



**IDC SELECT IDLERS AND TENSIONERS**

# To compete in today's global marketplace,

distributors and OEMs need a supplier who can provide them with precision idlers and tensioners that meet their quality, cost and delivery requirements. That's why they rely on IDC-USA.

IDC Select idlers and tensioners are high quality products that meet or exceed Tier 1 manufacturers' quality standards. These products include pulleys, bushings, sprockets, idler shafts and miscellaneous tensioning products.

IDC-USA is committed to providing you with the personal service you deserve while meeting your on-time delivery requirements with top quality, cost-effective products.

IDC-USA takes great pride in the quality of our products. Our precision idlers and tensioners use only bearings from name brand manufacturers such as NTN, NSK, Nachi, IKO and Timken.

IDC-USA also provides thermoplastic idler pulleys, which are precision molded glass-reinforced nylon idlers. These idlers are available in a wide range of styles and sizes and are found in the following industrial applications: lawn and garden equipment, motion control, fitness equipment, conveyors and all other pulley applications.

IDC-USA also has the ability to customize our products to fit your specific needs. In most cases, we are able to machine our products to the dimensions that you require.

For more information please visit us at [www.IDC-USA.com](http://www.IDC-USA.com) or call 317-244-9200.

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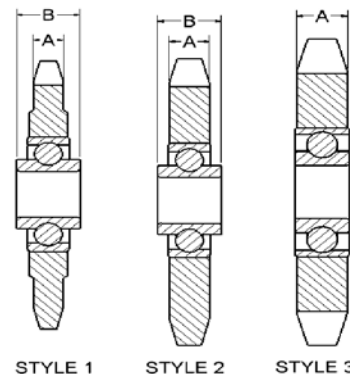
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# IDLER SPROCKETS

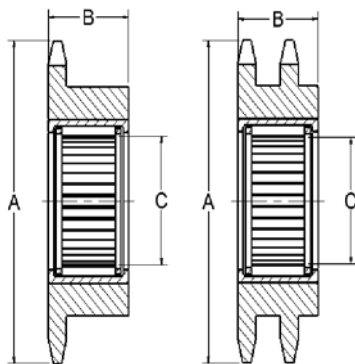
## BALL BEARING

Part No.	Chain Size	No. Teeth	Bore (in)	A (in)	B (in)	App. Wt. (lbs)	Style
35BB20H	35	20	1/2	7/16	11/16	0.40	Style 1
35BB20H	35	20	5/8	7/16	11/16	0.40	
41BB17H	41	17	1/2	7/16	11/16	0.50	
41BB17H	41	17	5/8	7/16	11/16	0.50	
40BB17H	40	17	1/2	7/16	11/16	0.60	
40BB17H	40	17	5/8	7/16	11/16	0.60	
40BB18H	40	18	1/2	7/16	11/16	0.70	
40BB18H	40	18	5/8	7/16	11/16	0.70	
50BB15H	50	15	1/2	7/16	11/16	0.80	
50BB15H	50	15	5/8	7/16	11/16	0.80	
50BB17H	50	17	1/2	7/16	11/16	0.90	
50BB17H	50	17	5/8	7/16	11/16	0.90	
60BB13H	60	13	1/2	7/16	11/16	1.10	Style 2
60BB13H	60	13	5/8	7/16	11/16	1.10	
60BB15H	60	15	1/2	7/16	11/16	1.20	
60BB15H	60	15	5/8	7/16	11/16	1.20	
80BB12H	80	12	3/4	9/16	—	1.60	Style 3



Top quality idler sprockets come standard with name brand bearings.

Ball bearing idler sprockets have hardened teeth, precision ground bearings, double sealed, and pre-lubricated.



## BRONZE BEARING/NEEDLE BEARING

Part No.	Part No.	Chain Size	No. Teeth	Strand Chain	A (in)	B (in)	C (in)	App. Wt. (lbs)
Bronze Bearing	Needle Bearing							
25BR19H	25NB19H	25	19	1	1.65	1/2	1/2	0.15
35BR13H	35NB13H	35	13	1	1.75	3/4	1/2	0.25
35BR19H	35NB19H	35	19	1	2.47	3/4	1	0.44
41BR19H	41NB19H	41	19	1	3.30	1	1	1.25
40BR19H	40NB19H	40	19	1	3.30	1	1	1.28
50BR17H	50NB17H	50	17	1	3.72	1	1	1.62
60BR11H	60NB11H	60	11	1	2.96	1 1/4	1	0.95
60BR17H	60NB17H	60	17	1	4.46	1 1/4	1	3.12
80BR13H	80NB13H	80	13	1	4.66	1 1/2	1	3.50
—	100NB11H	100	11	1	5.01	1 7/8	1 1/2	4.60
—	120NB11H	120	11	1	6.01	2 1/8	1 1/2	7.25
—	140NB11H	140	11	1	7.01	2 1/4	1 1/2	11.30
—	160NB9H	160	9	1	6.70	2 1/4	1 1/2	9.60
D35BR19H	D35NB19H	D35	19	2	2.47	1 1/4	1	0.78
D40BR19H	D40NB19H	D40	19	2	3.30	1 1/2	1	2.00
D50BR17H	D50NB17H	D50	17	2	3.72	1 3/4	1	2.87
D60BR17H	D60NB17H	D60	17	2	4.46	2 1/8	1	5.42
D80BR13H	D80NB13H	D80	13	2	4.66	2 1/2	1	6.42
—	D100NB11H	D100	11	2	5.01	2 7/8	1 1/2	6.75

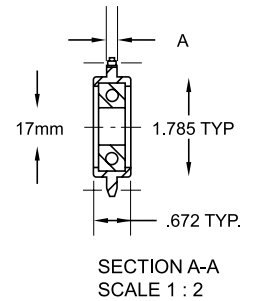
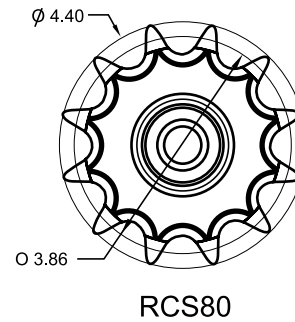
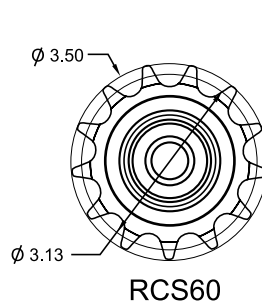
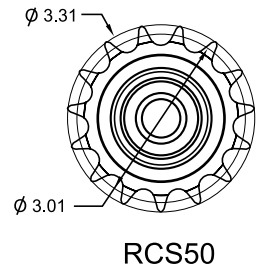
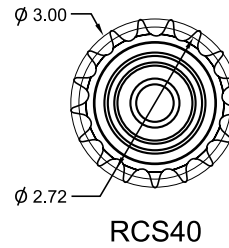
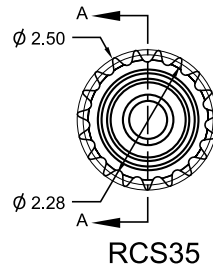
All sprockets have hardened teeth.

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# COMPOSITE SPROCKETS



## ONE-PIECE THERMOPLASTIC BODY ROLLER CHAIN SPROCKETS

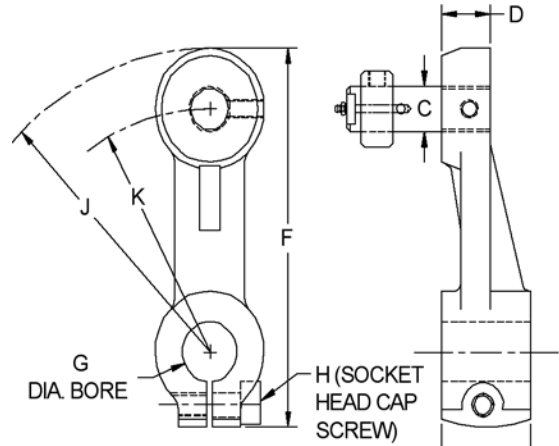
Part No.	ASME/ANSI Chain No.	No. Teeth	Strand	A (in)	C (mm)
RCS35	35	19	1	.160	17
RCS40	40	17	1	.274	17
RCS50	50	15	1	.334	17
RCS60	60	13	1	.449	17
RCS80	80	12	1	.565	17

Bore adaptors available. See page 21.

# DRIVE TENSIONERS



The Single Adjusting Tensioner can be mounted on any point of a shaft or stud. This tensioner permits controlled tensioning at any point of the 360° arc. The split at the base of the arm allows for fast adjustment and tight clamping on the shaft. The SAT series tensioner should be used when a frame member is not present and a bolt-on tensioner is not an option.



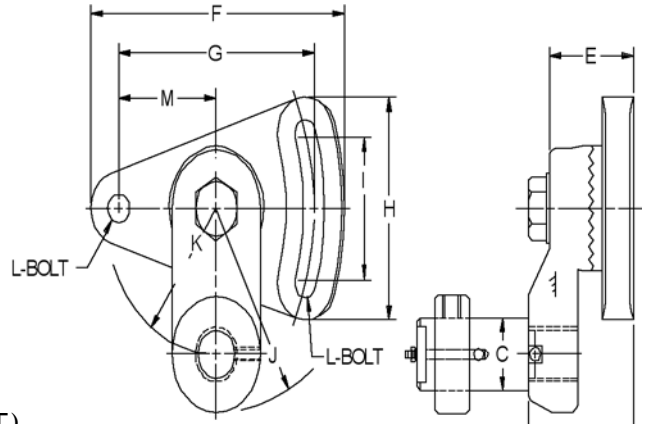
## SINGLE ADJUSTING TENSIONER (SHAFT MOUNT)

Part No.	Brewer	Browning	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	Approx. Weight (lbs)
	Interchange											
SAT 3/8-16	AS	SATH1	1/2	1/2	13/16	3 9/16	1/2	10/32	1 1/8	2 9/16	2	0.32
SAT 1/2-13	—	SATH	1	7/8	1 5/8	6 1/4	1	3/8	2	5	4	2.25
SAT 5/8-11	—	SATP										
SAT 3/4-10	AM 3/4-10	SATQ										
SAT 3/4-16	AM	—										
SAT 1-8	—	SATQ-1	1 1/2	1 5/16	2 7/8	9 3/8	1 1/2	1/2	3	7 1/2	6	7.75
SAT 1-14	AL	—										

Idler shaft must be ordered separately. For shaft selection see page 20.



The Double Adjustable Base Mount Drive Tensioner has a 360° rotating arm that permits controlled tensioning at any point of the arc. The adjusting slot gives the operator easy adjustment to keep proper tension on the belt or chain drive increasing the life of the drive. This tensioner has serrated teeth to prevent slippage.



## DOUBLE ADJUSTING TENSIONER (BASE MOUNT)

Part No.	Brewer	Browning	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	Approx. Weight (lbs)
	Interchange													
DAT 3/8-16	SS	DATN1	1/2	1 3/16	15/16	2 23/32	2	1 31/32	1 1/4	1 9/16	1	1/4	15/16	0.42
DAT 3/4-10	—	DATSQ	1	1 7/8	1 1/2	4 5/8	3 1/2	3 1/16	2 1/16	3	2	3/8	1 3/4	2.66
DAT 3/4-16	SM	—	1	1 7/8	1 1/2	4 5/8	3 1/2	3 1/16	2 1/16	3	2	3/8	1 3/4	2.66
DAT 1-8	—	DATQ-1	1 1/2	2 15/16	2 3/8	6 15/16	5 1/4	4 9/16	3	6 1/2	5	5/8	2 5/8	10.25
DAT 1-14	SL	—	1 1/2	2 15/16	2 3/8	6 15/16	5 1/4	4 9/16	3	6 1/2	5	5/8	2 5/8	10.25

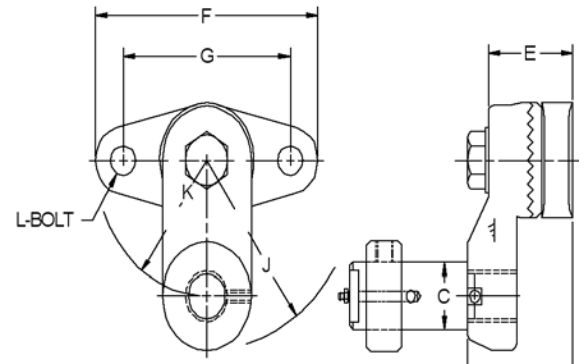
Idler shaft must be ordered separately. For shaft selection see page 20.



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The AFT Series Tensioner has a flanged base that can be mounted in a tight area where space is limited. The rotating arm gives the operator 360° controlled tensioning and can be easily adjusted to the proper tension increasing the life of the drive. The AFT Series Tensioners have serrated teeth to prevent slippage.



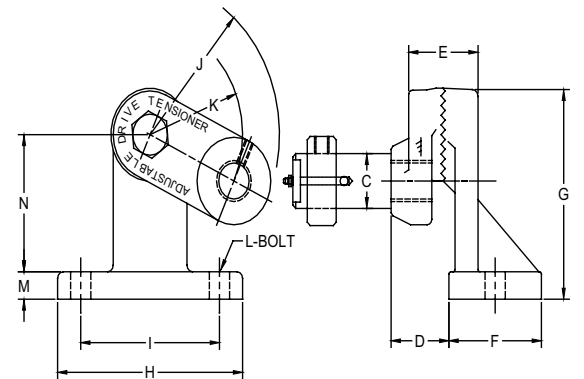
## ADJUSTABLE FLANGE TENSIONER

Part No.	Brewer	Browning	C (in)	D (in)	E (in)	F (in)	G (in)	J (in)	K (in)	L (in)	Approx. Weight (lbs)
	Interchange										
AFT 3/4-10	—	ATQ	1	1 7/8	1 1/2	4	3	3	2	3/8	2.82
AFT 3/4-16	GSM	—	1	1 7/8	1 1/2	4	3	3	2	3/8	2.82
AFT 1-8	—	ATQ-1	1 1/2	2 15/16	2 3/8	7 1/2	6	6 1/2	5	5/8	9.37
AFT 1-14	GSL	—	1 1/2	2 15/16	2 3/8	7 1/2	6	6 1/2	5	5/8	9.37

Idler shaft must be ordered separately. See page 27 for exceptions. For shaft selection see page 20.



The AAT Series Tensioner has an angled base that can be mounted on the top of a frame member. The angled base provides parallel tensioning with the drive. This tensioner has serrated teeth to prevent slippage.



## ADJUSTABLE ANGLE TENSIONER

Part No.	Brewer	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
	Interchange													
AAT 3/4-10	—	1	1 1/4	1 1/2	2	4	4	3	3	2	3/8	1/2	2 1/2	3.15
AAT 3/4-16	RSM	1	1 1/4	1 1/2	2	4	4	3	3	2	3/8	1/2	2 1/2	3.15
AAT 1-8	—	1 1/2	1 3/4	2 3/8	3 1/2	7 3/8	7 1/2	6	6 1/2	5	5/8	3/4	5 1/8	14.2
AAT 1-14	RSL	1 1/2	1 3/4	2 3/8	3 1/2	7 3/8	7 1/2	6	6 1/2	5	5/8	3/4	5 1/8	14.2

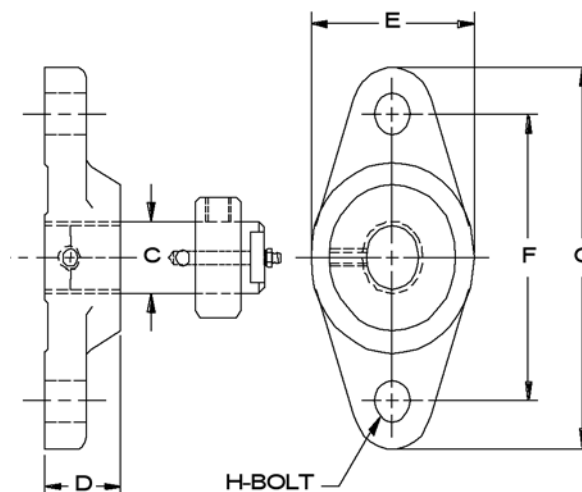
Idler shaft must be ordered separately. For shaft selection see page 20.



# DRIVE TENSIONERS



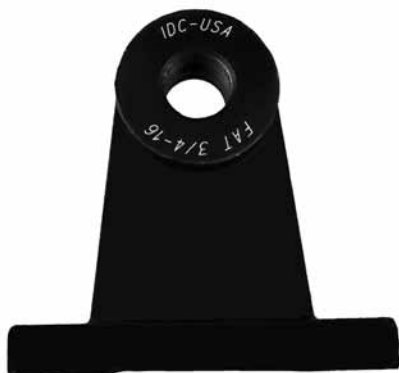
The FFT Series Tensioner has a fixed flanged base that can be mounted in a tight area where space is very limited. This is the ideal tensioner when the center distance between shafts is excessive and additional tensioning is required. Typically used with a combination of fixed and adjustable tensioners.



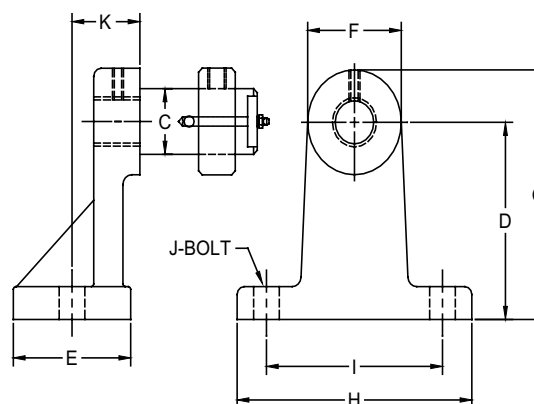
## FIXED FLANGE TENSIONER

Part No.	Brewer	Browning	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	Approx. Weight (lbs)
	Interchange								
FFT 3/8-16	GS	FFTN1	1/2	1/2	1 1/8	1 3/4	2 3/8	1/4	0.18
FFT 3/4-10	GM 3/4-10	FFTQ	1	15/16	2	3	4	3/8	0.98
FFT 3/4-16	GM	—	1	15/16	2	3	4	3/8	0.98
FFT 1-8	—	FFTQ-1	1 1/2	1 7/16	3 1/2	6	7 1/2	5/8	4.55
FFT 1-14	GL	—	1 1/2	1 7/16	3 1/2	6	7 1/2	5/8	4.55

Idler shaft must be ordered separately. For shaft selection see page 20.



The FAT Series Tensioner can be mounted on top of any flat surface and will provide horizontal tensioning. Can be used with other FAT series tensioners, as well as, other tensioners to achieve proper tensioning.



## FIXED ANGLE TENSIONER

Part No.	Brewer	Browning	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	Approx. Weight (lbs)
	Interchange											
FAT 3/8-16	RS	FATN1	1/2	1 1/2	1 1/8	1	2	2 3/8	1 3/4	1/4	9/16	0.28
FAT 3/4-10	RM 3/4-10	FATQ	1	3	2	1 3/4	3 1/8	4	3	3/8	1 1/16	1.79
FAT 3/4-16	RM	—	1	3	2	1 3/4	3 1/8	4	3	3/8	1 1/16	1.79
FAT 1-8	—	FATQ-1	1 1/2	6	3 1/2	2 5/8	7 5/16	7 1/2	6	5/8	1 7/8	9.68
FAT 1-14	RL	—	1 1/2	6	3 1/2	2 5/8	7 5/16	7 1/2	6	5/8	1 7/8	9.68

Idler shaft must be ordered separately. For shaft selection see page 20.

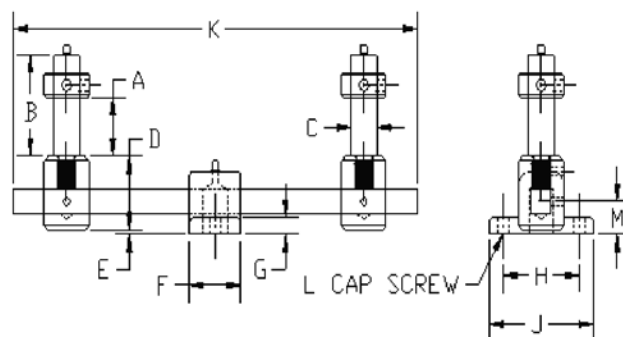
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The RDT Tensioner has the ability for continued tension on reversible drives by using a floating arm that will automatically relocate when the direction of the drive is reversed.



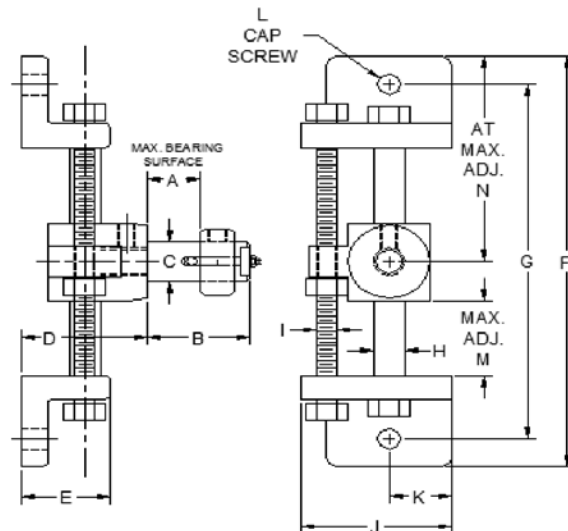
## REVERSIBLE DRIVE TENSIONER

Part No.	Brewer	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
	Interchange												
RDT 3/4-16	XM	1	2 1/4	1/8	2	1/2	3	4	15 3/4	3/8	1	3/4	7.36

Idler shaft must be ordered separately. For shaft selection see page 20.



The AST Series Tensioner uses screw adjustment for positive precise tensioning. Can be easily mounted to any flat surface and a favorite for operators that need to make very fine adjustments.



## ADJUSTABLE SCREW TENSIONER

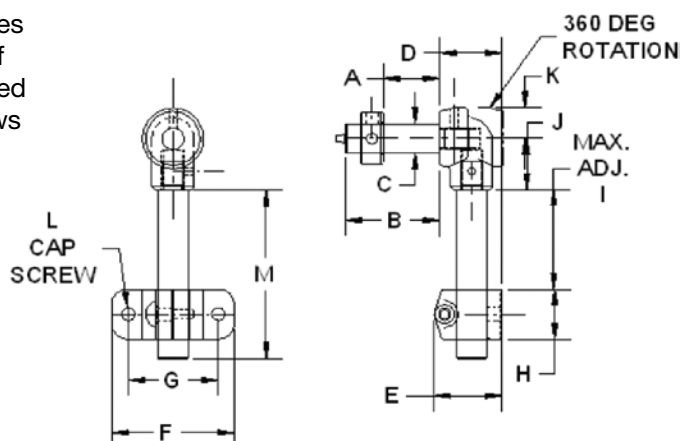
Part No.	Brewer	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
	Interchange													
AST 3/8-16	HS	1/2	1 1/2	1 1/16	5 1/2	4 3/4	3/8	1/4	1 13/16	3/4	1/4	2	1 3/8	0.87
AST 3/4-16	HM	1	2 1/2	1 1/2	9 3/8	8 3/8	3/4	1/2	2 3/8	1	3/8	4	2 3/16	4.29
AST 1-14	HL	1 1/2	3 5/8	2 3/8	16	14 1/2	1 1/4	3/4	4 3/8	1 3/4	5/8	8	3 1/4	15.91

Idler shaft must be ordered separately. For shaft selection see page 20.

# DRIVE TENSIONERS



The ST Series Tensioner provides vertical tensioning by the use of a sliding shaft through a mounted base. The split in the base allows for fast adjustment and tight clamping on the shaft. The tensioner head rotates 360° and is a great option for long shaft centers.



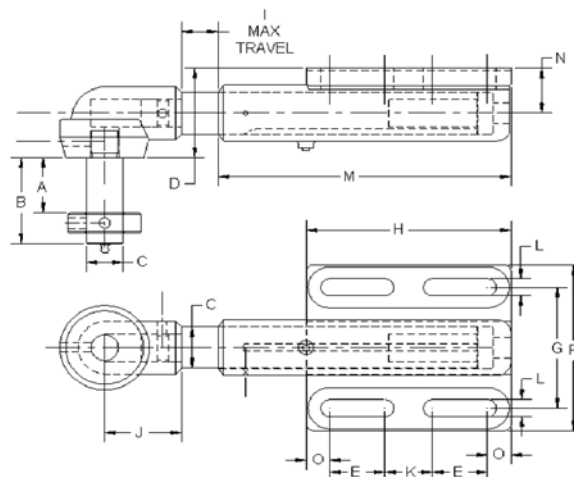
## SLIDING TENSIONER

Part No.	Brewer Interchange	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
ST 3/8-16	LS	1/2	1 3/16	1 1/4	2 1/8	1 3/4	7/8	2	7/8	9/16	1/4	2 7/8	9/16	0.83
ST 3/4-16	LM	1	2 1/16	2 1/4	4	3	1 11/16	4	1 3/4	1	3/8	5 11/16	1	4.29
ST 1-14	LL	1 1/2	3 1/16	3 5/16	7	5 3/8	2 1/2	8	2 5/8	1 1/2	5/8	10 1/2	1 1/2	15.93

Idler shaft must be ordered separately. For shaft selection see page 20.



The SLT Tensioner Series uses a compression spring for automatic tensioning, the spring will compress 1 inch for every 28 pounds of force with a maximum travel of 3 inches. This tensioner will provide constant tension that will protect the drive from damage caused by shock and pulsation. The head rotates 360° and the base has additional vertical adjusting slots.



## SPRING LOADED TENSIONER

Part No.	Brewer Interchange	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	N (in)	O (in)	Approx. Weight (lbs)
SLT	MSL	1 1/2	3 3/16	1 7/8	6	4 3/8	7	3	2 5/8	1 5/8	5/8	10	1 5/8	13/16	18.5

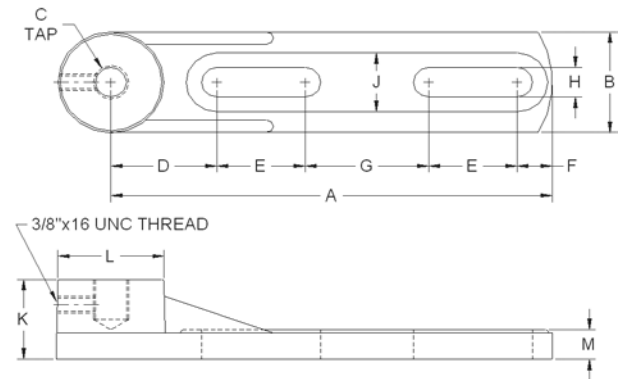
Idler shaft must be ordered separately. For shaft selection see page 20.



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The VMT Tensioner has a 3 1/2" travel through the use of the vertical slot. The head is drilled and tapped to accept the SO5-F and SO6-F shafts.



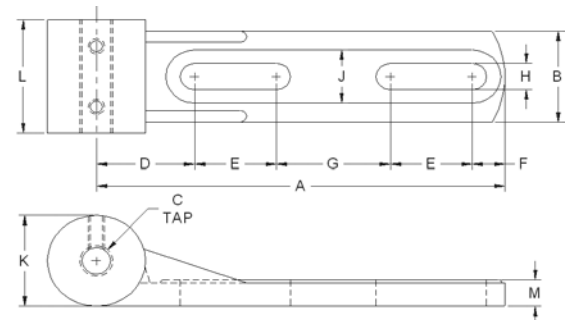
## VERTICAL MOUNT TENSIONER

Part No.	Brewer	A (in)	B (in)	C (UNF)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	Approx. Weight (lbs)
	Interchange													
VMT	MVL	12 1/2	3	1"-14	2 1/2	3 1/2	1/2	2 1/2	7/8	1 3/4	2 3/8	2 3/8	7/8	12

Idler shaft must be ordered separately. For shaft selection see page 20.



The HMT Tensioner has a 3 1/2" travel and is mounted 90° to the length of the part. Both ends are tapped so the shaft can be threaded on either side of the tensioner, the hole is tapped to accept the SO5-F and SO6-F shafts.



## HORIZONTAL MOUNT TENSIONER

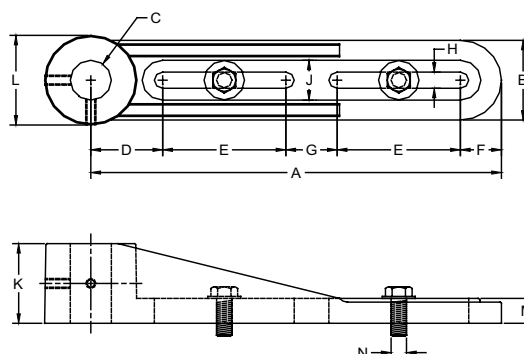
Part No.	Brewer	A (in)	B (in)	C (UNF)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	Approx. Weight (lbs)
	Interchange													
HMT	MHL	12 1/2	3	1"-14	2 1/2	3 1/2	1/2	2 1/2	7/8	1 3/4	2 3/4	3 1/2	7/8	11.57

Idler shaft must be ordered separately. For shaft selection see page 20.

# HEAVY DUTY TENSIONERS



The HDBB1 Tensioner is designed for heavy duty drives and has a travel up to 6" through the use of the adjusting slots. The head is drilled to accept a 2" shaft. The shaft is mounted straight out from the face and is anchored by set screws.



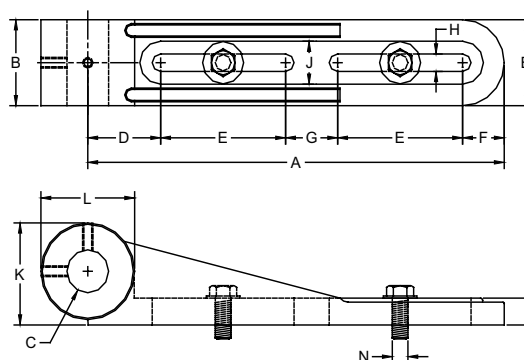
## HEAVY DUTY TENSIONERS

Part No.	Brewer	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
	Interchange														
HDBB1	BB1	20	4	2	3 1/2	6	2	2 1/2	13/16	2	4	4 1/2	1 1/4	3/4	36.93

Idler shaft must be ordered separately. For shaft selection see page 20.



The HDBB2 Tensioner is designed for heavy duty drives and has a travel up to 6" through the use of the adjusting slots. The head is drilled to accept a 2" shaft. The shaft is mounted to the side at 90° and is anchored by set screws.



## HEAVY DUTY TENSIONERS

Part No.	Brewer	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
	Interchange														
HDBB2	BB2	20 1/4	4	2	3 3/4	6	2	2 1/2	13/16	2	4 3/4	4 1/2	1 1/4	3/4	40.03

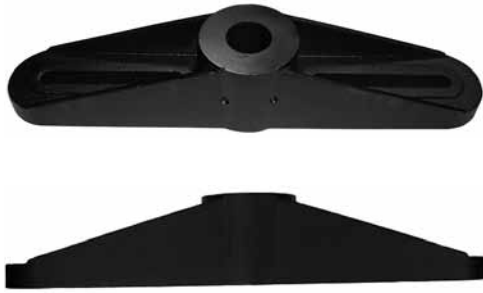
Idler shaft must be ordered separately. For shaft selection see page 20.



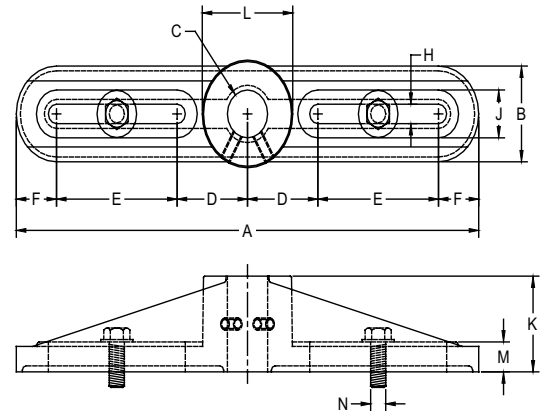
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# HEAVY DUTY TENSIONERS



The HDBB3 Tensioner is designed for heavy duty drives and has a travel up to 6" through the use of the adjusting slots. The head is drilled to accept a 2" shaft and is located in the center of the part in between the adjusting slots. The shaft is anchored by set screws.



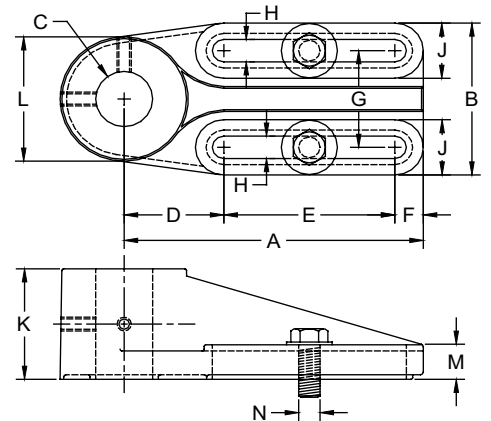
## HEAVY DUTY TENSIONERS

Part No.	Brewer	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
	Interchange														
HDBB3	BB3	23	4	2	3 1/2	6	2	-	13/16	2	4	4 1/2	1 1/4	3/4	38.32

Idle shaft must be ordered separately. For shaft selection see page 20.



The HDBB4 Tensioner is designed for heavy duty drives and has a travel up to 6" through the use of the adjusting slots. The head is drilled to accept a 2" shaft. The shaft is mounted straight out from the face and the adjusting slots are parallel to one another. The shaft is anchored by set screws.



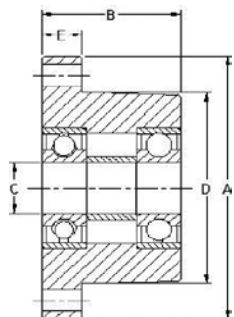
## HEAVY DUTY TENSIONERS

Part No.	Brewer	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	N (in)	Approx. Weight (lbs)
	Interchange														
HDBB4	BB4	10 1/2	5 1/2	2	3 1/2	6	1	-	13/16	2	4	4 1/2	1 1/4	3/4	26.83

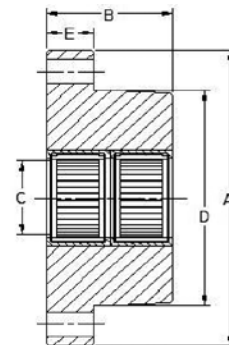
Idle shaft must be ordered separately. For shaft selection see page 20.



# QD® IDLER BUSHINGS



QD® Style Idler Bushings are used with products such as: sheaves, roller chain sprockets, synchronous belt sprockets and any item that accepts a QD® Style Bushing.



## QD® IDLER BUSHING (BALL BEARING)

Part No.	A (in)	B (in)	C (in)	D (in)	E (in)	Approx. Weight (lbs)
SH-BB	2 11/16	1 5/16	5/8	1 7/8	7/16	1.2
SH-BB-7/16++	2 11/16	1 5/16	7/16	1 7/8	7/16	1.2
SH-BB-1/2++	2 11/16	1 5/16	1/2	1 7/8	7/16	1.2
SDS-BB	3 1/8	1 5/16	5/8	2 3/16	7/16	1.5
SD-BB	3 1/8	1 13/16	5/8	2 3/16	7/16	1.7
SK-BB	3 7/8	1 15/16	3/4	2 13/16	9/16	3
SK-BB HD	3 7/8	1 15/16	3/4	2 13/16	9/16	3
SF-BB	4 5/8	2 1/16	1	3 1/8	5/8	3.2
E-BB	6	2 3/4	1 3/8	3.834	7/8	9.1
F-BB	6 5/8	3 5/8	1 1/2	4 7/16	7/8	14.3

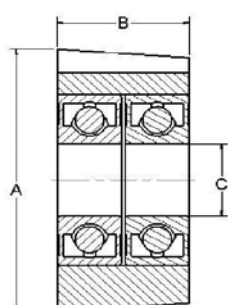
Bushings are furnished with bearings and fasteners. See page 24 for engineering specifications. \*QD® is a registered trademark of Emerson Electric. ++ Comes with bolts and jam nuts.

## QD® IDLER BUSHING (NEEDLE BEARING)

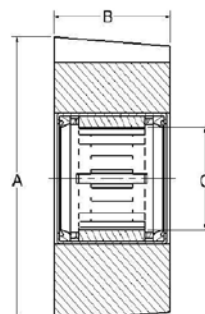
Part No.	A (in)	B (in)	C (in)	D (in)	E (in)	Approx. Weight (lbs)
SH-NB	2 11/16	1 5/16	1	1 7/8	7/16	1.2
SDS-NB	3 1/8	1 5/16	1	2 3/16	7/16	1.5
SD-NB	3 1/8	1 13/16	1	2 3/16	7/16	1.7
SK-NB	3 7/8	1 15/16	1	2 13/16	9/16	3
SF-NB	4 5/8	2 1/16	1½	3 1/8	5/8	3.3
E-NB	6	2 3/4	1½	3.834	7/8	14

Bushings are furnished with bearings and fasteners.

## TAPERED IDLER BUSHINGS



Taper-Lock® Style Idler Bushings are used with products such as: sheaves, roller chain sprockets, synchronous belt sprockets and any item that accepts a Taper-Lock® Style Bushing.



## TAPERED IDLER BUSHING (BALL BEARING)

Part No.	Brewer	A (in)	B (in)	C (in)	Approx. Weight (lbs)
	Interchange				
1610-BB	1610-B	2 1/4	1	5/8	0.9
1615-BB	1615-B	2 1/4	1 1/2	5/8	1.1
2012-BB	2012-B	2 3/4	1 1/4	3/4	1.6
2012-BBx1	—	2 3/4	1 1/4	1	1.8
2517-BB	—	3 3/8	1 3/4	1	3

Bushings are furnished with bearings and fasteners.

See page 24 for engineering specifications.

\*Taper-Lock® is a registered trademark of Rockwell Automation.

## TAPERED IDLER BUSHING (NEEDLE BEARING)

Part No.	Brewer	A (in)	B (in)	C (in)	Approx. Weight (lbs)
	Interchange				
1610-NB	1610-F	2 1/4	1	1	0.7
1615-NB	1615-F	2 1/4	1 1/2	1	1
2012-NB	2012-F	2 3/4	1 1/4	1	1.5
2517-NB	2517-F	3 3/8	1 3/4	1 1/2	2.75

Bushings are furnished with bearings and fasteners.

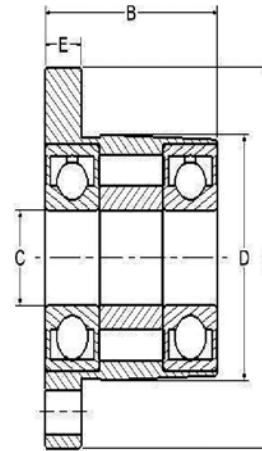
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# SPLIT TAPER™ IDLER BUSHINGS



Split Taper™ Idler Bushings are used with products such as: sheaves, roller chain sprockets, synchronous belt sprockets and any item that accepts a Split Taper™ Style Bushing.



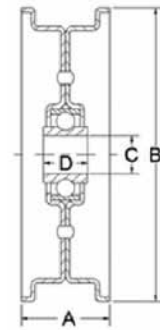
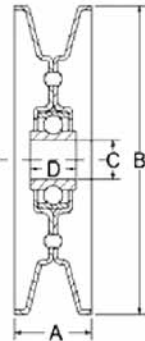
Typical installation (bolt & nuts not included unless otherwise noted)

## SPLIT TAPER™ STYLE IDLER BUSHING

Part No.	Browning	A (in)	B (in)	C (in)	D (in)	E (in)	Approx. Weight (lbs)
	Interchange						
H-BB	IDH1-1/2	2 1/2	1 1/4	1/2	1 5/8	1/4	1
P1-BB	IDP1-5/8	3	1 15/16	5/8	1 15/16	13/32	1.5
B-BB	—	3 11/16	1 15/16	3/4	2 5/8	1/2	2
Q1-BB 3/4"	IDQ1-3/4	4 1/8	2 1/2	3/4	2 7/8	17/32	3.5
Q1-BB 1"	IDQ1-1	4 1/8	2 1/2	1	2 7/8	17/32	3.8
R1-BB	IDR1-1 1/2	5 3/8	2 7/8	1 1/2	4	5/8	8.7

\*Split Taper™ is a Trademark of Emerson Electric.

## STAMPED STEEL IDLERS



### STAMPED STEEL V-BELT IDLER PULLEY

Part No.	Belt Size	A (in)	B (in)	C (in)	D (in)	Approx. Wt. (lbs)
VIP3 .375	A	0.86	3 1/2	3/8	23/32	0.66
VIP3 .500	A	0.86	3 1/2	1/2	23/32	0.66
VIP3 .625	A	0.86	3 1/2	5/8	23/32	0.66
VIP5 .500	B-C	1.31	5 1/16	1/2	23/32	1.13
VIP5 .625	B-C	1.31	5 1/16	5/8	23/32	1.13
VIP7 .500	B-C	1.31	7 5/16	1/2	23/32	2.14
VIP7 .625	B-C	1.31	7 5/16	5/8	23/32	2.14

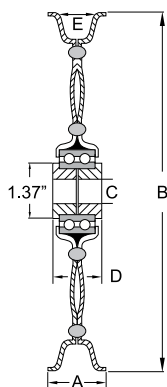
### STAMPED STEEL FLAT BELT IDLER PULLEY

Part No.	Face Width	A (in)	B (in)	C (in)	D (in)	Approx. Wt. (lbs)
FIP4 .500	1	1 7/16	4 3/4	1/2	23/32	1.22
FIP4 .625	1	1 7/16	4 3/4	5/8	23/32	1.22

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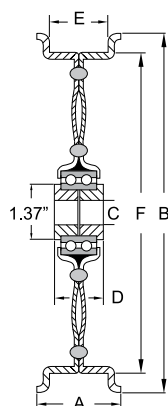
# STAMPED STEEL IDLER PULLEYS



## ZINC PLATED STAMPED STEEL V-BELT IDLER PULLEYS DOUBLE ROW BEARINGS

Part No.	A (in)	B (in)	C (in)	D (in)	E (in)	Gauge
DVIP-525-C	1.37	5 1/4	***	1 1/4	C	13
DVIP-731-C	1.37	7 5/16	***	1 1/4	C	13
DVIP-900-C	1.37	9	***	1 1/4	C	13

\*\*\* "C" refers to the bore diameter of the pulley. All of these pulleys are available with 1/2", 5/8", and 3/4" bore diameters.



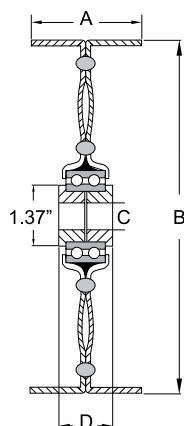
## ZINC PLATED STAMPED STEEL FLAT FLANGED IDLER PULLEYS DOUBLE ROW BEARINGS

Part No.	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Gauge
DFIP-575-200	2.48	5 3/4	***	1 1/4	2	5	13
DFIP-675-162	2.06	6 3/4	***	1 1/4	1.62	6	13
DFIP-675-200	2.48	6 3/4	***	1 1/4	2	6	13
DFIP-900-150	2.03	9	***	1 1/4	1 1/2	8	13
*DFIP-900-162	-	9	***	1 1/4	1.62	8	13
DFIP-900-200	2.57	9	***	1 1/4	2	8	13
DFIP-1000-262	3.31	10	***	1 1/4	2.62	10	13
DFIP-1000-325	3.87	10	***	1 1/4	3 1/2	10	13

\* Flange on one side only

\*\*\* "C" refers to the bore diameter of the pulley. All of these pulleys are available with 1/2", 5/8", and 3/4" bore diameters.

## ZINC PLATED STAMPED STEEL STRAIGHT FACED IDLER PULLEYS DOUBLE ROW BEARINGS



Part No.	A (in)	B (in)	C (in)	D (in)	Gauge
DSFIP-500-200	2	5	***	1 1/4	13
DSFIP-500-225	2 1/4	5	***	1 1/4	13
DSFIP-500-250	2 1/2	5	***	1 1/4	13
DSFIP-500-300	3	5	***	1 1/4	13
DSFIP-500-325	3 1/4	5	***	1 1/4	13
DSFIP-650-200	2	6 1/2	***	1 1/4	13
DSFIP-650-225	2 1/4	6 1/2	***	1 1/4	13
DSFIP-650-250	2 1/2	6 1/2	***	1 1/4	13
DSFIP-650-300	3	6 1/2	***	1 1/4	13
DSFIP-650-325	3 1/4	6 1/2	***	1 1/4	13
DSFIP-650-350	3 1/2	6 1/2	***	1 1/4	13
DSFIP-800-200	2	8	***	1 1/4	13
DSFIP-800-225	2 1/4	8	***	1 1/4	13
DSFIP-800-250	2 1/2	8	***	1 1/4	13
DSFIP-800-300	3	8	***	1 1/4	13
DSFIP-800-325	3 1/4	8	***	1 1/4	13
DSFIP-800-350	3 1/2	8	***	1 1/4	13

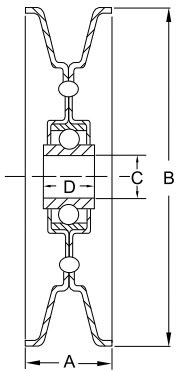
\*\*\* "C" refers to the bore diameter of the pulley. All of these pulleys are available with 1/2", 5/8", and 3/4" bore diameters.



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## ZINC PLATED V-BELT IDLER PULLEYS SINGLE ROW BEARINGS

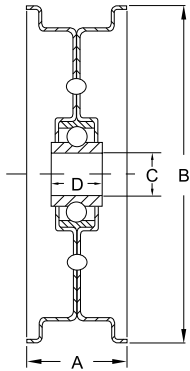


Part No.	Belt Size	A (in)	B (in)	C (in)	D (in)	Gauge
VIP350-375-A	A	0.84	3 1/2	3/8	0.720	14
VIP350-500-A	A	0.84	3 1/2	1/2	0.720	14
VIP350-625-A	A	0.84	3 1/2	5/8	0.720	14
VIP400-500-A	A	0.84	4	1/2	0.720	14
VIP400-625-A	A	0.84	4	5/8	0.720	14
VIP437-500-B	B	1.00	4.37	1/2	0.720	14
VIP437-625-B	B	1.00	4.37	5/8	0.720	14
VIP500-500-AB	AB	1.00	5	1/2	0.720	14
VIP500-625-AB	AB	1.00	5	5/8	0.720	14
VIP506-500-BC	BC	1.31	5.06	1/2	0.720	14
VIP506-625-BC	BC	1.31	5.06	5/8	0.720	14
VIP525-500-C	C	1.31	5 1/4	1/2	0.720	14
VIP525-625-C	C	1.31	5 1/4	5/8	0.720	14
VIP625-500-B	B	1.00	6 1/4	1/2	0.720	14
VIP625-625-B	B	1.00	6 1/4	5/8	0.720	14
VIP625-500-C	C	1.31	6 1/4	1/2	0.720	14
VIP625-625-C	C	1.31	6 1/4	5/8	0.720	14
VIP625-500-D	D	1.62	6 1/4	1/2	0.720	14
VIP625-625-D	D	1.62	6 1/4	5/8	0.720	14
VIP675-500-B	B	1.00	6 3/4	1/2	0.720	14
VIP675-625-B	B	1.00	6 3/4	5/8	0.720	14
VIP731-500-BC	BC	1.31	7.31	1/2	0.720	14
VIP731-625-BC	BC	1.31	7.31	5/8	0.720	14
VIP731-500-C	C	1.31	7.31	1/2	0.720	14
VIP731-625-C	C	1.31	7.31	5/8	0.720	14
VIP805-500-5V	5V	1.06	8.047	1/2	0.720	14
VIP805-625-5V	5V	1.06	8.047	5/8	0.720	14
VIP856-500-5V	5V	1.12	8.56	1/2	0.720	14
VIP856-625-5V	5V	1.12	8.56	5/8	0.720	14
VIP900-500-C	C	1.31	9	1/2	0.720	14
VIP900-625-C	C	1.31	9	5/8	0.720	14
VIP950-500-5V	5V	1.12	9 1/2	1/2	0.720	14
VIP950-625-5V	5V	1.12	9 1/2	5/8	0.720	14

Idler Pulleys with double row bearings also available

# FLAT BELT IDLER PULLEYS

## ZINC PLATED FLAT BELT IDLER PULLEYS SINGLE ROW BEARINGS



Part No.	Face Width	Face Diameter	A (in)	B (in)	C (in)	D (in)	Gauge
FIP400-75-500	3/4"	3.38"	1.12	4	1/2	0.720	14
FIP400-75-625	3/4"	3.38"	1.12	4	5/8	0.720	14
FIP475-75-500	3/4"	4"	1.12	4 3/4	1/2	0.720	14
FIP475-75-625	3/4"	4"	1.12	4 3/4	5/8	0.720	14
FIP475-100-500	1"	4"	1.43	4 3/4	1/2	0.720	14
FIP475-100-625	1"	4"	1.43	4 3/4	5/8	0.720	14
FIP575-100-500	1"	5"	1.43	5 3/4	1/2	0.720	14
FIP575-100-625	1"	5"	1.43	5 3/4	5/8	0.720	14
FIP575-131-500	1.31"	5"	1.75	5 3/4	1/2	0.720	14
FIP575-131-625	1.31"	5"	1.75	5 3/4	5/8	0.720	14
FIP575-162-500	1.62"	5"	2.06	5 3/4	1/2	0.720	14
FIP575-162-625	1.62"	5"	2.06	5 3/4	5/8	0.720	14
FIP575-200-500	2"	5"	2.43	5 3/4	1/2	0.720	14
FIP575-200-625	2"	5"	2.43	5 3/4	5/8	0.720	14
FIP625-75-500	3/4"	5 1/2"	1.18	6 1/4	1/2	0.720	14
FIP625-75-625	3/4"	5 1/2"	1.18	6 1/4	5/8	0.720	14
FIP625-100-500	1"	5 1/2"	1.43	6 1/4	1/2	0.720	14
FIP625-100-625	1"	5 1/2"	1.43	6 1/4	5/8	0.720	14
FIP650-150-500**	1 1/2"	6 1/2"	1.50	6 1/2	1/2	0.720	14
FIP650-150-625**	1 1/2"	6 1/2"	1.50	6 1/2	5/8	0.720	14
FIP675-75-500	3/4"	6"	1.18	6 3/4	1/2	0.720	14
FIP675-75-625	3/4"	6"	1.18	6 3/4	5/8	0.720	14
FIP675-100-500	1"	6"	1.43	6 3/4	1/2	0.720	14
FIP675-100-625	1"	6"	1.43	6 3/4	5/8	0.720	14
FIP675-162-500	1.62"	6"	2.06	6 3/4	1/2	0.720	14
FIP675-162-625	1.62"	6"	2.06	6 3/4	5/8	0.720	14
FIP775-100-500	1"	7"	1.43	7 3/4	1/2	0.720	14
FIP775-100-625	1"	7"	1.43	7 3/4	5/8	0.720	14
FIP875-100-500	1"	8"	1.43	8 3/4	1/2	0.720	14
FIP875-100-625	1"	8"	1.43	8 3/4	5/8	0.720	14
FIP900-150-500	1 1/2"	8"	1.93	9	1/2	0.720	14
FIP900-150-625	1 1/2"	8"	1.93	9	5/8	0.720	14
FIP900-200-500	2"	8"	2.43	9	1/2	0.720	14
FIP900-200-625	2"	8"	2.43	9	5/8	0.720	14
FIP1100-150-500	1 1/2"	11"	1.93	11	1/2	0.720	14
FIP1100-150-625	1 1/2"	11"	1.93	11	5/8	0.720	14

\*\* Flat Face; No Flange

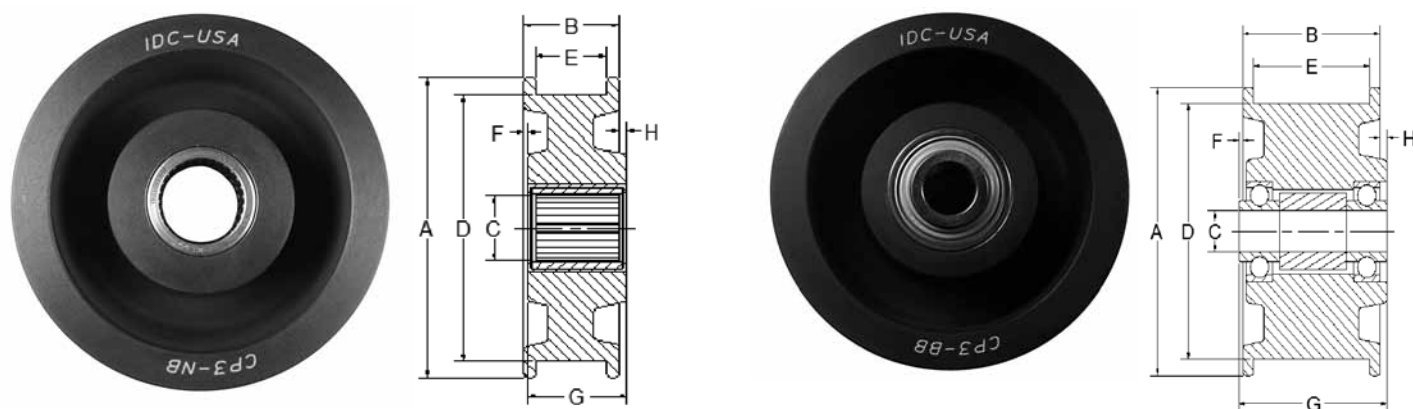
Idler Pulleys with double row bearings also available

All parts can be converted to 5/8" bore by removing reducer bushing



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# FLAT FACED IDLER PULLEYS



## FLAT FACED IDLER PULLEYS (NEEDLE BEARING)

Part No.	Brewer	Browning	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (LTB-in)	H (in)	Approx. Weight (lbs)
	Interchange										
CP1-NB	P1F	N4D1F	4 1/2	1 7/16	1	4	1 1/16	1/16	1 1/2	1/8	3.0
CP2-NB	P2F	N4D2F	4 1/2	2 7/16	1	4	2 1/16	1/16	2 1/2	1/8	4.6
CP3-NB	P3F	N4D3F	4 1/2	3 7/16	1	4	3 1/16	1/16	3 1/2	1/8	5.8
CP4-NB	P4F	N6D4F	7	5	1 1/2	6	4 1/2	1 1/8	4	1/8	13.2
CP6-NB	P6F	N6D6F	7	6 3/4	1 1/2	6	6 1/4	1 7/8	5	1/8	18.0

## FLAT FACED IDLER PULLEYS (BALL BEARING)

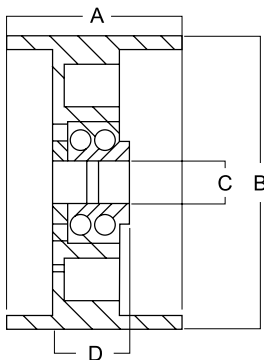
Part No.	Brewer	Browning	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (LTB-in)	H (in)	Approx. Weight (lbs)
	Interchange										
CP1-BB	P1B	—	4 1/2	1 7/16	5/8	4	1 1/16	1/16	1 3/4	1/4	3.2
CP2-BB	P2B	—	4 1/2	2 7/16	5/8	4	2 1/16	1/16	2 3/4	1/4	4.3
CP3-BB	P3B	—	4 1/2	3 7/16	5/8	4	3 1/16	1/16	3 3/4	1/4	5.0
CP4-BB	P4B	—	7	5	1	6	4 1/2	1 1/8	4	1/8	13.2
CP6-BB	—	—	7	6 3/4	1	6	6 1/4	1 7/8	5	1/8	18.0

## FLAT FACED IDLER PULLEYS (BRONZE BEARING)

Part No.	Brewer	Browning	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (LTB-in)	H (in)	Approx. Weight (lbs)
	Interchange										
CP1-BR	P1	—	4 1/2	1 7/16	1	4	1 1/16	1/16	1 1/2	1/8	3.3
CP2-BR	P2	—	4 1/2	2 7/16	1	4	2 1/16	1/16	2 1/2	1/8	4.8
CP3-BR	P3	—	4 1/2	3 7/16	1	4	3 1/16	1/16	3 1/2	1/8	6.0



# SEAMLESS FLAT FACED IDLER PULLEYS



## SEAMLESS FLAT FACED IDLER PULLEYS DOUBLE ROW BEARINGS

Part No.	A (in)	B (in)	C (in)	D (in)
SFIP-400-150	1 1/2	4	1/2, 5/8, 3/4	1 1/4
SFIP-400-175	1 3/4	4	1/2, 5/8, 3/4	1 1/4
SFIP-400-200	2	4	1/2, 5/8, 3/4	1 1/4
SFIP-400-225	2 1/4	4	1/2, 5/8, 3/4	1 1/4
SFIP-400-250	2 1/2	4	1/2, 5/8, 3/4	1 1/4
SFIP-400-275	2 3/4	4	1/2, 5/8, 3/4	1 1/4
SFIP-400-300	3	4	1/2, 5/8, 3/4	1 1/4
SFIP-400-325	3 1/4	4	1/2, 5/8, 3/4	1 1/4
SFIP-500-150	1 1/2	5	1/2, 5/8, 3/4	1 1/4
SFIP-500-175	1 3/4	5	1/2, 5/8, 3/4	1 1/4
SFIP-500-200	2	5	1/2, 5/8, 3/4	1 1/4
SFIP-500-225	2 1/4	5	1/2, 5/8, 3/4	1 1/4
SFIP-500-250	2 1/2	5	1/2, 5/8, 3/4	1 1/4
SFIP-500-275	2 3/4	5	1/2, 5/8, 3/4	1 1/4
SFIP-500-300	3	5	1/2, 5/8, 3/4	1 1/4
SFIP-500-325	3 1/2	5	1/2, 5/8, 3/4	1 1/4

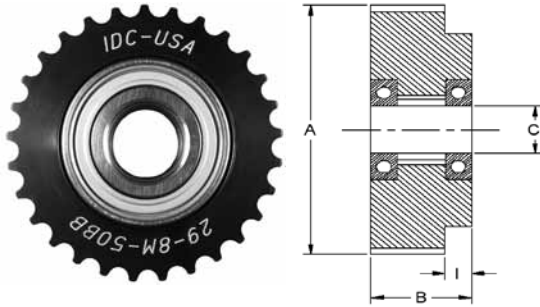


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# SYNCHRONOUS BELT IDLERS

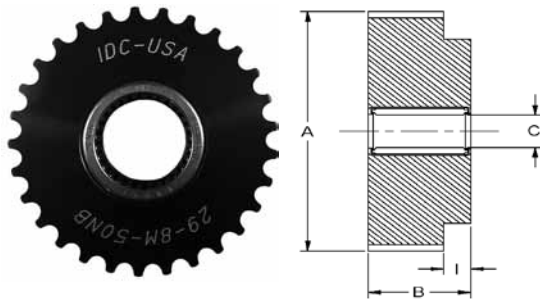
## HTD® IDLER SPROCKETS (BALL BEARING)



Part No.	Pitch/ Belt Width (mm)	No. Teeth	A (in)	B (in)	C (in)	I (in)	Approx. Weight (lbs)
29-8M-50BB	8/50	29	2.859	2 1/8	3/4	1/16	3.5
29-8M-85BB	8/85	29	2.859	3 1/2	3/4	1/16	5
27-14M-40BB	14/40	27	4.627	1 11/16	1	1/16	4.1
27-14M-55BB	14/55	27	4.627	2 3/8	1	1/16	9
27-14M-85BB	14/85	27	4.627	3 9/16	1 3/8	1/16	12
31-14M-115BB	14/115	31	5.333	4 13/16	1 1/2	1/16	19

HTD® is a registered trademark of Gates.

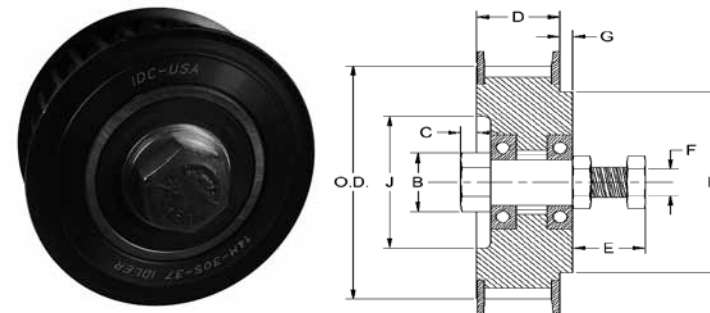
## HTD® IDLER SPROCKETS (NEEDLE BEARING)



Part No.	Pitch/Belt Width (mm)	Brewer	No. Teeth	A (in)	B (in)	C (in)	I (in)	Approx Weight (lbs)
		Interchange						
19-8M-30NB	8/30	P19- 8M-30F	19	1.851	1 3/8	1	1/16	0.69
29-8M-50NB	8/50	P29- 8M-50F	29	2.859	2 1/8	1	1/16	3.7
29-8M-85NB	8/85	P29- 8M-85F	29	2.859	3 1/2	1	1/16	5.3
27-14M-40NB	14/40	P27-14M-40F	27	4.627	1 11/16	1	1/16	5.0
27-14M-55NB	14/55	P27-14M-55F	27	4.627	2 3/8	1	1/16	11.0
27-14M-85NB	14/85	P27-14M-85F	27	4.627	3 9/16	1	1/16	14.0
31-14M-115NB	14/115	P31-14M-115F	31	5.333	4 13/16	1 1/2	1/16	22

\* Available with bronze bearing upon request.

## POLY CHAIN® GT®2 STYLE IDLER SPROCKETS



Part No.	Gates	Belt Width (mm)	No. of Teeth	O.D. (in)	B Ref. (in)	C (in)	D (in)	E Ref. (in)	F Threads (UNF)	G Ref. (in)	H (in)	J (in)	Approx. Weight (lbs)
	Interchange												
8M-32S-12BB	12-IDL-SPK2	12	32	3.145	1.68	0.50	0.85	1.56	3/4-16	0.94	2.52	—	1.0
8M-32S-21BB	21-IDL-SPK2	21	32	3.145	1.68	0.50	1.24	1.56	3/4-16	0.56	2.75	—	1.2
8M-36S-36BB	36-IDL-SPK2	36	36	3.546	1.68	0.75	1.86	1.63	3/4-16	—	—	—	2.0
8M-36S-62BB	62-IDL-SPK2	62	36	3.546	1.68	0.75	2.91	1.69	3/4-16	0.69	3.13	—	2.2
14M-30S-20BB	20-IDL-SPK2	20	30	5.153	1.68	1.00	1.36	2.25	1-14	1.00	4.38	—	9.0
14M-30S-37BB	37-IDL-SPK2	37	30	5.153	1.68	1.00	2.06	2.25	1-14	0.25	4.38	—	12.0
14M-34S-68BB	68-IDL-SPK2	68	34	5.855	1.68	0.56	3.33	2.25	1-14	1.00	4.88	4.34	15.6
14M-34S-90BB	90-IDL-SPK2	90	34	5.855	1.68	0.31	4.20	2.25	1-14	1.00	4.88	4.34	17.0

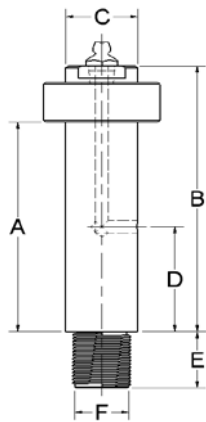
See page 26 for possible interchange exceptions.

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# PRECISION GROUND IDLER SHAFTS



SO1-C Thru SO6-F  
N1-C Thru N6-C



## IDLER SHAFTS - COARSE THREAD

Part No.	Brewer	Browning	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Approx. Weight (lbs)
	Interchange								
N1-C	SO-1	N1	1-1/16	1-1/2	1/2	3/8	7/16	3/8 x 16 THD	.16
N2-C	NO-2	N2	1 1/2	2-1/8	1	5/8	7/8	3/4 x 10 THD	.75
N3-C	NO-3	N3	2-1/2	3-1/8	1	1-1/8	7/8	3/4 x 10 THD	.95
N4-C	NO-4	N4	3-1/2	4-1/8	1	1-5/8	7/8	3/4 x 10 THD	1.16
N5-C	—	N5	3-1/4	4	1-1/2	1-3/8	1-5/16	1 x 8 THD	2.61
N6-C	—	N6	5-1/4	6	1-1/2	2-1/2	1-5/16	1 x 8 THD	3.64
S01-C	SO1	N1	1-1/16	1-1/2	1/2	3/8	7/16	3/8 x 16 THD	.16

## IDLER SHAFTS - FINE THREAD

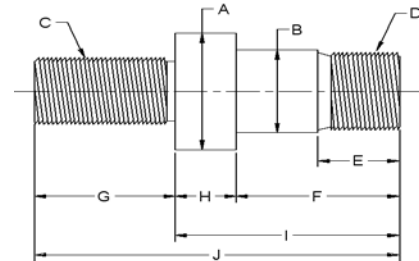
Part No.	Brewer	Browning	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Approx. Weight (lbs)
	Interchange								
SO2-F	SO-2	—	1-1/2	2-1/8	1	5/8	7/8	3/4 x 16 THD	.75
SO3-F	SO-3	—	2-1/2	3-1/8	1	1-1/8	7/8	3/4 x 16 THD	.95
SO4-F	SO-4	—	3-1/2	4-1/8	1	1-5/8	7/8	3/4 x 16 THD	1.16
SO5-F	SO-5	—	3-1/4	4	1-1/2	1-3/8	1-5/16	1 x 14 THD	2.61
SO6-F	SO-6	—	5-1/4	6	1-1/2	2-1/2	1-5/16	1 x 14 THD	3.64
SO9*	SO-9*	—	8	13	2	—	4	—	12.5

Use with Tensioners that have the same hole specifications as column "F".

\*Available in made-to-order lengths. Shaft is ground but not hardened and includes set collar and grease zerk.

## MACHINED SHOULDER STUDS

Machine Shoulder Studs can be used with any idlers with a 1/2", 5/8", 3/4" or 1" bore and with any tensioner arm with same hole specifications as column "C".



## STUD DIMENSIONS

Part No.	Brewer	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	Approx. Weight (lbs)
	Interchange											
MSS-500	IS-500	1	1/2	1/2-13	1/2-13	5/8	1-1/2	3/4	1/4	1-3/4	2-1/2	0.24
MSS-625	IS-625	1	5/8	1/2-13	5/8-11	13/16	1-5/16	1	1/4	1-9/16	2-9/16	0.38
MSS-750	IS-750	1-1/8	3/4	5/8-11	3/4-10	13/16	1-3/8	1-3/16	3/8	1-3/4	2-15/16	0.48
MSS-16.500	IS-165	1-1/8	1/2	3/4-16	1/2-13	5/8	1-1/2	7/8	1/4	1-3/4	2-5/8	0.28
MSS-16.625	IS-166	1-1/8	5/8	3/4-16	5/8-11	13/16	1-5/16	7/8	1/4	1-9/16	2-7/16	0.37
MSS-16.750	IS-167	1-1/8	3/4	3/4-16	3/4-10	13/16	1-3/8	7/8	3/8	1-3/4	2-5/8	0.48
MSS-16.625-2	IS-1662	1-1/8	5/8	3/4-16	5/8-11	13/16	2-1/2	7/8	1/4	2-3/4	3-5/8	0.58
MSS-16.625-3	IS-1663	1-1/8	5/8	3/4-16	5/8-11	13/16	3-1/2	7/8	1/4	3-3/4	4-5/8	0.66
MSS-16.625-4	IS-1664	1-1/8	5/8	3/4-16	5/8-11	13/16	4-1/2	7/8	1/4	4-3/4	5-5/8	0.75
MSS-14-1	IS-1665	1-5/16	1	1-14	1-14	1	4-7/8	1-5/16	1/4	5-1/8	6-7/16	1.68
MSS-8-1	—	1-5/16	1	1-8	1-8	1	4-7/8	1-5/16	3/8	5-1/8	6-7/16	1.66



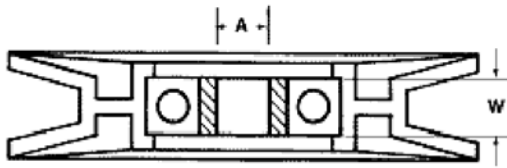
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## FIBERGLASS REINFORCED NYLON PULLEYS

### ONE-PIECE, THERMOPLASTIC IDLER PULLEYS RUN SMOOTH, STAY TOUGH, LAST LONGER

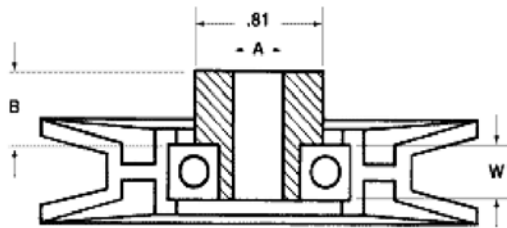
- Precision molded glass-reinforced nylon idlers
- Full corrosion resistant
- Resistant to oils, solvents and many acids
- Has a lower coefficient of friction
- Runs cooler than steel
- Offers longer belt life and reduced maintenance
- Immune from the rivet fatigue and separation that often plague two piece metal pulleys
- Available in a wide range of styles, sizes and colors
- Standard bearing number 6203-2RS
- All idlers molded concentric around bearings  $\pm 0.007$  T.I.R.
- Used for lawn and garden equipment, motion control, fitness equipment, conveyors, and all other pulley applications

#### BORE ADAPTER



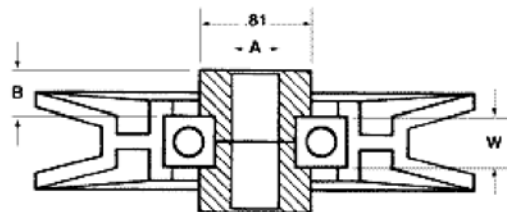
Part Number	A (in)	B (mm)	W (mm)	Approx. Weight (lbs)
BA-01	0.375	17	12	0.02
BA-015	0.472	17	12	0.02
BA-02	0.500	17	12	0.02
BA-03	0.413	17	12	0.02

#### SHOULDER ADAPTER



Part Number	A (in)	B (in)	W (mm)	Approx. Weight (lbs)
SA-00	0.313	0.39	12	0.08
SA-001	0.313	0.79	12	0.12
SA-015	0.375	0.20	12	0.09
SA-02	0.375	0.27	12	0.06
SA-025	0.375	0.31	12	0.06
SA-03	0.375	0.41	12	0.06
SA-04	0.375	0.46	12	0.06
SA-06	0.375	0.51	12	0.08
SA-065	0.433	0.51	12	0.06
SA-07	0.375	0.59	12	0.08
SA-08	0.375	0.76	12	0.12
SA-10	0.433	0.3	12	0.06
SA-11	0.25	0.3	12	0.06
SA-20	0.5	0.27	12	0.04
SA-25	0.5	0.51	12	0.04
SA-30	0.5	0.76	12	0.08

#### CLEVIS ADAPTER



Part Number	A (in)	B (in)	W (mm)	Approx. Weight (lbs)
CA-01	0.375	0.27	12	0.08
CA-02	0.5	0.27	12	0.02
CA-05	0.375	0.51	12	0.04
CA-06	0.5	0.51	12	0.06

Unless otherwise specified, all dimensions are in inches.  
Dimensions are subject to change without notice.  
For sizes not shown please call IDC-USA at 317-244-9200.

# FIBERGLASS REINFORCED PULLEYS

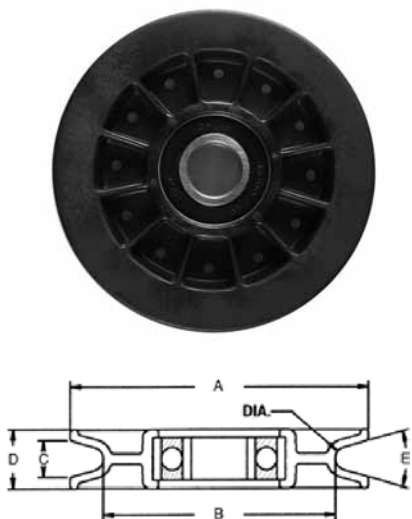
## FIBERGLASS REINFORCED NYLON PULLEYS

### V-BELT IDLER PULLEYS



Part Number	A (in)	B (in)	C (in)	D (in)	E (degrees)	Belt Size	Bore (mm)	Approx. Weight (lbs)
VIP2000-2.112	2.00	1.36	0.37	0.62	32	A	12	0.10
VIP2500-2.740	2.50	1.75	0.51	0.74	32	A	17	0.18
VIP2875-3.190	2.87	1.75	0.49	0.74	32	A	17	0.22
VIP3000-3.316	3.00	1.96	0.49	0.70	32	A	17	0.22
VIP3480-3.765	3.48	2.58	0.50	0.68	34	A	17	0.24
VIP3560-3.585	3.56	2.50	0.58	0.78	34	A	17	0.26
VIP4000-4.316	4.00	2.62	0.50	0.87	34	A	17	0.30
VIP3000-3.105	3.00	1.79	0.64	0.81	34	B	17	0.22
VIP3470-3.575	3.47	2.26	0.64	0.81	34	B	17	0.24
VIP4000-4.105	4.00	2.79	0.64	0.81	34	B	17	0.26
VIP5000-5.200	5.20	3.00	0.88	1.12	36	B & C	17	0.40
VIP5000-5.403	5.00	3.75	0.64	0.87	34	B	17	0.40
VIP6000-6.200	6.20	4.00	0.88	1.12	36	B & C	17	0.50
VIP6000-6.403	6.00	4.79	0.64	0.87	34	B	17	0.46
VIP7000-6.465	7.00	5.00	0.93	1.15	34	B & C	17	0.62

### CABLE IDLER PULLEYS



Part Number	A (in)	B (in)	C (in)	D (in)	E (degrees)	Dia.	Bore (mm)	Approx. Weight (lbs)
CIP2500-.188	2.50	1.750	0.36	0.65	30	3/16	17	0.20
CIP2500-.250	2.50	1.750	0.41	0.65	30	1/4	17	0.18
CIP3000-.188	3.00	2.200	0.36	0.65	30	3/16	17	0.22
CIP3000-.250	3.00	2.200	0.41	0.65	30	1/4	17	0.22
CIP3500-.188	3.50	2.750	0.36	0.65	30	3/16	17	0.24
CIP3500-.250	3.50	2.750	0.41	0.65	30	1/4	17	0.24
CIP4000-.188	4.00	3.200	0.36	0.65	30	3/16	17	0.26
CIP4000-.250	4.00	3.200	0.41	0.65	30	1/4	17	0.24
CIP4500-.188	4.50	3.700	0.36	0.65	30	3/16	17	0.28
CIP4500-.250	4.50	3.700	0.41	0.65	30	1/4	17	0.26
CIP5000-.188	5.00	4.200	0.36	0.65	30	3/16	17	0.32
CIP5000-.250	5.00	4.200	0.41	0.65	30	1/4	17	0.30

Unless otherwise specified, all dimensions are in inches.  
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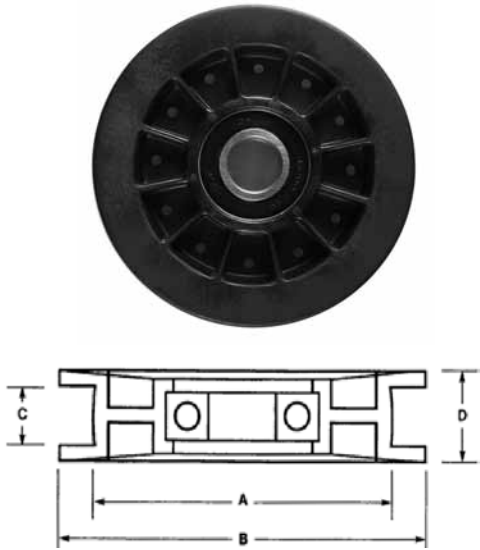
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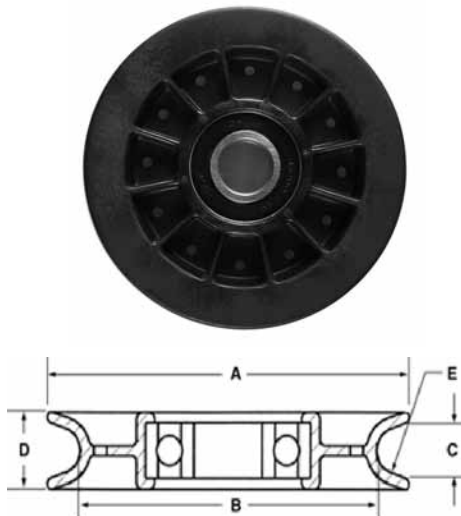
## FIBERGLASS REINFORCED NYLON PULLEYS

### FLAT BELT IDLER PULLEYS



Part Number	A (in)	B (in)	C (in)	D (in)	Crown	Bore (mm)	Approx. Weight (lbs)
FIP1750-0.75	1.75	2.22	0.75	0.93	0.016	17	0.18
FIP1875-0.50	1.88	2.12	0.51	0.70	0.012	17	0.20
FIP1875-0.75	1.88	2.00	0.75	0.97	0.016	17	0.18
FIP1875-1.38	1.88	2.09	1.38	1.56	0.016	17	0.20
FIP2000-1.02	2.00	2.35	1.02	1.15	0.016	17	0.22
FIP2250-0.75	2.25	2.72	0.75	0.93	0.016	17	0.22
FIP2500-0.75	2.50	2.97	0.75	0.93	0.020	17	0.24
FIP2500-1.00	2.50	2.97	1.00	1.18	0.020	17	0.24
FIP2750-0.75	2.75	3.22	0.75	0.93	0.016	17	0.26
FIP2750-0.86	2.75	3.19	0.86	1.05	0.018	17	0.28
FIP2750-1.00	2.75	3.22	1.00	1.18	0.020	17	0.28
FIP3000-0.75	3.00	3.50	0.75	1.01	0.016	17	0.30
FIP3000-1.01	3.00	3.47	1.01	1.18	0.020	17	0.30
FIP3120-0.75	3.12	4.00	0.75	1.11	0.016	17	0.30
FIP3500-0.75	3.50	4.12	0.75	0.98	0.016	17	0.32
FIP3500-0.97	3.50	3.97	0.97	1.15	0.020	17	0.34
FIP4000-0.72	4.00	4.60	0.72	1.06	0.016	17	0.38
FIP4000-0.86	4.00	4.75	0.86	1.34	0.018	17	0.42
FIP4000-1.00	4.00	4.62	1.00	1.18	0.020	17	0.42
FIP4500-0.96	4.50	4.96	0.96	1.13	0.020	17	0.38
FIP5000-1.25	5.00	5.88	1.25	1.56	0.030	17	0.58
FIP5500-1.00	5.50	6.00	1.00	1.26	0.020	17	0.56
FIP6000-0.75	6.00	6.50	0.75	0.99	0.016	17	0.56
FIP6000-1.00	6.00	6.50	1.00	1.28	0.020	17	0.60

### ROUND BELT IDLER PULLEYS



Part Number	A (in)	B (in)	C (in)	D (in)	E	Bore (mm)	Approx. Weight (lbs)
RIP2125-.180	2.13	1.63	0.34	0.50	R.170	15	0.12
RIP2500-.190	2.50	1.88	0.38	0.65	R.195	17	0.20
RIP3000-.190	3.08	2.44	0.38	0.65	R.195	17	0.22
RIP3500-.190	3.50	2.88	0.38	0.65	R.195	17	0.24
RIP4000-.190	4.00	3.38	0.38	0.65	R.195	17	0.26

Unless otherwise specified, all dimensions are in inches.

Dimensions are subject to change without notice.

For sizes not shown please call IDC-USA at 317-244-9200.

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# RADIAL LOAD CAPACITY

## BALL BEARING COMPONENTS

Part No.	Radial load capacity in pounds, based on 2500 hours service life at RPM shown				
	RPM				
	100	500	1000	1200	1800
<b>QD® Style Idler Bushings</b>					
SH-BB	4483	2766	2247	2127	1883
SDS-BB	4483	2766	2247	2127	1883
SD-BB	4483	2766	2247	2127	1883
SK-BB	4483	2766	2247	2127	1883
SK-BB HD	2901	1697	1347	1267	1107
SF-BB	4483	2766	2247	2127	1883
E-BB	6113	3575	2837	2670	2332
F-BB	6113	3575	2837	2670	2332
<b>TAPER-LOCK® Style Idler Bushings</b>					
1610-BB	1752	1024	813	765	668
1615-BB	1752	1024	813	765	668
2012-BB	2336	1366	1084	1020	891
2012-BB X 1	2555	1494	1186	1116	975
2517-BB	2555	1494	1186	1116	975
<b>SPLIT TAPER™ Style Idler Bushings</b>					
H-BB	1113	651	517	486	425
P1-BB	1752	1024	813	765	668
B-BB	2336	1366	1084	1020	891
Q1-BB 3/4	2336	1366	1084	1020	891
Q1-BB 1	2555	1494	1186	1116	975
R1-BB	7390	4322	3430	3228	2820
<b>HTD® Idler Sprockets</b>					
29-8M-50BB	2336	1366	1084	1020	891
29-8M-85BB	2336	1366	1084	1020	891
27-14M-40BB	2555	1494	1186	1116	975
27-14M-55BB	2555	1494	1186	1116	975
27-14M-85BB*	6113	3575	2837	2670	2332
31-14M-115BB	6113	3575	2837	2670	2332
<b>POLY CHAIN® GT®2 Style Belt Idler Sprockets</b>					
8M-32S-12BB	2901	651	517	486	425
8M-32S-21BB	2901	651	517	486	425
8M-36S-36BB	4972	2849	2261	2128	1859
8M-36S-62BB	4972	2849	2261	2128	1859
14M-30S-20BB	7390	4322	3430	3228	2820
14M-30S-37BB	7390	4322	3430	3228	2820
14M-34S-68BB	11303	6610	5246	4937	4313
14M-34S-90BB	11303	6610	5246	4937	4313

## NEEDLE BEARING COMPONENTS

Part No.	Radial load capacity in pounds, based on 2500 hours service life at RPM shown				
	RPM				
	100	500	1000	1200	1800
<b>CAST FLAT IDLER PULLEYS</b>					
CP1-BB	1725	1024	813	765	668
CP2-BB	1725	1024	813	765	668
CP3-BB	1725	1024	813	765	668
CP4-BB	2555	1494	1186	1116	975
CP6-BB	2555	1494	1186	1116	975
<b>QD® Style Idler Bushings</b>					
SH-NB	4483	2766	2247	2127	1883
SDS-NB	4483	2766	2247	2127	1883
SD-NB	6266	3867	3141	2973	2633
SK-NB	6266	3867	3141	2973	2633
SF-NB	9763	6024	4893	4633	4102
E-NB	9763	6024	4893	4633	4102
<b>TAPER-LOCK® Style Idler Bushings</b>					
1610-NB	3590	2215	1800	1704	1509
1615-NB	5281	3259	2647	2506	2219
2012-NB	4483	2766	2247	2127	1883
2517-BB	8512	5252	4266	4039	3577
<b>HTD® Idler Sprockets</b>					
19-8M-30NB	4483	2766	2247	2127	1883
29-8M-50NB	6266	3867	3141	2973	2633
29-8M-85NB	6266	3867	3141	2973	2633
27-14M-40NB	6266	3867	3141	2973	2633
27-14M-55NB	6266	3867	3141	2973	2633
27-14M-85NB*	12249	7558	6139	5812	5147
31-14M-115NB	12249	7558	6139	5812	5140
<b>CAST FLAT IDLER PULLEYS</b>					
CP1-NB	4483	2766	2247	2127	1883
CP2-NB	7181	4431	3599	3407	3017
CP3-NB	7181	4431	3599	3407	3017
CP4-NB	9764	6024	4894	4634	4102
CP6-NB	12250	7558	6139	5812	5140

QD® is a registered trademark of Emerson Electric.

Taper-Lock® is a registered trademark of Rockwell Automation.

HTD®, Poly Chain® and GT® are registered trademarks of Gates.

Split Taper™ is a trademark of Emerson Electric.

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# PART NUMBER INTERCHANGE

IDC SELECT	BREWER	BROWNING	GATES	EXCEPTIONS
Idler Shafts (Including Set Collar and Grease Zerk)				
SO1-C	SO1	—	—	Same
SO2-F	SO2	—	—	Same
SO3-F	SO3	—	—	Same
SO4-F	SO4	—	—	Same
SO5-F	SO5	—	—	Same
SO6-F	SO6	—	—	Same
N1-C	SO1	N1	—	Same
N2-C	NO2	N2	—	Same
N3-C	NO3	N3	—	Same
N4-C	NO4	N4	—	Same
N5-C	NO5	N5	—	Same
N6-C	NO6	N6	—	Same
Idler Bushings (Ball Bearing)				
SH-BB	SH-B	—	—	Same
SDS-BB	SDS-B	—	—	Same
SD-BB	SD-B	—	—	Same
SK-BB	SK-B	—	—	Same
SK-BB HD	—	—	—	Same
SF-BB	SF-B	—	—	Same
E-BB	—	—	—	Same
F-BB	—	—	—	Same
1610-BB	1610-B	—	—	Same
1615-BB	1615-B	—	—	Same
2012-BB	2012-B	—	—	Same
2012-BB x 1	—	—	—	Same
2517-BB	—	—	—	Same
H-BB	—	IDH1-1/2	—	Bolt and jam nuts not included
P1-BB	—	IDP1-5/8	—	Bolt and jam nuts not included
B-BB	—	N/A	—	Bolt and jam nuts not included

IDC SELECT	BREWER	BROWNING	GATES	EXCEPTIONS
Idler Bushings (Ball Bearing) continued				
Q1-BB 3/4	—	IDQ1 -3/4	—	Bolt and jam nuts not included
Q1-BB 1	—	IDQ1-1	—	Bolt and jam nuts not included
R1-BB	—	IDR1-1 1/2	—	Bolt and jam nuts not included
Idler Bushings (Needle Bearing)				
SH-NB	SH-F	—	—	Same
SDS-NB	SDS-F	—	—	Same
SD-NB	SD-F	—	—	Same
SK-NB	SD-F	—	—	Same
SF-NB	SF-F	—	—	Same
1610-NB	1610-F	—	—	Same
1615-NB	1615-F	—	—	Same
2012-NB	2012-F	—	—	Same
2517-NB	2517-F	—	—	Same
Flat Faced Idlers (Ball Bearing)				
CP1-BB	P1B	—	—	Same
CP2-BB	P2B	—	—	Same
CP3-BB	P3B	—	—	Same
CP4-BB	P4B	—	—	Same
CP6-BB	P6B	—	—	Same
Flat Faced Idlers (Needle Bearing)				
CP1-NB	P1F	N4D1F	—	Same
CP2-NB	P2F	N4D2F	—	Same
CP3-NB	P3F	N4D3F	—	Same
CP4-NB	P4F	N6D4F	—	Same
CP6-NB	P6F	N6D6F	—	Same



# PART NUMBER INTERCHANGE

IDC SELECT	BREWER	BROWNING	GATES	EXCEPTIONS
Flat Faced Idlers (Bronze Bearing)				
CP1	P1	—	—	Same
CP2	P2	—	—	Same
CP3	P3	—	—	Same
Idler Sprockets (Ball Bearing)				
35BB20H 5/8	B3520H	—	—	Same
40BB17H 5/8	B4017H	HB40A17X5/8	—	Same
50BB15H 5/8	B5015H	HB50A15X5/8	—	Same
60BB13H 5/8	B6013H	HB60A13X5/8	—	Same
80BB12H 3/4	B8012H	HB80A12X3/4	—	Same
Idler Sprockets (Needle Bearing)				
25NB19H	25B19F	HN25B19	—	Hub diameter
35NB13H	35B13F	HN35B13	—	Hub diameter
35NB19H	35B19F	HN35B19	—	Hub diameter
41NB19H	41B19F	HN41B19	—	Hub diameter
40NB19H	40B19F	HN40B19	—	Hub diameter
50NB17H	50B17F	HN50B17	—	Hub diameter
60NB17H	60B17F	HN60B17	—	Hub diameter
D60NB17H	D60B17F	HND60B17	—	Hub diameter
D80NB13H	D80B13F	HND80B13	—	Hub diameter
D100NB11H	D100B11F	HND100B11	—	Hub diameter
HTD® Idlers (Needle Bearing)				
19-8M-30NB	P19-8M-30F	—	—	Hub diameter
29-8M-50NB	P29-8M-50F	—	—	Hub diameter
27-14M-40NB	P27-14M-40F	—	—	Hub diameter
27-14M-55NB	P27-14M-55F	—	—	Hub diameter
27-14M-85NB	P27-14M-85F	—	—	Hub diameter
31-14M-115NB	P31-14M-85F	—	—	Hub diameter

IDC SELECT	BREWER	BROWNING	GATES	EXCEPTIONS
Poly Chain® GT®2 Style Belt Idlers (Ball Bearing)				
8M-32S-12-BB	—	—	12-IDL-SPK2	Hub diameter/ flange thickness
8M-32S-21-BB	—	—	21-IDL-SPK2	Flange thickness
8M-36S-36-BB	—	—	36-IDL-SPK2	Flange thickness
8M-36S-62-BB	—	—	62-IDL-SPK2	Flange thickness
14M-30S-20-BB	—	—	20-IDL-SPK2	Flange thickness
14M-30S-37-BB	—	—	37-IDL-SPK2	Flange thickness
14M-34S-68-BB	—	—	68-IDL-SPK2	Flange thickness
14M-34S-90-BB	—	—	90-IDL-SPK2	Flange thickness
Single Adjusting Tensioner (Shaft Mounted)				
SAT 3/8-16	AS+SO1	SATN1	—	SAT 3/8-16 + N1-C or SO1-C
SAT 1/2-13	—	SATH	—	Same
SAT 5/8-11	—	SATP	—	Same
SAT 3/4-10	AM 3/4-10	SATQ	—	Same
SAT 3/4-16	AM	—	—	Same
SAT 1-8	—	SATQ-1	—	Same
SAT 1-14	AL	—	—	Same



# PART NUMBER INTERCHANGE

IDC SELECT	BREWER	BROWNING	GATES	EXCEPTIONS
Double Adjustable Tensioner (Base Mounted)				
DAT 3/8-16	SS+S01	DATN1	—	DAT 3/8-16 + N1-C or SO1-C
DAT 3/4-16	SM	—	10-IDL-BRAK2	Same
DAT 1-14	SL	—	20-IDL-BRAK2	Same
Fixed Angle Tensioner				
FAT 3/8-16	RS	FATN1	—	FAT 3/8-16 + N1-C or SO1-C
FAT 3/4-10	RM 3/4-10	FATQ	—	Same
FAT 3/4-16	RM	—	—	Same
FAT 1-14	RL	—	—	Same
FAT 1-8	—	FATQ-1	—	Same
Adjustable Angle Tensioner				
AAT 3/4-16	RSM	—	—	Same
AAT 1-14	RSL	—	—	Same
Fixed Flange Tensioner				
FFT 3/8-16	GS	FFTN1	—	FFT 3/8-16 + N1-C or SO1-C
FFT 3/4-10	GM 3/4-10	FFTQ	—	Same
FFT 3/4-16	GM	—	—	Same
FFT 1-14	GL	—	—	Same
FFT 1-8	—	FFTQ-1	—	Same
Adjustable Flange Tensioner				
AFT 3/4-16	GSM	—	—	Same
AFT 1-14	GSL	—	—	Same
AFT 3/4-10	—	ATQ	—	Bolt holes and width
AFT 1-8	—	ATQ-1	—	Same
Adjustable Screw Tensioner				
AST 3/8-16	HS	—	—	Same
AST 3/4-16	HM	—	—	Same
AST 1-14	HL	—	—	Same

IDC SELECT	BREWER	BROWNING	GATES	EXCEPTIONS
Sliding Tensioner				
ST 3/8-16	LS	—	—	Same
ST 3/4-16	LM	—	—	Same
ST 1-14	LL	—	—	Same
Heavy Duty Tensioner				
HDBB1	BB1	—	—	Same
HDBB2	BB2	—	—	Same
HDBB3	BB3	—	—	Same
HDBB4	BB4	—	—	Same
VMT	MVL	—	—	Same
HMT	MHL	—	—	Same
SLT	MSL	—	—	Same
Automatic Tensioner				
AT	TM	—	—	
Floating Tensioner (for reversible drives)				
FT	XM	—	—	Same
Machined Shoulder Studs				
MSS-.500	IS-500	—	—	Black oxide
MSS-.625	IS-625	—	—	Black oxide
MSS-.750	IS-750	—	—	Black oxide
MSS-16.500	IS-165	—	—	Black oxide
MSS-16.625	IS-166	—	—	Black oxide
MSS-16.750	IS-167	—	—	Black oxide
MSS-16.625-2	IS-1662	—	—	Black oxide
MSS-16.625-3	IS-1663	—	—	Black oxide
MSS-16.625-4	IS-1664	—	—	Black oxide





# GENERAL ENGINEERING INFORMATION

## ENGLISH STANDARD MEASURES

### Long Measures

1 mile = 1760 yards = 5280 feet  
1 yard = 3 feet = 36 inches  
1 foot = 12 inches

### Square Measure

1 square mile = 640 acres = 6400 square chains  
1 acre = 10 square chains = 4840 square yards = 43,560 square feet  
1 square rod = 30.25 square yards = 272.25 square feet = 625 square links  
1 square yard = 9 square feet  
1 square foot = 144 square inches  
An acre is equal to a square, the side of which is 208.7 feet

### Dry Measure

1 bushel (U.S. or Winchester struck bushel) = 1.2445 cubic foot = 2150.42 cubic inches  
1 bushel = 4 pecks = 42 quarts = 64 pints  
1 peck = 8 quarts = 16 pints  
1 quart = 2 pints  
1 heaped bushel = 1-1/4 struck bushel  
1 cubic foot = 0.8036 struck bushel  
1 British Imperial bushel = 8 Imperial gallons = 1.2837 cubic foot = 2218.19 cubic inches

### Liquid Measure

1 U.S. gallon = 0.1337 cubic foot = 231 cubic inches = 4 quarts = 8 pints  
1 quart = 2 pints = 8 gills  
1 pint = 4 gills  
1 British Imperial gallon = 1.2003 U.S. gallons = 277.27 cubic inches  
1 cubic foot = 7.48 U.S. gallons  
1 barrel = 31.5 U.S. gallons

## GENERAL ENGINEERING INFORMATION METRIC SYSTEM OF MEASUREMENTS

The principle units are the meter for length, the liter for capacity, and the gram for weight.

The following prefixes are used for sub-divisions and multiples: milli = 1/1000;

cent = 1/100; deci = 1/10; deca = 10; hecto=100; kilo = 1000.

### Measure of length

10 millimeters (mm) = 1 centimeter (cm)  
10 centimeters = 1 decimeter (dm)  
10 decimeters = 1 meter (m)  
100 meters = 1 kilometer (km)

### Measures of Weight

10 milligrams (mg) = 1 centigram (cg)  
10 centigrams = 1 decigram (dg)  
10 decigrams = 1 gram (g)  
10 grams = 1 decagram (dg)  
10 decagrams = 1 hectogram (hg)  
10 hectogram = 1 kilogram (kg)  
1000 kilograms = 1 (metric) ton (T)

### Square Measure Cubic Measure

100 sq. millimeters (mm<sup>2</sup>) = 1 centigram (cg)  
10 sq. centimeters = 1 sq. decimeter (dm<sup>2</sup>)  
100 sq. decimeters = 1 sq. meter (m<sup>2</sup>)  
1000 cu. millimeters (mm<sup>3</sup>) = 1 cu. centimeter (cm<sup>3</sup>)  
1000 cu. centimeters = 1 cu. decimeter (dm<sup>3</sup>)  
100 cu. decimeters = 1 cu. meter (m<sup>3</sup>)

### Dry and Liquid Measure

10 milliliters (ml) = 1 centiliter (cl)  
10 centiliters = 1 deciliter (dl)  
100 liters = 1 hectoliter (hl)  
1 liter = 1 cu. decimeter = the volume of 1 kg of pure water at a temperature of 39.2 degrees F.

### Length Conversion Constants for Metric and U.S. Units

Millimeters x .039370 = inches  
Meters x 39.370 = inches  
Meters x 3.2808 = feet  
Meters x 1.09361 = yards  
Kilometers x 3280.8 feet  
Kilometers x 62137 = statute miles  
Kilometers x 53959 = nautical miles  
Inches x 25.4001 = millimeters  
Inches x .0254 = meters  
Feet x .30480 = meters  
Yards x .91440 = meters  
Feet x .0003048 = kilometers  
Statute miles x 1.60935 = kilometers  
Nautical miles x 1.85325 = kilometers



## Circular and Angular Measure

60 seconds (") = 1 minute(')  
60 minutes = 1 degree (°)  
360 degrees = 1 circumference (C)  
57.3 degrees = 1 radian  
2 p radians = 1 circumference (C)

## Temperature

The following equations are useful for converting temperature from one system to another:

F = degrees Fahrenheit; C = degrees Centigrade  
Deg. C = (Deg. F32) x 5/9  
Deg. F = (Deg. C x 9/5) + 32

## Avoirdupois or Commercial Weight

1 gross or long ton = 2240 pounds  
1 net or short ton = 2000 pounds  
1 pound = 16 ounces = 7000 grains  
1 ounce = 16 drams = 437.5 grains

## Weight Conversion Constants for Metric and U.S. Units

Grams x 981 = dynes  
Grams x 15.432 = grains  
Grams x .03527 = ounces (Avd.)  
Grams x 0.33818 = fluid ounces (water)  
Kilograms x 35.27 ounces (Avd.)  
Kilograms x 2.20462 = pounds (Avd.)  
Metric tons (1000 kg) x 1.0231 = Net ton (2000 lbs.)  
Metric tons (1000 kg) x .98421 = gross tons (2240 lbs.)

## Area Conversion Constants for Metric and U.S. Units

Square millimeters x .00155 = sq. inches  
Square centimeters x .155 = sq. inches  
Square meters x 10.76387 = sq. feet  
Square meters x 1.19599 = sq. yards  
Hectares x 2.47104 = acres  
Square kilometers x 247.104 = acres  
Square kilometers x .3861 = sq. miles

## Volume Conversion Constants for Metric and U.S. Units

Cubic centimeters x .033818 = fluid ounces  
Cubic centimeters x .061023 = cubic inches  
Cubic centimeters x .271 = fluid drams  
Liters x 61.023 = cubic inches  
Liters x 1.05668 = quarts  
Liters x .26417 = gallons  
Liters x .035317 = cubic feet  
Hectoliters x 26.417 = gallons  
Hectoliters 3.5317 = cubic feet  
Hectoliters x 2.83794 = bushel  
Hectoliters x .1308 cubic yards  
Cubic meters x 264.17 = gallons  
Cubic meters x 35.317 = cubic feet  
Cubic meters x 1.308 = cubic yards

## Cubic Measure

1 cubic yard = 27 cubic feet  
1 cubic foot = 1728 cubic inches  
The following measures are used for wood and masonry:  
1 cord of wood = 4 x 4 x 8 feet = 128 cubic feet  
1 perch of masonry = 16-1/2 x 1-1/2 x 1 foot = 24-3/4 cubic feet

## Shipping Measure

For measuring entire internal capacity of a vessel:  
1 registered ton = 100 cubic feet

## For Measurement of Cargo:

1 U.S. shipping ton = 40 cubic feet = 32.143 U.S. bushels = 32.16 Imperial bushels  
British shipping ton = 42 cubic feet = 33.75 U.S. bushels = 32.72 Imperial bushels

Dynes x .0010193 = grams  
Grains x .0648 = grams  
Ounces (Avd.) x 28.35 = grams  
Fluid ounces (Water) x 29.57 = grams  
Ounces (Avd.) x .02835 kilograms  
Pounds (Avd.) x .45359 = kilograms  
Net ton (2000 lbs) x .90719 = metric tons (1000 kg)  
Gross ton (2240 lbs) x 1.01605 = Metric tons (1000 kg)

Square inches x 645.163 = sq. millimeters  
Square inches x 6.45163 = sq. centimeters  
Square feet x .0929 = sq. meters  
Square yards x .83613 = square meters  
Acres x .40469 = hectares  
Acres x .0040469 = sq. kilometers  
Square miles x 2.5899 = sq. kilometers

Fluid ounces x 29.57 = cubic centimeters  
Cubic inches x 16.387 = cubic centimeters  
Fluid drams x 3.69 = cubic centimeters  
Cubic inches x .016387 = liters  
Quarts x .94636 = liters  
Gallons x 3.78543 = liters  
Cubic feet x 28.316 = liters  
Gallons x .0378543 = hectoliters  
Cubic feet x 283.16 = hectoliters  
Bushels x .352379 = hectoliters  
Cubic yards x 7.645 = hectoliters  
Gallons x .00378543 = cubic meters  
Cubic feet x .028316 = cubic meters  
Cubic yards x .7645 = cubic meters

# INCH-MM CONVERSION CHART

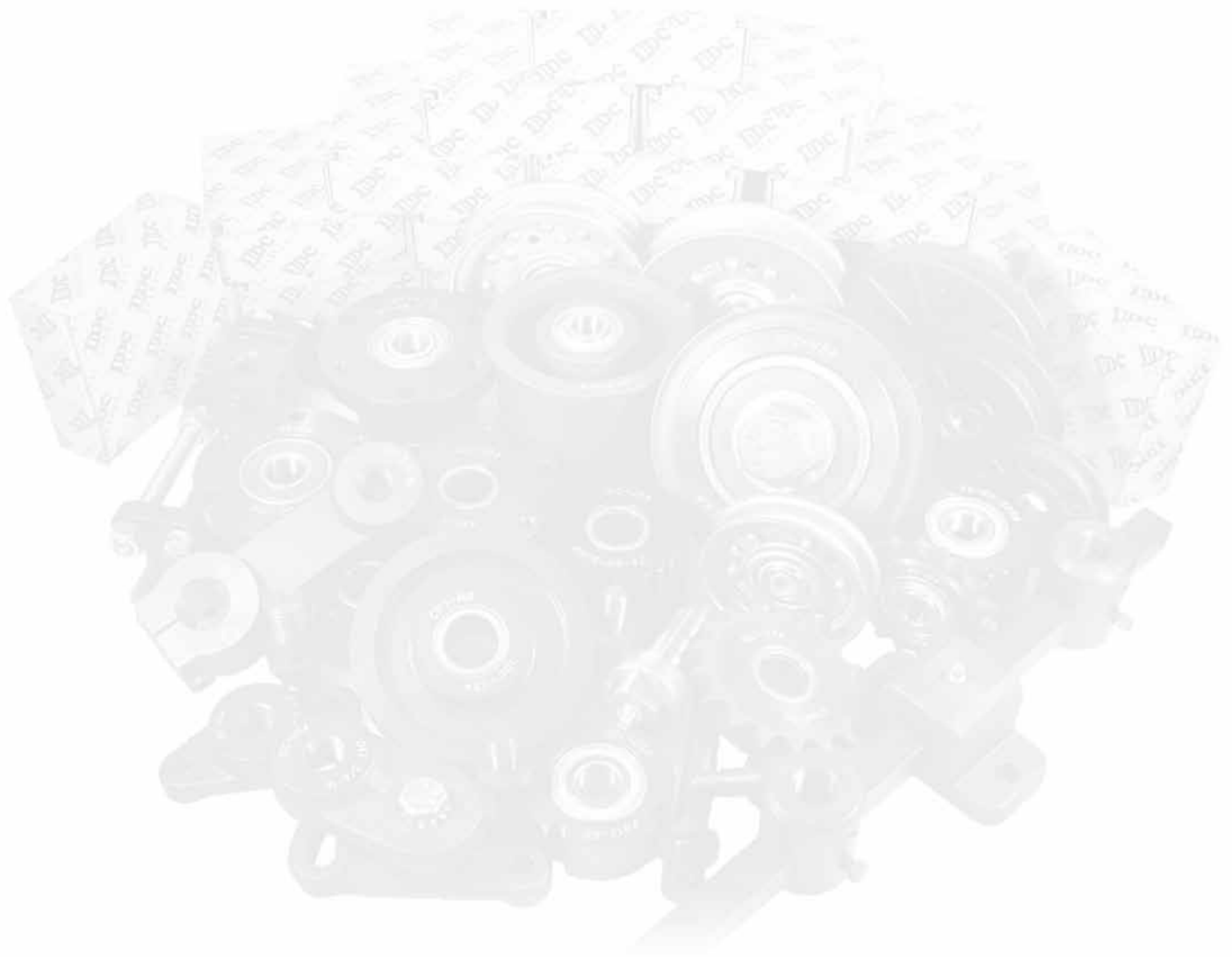
## HOW TO USE:

To convert inches to mm, read across to the inch dimension and down to the fraction/decimal.  
The number shown where they intersect is its value in mm. For example, 2-1/4" = 57.15 mm.

inch		0	1	2	3	4	5	6	7	8	9	10
Fraction	Decimal	mm										
0	0.000000	0.000	25.400	50.800	76.200	101.600	127.000	152.400	177.800	203.200	228.600	254.000
1/64	0.015625	0.397	25.797	51.197	76.597	101.997	127.397	152.797	178.197	203.597	228.997	254.397
1/32	0.031250	0.794	26.194	51.594	76.994	102.394	127.794	153.194	178.594	203.994	229.394	254.794
3/64	0.046875	1.191	26.591	51.991	77.391	102.791	128.191	153.591	178.991	204.391	229.791	255.191
1/16	0.062500	1.588	26.988	52.388	77.788	103.188	128.588	153.988	179.388	204.788	230.188	255.588
5/64	0.078125	1.984	27.384	52.784	78.184	103.584	128.984	154.384	179.784	205.184	230.584	255.984
3/32	0.093750	2.381	27.781	53.181	78.581	103.981	129.381	154.781	180.181	205.581	230.981	256.381
7/64	0.109375	2.778	28.178	53.578	78.978	104.378	129.778	155.178	180.578	205.978	231.378	256.778
1/8	0.125000	3.175	28.575	53.975	79.375	104.775	130.175	155.575	180.975	206.375	231.775	257.175
9/64	0.140625	3.572	28.972	54.372	79.772	105.172	130.572	155.972	181.372	206.772	232.172	257.572
5/32	0.156250	3.969	29.369	54.769	80.169	105.569	130.969	156.369	181.769	207.169	232.569	257.969
11/64	0.171875	4.366	29.766	55.166	80.566	105.966	131.366	156.766	182.166	207.566	232.966	258.366
3/16	0.187500	4.762	30.163	55.563	80.963	106.363	131.763	157.163	182.563	207.963	233.363	258.763
13/64	0.203125	5.159	30.559	55.959	81.359	106.759	132.159	157.559	182.959	208.359	233.759	259.159
7/32	0.218750	5.556	30.956	56.356	81.756	107.156	132.556	157.956	183.356	208.756	234.156	259.556
15/64	0.234375	5.953	31.353	56.753	82.153	107.553	132.953	158.353	183.733	209.153	234.553	259.953
1/4	0.250000	6.350	31.750	57.150	82.550	107.950	133.350	157.750	184.150	209.550	234.950	260.350
17/64	0.265625	6.747	32.147	57.547	82.947	108.347	133.747	159.147	184.547	209.947	235.347	260.747
9/32	0.281250	7.144	32.544	57.944	83.344	108.744	134.144	159.544	184.944	210.344	235.744	261.144
19/64	0.296875	7.541	32.941	58.341	83.741	109.141	134.541	159.941	185.341	210.741	236.141	261.541
5/16	0.312500	7.938	33.338	58.738	84.138	109.538	134.938	160.338	185.738	211.138	236.538	261.938
21/64	0.328125	8.334	33.734	59.134	84.534	109.934	135.334	160.734	186.134	211.534	236.934	262.334
11/32	0.343750	8.731	34.131	59.531	84.931	110.331	135.731	161.131	186.531	211.931	237.331	262.731
23/64	0.359375	9.128	34.528	59.928	85.328	110.728	136.128	161.528	186.928	212.328	237.728	263.128
3/8	0.375000	9.525	34.925	60.325	85.725	111.125	136.525	161.925	187.325	212.725	238.125	263.525
25/64	0.390625	9.922	35.322	60.722	86.122	111.522	136.922	162.322	187.722	213.122	238.522	263.922
13/32	0.406250	10.319	35.719	61.119	86.519	111.919	137.319	162.719	188.119	213.519	238.919	264.319
27/64	0.421875	10.716	36.116	61.516	86.916	112.316	137.716	163.116	188.516	213.916	239.316	264.716
7/16	0.437500	11.113	36.513	61.913	87.313	112.713	138.113	163.513	188.913	214.313	239.713	265.113
29/64	0.453125	11.509	36.909	62.309	87.709	113.109	138.509	163.909	189.309	214.709	240.109	265.509
15/32	0.468750	11.906	37.306	62.706	88.106	113.506	138.906	164.306	189.706	215.106	240.506	265.906
31/64	0.484375	12.303	37.703	63.103	88.503	113.903	139.303	164.703	190.103	215.503	240.903	266.303
1/2	0.500000	12.700	38.100	63.500	88.900	114.300	139.700	165.100	190.500	215.900	241.300	266.700
33/64	0.515625	13.097	38.497	63.897	89.297	114.697	140.097	165.497	190.897	216.297	241.697	267.097
17/32	0.531250	13.494	38.894	64.294	89.694	115.094	140.494	166.894	191.294	216.694	242.094	267.494
35/64	0.546875	13.891	39.291	64.691	90.091	115.491	140.891	166.291	191.691	217.091	242.491	267.891
9/16	0.562500	14.288	39.688	65.088	90.488	115.888	141.288	166.688	192.088	217.488	242.888	268.288
37/64	0.578125	14.684	40.084	65.484	90.884	116.284	141.684	167.084	192.484	217.884	243.284	268.684
19/32	0.593750	15.081	40.481	65.881	91.281	116.681	142.081	167.481	192.881	218.281	243.681	269.081
39/64	0.609375	15.478	40.878	66.278	91.678	117.078	142.478	167.878	193.278	218.678	244.078	269.478
5/8	0.625000	15.875	41.275	66.675	92.073	117.475	142.875	168.275	193.675	219.075	244.475	269.875
41/64	0.640625	16.272	41.672	67.072	92.472	117.872	143.272	168.672	194.072	219.472	244.872	270.272
21/32	0.656250	16.609	42.069	67.469	92.860	118.269	143.669	169.009	194.469	219.869	245.269	270.669
43/64	0.671875	17.066	42.466	67.866	93.266	118.666	144.066	169.466	194.866	220.266	245.666	271.066
11/16	0.687500	17.463	42.863	68.203	93.663	119.063	144.463	169.863	195.263	220.663	246.063	271.463
15/64	0.703125	17.859	43.259	68.659	94.059	119.459	144.859	170.259	195.659	221.059	246.459	271.859
23/32	0.718750	18.256	43.656	69.056	94.456	119.856	145.256	170.656	196.056	221.456	246.856	272.256
47/64	0.734375	18.653	44.053	69.453	94.853	120.253	145.653	171.053	196.453	221.853	247.253	272.653
3/4	0.750000	19.050	44.450	69.850	95.250	120.650	146.050	171.450	196.850	222.250	247.650	273.050
49/64	0.765625	19.447	44.847	70.247	95.647	121.047	146.447	171.847	197.247	222.647	248.047	273.447
25/32	0.781250	19.844	45.244	70.644	96.044	121.444	146.844	172.244	197.644	223.044	248.444	273.844
51/64	0.796875	20.241	45.641	71.041	96.441	121.841	147.241	172.641	198.041	223.441	248.841	274.241
13/16	0.812500	20.638	46.038	71.438	96.838	122.238	147.638	173.038	198.438	223.838	249.238	274.638
53/64	0.828125	21.034	46.434	71.834	97.234	122.634	148.034	173.434	198.834	224.234	249.634	275.034
27/32	0.843750	21.431	46.831	72.231	97.631	123.031	148.431	173.831	199.231	224.631	250.031	275.431
55/64	0.859375	21.828	47.228	72.628	98.028	123.428	148.828	174.228	199.628	225.028	250.428	275.828
7/8	0.875000	22.225	47.625	73.025	98.425	123.825	149.225	174.625	200.023	225.425	250.825	276.225
57/64	0.890625	22.622	48.022	73.422	98.822	124.222	149.622	175.022	200.422	225.822	251.222	276.622
29/32	0.906250	23.019	48.419	73.819	99.219	124.619	150.019	175.419	200.819	226.219	251.619	277.019
59/64	0.921875	23.416	48.816	74.216	99.616	125.016	150.416	175.816	201.216	226.616	252.016	277.416
15/16	0.937500	23.813	49.213	74.613	100.013	125.413	150.813	176.213	201.613	227.013	252.413	277.813
61/64	0.953125	24.209	49.609	75.009	100.409	125.809	151.209	176.609	202.009	227.409	252.809	278.209
31/32	0.968750	24.606	50.006	75.406	100.806	126.206	151.606	177.006	202.406	227.800	253.206	278.606
63/64	0.984375	25.003	50.403	75.803	101.203	126.603	152.003	177.403	202.803	228.203	253.603	279.003

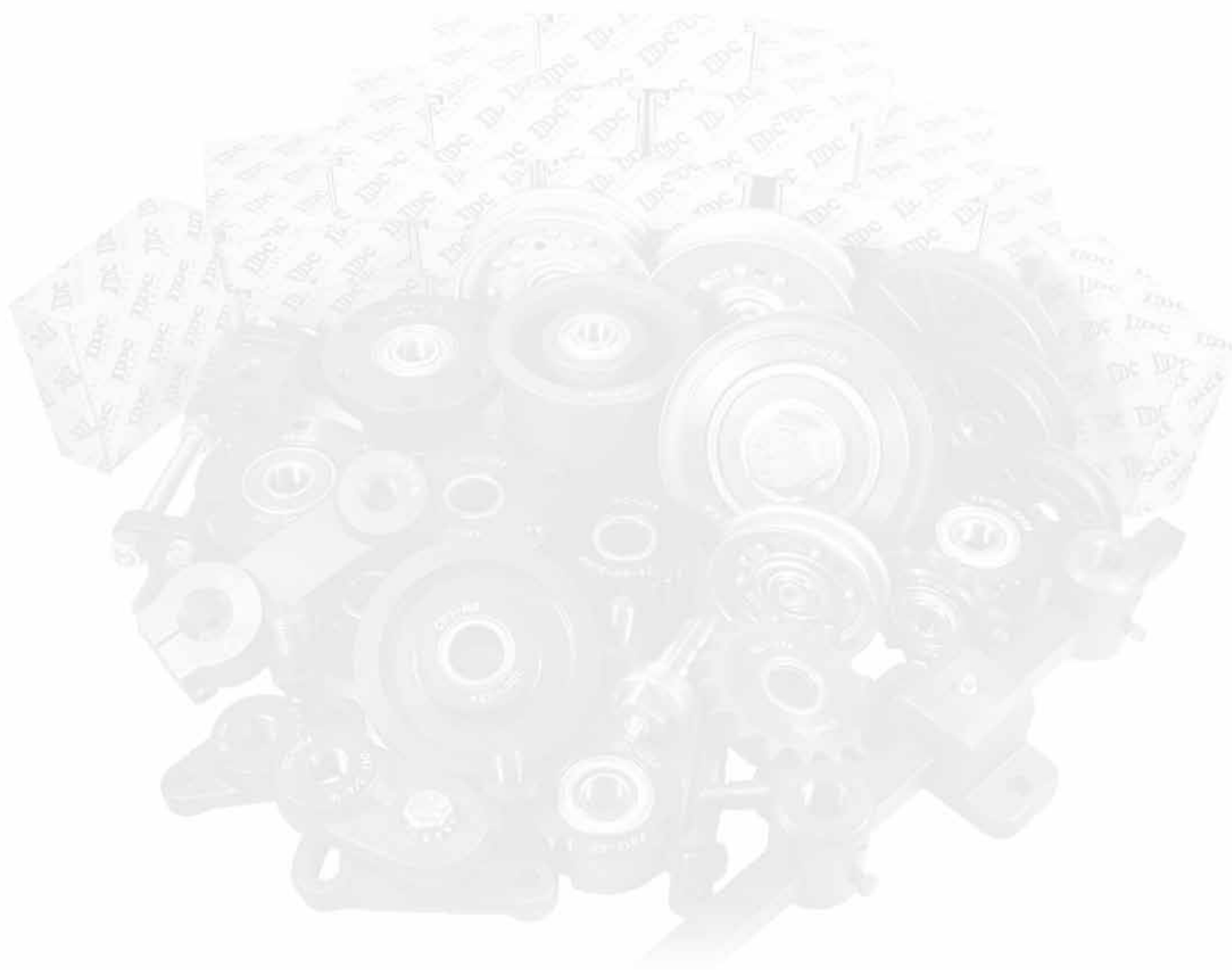


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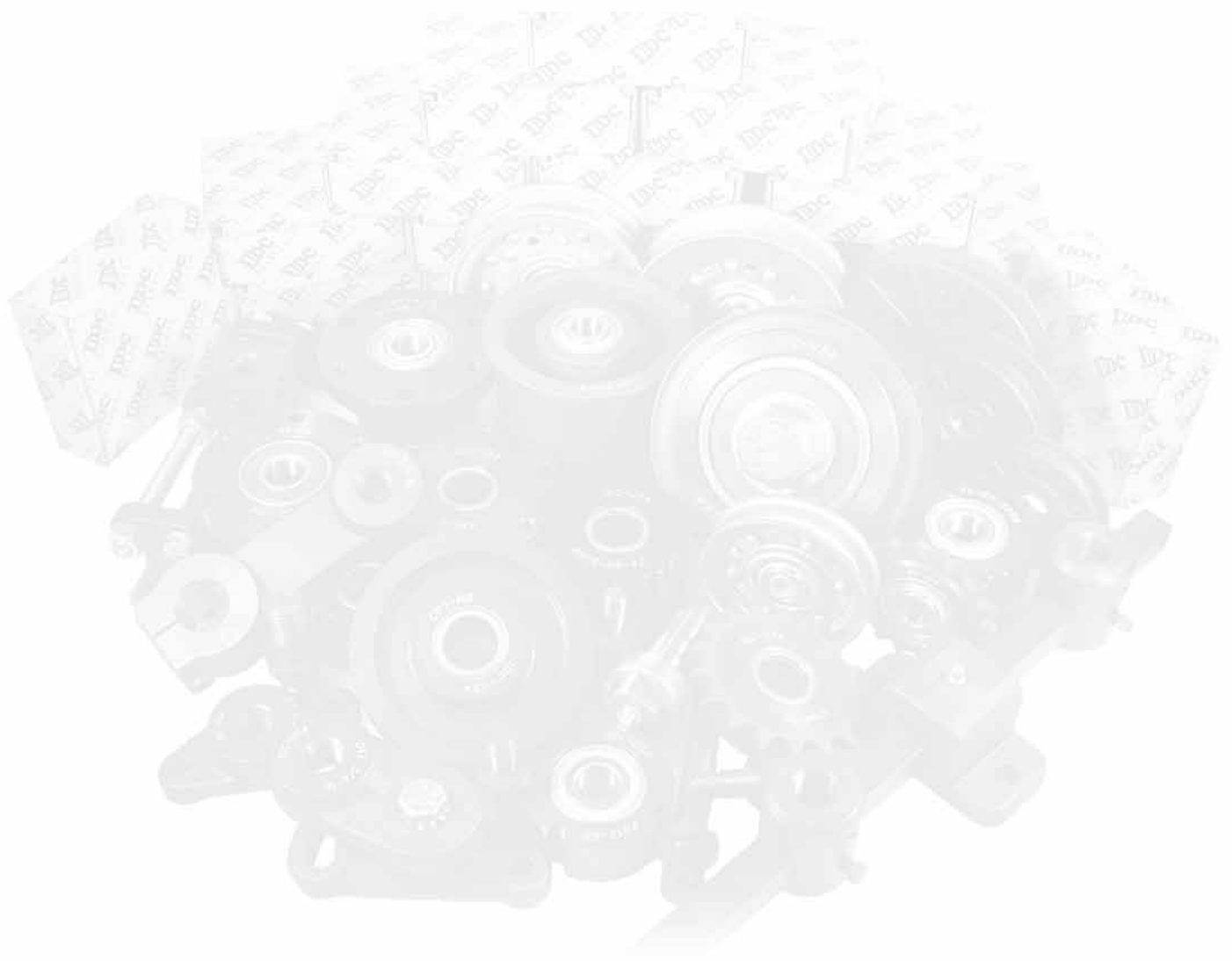
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