wrench handles. There should be a gap between the face of the sheave or sprocket hub and the flange of the QD bushing to insure a satisfactory cone grip and press fit. CAUTION: THIS GAP MUST NOT BE CLOSED.



1. Remove pull-up bolts and screw them into TAPPED holes in bushing flange and against hub of sheave or sprocket to break cone grip.
2. Loosen set screw in bushing flange and slide QD bushing from shaft.

CAUTION

WARNING: USE OF ANTI-SEIZE LUBRICANT ON TAPERED CONE SURFACE OR ON BOLT THREADS WHEN MOUNTING MAY RESULT IN DAMAGE TO SHEAVE AND SPROCKETS. THIS VOIDS ALL MANUFACTURER'S WARRANTIES

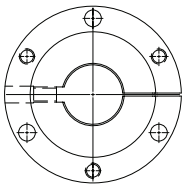
BOLT TORQUE TABLE

QD Bushing Size	Set Screw	Wrench Torque in./lbs.
JA	10 – 24	60
SH, SDS, SD	1/2 – 20	108
SK	5/16 – 18	180
SF	3/8 – 16	360
E	1/2 – 13	720
F	9/16 – 12	900
J	5/8 – 11	1620
M	3/4 – 10	2700
N	7/8 – 9	3600
P	1 – 8	5400
W	1 1/8 – 7	7200
S	1 1/2 – 7	9000

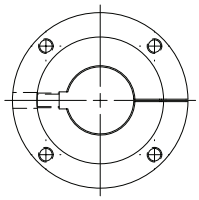
All Steel QD Bushings

★**F** = Length of Mating Bore

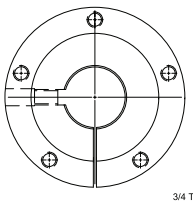
★★**G** = Gap Between QD Bushing and Mating Hub



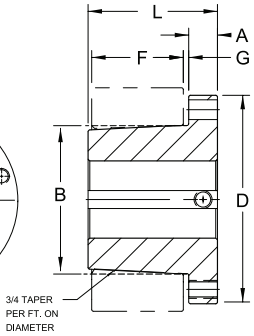
Bushings:
"JA" to "J" inclusive



Bushings:
"M" to "W" inclusive



Bushing:
"S"



Bushing	Bush. Torque Capacity (in-lb)	Dimensions (Inches)								Cap Screws Required	Stock Bore Range			Average Weight (Approx.)
		A	B	D	E	★F	★★G	L	Cap Bolt Circle		Min.	Maximum		
												Standard Keyway	Shallow Keyway	
SF-STL	11,000	0.563	3.125	4.625	1.500	1.250	0.125	2.063	3.875	3 – 3/8 × 2	0.500	2.313	2.813	3.0
E-STL	20,000	0.750	3.834	6.000	1.875	1.625	0.125	2.625	5.000	3 – 1/2 × 2 3/4	0.875	2.875	3.500	10.0
F-STL	30,000	0.813	4.437	6.625	2.813	2.500	0.188	3.625	5.625	3 – 9/16 × 3 5/8	1.000	3.313	4.000	11.5
J-STL	45,000	1.000	5.148	7.250	3.500	3.188	0.188	4.500	6.250	3 – 5/8 × 4 1/2	1.438	3.750	4.500	18.0
M-STL	85,000	1.250	6.500	9.000	5.500	5.188	0.188	6.750	7.875	4 – 3/4 × 6 3/4	2.000	4.750	5.500	37.0
N-STL	150,000	1.500	7.000	10.000	6.625	6.250	0.438	8.125	8.500	4 – 7/8 × 8 1/2	2.500	5.125	5.875	57.0

Bushing	Bores	Keyway
SF-STL	2.375 – 2.563	5/8 × 3/16
	2.625 – 2.750	5/8 × 1/16
	2.813 – 2.875	3/4 × 1/16
	2.938	3/4 × 1/32
	0.875 – 2.875	STD.
E-STL	2.938 – 3.250	3/4 × 1/8
	3.313 – 3.500	7/8 × 1/16
F-STL	1.000 – 3.313	STD.
	3.375 – 3.750	7/8 × 3/16
	3.875 – 3.938	1 × 1/8
	4.000	NONE
J-STL	3.438 – 3.750	STD.
	3.813 – 4.500	1 × 1/8
	2.000 – 4.750	STD.
M-STL	4.813 – 5.500	1 1/4 × 1/4
	2.500 – 5.125	STD.
N-STL	5.188 – 5.500	1 1/4 × 1/4
	5.563 – 5.875	1 1/2 × 1/4

Bushing	Plain Bores Not Split
SH-STL	0.500
SD-STL	0.500
SK-STL	0.500
SF-STL	0.500
E-STL	0.875 – 1.938
F-STL	1.000 – 2.438 – 2.938
J-STL	1.438 – 2.938
M-STL	2.000 – 2.938
N-STL	2.438 – 4.938

Shallow Key Dimension — Standard			
Keyset	Key	Keyset	Key
1/4 × 1/32	1/4 × 5/32	3/4 × 1/8	3/4 × 1/2
1/4 × 1/16	1/4 × 3/16	7/8 × 1/16	7/8 × 1/2
3/8 × 1/32	3/8 × 7/32	7/8 × 3/16	7/8 × 5/8
3/8 × 1/16	3/8 × 1/4	1 × 1/8	1 × 5/8
3/8 × 1/8	3/8 × 5/16	1 1/4 × 1/4	1 1/4 × 7/8
1/2 × 1/32	1/2 × 9/32	1 1/2 × 1/8	1 1/2 × 7/8
1/2 × 1/16	1/2 × 5/16	1 1/2 × 1/4	1 1/2 × 1
1/2 × 1/8	1/2 × 3/8	1 3/4 × 1/8	1 3/4 × 3/4
5/8 × 1/16	5/8 × 3/8	1 3/4 × 1/4	1 3/4 × 7/8
3/4 × 1/16	3/4 × 7/16	2 × 1/4	2 × 1

Shallow Key Dimension — Steel			
Keyset	Key	Keyset	Key
1/4 × 1/32	1/4 × 5/32	3/4 × 1/16	3/4 × 7/16
1/4 × 1/16	1/4 × 3/16	3/4 × 1/8	3/4 × 1/2
3/8 × 1/32	3/8 × 7/32	7/8 × 1/16	7/8 × 1/2
3/8 × 1/16	3/8 × 1/4	7/8 × 3/16	7/8 × 5/8
3/8 × 1/8	3/8 × 5/16	1 × 1/8	1 × 5/8
1/2 × 1/32	1/2 × 3/32	1 1/4 × 1/4	1 1/4 × 7/8
1/2 × 1/16	1/2 × 5/16	1 1/2 × 1/4	1 1/2 × 1
1/2 × 1/8	1/2 × 3/8	1 3/4 × 1/8	1 3/4 × 3/4
5/8 × 1/16	5/8 × 3/8	1 3/4 × 3/8	1 3/4 × 1
5/8 × 3/16	5/8 × 1/2	2 × 1/4	2 × 1

Shallow Key Dimension — Standard		
Bores	Keyset	Key
7/8	3/16 × 3/32	3/16 × 3/16
15/16 – 1 1/4	1/4 × 1/8	1/4 × 1/4
1 5/16 – 1 3/8	5/16 × 5/32	5/16 × 5/16
1 7/16 – 1 3/4	3/8 × 3/16	3/8 × 3/8
1 13/16 – 2 1/4	1/2 × 1/4	1/2 × 1/2
2 5/16 – 2 3/4	5/8 × 5/16	5/8 × 5/8
2 13/16 – 3 1/4	3/4 × 3/8	3/4 × 3/4
3 5/16 – 3 3/4	7/8 × 7/16	7/8 × 7/8
3 13/16 – 4 1/2	1 × 1/2	1 × 1
4 9/16 – 5 1/2	1 1/4 × 5/8	1 1/4 × 1 1/4
5 9/16 – 6 1/2	1 1/2 × 3/4	1 1/2 × 1 1/2
6 9/16 – 7 1/2	1 3/4 × 3/4	1 3/4 × 1 1/2
7 9/16 – 9	2 × 3/4	2 1/2 × 1 1/2
9 1/16 – 11	2 1/2 × 7/8	—
1 11/16 – 13	3 × 1	—

Reborable QD bushings made of stainless steel are available in many sizes. Non stock sizes are available on MTO basis.

Standard QD Bushings

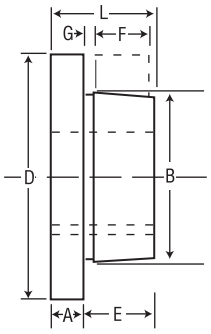
Bushing	Bush. Torque Capacity (in-lb)	Dimensions (in)								Cap Screws Required	Stock Bore Range			Set Screw Size	Average Weight (lb)
		A	B	D	E	F	G	L	Bolt Circle		Min.	Maximum			
												Standard Keyway	Shallow Keyway		
JA	1,000	0.375	1.375	2.000	0.688	0.563	0.210	1.000	1.665	3 – 10 × 1	0.375	1	1 3/16	10 – 24	0.9
SH	3,500	0.438	1.871	2.688	0.875	0.813	0.243	1.250	2.250	3 – 1/4 × 1 3/8	0.500	1 3/8	1 5/8	.25 – 20	1.0
SDS	5,000	0.500	2.187	3.188	0.875	0.750	0.265	1.315	2.688	3 – 1/4 × 1 3/8	0.500	1 11/16	1 15/16	.25 – 20	1.0
SD	5,000	0.500	2.187	3.188	0.938	1.250	0.260	1.813	2.688	3 – 1/4 × 1 7/8	0.500	1 11/16	1 15/16	.25 – 20	1.5
SK	7,000	0.563	2.812	3.875	1.375	1.250	0.317	1.875	3.313	3 – 5/16 × 2	0.500	2 1/8	2 1/2	.313 – 18	2.0
SF	11,000	0.563	3.125	4.625	1.500	1.250	0.322	2.000	3.875	3 – 3/8 × 2	0.500	2 1/4	2 7/8	.313 – 18	3.0
E	20,000	0.750	3.834	6.000	1.875	1.625	0.327	2.625	5.000	3 – 1/2 × 2 3/4	0.875	2 7/8	3 1/2	.375 – 16	10.0
F	30,000	0.813	4.437	6.625	2.813	2.500	0.423	3.625	5.625	3 – 9/16 × 3 5/8	1.000	3 5/16	3 15/16	.5 – 13	11.5
J	45,000	1.000	5.148	7.250	3.500	3.188	0.423	4.500	6.250	3 – 5/8 × 4 1/2	1.438	3 3/4	4 1/2	.625 – 11	18.0
M	85,000	1.250	6.500	9.000	5.500	5.188	0.423	6.750	7.875	4 – 3/4 × 6 3/4	2.000	4 3/4	5 1/2	.75 – 10	37.0
N	150,000	1.500	7.000	10.000	6.625	6.250	0.423	8.125	8.500	4 – 7/8 × 8 1/2	2.438	5	6	.75 – 10	57.0
P	250,000	1.750	8.250	11.750	7.625	7.250	0.423	9.375	10.000	4 – 1 × 9 1/2	2.938	5 15/16	7	.875 – 9	120.0
W	375,000	2.000	10.437	15.000	9.375	9.000	0.564	11.375	12.750	4 – 1 1/8 × 11 1/2	4.000	7 1/2	8 1/2	1 – 8	250.0
S	625,000	3.250	12.125	17.750	12.500	–	0.814	15.750	15.000	5 – 1 1/4 × 15 1/2	5.500	9	10	1.25 – 7	400.0

Inch Bore

Bushing	Bores	Keyway
JA	0.375 - 0.438	NO K.W.
	0.500 - 1.000	STD.
	1.063 - 1.125	1/4 – 1/16
	0.188	1/4 – 1/16
	1.250	NO K.W.
SH	0.500 - 1.375	STD
	1.438 - 1.500	3/8 × 1/16
	1.563 - 1.625	3/8 × 1/16
	1.688	NO K.W.
SDS	0.500 - 1.688	STD.
	1.750	3/8 × 1/8
	1.813	1/2 × 1/8
	1.875 - 1.938	1/2 × 1/16
	2.000	NO K.W.
SD	0.500 - 1.688	STD.
	1.750	3/8 × 1/8
	1.813	1/2 × 1/8
	1.875	1/2 × 1/16
	1.938	1/2 × 1/16
	2.000	NO K.W.
SK	0.500 - 2.125	STD.
	2.188 - 2.250	1/2 × 1/8
	2.313 - 2.500	5/8 × 1/16
	2.563 - 2.625	NO K.W.
SF	0.500 - 2.250	STD.
	2.313 - 2.500	5/8 × 3/16
	2.563 - 2.750	5/8 × 1/16
	2.813 - 2.875	3/4 × 1/16
	2.938	3/4 × .031

Bushing	Bores	Keyway
E	0.875 - 2.875	STD.
	2.938 - 3.250	3/4 × 1/8
	3.313	7/8 × 1/8
	3.375 - 3.500	7/8 × 1/16
F	1.000 - 3.313	STD.
	3.375 - 3.750	7/8 × 3/16
	3.875 - 3.938	1 × 1/8
	4.000	NONE
J	1.250 - 3.750	STD.
	3.813 - 4.500	1 × 1/8
M	2.000 - 4.750	STD.
	4.813 - 5.500	1 1/4 × 1/4
N	2.438 - 5.000	STD.
	5.125 - 5.500	1 1/4 × 1/4
	5.563 - 6.000	1 1/2 × 1/4
P	2.938 - 5.938	STD.
	6.000 - 6.500	1 1/2 × 1/4
	6.563 - 7.000	1 3/4 × 1/8
W	4.000 - 7.500	STD.
	7.563 - 8.500	2 × 1/4

Keystock provided for nonstandard keyways.



Millimeter Bore

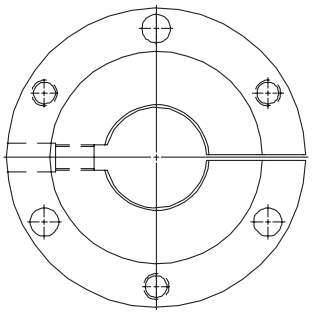
Bushing	Bores (mm)	Key Stock Size ★ w × t
SH	24, 25, 28, 30	8 × 7
	32, 35	10 × 8
SDS	24, 25, 28, 30	8 × 7
	32, 35, 38	10 × 8
	40, 42	12 × 8
SD	24, 25, 28, 30	8 × 7
	32, 35, 38	10 × 8
	40, 42	12 × 8
SK	24, 25, 28, 30	8 × 7
	32, 35, 38	10 × 8
	40, 42	12 × 8
	48, 50	14 × 9
	55	16 × 10
SF	28, 30	8 × 7
	32, 35, 38	10 × 8
	40, 42	12 × 8
	48, 50	14 × 9
	55	16 × 10
	60	18 × 11
E	35, 38	10 × 8
	40, 42	12 × 8
	48, 50	14 × 9
	55	16 × 10
	60, 65	18 × 11
	70, 75	20 × 12
F	48, 50	14 × 9
	55	16 × 10
	60, 65	18 × 11
	70, 75	20 × 12
	80, 85	22 × 14
	90	25 × 14
J	50	14 × 9
	55	16 × 10
	60, 65	18 × 11
	70, 75	20 × 12
	80, 85	22 × 14
	90, 95	25 × 14
	100	28 × 16

★ Important — The metric system does not refer to keyseat or keyway dimensions as does the English system; instead, dimensions are given for the key itself which is rectangular in shape, not square as in the English system.

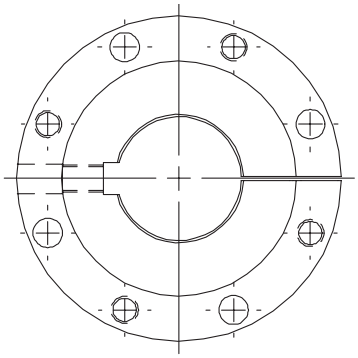
NOTE:
.03937" = 1mm
Ex: 24 mm = 0.94488"

TO ORDER:
SH 24 mm

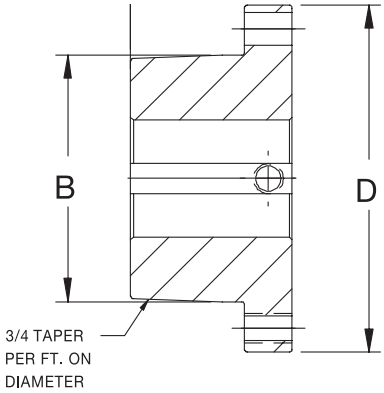
QD Short Bushings



Bushings:
JS



Bushings:
MS to WS inclusive



Inch Bore

Bushing	Bores	Keyway	Average Weight (lb)
JS	2.438 2.938	5/8 × 5/16 3/4 × 3/8	19 17
	3.438 3.500	7/8 × 7/16	15 15
	3.938 4.438	1 × 1/8	13 10
MS	3.438 3.500	7/8 × 7/16	38 37
	3.938 4.438	1 × 1/2	34 30
	4.938 5.438 5.500	1 1/4 × 1/4	26 21 20
NS	3.938 4.438	1 × 1/2	54 49
	4.938	1 1/4 × 5/8	43
	5.438 5.500	1 1/4 × 1/4	38 37
	5.938 6.000	1 1/2 × 1/4	31 30
PS	4.938 5.438	1 1/4 × 5/8	76 70
	5.938	1 1/2 × 3/4	62
	6.000 6.438 6.500	1 1/2 × 1/4	62 55 54
	6.938 7.000	1 3/4 × 1/8	47 45
WS	5.438	1 1/4 × 5/8	154
	5.938 6.000 6.438 6.500	1 1/2 × 3/4	145 144 136 135
	6.938 7.000 7.500	1 3/4 × 3/4	126 125 114
	7.938 8.000 8.438 8.500	2 × 1/4	106 105 94 93

Martin QD short bushings are suitable for use in belt conveyor applications wherever the short hubs of a conveyor pulley require the QD short bushing style.

Millimeter Bore

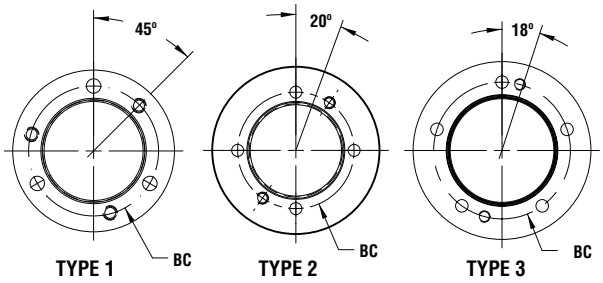
Bushing	Dimensions (Inches)						Cap Screws Required	Set Screw Size
	A	B	D	E	L	Bolt Circle		
JS	1.000	5.148	7.250	2.380	3.380	6.250	3 – 5/8 × 2 1/2	0.625
MS	1.190	6.500	9.000	3.620	4.810	7.880	4 – 3/4 × 3	0.750
NS	1.500	70.000	10.000	4.500	6.000	8.500	4 – 7/8 × 3 1/2	0.750
PS	1.500	8.250	11.750	5.000	6.500	10.000	4 – 1 × 4	0.875
WS	1.750	10.437	15.000	5.500	7.250	12.750	4 –1 1/8× 5	1.000

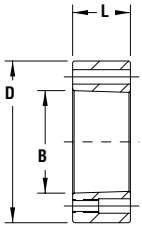
QD and QD Short Weld-On Hubs

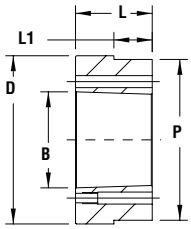
QD Weld-On Hubs

Martin QD weld-on hubs are suitable for use in many applications, such as welding to plate steel sprockets.

QD weld-on hubs are made of steel, drilled, tapped and taper bored for QD bushings





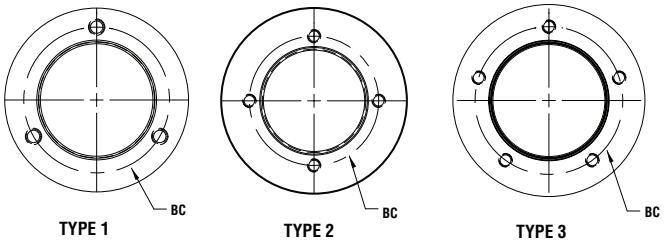


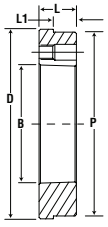
Catalog Number	Dimensions (Inches)						Type Drilling	Weight (lbs)	Mounting
	D ★	L	B (nom)	P	L_1	BC			
JA-A	2.250	0.563	1.370	—	—	1.665	1	0.4	STD or Reverse Mount
SH-A	3.000	0.813	1.870	—	—	2.250	1	1.0	
SDS-A	3.500	0.750	2.180	—	—	2.688	1	1.2	
SK-A	4.375	1.250	2.810	—	—	3.313	1	3.0	
SF-A	5.000	1.250	3.120	—	—	3.875	1	4.0	
E-A	6.250	1.625	3.830	—	—	5.000	1	9.0	
F-A	7.000	2.500	4.440	—	—	5.625	1	16.0	
J-A	7.750	3.188	5.140	—	—	6.250	1	22.5	
M-A	9.500	5.188	6.490	9.250	3.563	7.875	2	50.0	STD Mount Only
N-A	10.500	6.250	6.990	10.250	4.500	8.500	2	75.0	
P-A	13.000	7.250	8.240	—	—	10.000	2	155.0	
W-A	15.500	9.000	10.430	—	—	12.750	2	300.0	
S-A	19.500	12.000	12.120	18.750	7.500	15.000	3	558.0	

★ Tolerance of D Dimension (or P dimension where applicable) JA-A Thru J-A = (+-.002) M-A Thru S-A = (+-.003)

QD Short Weld-On Hubs

Martin QD short weld-on hubs are designed for use in conveyor pulleys.





Catalog Number	Dimensions (Inches)						Type Drilling	Weight (lbs)	Mounting
	D	L	B (nom)	P ★	L_1	BC			
SFS-A	5.000	1.000	3.120	4.750	0.563	3.875	1	3.0	Reverse Mount Only
ES-A	6.250	1.125	3.830	6.000	0.625	5.000	1	5.5	
FS-A	7.000	1.250	4.440	6.750	0.688	5.625	1	7.4	
JS-A	8.250	1.625	5.140	8.000	1.000	6.250	1	13.8	
MS-A	9.500	2.375	6.490	9.250	1.625	7.875	2	22.9	
NS-A	10.250	2.375	6.990	10.000	1.563	8.500	2	26.8	
PS-A	12.250	2.875	8.240	12.000	2.000	10.000	2	47.9	
WS-A	15.250	3.375	10.430	14.875	2.438	12.750	2	84.2	
SS-A	17.500	3.875	12.120	17.000	2.750	15.000	3	121.8	

★ Tolerance of P Dimension SFS-A Thru MS-A = (+-.004) NS-A Thru PS-A = (+-.005) WS-A Thru SS-A = (+-.006)