

# Stock QD Bushings

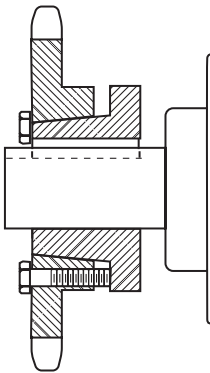


## Martin MOUNTING PROCEDURE – QD BUSHINGS

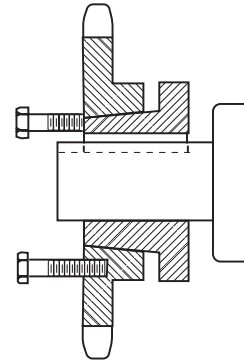
**IMPORTANT** – BE SURE TAPERED CONE SURFACES OF QD BUSHING AND INSIDE OF SHEAVE OR SPROCKET HUB ARE DRY AND FREE OF ALL FOREIGN SUBSTANCES SUCH AS PAINT, GREASE, OR DIRT.

### 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

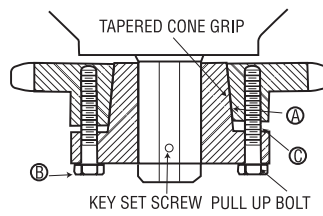
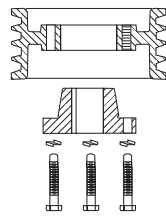
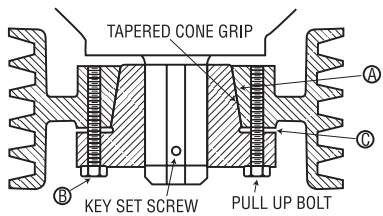
1. Remove pull-up bolts and screw them into TAPPED holes in sheave or sprocket and against flange of QD bushing to break cone grip.
1. Loosen set screw and slide QD bushing from shaft.

**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.)

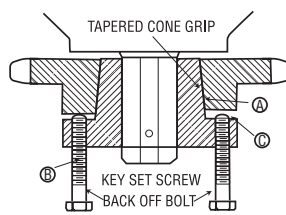
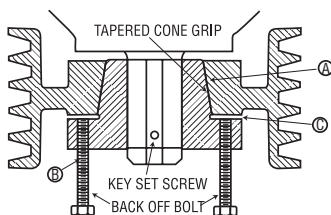
#### REVERSE Mounting Assembly

### 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.

B-2

## CAUTION

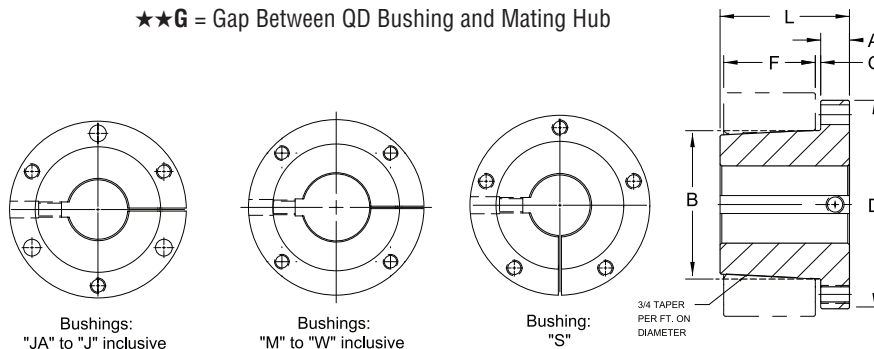
**WARNING: USE OF ANTI-SEIZE LUBRICANT ON TAPERED CONE SURFACES OR ON BOLT THREADS WHEN MOUNTING MAY RESULT IN DAMAGE TO SHEAVES AND SPROCKETS. THIS VOIDS ALL MANUFACTURER'S WARRANTIES.**

#### BOLT TORQUE TABLE

QD Bushing Size	Size of Cap Screw	Wrench Torque in./lbs.
JA	10 – 24	60
SH, SDS, SD	.25 – 20	108
SK	.3125 – 18	180
SF	.375 – 16	360
E	.5 – 13	720
F	.5625 – 12	900
J	.625 – 11	1620
M	.75 – 10	2700
N	.875 – 9	3600
P	1 – 8	5400
W	1.125 – 7	7200
S	1.125 – 7	9000

★F = Length of Mating Bore

★★G = Gap Between QD Bushing and Mating Hub



Bushing	Dimensions (Inches)								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	.563	3.125	4.625	1.5	1.25	.125	2.063	3.875	3.375 × 2	.5	2.313	2.813	3.0
E-STL	.75	3.834	6	1.875	1.625	.125	2.625	5	3.5 × 2.75	.875	2.875	3.5	10.0
F-STL	.813	4.437	6.625	2.813	2.5	.188	3.625	5.625	3.563 × 3.625	1	3.313	4	11.5
J-STL	1	5.148	7.25	3.5	3.188	.188	4.5	6.25	3.625 × 4.5	1.438	3.75	4.5	18.0
M-STL	1.25	6.5	9	5.5	5.188	.188	6.75	7.875	4.75 × 6.75	2	4.75	5.5	37.0
N-STL	1.5	7	10	6.625	6.25	.438	8.125	8.5	4.875 × 8.5	2.5	5.125	5.875	57.0

Bushing	Bores	Keyway
SF-STL	2.375 – 2.563	.625 × .188
	2.625 – 2.75	.625 × .063
	2.813 – 2.875	.75 × .063
	2.938	.75 × .031
	.875 – 2.875	STD.
E-STL	2.938 – 3.25	.75 × .125
	3.313 – 3.5	.875 × .063
F-STL	1 – 3.313	STD.
	3.375 – 3.75	.875 × .188
	3.875 – 3.938	1 × .125
	4	NONE
J-STL	3.438 – 3.75	STD.
	3.813 – 4.5	1 × .125
	2 – 4.75	STD.
M-STL	4.813 – 5.5	1.25 × .25
	2.5 – 5.125	STD.
N-STL	5.188 – 5.5	1.25 × .25
	5.563 – 5.875	1.5 × .25

Shallow Key Dimension — Standard			
Keyset	Key	Keyset	Key
.25 × .031	.25 × .156	.75 × .125	.75 × .5
.25 × .063	.25 × .188	.875 × .063	.875 × .5
.375 × .031	.375 × .219	.875 × .188	.875 × .625
.375 × .063	.375 × .25	1 × .125	1 × .625
.375 × .125	.375 × .313	1.25 × .25	1.25 × .875
.5 × .031	.5 × .281	1.5 × .125	1.5 × .875
.5 × .063	.5 × .313	1.5 × .25	1.5 × 1
.5 × .125	.5 × .375	1.75 × .125	1.75 × .75
.625 × .063	.625 × .375	1.75 × .25	1.75 × .875
.75 × .063	.75 × .438	2 × .25	2 × 1

Shallow Key Dimension — Steel			
Keyset	Key	Keyset	Key
.25 × .031	.25 × .156	.75 × .063	.75 × .438
.25 × .063	.25 × .188	.75 × .125	.75 × .5
.375 × .031	.375 × .219	.875 × .063	.875 × .5
.375 × .063	.375 × .25	.875 × .188	.875 × .625
.375 × .125	.375 × .313	1 × .125	1 × .625
.5 × .031	.5 × .094	1.25 × .25	1.25 × .875
.5 × .063	.5 × .313	1.5 × .25	1.5 × 1
.5 × .125	.5 × .375	1.75 × .125	1.75 × .75
.625 × .063	.625 × .375	1.75 × .375	1.75 × 1
.625 × .188	.625 × .5	2 × .25	2 × 1

Shallow Key Dimension — Standard		
Bores	Keyset	Key
.875	.188 × .094	.188 × .188
.938 – 1.25	.25 × .125	.25 × .25
1.313 – 1.375	.313 × .156	.313 × .313
1.438 – 1.75	.375 × .188	.375 × .375
1.813 – 2.25	.5 × .25	.5 × .5
2.313 – 2.75	.625 × .313	.625 × .625
2.813 – 3.25	.75 × .375	.75 × .75
3.313 – 3.75	.875 × .438	.875 × .875
3.813 – 4.5	1 × .5	1 × 1
4.563 – 5.5	1.25 × .625	1.25 × 1.25
5.563 – 6.5	1.5 × .75	1.5 × 1.5
6.563 – 7.5	1.75 × .75	1.75 × 1.5
7.563 – 9	2 × .75	2.5 × 1.5
9.063 – 11	2.5 × .875	—
1.688 – 13	3 × 1	—

Bushing	Plain Bores Not Split
SH-STL	.5
SD-STL	.5
SK-STL	.5
SF-STL	1.938
E-STL	.875 – 1.938
F-STL	1 – 2.438 – 2.938
J-STL	1.438 – 2.938
M-STL	2 – 2.938
N-STL	2.438 – 4.938

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

# Standard QD Bushings



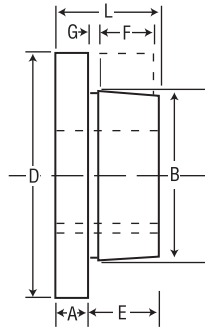
Bushing	Dimensions (Inches)								Cap Screws Required	Stock Bore Range			Set Screw Size	Average Weight (lb)
	A	B	D	E	F	G	L	Bolt Circle		Min.	Maximum			
											Standard Keyway	Shallow Keyway		
JA	.375	1.375	2	.688	.563	.125	1	1.665	3 - 10 x 1	.375	1	1.25	10 - 24	0.9
SH	.438	1.871	2.688	.875	.813	.125	1.313	2.25	3 - .25 x 1.375	.5	1.375	1.688	.25 - 20	1.0
SDS	.5	2.187	3.188	.875	.75	.125	1.375	2.688	3 - .25 x 1.375	.5	1.688	2	.25 - 20	1.0
SD	.5	2.187	3.188	.938	1.25	.125	1.813	2.688	3 - .25 x 1.875	.5	1.688	1.938	.25 - 20	1.5
SK	.563	2.812	3.875	1.375	1.25	.125	1.125	3.313	3 - .313 x 2	.5	2.125	2.5	.313 - 18	2.0
SF	.563	3.125	4.625	1.5	1.25	.125	2	3.875	3 - .375 x 2	.5	2.313	2.316	.313 - 18	3.0
E	.75	3.834	6	1.875	1.625	.125	2.625	5	3 - .5 x 2.75	.875	2.875	3.5	.375 - 16	10.0
F	.813	4.437	6.625	2.813	2.5	.188	3.625	5.625	3 - .563 x 3.625	1	3.313	3.938	.5 - 13	11.5
J	1	5.148	7.25	3.5	3.188	.188	4.5	6.25	3 - .625 x 4.5	1.438	3.75	4.5	.625 - 11	18.0
M	1.25	6.5	9	5.5	5.188	.188	6.75	7.875	4 - .75 x 6.75	1.938	4.75	5.5	.75 - 10	37.0
N	1.5	7	10.25	6.625	6.25	.25	8.125	8.5	4 - .875 x 8.5	2.438	5.125	6	.75 - 10	57.0
P	1.75	8.25	11.75	7.625	7.25	.25	9.375	10	4 - 1 x 9.5	2.938	5.938	7	.875 - 9	120.0
W	2	10.437	15	9.375	9	.25	11.375	12.75	4 - 1.125 x 11.5	4	7.5	8.5	1 - 8	250.0
S	3.25	12.125	17.75	12.5	-	.375	15.75	15	5 - 1.25 x 15.5	6	8.25	10	1.25 - 7	400.0

## Inch Bore

Bushing	Bores	Keyway
JA	.375 - .438	NO K.W.
	.5 - 1	STD.
	1.063 - 1.125	.25 x .063
	.813	.25 x .063
	1.25	NO K.W.
SH	.5 - 1.375	STD.
	1.438 - 1.5	.375 x .063
	1.563 - 1.625	.375 x .063
	1.688	NO K.W.
SDS	.5 - 1.688	STD.
	1.75	.375 x .125
	1.813	.5 x .125
	1.875 - 1.938	.5 x .063
SD	.5 - 1.688	STD.
	1.75	.375 x .125
	1.813	.5 x .125
	1.875	.5 x .063
	1.938	.5 x .063
SK	.5 - 2.125	STD.
	2.188 - 2.25	.5 x .125
	2.313 - 2.5	.625 x .063
	2.563 - 2.625	NO K.W.
SF	.5 - 2.25	STD.
	2.313 - 2.5	.625 x .188
	2.563 - 2.75	.625 x .063
	2.813 - 2.875	.75 x .063
	2.938	.75 x .031
E	.875 - 2.875	STD.
	2.938 - 3.25	.75 x .125
	3.375 - 3.5	.875 x .063
	3.313	.875 x .125
F	1 - 3.313	STD.
	3.375 - 3.75	.875 x .188
	3.875 - 3.938	1 x .125
	4	NONE
J	1.25 - 3.75	STD.
	3.813 - 4.5	1 x .125
M	2 - 4.75	STD.
	4.813 - 5.5	1.25 x .25
N	2.438 - 5	STD.
	5.125 - 5.5	1.25 x .25
	5.563 - 6	1.5 x .25
P	2.938 - 5.938	STD.
	6 - 6.5	1.5 x .25
	6.563 - 7	1.75 x .125
W	4 - 7.5	STD.
	7.563 - 8.5	2 x .25

## Millimeter Bore

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

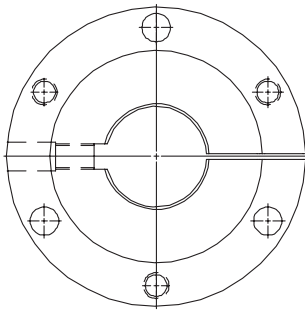


★ Important — The metric system does not refer to keyseat or keyway dimensions as does the English system; instead, dimensions are given for the key itself which is rectangular in shape, not square as in the English system.

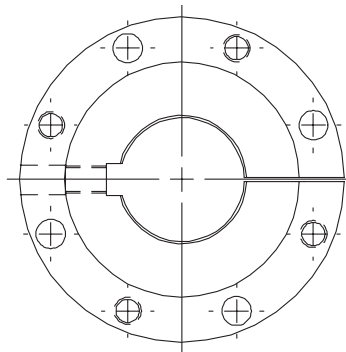
NOTE:  
.03937" = 1mm  
Ex—24 mm = 0.94488"

TO ORDER:  
SH 24 mm

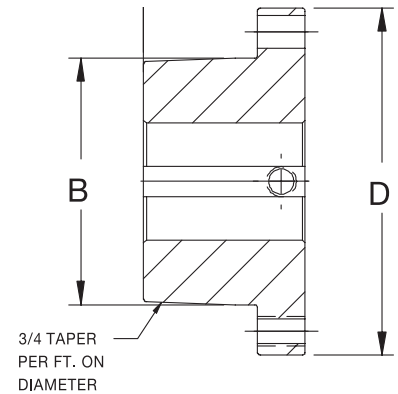
Keystock provided for nonstandard keyways.



Bushings:  
JS



Bushings:  
MS to WS inclusive



## Inch Bore

Bushing	Bores	Keyway	Weight lbs (approx)
JS	2.438	.625 x .313	19
	2.938	.75 x .375	17
	3.438	.875 x .438	15
	3.5		15
	3.938	1 x .125	13
4.438	10		
MS	3.438	.875 x .438	38
	3.5		37
	3.938	1 x .5	34
	4.438		30
	4.938		26
	5.438		21
5.5	1.25 x .25	20	
NS	3.938	1 x .5	54
	4.438		49
	4.938	1.25 x .625	43
	5.438		38
	5.5	1.25 x .25	37
	5.938		31
6	1.5 x .25	30	
PS	4.938	1.25 x .625	76
	5.438		70
	5.938	1.5 x .75	62
	6		62
	6.438	1.5 x .25	55
	6.5		54
6.938	1.75 x .125	47	
7		45	
WS	5.438	1.25 x .625	154
	5.15/16		145
	6	1.5 x .75	144
	6.438		136
	6.5		135
	6.938		126
	7	1.75 x .75	125
	7.5		114
	7.938	2 x .25	106
	8		105
8.438	94		
8.5	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	5.148	7.25	2.38	3.38	6.25	.625 x 2.5 (3)	.625
MS	1.19	6.5	9	3.62	4.81	7.88	.75 x 3 (4)	.75
NS	1.5	70	10	4.5	6	8.5	.875 x 3.5 (4)	.75
PS	1.5	8.25	11.75	5	6.5	10	1 x 4 (4)	.875
WS	1.75	10.437	15	5.5	7.25	12.75	1.125 x 5 (4)	1

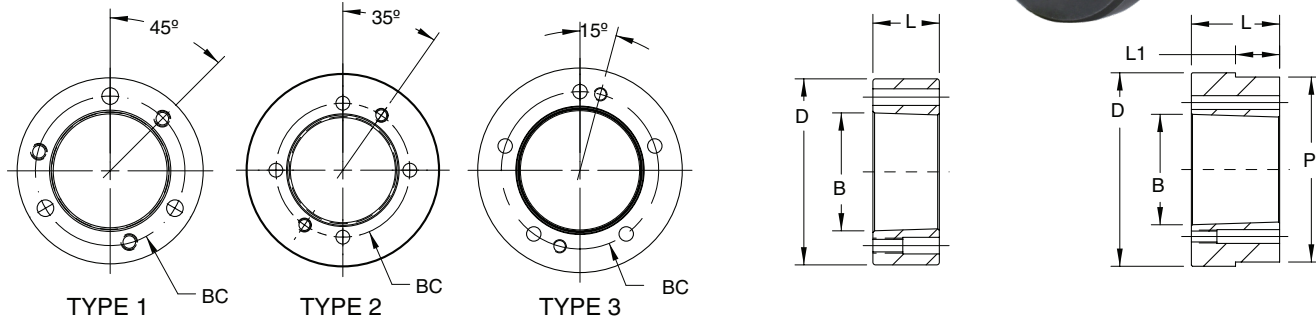
# QD and QD Short Weld-On Hubs



## 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 tapered bored for QD bushings

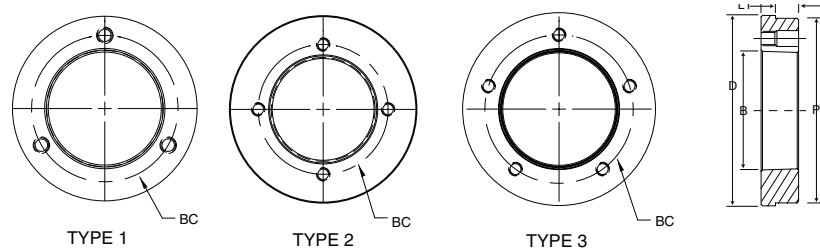


Catalog Number	Dimensions (Inches)						Type Drilling	Weight (lbs)	Mounting
	D ★	L	B (nom)	P	L <sub>1</sub>	BC			
JA-A	2.25	.563	1.37	—	—	1-21/32	1	0.4	STD or Reverse Mount ↓
SH-A	3	.813	1.87	—	—	2.25	1	1.0	
SDS-A	3.5	.75	2.18	—	—	2.688	1	1.2	
SK-A	4.375	1.25	2.81	—	—	3.313	1	3.0	
SF-A	5	1.25	3.12	—	—	3.875	1	4.0	
E-A	6.25	1.625	3.83	—	—	5	1	9.0	
F-A	7	2.5	4.44	—	—	5.625	1	16.0	
J-A	7.75	3.188	5.14	—	—	6.25	1	22.5	
M-A	9.5	5.188	6.49	9.25	3.563	7.875	2	50.0	
N-A	10.5	6.25	6.99	10.25	4.5	8.5	2	75.0	
P-A	13	7.25	8.24	—	—	10	2	155.0	STD Mount Only
W-A	15.5	9	10.43	—	—	12.75	2	300.0	
S-A	19.5	12	12.12	18.75	7.5	15	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 <sub>1</sub>	BC			
SFS-A	5	1	3.12	4.75	.563	3.875	1	3.0	Reverse Mount Only
ES-A	6.25	1.125	3.83	6	.625	5	1	5.5	
FS-A	7	1.25	4.44	6.75	1.063	5.625	1	7.4	
JS-A	8.25	1.625	5.14	8	1	6.25	1	13.8	
MS-A	9.5	2.375	6.49	9.25	1.625	7.875	2	22.9	
NS-A	10.25	2.375	6.99	10	1.563	8.5	2	26.8	
PS-A	12.25	2.875	8.24	12	2	10	2	47.9	
WS-A	15.25	3.375	10.43	14.875	2.438	12.75	2	84.2	
SS-A	17.5	3.875	12.12	17	2.75	15	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)