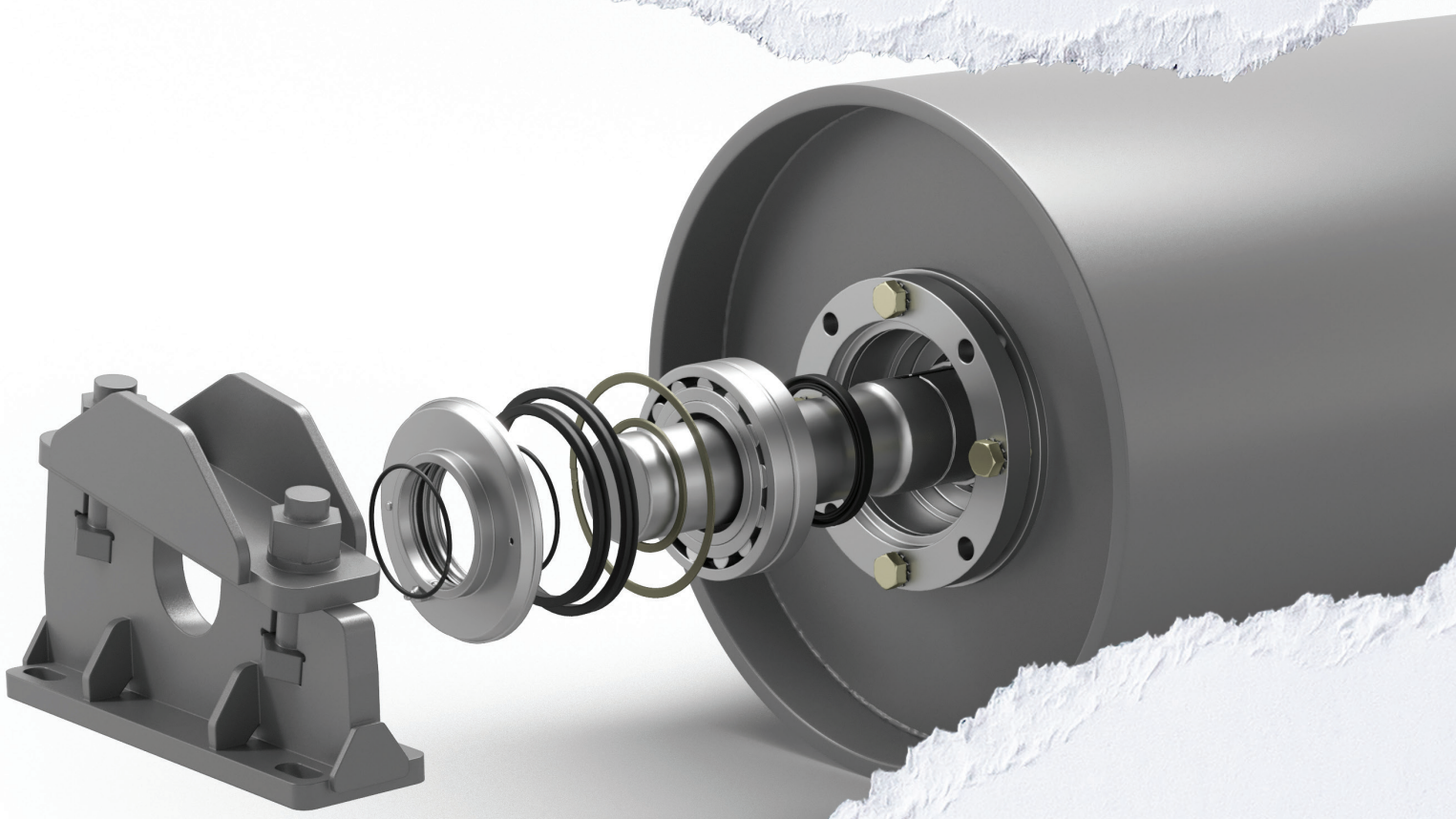
PRECISION PULLEY & IDLER

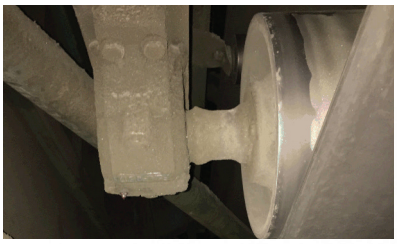


WE KEEP IT MOVING

ENGINEERING & DIMENSIONS

STATIC SHAFT PULLEYS (SSP®)

STATIC SHAFT PULLEY (SSP®) COMPONENTS



Bearing failure, Locking assembly maintenance challenges

SPHERICAL 22200
SERIES BEARING
OFF THE SHELF AVAILABILITY
(23100 for sizes 48 and larger)

BACK OUT HOLES
REMOVAL AND
REPLACEMENT

TEMPERATURE SENSOR
BEARING TEMPERATURE
MONITORING AVAILABLE
UPON REQUEST (INSTALLED THROUGH
SHAFT)

RETAINER RINGS
HOLDS SECURE, BUT EASY
TO REMOVE AND REPLACE

O-RING CONTACT SEALS
KEEPS GREASE TO INSIDE OF THE
BEARING TO PURGE GREASE AND
DIRT OUT OF THE BEARING AND
PULLEY ALL WHILE ALLOWING
EXPANSION OF THE SHAFT

MOUNTING BLOCKS
RUGGED WELDED STEEL
CONSTRUCTION STANDARD
SAF BLOCK MOUNTING WITH
OPTIONS FOR TYPE E - FLANGE,
TAKE UP BLOCK, ETC.

STATIONARY GREASE FITTING
ALLOWS REMOTE GREASE
LINES TO BE INSTALLED

STANDARD CONTACT SEALS
OFF THE SHELF AVAILABILITY
AIDS IN MAINTENANCE AND REPAIR
FITS IN STANDARD HOUSING

NO PURGE INNER CONTACT SEAL
KEEPS GREASE OUT OF THE PULLEY

BEARING IN HUB
ELIMINATES HUB
WELD FAILURE

STATIC SHAFT PULLEY (SSP) SELECTION

RESULTANT LOAD

RL = Tension (T) _____ *Wrap Factor (WF) _____ = _____
WF is calculated as = 2 *Sin (wrap/2) or you can use the common values listed below:
Snub (30°) = 0.5176 Bend (75°) = 1.2175 (90°) = 1.4142 (105°) = 1.5867 TU (180°) =2.0
From page 4/5, determine the SSP size required by comparing the resultant load (RL) to
the Shaft Rating for - block centers (BC) minus the facewidth (FW). SSP = _____

POUNDS PER INCH WIDTH (PIW)

PIW = Tension (T) _____*Bend Factor (BF) _____/ Belt Width (BW) _____= _____
BF = 1.00 (for 105-210° of belt wrap), 1.33 (for 70-100°), 1.5 (for 60-65°), 2.0 (for 0-55°)
From page 4/5, compare the PIW rating of the pulley versus the actual PIW and increase the SSP size if necessary.
SSP = _____XHD/MD

BEARING RATING (CM FOR C MINIMUM)

CM = RL _____ *Bearing Life Factor (BLF) _____ = _____
BLF is from page 7 or can be calculated as ((B10 * FPM / 4363.7 / OD) ^0.3)/2
From page 4/5, compare the CM to the C rating for the SSP and increase the SSP size if necessary.
SSP = _____

MINIMUM LOAD RATING NEEDED FOR THE MOUNTING BLOCK

LR = RL _____ / 2 = _____
From the top of page 6, compare the load rating required against the actual AND min/max block at the bottom of page 5.

Mounting Block Size _____
Final SSP Selection = _____ XHD/MD
(use the size that satisfies all criteria)

SSP® HUB SIZES		
SSP SERIES	PART NUMBER	BORE
SSP015	**22215**	2.953
SSP020	**22220**	3.937
SSP022	**22222**	4.331
SSP024	**22224**	4.724
SSP026	**22226**	5.118
SSP028	**22228**	5.512
SSP030	**22230**	5.906
SSP032	**22232**	6.299
SSP034	**22234**	6.693
SSP036	**22236**	7.087
SSP038	**22238**	7.480
SSP044	**22244**	8.661
SSP148	**23148**	9.449
SSP152	**23152**	10.236
SSP156	**23156**	11.024
SSP160	**23160**	11.811

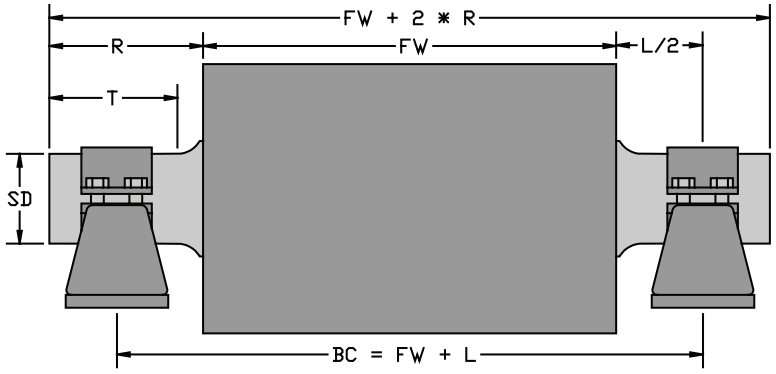
For other sizes contact your sales representative

STATIC SHAFT PULLEY (SSP) LOAD RATINGS

SSP SIZE	SHAFT SIZE	DYNAMIC LOAD RATING C	EXTRA HEAVY DUTY PIW RATING	MAX DUTY PIW RATING	BC - FACE (L)	SHAFT RATING (LB)			
						Pulley Face Width			
	(in)	(lb)	(lb / in)	(lb / in)	(in)	51	57	66	78
015	2.953	41,000	200	300	4	14,800	13,100	11,100	9,300
					6	12,300	10,900	9,300	7,800
			OD>=14	OD>=14	8	10,600	9,400	8,000	6,700
			320	500	12	8,300	7,300	6,300	5,200
020	3.937	69,000	300	600	5	33,400	31,300	26,700	22,400
					8	26,100	24,500	20,900	17,500
			OD>=24		11	21,500	20,100	17,200	14,400
			550		14	18,200	17,100	14,600	12,200
022	4.331	91,700	360	700	6	40,300		34,300	28,700
					9	32,200		27,400	22,900
			OD>=24		12	26,800		22,800	19,100
			550		15	22,900		19,500	16,300
024	4.724	105,000	360	700	7	47,800		43,300	36,200
					10	38,800		35,200	29,400
			OD>=24		13	32,700		29,600	24,800
			550		16	28,200		25,600	21,400
026	5.118	123,000	410	700	7	56,400			52,330
					10	46,500			43,096
			OD>=30		13	39,500			36,631
			600		16	34,300			31,853
028	5.512	137,000	530	1,100	8	65,800			63,800
					11	54,800			53,200
			OD>=30		15	44,800			43,500
			710		17	41,100			39,900
030	5.906	166,000	530	1,100	8	75,300			
					11	63,500			
			OD>=30		15	52,500			
			710		17	48,300			
032	6.299	194,000	530	1,100	8	91,300			
					11	77,000			
			OD>=30		15	63,700			
			710		18	56,400			
034	6.693	220,000	615	1,700	8	103,900			
					11	88,300			
			OD>=36		15	73,600			
			720		19	63,100			
036	7.087	227,000	615	1,800	10	110,400			
					14	91,200			
			OD>=36		18	77,700			
			720		22	67,600			
038	7.480	250,000	615	1,800	10	128,100			
					14	106,000			
			OD>=36		18	90,500			
			720		22	78,900			
044	8.661	342,000	1,100	2,400	12	159,500			
					16	136,700			
					20	119,600			
					24	106,300			
148	9.449	402,000	1,100	2,400	14	191,100			
					20	155,300			
					24	138,000			
					28	124,200			

STATIC SHAFT PULLEY (SSP) LOAD RATINGS

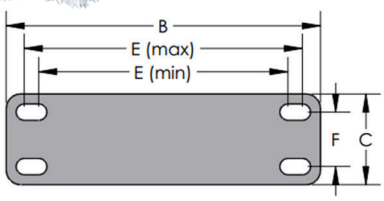
SSP SIZE	SHAFT SIZE	DYNAMIC LOAD RATING C	EXTRA HEAVY DUTY PIW RATING	MAX DUTY PIW RATING	BC - FACE (L)	SHAFT RATING (LB)			
						Pulley Face Width			
	(in)	(lb)	(lb / in)	(lb / in)	(in)	51	57	66	78
152	10.236	499,000	CONTACT PPI ENGINEERING DEPARTMENT						
156	11.024	517,000	CONTACT PPI ENGINEERING DEPARTMENT						
160	11.811	634,000	CONTACT PPI ENGINEERING DEPARTMENT						

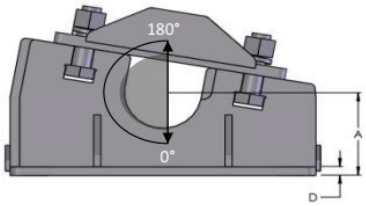


SHAFT DIMENSIONS

SSP	SHAFT DATA				L			Block Sizes	
Size	R	R-wide	T	SD	min	max	max-wide	min	max
015	7	12	6 1/2	2 7/16	5	11 1/4	21 1/4	See SetScrew Blocks	
020	7 5/8	12 1/8	7 3/16	3 1/2	5	12 1/2	22 1/2	F515	F526
022	8 1/4	13 3/4	7 13/16	4	6 5/8	13 3/4	24 3/4	F517	F528
024	8 3/4	14 1/2	8 3/8	4 1/2	6 5/8	14 3/4	26 1/4	F520	F532
026	8 3/4	14 1/2	8 1/2	5	6 5/8	14 1/4	25 3/4	F522	F534
028	9 1/4	15 1/2	8 11/16	5	7	15 1/4	27 3/4	F522	F534
030	9 1/4	15 1/2	8 11/16	5 1/2	7	15 1/4	27 3/4	F526	F536
032	9 3/4	16 1/4	9 1/4	6	8 1/4	15 1/2	28 1/2	F528	F538
034	10 1/4	17 1/4	9 13/16	6 1/2	8 1/4	16 1/2	30 1/2	F528	F538
036	11 3/4	18 3/4	11 1/2	7	8 1/4	19 1/2	33 1/2	F532	F544
038	11 3/4	18 3/4	11 1/8	7	9	19 1/2	33 1/2	F532	F544
044	14	20	13 1/4	8	11	24	36	F536	F152
148	16	21	15 3/8	9	12 1/2	28	38	F538	F156
152	16	21	15 3/8	9	12 1/2	28	38	F538	F160
156	16	21	15 3/8	10	12 1/2	28	38	F152	F164
160	16	21	15 3/8	11	12 1/2	28	38	F152	F168

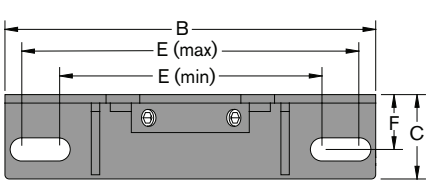
STATIC SHAFT PULLEY (SSP) LOAD RATINGS

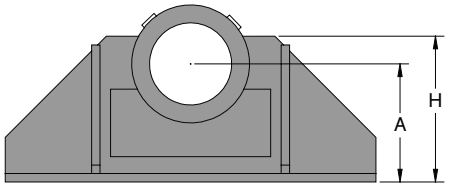




4 BOLT MOUNTING BLOCK DIMENSIONS AND LOAD RATINGS									
BLOCK SIZE	LOAD RATING	A	B	C	D	BOLT SPACING (E)		F	BOLT SIZE
						MAX	MIN		
F515CH	12000	3 1/4	10 7/8	3 1/8	1/2	9 5/8	8 5/8	1 7/8	1/2
F517CH	12000	3 3/4	12 1/2	3 1/2	1/2	11	9 5/8	2 1/8	5/8
F520CH	25000	4 1/2	14 3/4	4	3/4	13 1/8	11 5/8	2 3/8	3/4
F522CH	25000	4 15/16	16 1/8	4 3/8	3/4	14 1/2	12 5/8	2 3/4	3/4
F524CH	25000	5 1/4	16 1/8	4 3/8	3/4	14 1/2	12 5/8	2 3/4	3/4
F526CH	25000	6	18	5 1/8	1	16	14 5/8	3 1/4	7/8
F528CH	45000	6	19 1/4	5 7/16	1	17 1/8	16	3 3/8	1
F530CH	45000	6 5/16	20 3/8	5 7/8	1	18 1/4	17	3 3/4	1
F532CH	45000	6 11/16	21 3/8	5 7/8	1	19 1/4	17	3 3/4	1
F534CH	45000	7 1/16	23 3/4	6 3/8	1	21 5/8	19 3/8	4 1/4	1
F536CH	45000	7 1/2	25 3/4	6 3/4	1	23 5/8	20 7/8	4 5/8	1
F538CH	70000	7 7/8	26 7/8	7	1	24 3/8	21 5/8	4 1/2	1 1/4
F540CH	72000	8 1/4	27 1/2	7 1/2	1	25	22 1/2	5	1 1/4
F544CH	75000	9 1/2	31 1/8	8 1/2	1	27 7/8	24 3/4	5 1/4	1 1/2
F048CH	75000	8 1/4	29 1/2	8	1	25	22 1/2	5	1 1/4
F052CH	75000	9 1/2	32 3/4	8 3/4	1	27 7/8	24 3/4	5 1/4	1 1/2
F056CH	75000	9 7/8	34 1/4	9	1	29 1/2	26 1/4	5 1/2	1 1/2
F068CH	80000	11 13/16	39	15 1/4	1	32	33 1/2	10	1 7/8
F148CH	75000	9 1/2	32	10 1/2	1	27 7/8	25 5/8	7 1/4	1 1/2
F152CH	90000	10 1/4	35	12 1/4	1	30 1/2	29	8 3/4	1 5/8
F156CH	90000	12	38 1/4	12 1/2	1	33 1/2	32 3/4	9	1 5/8
F164CH	125000	12 13/16	41 3/4	14 3/4	1 1/4	36 1/2	35	10 1/2	1 7/8
F168CH	125000	14	43 3/4	14 3/4	1 1/4	38 1/4	36 3/4	10 3/4	2
F172CH	150000	14 1/2	46	15	1 1/4	40 3/4	39 1/4	11	2
F268CH	150000	14 1/2	46	17 1/8	1 1/4	40 3/4	39 1/4	11	2

* Load rating assuming resultant load is between 0 degrees and 180 degrees





SETSCREW MOUNTING BLOCK FOR SSP15 - 2 7/16 SHAFT EXTENSION DIAMETER										
ORIGINAL PILLOW BLOCK		PART NUMBER	BOLT DIA.	A	B	C	BOLT SPACING (E)		F	H
TYPE	BORE						MIN	MAX		
SCM	2 7/16	SOPB121207300	3/4	3	10 3/4	3 1/2	7 1/2	9 3/4	2 1/4	4
	2 15/16	SOPB141207308	7/8	3 1/2	12 3/16	4 1/8	8 3/8	11 5/16	2 7/8	4 1/8
E	2 7/16	SOPB103207212	5/8	2 3/4	11	2 3/8	7 13/16	10 3/8	1 1/2	4 1/2
	2 15/16	SOPB121207302	3/4	3 1/8	10 3/4	3 1/2	7 1/2	9 3/4	2 1/4	4
SAF	2 7/16	SOPB103207304	5/8	3 1/4	11	2 3/8	7 13/16	10 3/8	1 1/2	4 1/2
	2 15/16	SOPB122207312	3/4	3 3/4	12 5/8	3 1/2	9	11 7/8	2 1/4	4 1/2

STATIC SHAFT PULLEY (SSP) LOAD RATINGS

BELT SPEED (FPM)	PULLEY OD	BEARING LIFE FACTOR (BLF)							
		LIFE HOURS							
		10,000	20,000	30,000	40,000	50,000	60,000	80,000	100,000
100	12	1.211	1.491	1.684	1.836	1.963	2.074	2.260	2.417
	14	1.157	1.424	1.608	1.753	1.874	1.980	2.158	2.308
	16	1.111	1.368	1.545	1.684	1.801	1.902	2.074	2.217
	18	1.073	1.321	1.491	1.626	1.738	1.836	2.002	2.140
	20	1.039	1.279	1.445	1.575	1.684	1.779	1.939	2.074
	24	0.984	1.211	1.368	1.491	1.595	1.684	1.836	1.963
	30	0.920	1.133	1.279	1.395	1.491	1.575	1.717	1.836
	36	0.871	1.073	1.211	1.321	1.412	1.491	1.626	1.738
	42	0.832	1.024	1.157	1.261	1.348	1.424	1.552	1.660
	48	0.799	0.984	1.111	1.211	1.295	1.368	1.491	1.595
	54	0.771	0.950	1.073	1.169	1.250	1.321	1.440	1.539
	60	0.747	0.920	1.039	1.133	1.211	1.279	1.395	1.491
300	12	1.684	2.074	2.342	2.553	2.730	2.883	3.143	3.360
	14	1.608	1.980	2.236	2.437	2.606	2.753	3.001	3.209
	16	1.545	1.902	2.148	2.342	2.504	2.645	2.883	3.083
	18	1.491	1.836	2.074	2.260	2.417	2.553	2.783	2.976
	20	1.445	1.779	2.009	2.190	2.342	2.473	2.696	2.883
	24	1.368	1.684	1.902	2.074	2.217	2.342	2.553	2.730
	30	1.279	1.575	1.779	1.939	2.074	2.190	2.387	2.553
	36	1.211	1.491	1.684	1.836	1.963	2.074	2.260	2.417
	42	1.157	1.424	1.608	1.753	1.874	1.980	2.158	2.308
	48	1.111	1.368	1.545	1.684	1.801	1.902	2.074	2.217
	54	1.073	1.321	1.491	1.626	1.738	1.836	2.002	2.140
	60	1.039	1.279	1.445	1.575	1.684	1.779	1.939	2.074
500	12	1.963	2.417	2.73	2.976	3.182	3.360	3.663	3.917
	14	1.874	2.308	2.606	2.841	3.038	3.209	3.498	3.740
	16	1.801	2.217	2.504	2.730	2.919	3.083	3.360	3.593
	18	1.738	2.140	2.417	2.635	2.817	2.976	3.244	3.468
	20	1.684	2.074	2.342	2.553	2.730	2.883	3.143	3.360
	24	1.595	1.963	2.217	2.417	2.584	2.730	2.976	3.182
	30	1.491	1.836	2.074	2.260	2.417	2.553	2.783	2.976
	36	1.412	1.738	1.963	2.140	2.288	2.417	2.635	2.817
	42	1.348	1.660	1.874	2.043	2.185	2.308	2.516	2.690
	48	1.295	1.595	1.801	1.963	2.099	2.217	2.417	2.584
	54	1.250	1.539	1.738	1.895	2.026	2.140	2.333	2.495
	60	1.211	1.491	1.684	1.836	1.963	2.074	2.260	2.417
750	12	2.217	2.730	3.083	3.360	3.593	3.795	4.137	4.424
	14	2.117	2.606	2.943	3.209	3.431	3.624	3.950	4.224
	16	2.034	2.504	2.828	3.083	3.296	3.481	3.795	4.058
	18	1.963	2.417	2.730	2.976	3.182	3.360	3.663	3.917
	20	1.902	2.342	2.645	2.883	3.083	3.256	3.549	3.795
	24	1.801	2.217	2.504	2.730	2.919	3.083	3.360	3.593
	30	1.684	2.074	2.342	2.553	2.730	2.883	3.143	3.360
	36	1.595	1.963	2.217	2.417	2.584	2.730	2.976	3.182
	42	1.523	1.874	2.117	2.308	2.467	2.606	2.841	3.038
	48	1.463	1.801	2.034	2.217	2.371	2.504	2.730	2.919
	54	1.412	1.738	1.963	2.140	2.288	2.417	2.635	2.817
	60	1.368	1.684	1.902	2.074	2.217	2.342	2.553	2.730

PRECISION PULLEY & IDLER

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