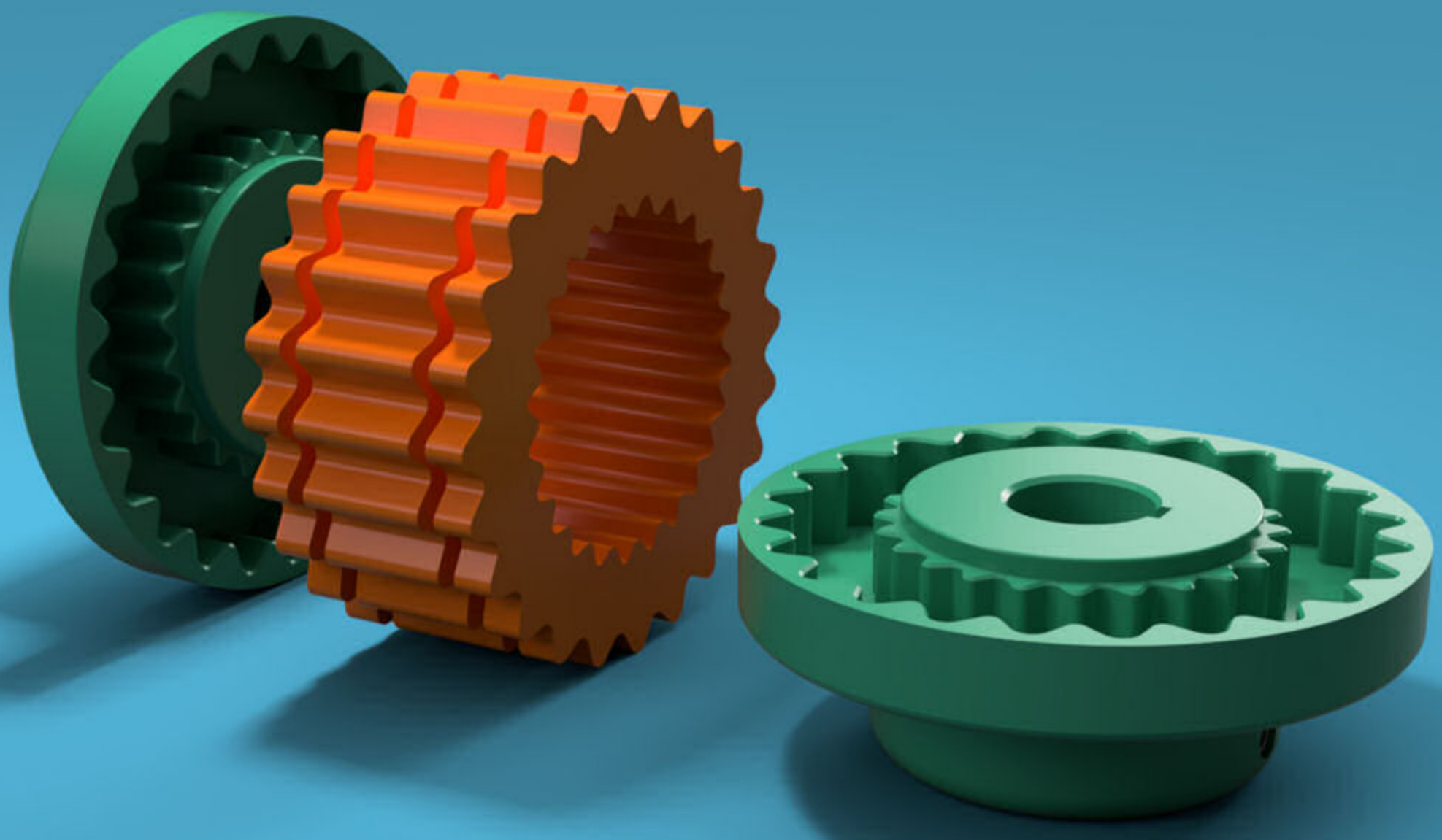
Sure-Flex Shaft Couplings



ABSSAC

PRECISION MOTION SINCE 1982

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX® ELASTOMERIC COUPLINGS

- **Need No Lubrication, No Maintenance**
- **Quick, Easy Installation**
- **Clean, Quiet Performance**

T: +44 (0)1386 421005 ***F:*** +44 (0)1386 422441 ***E:*** sales@abssac.co.uk ***W:*** www.abssac.co.uk

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX CAPABILITIES

4-WAY FLEXING ACTION
absorbs all types of
shock, vibration and misalignment

TORSIONAL

Sure-Flex coupling sleeves have an exceptional ability to absorb torsional shock and dampen torsional vibrations. The EPDM and Neoprene sleeves wind-up approximately 15" torsionally at their rated torque. Hytrel sleeves will wind-up about 7".

ANGULAR

The unique design of the Sure-Flex coupling's teeth allows for the absorption of angular misalignment without wear. Alignment of the coupling requires using only a scale and calipers.

PARALLEL

Parallel misalignment is absorbed without wear or appreciable energy losses. The lateral flexibility of the coupling sleeve minimizes radial bearing loads normally associated with parallel misalignment. This feature also allows for easier installation by the use of components bored for slip fits without fretting corrosion occurring at the shaft. Only a straight-edge and feeler **gauge** are required

AXIAL

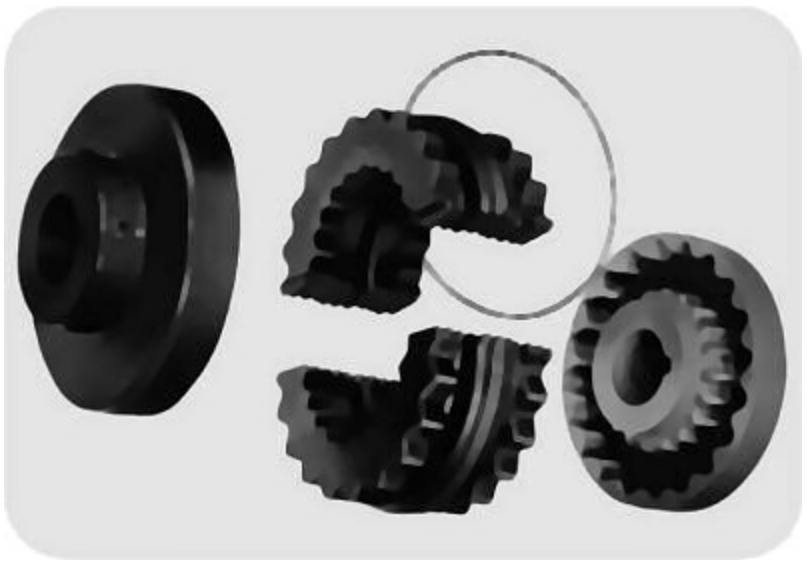
Sure-Flex couplings may be used in applications with limited axial shaft movements. The axial compressibility of the EPDM and Neoprene sleeves allows for shaft endfloat without the absolute transfer of thrust loads.

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX FEATURES

EASY, QUICK INSTALLATION

Sure-Flex can be installed quickly and easily, because there are no bolts, gaskets, covers or seals. Alignment can be checked with a straightedge placed across the outside of the precision-machined flanges. No special tools are needed for installation, alignment or removal.



NO LUBRICATION, TROUBLE-FREE OPERATION

The teeth of the sleeve lock into the teeth of the flanges without clamps or screws, tightening under torque to provide smooth transmission of power. There is no rubbing action of metal against rubber to cause wear. Couplings are not affected by abrasives, dirt, or moisture. This eliminates the need for lubrication or maintenance, provides clean, dependable, quiet performance.

SURE-FLEX SELECTION

Sure-Flex couplings are selected as component parts.

1. Determine SLEEVE material and type.
2. Determine coupling SIZE.
3. Determine FLANGES to be used.

Specify coupling components.

	PROD. NUMBER	PROD. DESCRIPTION
• Example #1 - Close coupled		
Size 6, Type S flange w 1-3/8 bore	6S138	6Sx1-3/8
Size 6, Type S flange w 1" bore	6S1	6Sx1
Size 6, Solid EPDM sleeve	6J	6JE
• Example #2 - 5" Between shaft spacer		
Size 9, Type SC flange for #11 hub	9SC5011	9SC50-11
Size 9, Type SC flange for #9 hub	9SC50	9SC50
Size 11 hub w 2-3/8 bore	11SCH238	11 SCH x 2-3/8
Size 9 short hub w 1-1/8 bore	9SCHS118	9SCHS x 1-1/8
Size 9 Solid Hytrel sleeve	9H	9H

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX SLEEVE SELECTION

Sure-Flex Sleeves are available in four materials or compounds and various shape configurations.

CONSTRUCTIONS AVAILABLE		EPDM	Neoprene	Hytrel	Urethane
1 pc, unsplit		JE	JN	H	U
1 pc, split		JES	JNS	-	-
2 piece		E	N	HS	-
TYPICAL USE		General Purpose	Oil Resist Non-flame	General Purpose	Stiffness
REL. RATING		1X	1X	4X	4X
WIND-UP ANGULAR		15°	15°	7°	3°
MISALIGN		1°	1°	1/4°	1/4°
TEMPERATURE (F)	max	+275°	+200°	+250°	+200°
	min	-30°	-0°	-65°	-80°

SURE-FLEX SLEEVES

Product No.	Product Description
3J	3JE EPDM
4J	4JE EPDM
5J	5JE EPDM
6J	6JE EPDM
7J	7JE EPDM
8J	8JE EPDM
9J	9JE EPDM
10J	10JE EPDM
3JS	3JES EPDM Split
4JS	4JES EPDM Split
5JS	5JES EPDM Split
6JS	6JES EPDM Split
7JS	7JES EPDM Split
8JS	8JES EPDM Split
9JS	9JES EPDM Split
10JS	10JES EPDM Split
3JN	3JN Neoprene
4JN	4JN Neoprene
5JN	5JN Neoprene
6JN	6JN Neoprene
7JN	7JN Neoprene
8JN	8JN Neoprene
3JNS	3JNS Neoprene Split
4JNS	4JNS Neoprene Split
5JNS	5JNS Neoprene Split
6JNS	6JNS Neoprene Split
7JNS	7JNS Neoprene Split
8JNS	8JNS Neoprene Split

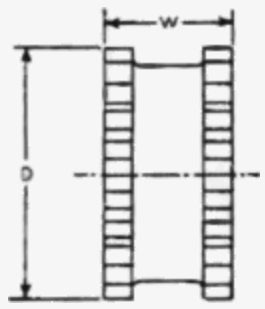
Product No.	Product Description
4	4E EPDM
5	5E EPDM
6	6E EPDM
7	7E EPDM
8	8E EPDM
9	9E EPDM
10	10E EPDM
11	11E EPDM
12	12E EPDM
13	13E EPDM
14	14E EPDM
16	16E EPDM
4N	4N Neoprene
5N	5N Neoprene
6N	6N Neoprene
7N	7N Neoprene
8N	8N Neoprene
9N	9N Neoprene
10N	10N Neoprene
11N	11N Neoprene
12N	12N Neoprene
13N	13N Neoprene
14N	14N Neoprene

Product No.	Product Description
6H	6H Hytrel
7H	7H Hytrel
8H	8H Hytrel
9H	9H Hytrel
10H	10H Hytrel
11H	11H Hytrel
12H	12H Hytrel
6HS	6HS Split Hytrel
7HS	7HS Split Hytrel
8HS	8HS Split Hytrel
9HS	9HS Split Hytrel
10HS	10HS Split Hytrel
11HS	11HS Split Hytrel
12HS	12HS Split Hytrel
13HS	13HS Split Hytrel
14HS	14HS Split Hytrel
10U	10U Urethane
11U	11U Urethane
12U	12U Urethane

ABSSAC
PRECISION MOTION SINCE 1982

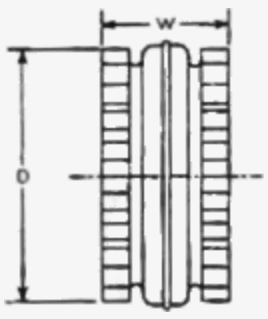
SURE-FLEX SLEEVE SELECTION

Flexible sleeves for Wood's Sure-Flex couplings are available in four materials (EPDM Neoprene, Hytrel and Urethane) and in three basic constructions.



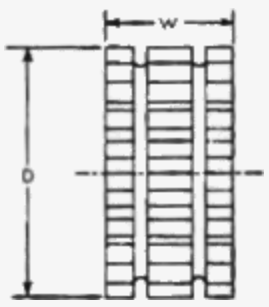
JE-JES-JN-JNS

J sleeves are molded EPDM rubber (E) or Neoprene (N). They are available in one-piece solid construction (JE, IN) or one·piece split construction (JES, JNS). These sleeves may be used in any Sure-Flex flange within a given size.



E-N

These sleeves are of two-piece design with a retaining ring. They are available in either EPDM (E) or Neoprene (N). They may be used with any flange within a given size. Sleeves are shown here assembled and disassembled.



H-HS-U

H (Hytrel) and U (Urethane) sleeves, designed for high-torque applications, transmit four times as much power as an equivalent EPDM or Neoprene sleeve. Available in one-piece solid construction (H or U) or two·piece split construction (HS), these can be used only with S, C and SC flanges. They cannot be used with J or B flanges or as direct replacements for EPDM or Neoprene sleeves.

DIMENSIONS (in.)

Coupling Size	JE, JES, JN & JNS Sleeves EPDM & Neoprene			E and N Sleeves EPDM & Neoprene			H, U & HS Sleeves Hytrel & Urethane		
	D	W	Wt. (lbs.)	D	W	Wt. (lbs.)	D	W	Wt. (lbs.)
3	1 7/8	1	.06						
4	2 5/16	1 1/4	.10	2 5/16	1 1/4	.11			
5	2 15/16	1 9/16	.20	2 15/16	1 9/16	.25			
6	3 3/4	1 7/8	.40	3 3/4	1 7/8	.49	3 3/4	1 7/8	.44
7	4 11/32	2 3/16	.62	4 11/32	2 3/16	.77	4 11/32	2 3/16	.69
8	5 1/16	2 1/2	1.13	5 1/16	2 1/2	1.4	5 1/16	2 1/2	1.4
9*	6	3	1.46	6	3	2.0	6	3	1.8
10*	7 1/16	3 7/16	2.32	7 1/16	3 7/16	3.2	7 1/16	3 7/16	2.9
11				8 3/16	4	5.1	8 3/16	4	4.5
12				9 9/16	4 11/16	8.1	9 9/16	4 11/16	7.3
13				11 3/16	5 1/2	13.0	11 3/16	5 1/2	11.8
14				13 3/32	6 1/2	21.1	13 3/32	6 1/2	19.3
16				17 29/32	8 3/4	45.3			

The 13 and 14 Hytrel available with HS sleeves only.

***All 9J and 10J sleeves available in EPDM only.** Only sizes available in Urethane.

T: +44 (0)1386 421005 ***F:*** +44 (0)1386 422441 ***E:*** sales@abssac.co.uk ***W:*** www.abssac.co.uk

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX COUPLING SIZE SELECTION

1. Select Load Symbol based on your driven machine.

Application	Load Symbol	Application	Load Symbol	Application	Load Symbol
AGITATORS-Paddle, Propeller, Screw	L	DEWATERING SCREEN (sewage)	M	MILLS	
BAND RESAW (lumber)	M	DISC FEEDER	L	Ball, Pebble, Rod, Tube, Rubber Tumbling	H
BARGE HAUL PULLER .	H	DOUGH MIXER	M	Dryer and Cooler	M
BARKING (lumber)	H	DRAW BENCH CONVEYOR and MAIN DRIVE	H	MIXERS	
BAR SCREEN (sewage)	L	DREDGES		Concrete, Muller	M
BATCHES (textile)	L	Cable Reel, Pumps	M	Banbury	H
BEATER AND PULPER (paper)	M	Cutter Head Drive, Jig Drive, Screen Drive	H	ORE CRUSHER	H
BENDING ROLL (metal)	M	Maneuvering and Utility Winch, Stacker	M	OVEN CONVEYOR	L
BLEACHER (paper)	L	DYNAMOMETER	L	PLANER (metal or wood)	M
BLOWERS		DRYERS (rotary)	M	PRESSES	
Centrifugal, Vane	L	EDGER (lumber)	H	Brick, Briquette Machine	H
Lobe	M	ELEVATOR		Notching, Paper, Punch, Printing	M
BOTTLING MACHINERY	L	Bucket	M	PUG MILL	M
BREW KETTLES (distilling)	L	Escalator	L	PULP GRINDER (paper)	H
BUCKET ELEVATOR OR CONVEYOR	M	Freight, Passenger, Service, Man Lift	H	PULVERIZERS	
CALENDERS		ESCALATORS	L	Hammermill-light duty, Roller	M
Calendar (paper)	M	EXTRUDER (metal)	H	Hammermill-heavy duty, Hog	H
Calender-super (paper), Calender (rubber)	H	FANS		PUMPS	
CANE KNIVES (sugar)	M	Centrifugal	L	Centrifugal, Axial	L
CARD MACHINE (textile)	H	Cooling Tower	H	Gear, Lobe, Vane	M
CAR DUMPERS	H	Forced Draft, Large Industrial or Mine	M	Reciprocating - sgl. or dbl. acting, cylinder	*
CAR PULLERS	M	FEEDERS		REEL, REWINDER (paper) CABLE	M
CEMENT KILN	H	Apron, Belt, Disc	L	ROD MILL	H
CENTRIFUGAL BLOWERS, COMPRESSORS, FANS or PUMPS	L	Reciprocating	H	SAWDUST CONVEYOR	L
CHEMICAL FEEDERS (sewage)	L	Screw	M	SCREENS	
CHILLER (oil)	M	FILTER, PRESS-OIL	M	Air Washing, Water	L
CHIPPER (paper)	H	GENERATORS		Rotary for coal or sand	M
CIRCULAR RESAW (lumber)	M	Uniform load	L	Vibrating	H
CLARIFIER or CLASSIFIER	L	Varying load, Hoist	M	SCREW CONVEYOR	L
CLAY WORKING MACHINERY	M	Welders	H	SLAB CONVEYOR (lumber)	M
COLLECTORS (sewage)	L	GRIT COLLECTOR (sewage)	L	SLITTERS (metal)	M
COMPRESSORS		GRIZZLY	H	SOAPERS (textile)	L
Centrifugal	L	HAMMERMILL		SORTING TABLE (lumber)	M
Reciprocating	*	Light Duty, Intermittent	M	SPINNER (textile)	M
Screw, Lobe	L	Heavy Duty, Continuous	H	STOKER	L
CONCRETE MIXERS	M	HOISTS		SUCTION ROLL (paper)	M
CONVERTING MACHINE (paper)	M	Heavy Duty	H	TENTER FRAMES (textile)	M
CONVEYORS		Medium Duty	M	TIRE BUILDING MACHINES	H
Apron, Assembly Belt, Flight, Oven, Screw	L	JORDAN (paper)	H	TIRE & TUBE PRESS OPENER	L
Bucket	M	KILN, ROTARY	H	TUMBLING BARRELS	H
COOKERS-Brewing, Distilling, Food	L	LAUNDRY WASHER or TUMBLER	H	WASHER and THICKENER (paper)	M
COOLING TOWER FANS	H	LINE SHAFTS	L	WINCHES	M
COUCH (paper)	M	LOG HAUL (lumber)	H	WINDERS, Paper, Textile, Wire	M
CRANES and HOISTS	M	LOOM (textile)	M	WINDLASS	M
Heavy Duty Mine	H	MACHINE TOOLS, MAIN DRIVE	M	WIRE	
CRUSHERS-Cane (sugar), Stone or Ore	H	MANGLE (textile)	L	Drawing	H
CUTTER-Paper	H	MASH TUBS (distilling)	L	Winding	M
CYLINDER (paper)	H	MEAT GRINDER	M	WOODWORKING MACHINERY	L
		METAL FORMING MACHINES	M		

*Consult Factory

SURE-FLEX COUPLING SIZE SELECTION

2. Determine Service Factor using Load Symbol and driver.

Load Symbol	L Light	M Medium	H Heavy
Standard AC Motor DC Shunt Motor *Engine, 8 or more cylinders	1.25	1.5	2.0
High Torque AC Motor DC Series & Comp. *Engine, 4-6 cylinders	1.5	2.0	2.5
*Engine, 3 cylinders or less	2.0	2.5	3.0
Turbine	1.0	1.25	1.5

*On applications involving varying torque loads, design around the maximum load. Then determine the resulting service factor at minimum load. If this value is greater than 4.0, special coupling alignment will be required (see page F1-18).

Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to rotational vibrational critical speeds which may destroy the coupling. The factory can determine these speeds when the rotational inertia (WR2) of the driveR and driveN units is known.

3. Locate the correct chart & columns for your sleeve material. motor speed and service factor; you can read the coupling size across from the motor horsepower.

Example: For 150 HP @ 1750 RPM and 1.5 Service Factor - Use #13 EPDM or Neoprene or #10 Hytrel or Urethane.

4. For other speeds. use the following formula to calculate the required coupling horsepower rating @ 100 rpm.

HP @ 100 rpm = HP x Service Factor x 100/ coupling RPM

5. Use the chart below to find a coupling with a HP @ 100 RPM rating which is greater than calculated above.

Example: For 5 HP @ 55 RPM and 1.25 Service Factor:
HP @ 100 = 5 x 1.25 x 100/55 = 11.36
Use #12 EPDM or Neoprene or #9 Hytrel with rating of 11.4 HP.

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX COUPLING SIZE SELECTION

COUPLING RATINGS

Size	EPDM Sleeves	Neoprene Sleeves	HP @ RPM				Torque (in. lbs.)	Stiffness (in. lbs./rad)	Max RPM
			100	1160	1750	3500			
3	JE, JES	IN, JNS	0.1	1.4	2.2	4.3	78	229	9200
4	E, JE, JES	N, JN, JNS	0.2	2.9	4.3	8.7	156	458	7600
5	E, JE, JES	N, JN, JNS	0.5	5.7	8.7	17	312	916	7600
6	E, JE, JES	N, JN, JNS	0.9	11	16	32	585	1718	6000
7	E, JE, JES	N, JN, JNS	1.5	17	26	52	940	2769	5250
8	E, JE, JES	N, JN, JNS	2.3	27	41	82	1475	4335	4500
9	E, JE, JES	N	3.7	43	65	130	2340	6875	3750
10	E, JE, JES	N	5.9	69	104	208	3735	10980	3600
11	E	N	9.3	108	164	327	5890	17300	3600
12	E	N	15	172	260		9360	27500	2800
13	E	N	23	272	410		14750	43350	2400
14	E	N	37	431	650		23400	68755	2200
16	E		75	870			47250	180480	1500

Size	Hytrel Sleeves	Urethane Sleeves	HP @ RPM				Torque (in. lbs.)	Stiffness (in. lbs./rad)	Max RPM
			100	1160	1750	3500			
6	H, HS		2.9	33	50	100	1800	10000	6000
7	H, HS		4.6	53	80	160	2875	20000	5250
8	H, HS		7.2	84	126	252	4530	30000	4500
9	H, HS		11	132	200	400	7200	47500	3750
10	H, HS	U	18	209	315	630	11350	100000*	3600
11	H, HS	U	29	331	500	1000	18000	125000*	3600
12	H, HS	U	50	580	875		31500	225000*	2800
13	HS		75	870	1312		47268	368900	2400
14	HS		115	1334	2013		72480	593250	2200

* Urethane values are 220000, 350000, and 600000.

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX COUPLING SELECTION

EPDM or NEOPRENE SLEEVES

860 RPM MOTORS						1160 RPM MOTORS						1750 RPM MOTORS						3500 RPM MOTORS					
HP	Service Factors					HP	Service Factors					HP	Service Factors					HP	Service Factors				
	1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5
½	3	3	3	3	4	½	3	3	3	3	3	½	3	3	3	3	3	½	3	3	3	3	3
¾	3	3	3	4	4	¾	3	3	3	4	4	¾	3	3	3	3	3	¾	3	3	3	3	3
1	3	4	4	4	5	1	3	3	4	4	4	1	3	3	3	3	4	1	3	3	3	3	3
1 ½	4	4	5	5	5	1 ½	4	4	4	5	5	1 ½	3	3	4	4	4	1 ½	3	3	3	3	3
2	4	5	5	5	6	2	4	4	5	5	5	2	3	4	4	4	5	2	3	3	3	3	4
3	5	5	6	6	6	3	5	5	5	6	6	3	4	4	5	5	5	3	3	3	4	4	4
5	6	6	6	7	7	5	5	6	6	6	7	5	5	5	5	6	6	5	4	4	4	5	5
7 ½	6	7	7	8	8	7 ½	6	6	7	7	8	7 ½	5	6	6	6	7	7 ½	4	5	5	5	6
10	7	7	8	8	9	10	6	7	7	8	8	10	6	6	6	7	7	10	5	5	5	6	6
15	8	8	9	9	10	15	7	8	8	9	9	15	6	7	7	8	8	15	5	6	6	6	7
20	8	9	9	10	10	20	8	8	9	9	10	20	7	7	8	8	9	20	6	6	6	7	7
25	9	9	10	10	11	25	8	9	9	10	10	25	7	8	8	9	9	25	6	6	7	7	8
30	9	10	10	11	11	30	9	9	10	10	11	30	8	8	9	9	10	30	6	7	7	8	8
40	10	10	11	11	12	40	9	10	10	11	11	40	8	9	9	10	10	40	7	7	8	8	9
50	10	11	11	12	12	50	10	10	11	11	12	50	9	9	10	10	11	50	7	8	8	9	9
60	11	11	12	12	13	60	10	11	11	12	12	60	9	10	10	11	11	60	8	8	9	9	10
75	11	12	12	13	13	75	11	11	12	12	13	75	10	10	11	11	12	75	8	9	9	10	10
100	12	12	13	13	14	100	11	12	12	13	13	100	10	11	11	12	12	100	9	9	10	10	11
125	12	13	13	14	14	125	12	12	13	13	14	125	11	11	12	12	13	125	9	10	10	11	11
150	13	13	14	14	16	150	12	13	13	14	14	150	11	12	12	13	13	150	10	10	11	11	
200	13	14	14	16	16	200	13	13	14	14	16	200	12	12	13	13	14	200	10	11	11		
250	14	14	16	16	16	250	13	14	14	16	16	250	12	13	13	14	14	250	11	11			
300	14	16	16	16	16	300	14	14	16	16	16	300	13	13	14	14		300	11				
350	16	16	16	16		350	14	16	16	16	16	350	13	14	14			350					
400	16	16	16			400	14	16	16	16	16	400	13	14	14			400					
450	16	16				450	16	16				450	14					450					
500	16	16				500	16	16				500	14					500					
600	16					600	16					600						600					
700						700						700						700					
800						800						800						800					

ABSSAC
PRECISION MOTION SINCE 1982

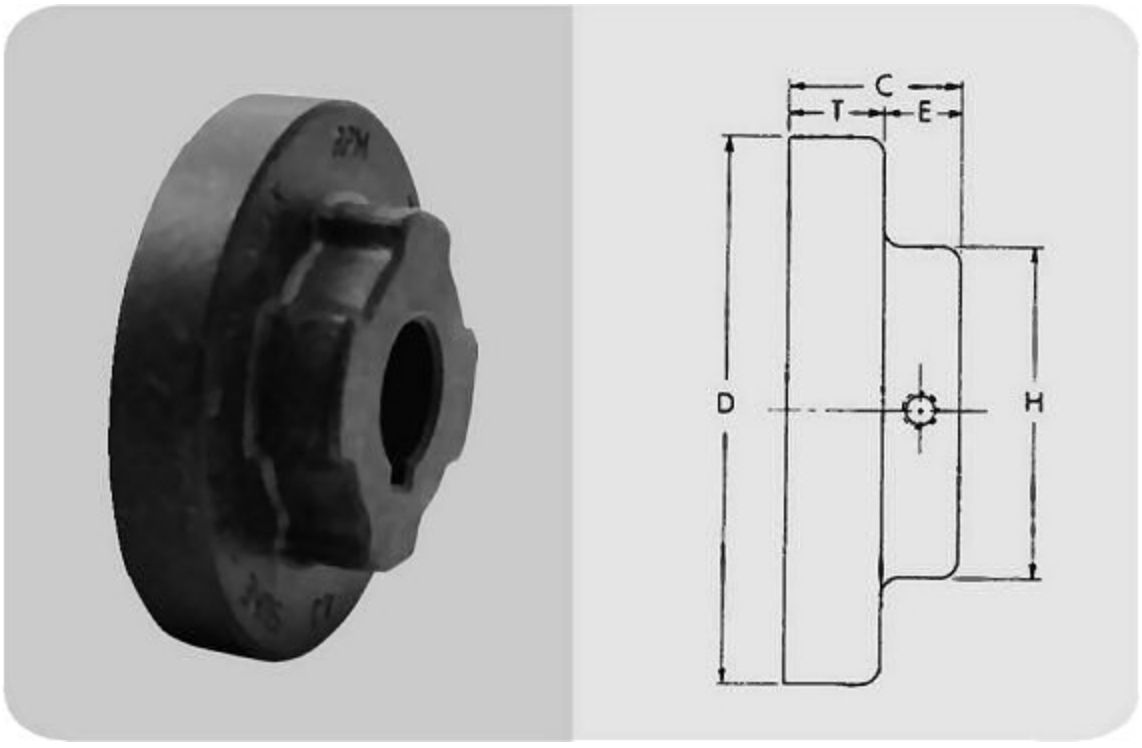
SURE-FLEX COUPLING SELECTION

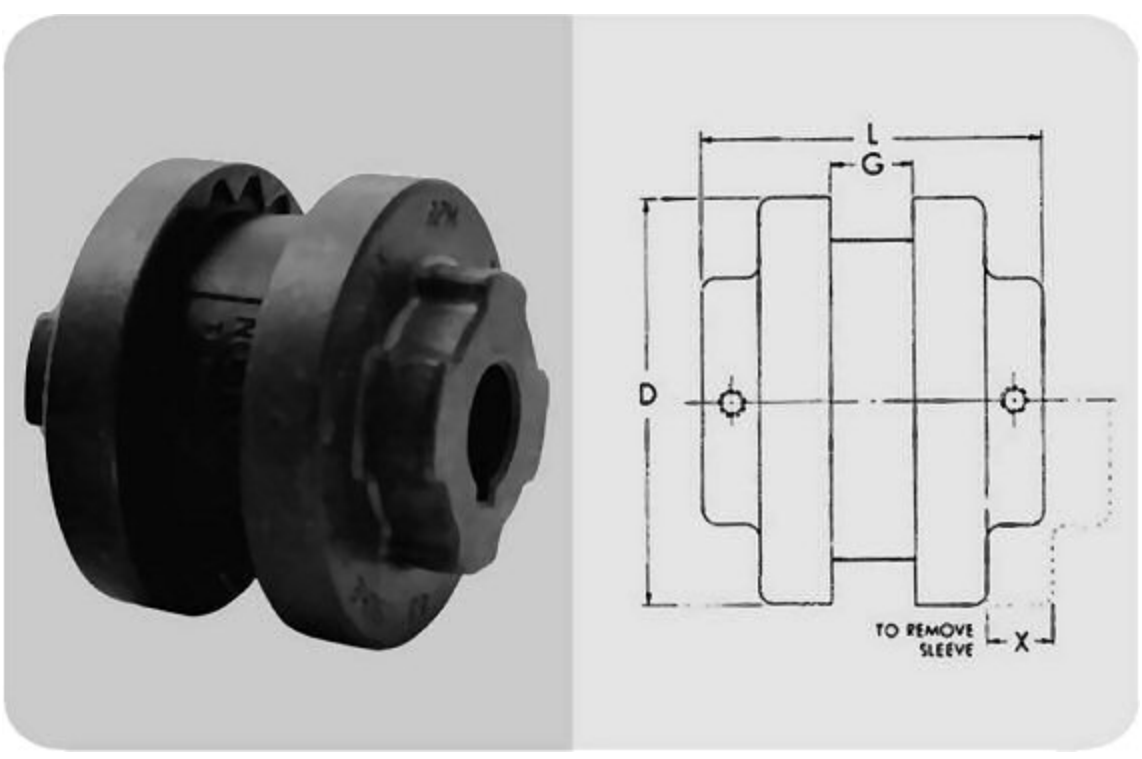
HYTREL or URETHANE SLEEVES

860 RPM MOTORS						1160 RPM MOTORS						1750 RPM MOTORS						3500 RPM MOTORS					
HP	Service Factors					HP	Service Factors					HP	Service Factors					HP	Service Factors				
	1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5
7 ½	6	6	6	6	6	7 ½						7 ½						7 ½					
10	6	6	6	6	6	10	6	6	6	6	6	10						10					
15	6	6	6	7	7	15	6	6	6	6	7	15	6	6	6	6	6	15					
20	6	6	7	7	8	20	6	6	6	7	7	20	6	6	6	6	6	20					
25	6	7	7	8	8	25	6	6	7	7	8	25	6	6	6	6	7	25					
30	7	7	8	8	9	30	6	7	7	8	8	30	6	6	6	7	7	30	6	6	6	6	6
40	7	8	8	9	9	40	7	7	8	8	9	40	6	6	7	7	8	40	6	6	6	6	6
50	8	8	9	9	10	50	7	8	8	9	9	50	6	7	7	8	8	50	6	6	6	6	7
60	8	9	9	10	10	60	8	8	9	9	10	60	7	7	8	8	9	60	6	6	6	7	7
75	9	9	10	10	11	75	8	9	9	10	10	75	7	8	8	9	9	75	6	6	7	7	8
100	9	10	10	11	11	100	9	9	10	10	11	100	8	8	9	9	10	100	6	7	7	8	8
125	10	10	11	11	12	125	9	10	10	11	11	125	8	9	9	10	10	125	7	7	8	8	9
150	10	11	11	12	12	150	10	10	11	11	12	150	9	9	10	10	11	150	7	8	8	9	9
200	11	11	12	12	13	200	10	11	11	12	12	200	9	10	10	11	11	200	8	8	9	9	10
250	11	12	12	13	13	250	11	11	12	12	13	250	10	10	11	11	12	250	8	9	9	10	10
300	12	12	13	13	14	300	11	12	12	13	13	300	10	11	11	12	12	300	9	9	10	10	11
350	12	12	13	14	14	350	12	12	12	13	14	350	11	11	12	12	12	350	9	10	10	11	11
400	12	13	13	14	14	400	12	12	13	13	14	400	11	11	12	12	13	400	9	10	10	11	11
500	13	13	14	14		500	12	13	13	14	14	500	11	12	12	13	13	500	10	10	11	11	
600	13	14	14			600	13	13	13	14		600	12	12	13	13	14	600	10	11	11		
700	14	14				700	13	13	14	14		700	12	12	13	14	14	700	11	11			
800	14	14				800	13	14	14			800	12	13	13	14	14	800	11	11			
900	14					900	14	14	14			900	13	13	14	14		900	11				
1000						1000	14	14				1000	13	13	14	14		1000	11				

TYPE J SURE-FLEX

BTS - FOR CLOSE COUPLED APPLICATIONS





FLANGES

Type J flanges size 3 and 4 are manufactured of sintered carbon steel. The powdered metal manufacturing process provides high dimensional accuracy and uniform material properties for high strength. Size 5 and 6 are made of high strength cast iron. All flanges are bored-to-size for a slip fit on standard shafts. The outside diameter of the flange is machined so the surface can be used to check alignment without a special tool. Type J flanges can be used with sleeves of any construction except the Hytrel. Each flange has a keyseat and one (1) setscrew over the keyway.

COUPLINGS

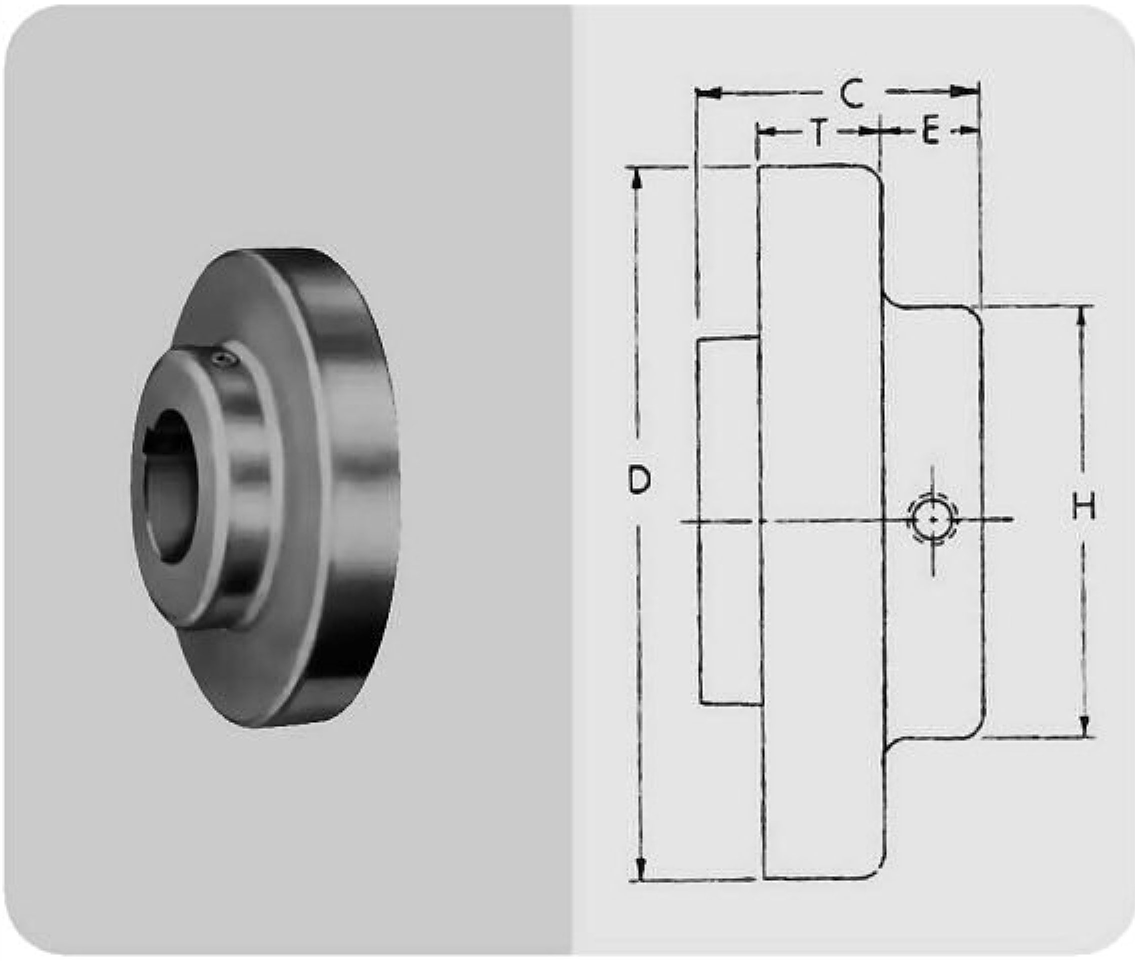
Type J Sure-Flex Couplings are bored-to-size. Normally, they employ the one-piece JE sleeve, or the onepiece JES sleeve with saw cut to permit replacement where there is Insufficient gap between shafts.

Spacing between internal flange hubs equals G. Spacing between shafts should be greater tnan 1/8 in. and less than L minus .85 times the sum of the two bore diameters.

DIMENSIONS (in.)

Product No.	Dimensions								Wt. (lbs.) ■	(Inches)										Max Bore	Millimeters								
	C	D	E	G	H	L	T	X		3/8	1/2	5/8	3/4	7/8	15/16	1	1 1/8	1 3/16	1 1/4	1 3/8		9	11	12	14	15	16	19	20	24	25
3J	51/64	2.062	13/32	3/8	1 1/2	1 31/32	25/64	5/8	0.3	•	•	•	•	•						7/8		•	•	•	•	•	•			
4J	55/64	2.500	27/64	5/8	1 5/8	2 11/32	7/16	5/8	0.4		•	•	•	•	•	•				1				•	•	•	•	•	•	•
5J	1 3/64	3.250	29/64	3/4	1 7/8	2 27/32	19/32	59/64	0.9		•	•	•	•	•	•	•			1 1/8										
6J	1 5/16	4.000	9/16	7/8	2 1/2	3 1/2	3/4	1 3/32	1.2			•	•	•	•	•	•	•	•	•	1 3/8										

*We do not recommend reboring the 3J and 4J Flanges. See page F1-13 for standard keyseat dimensions & F1-10 for bore tolerances.
■ Approximate weight for each flange.



FLANGES

Type S flanges are made of high-strength cast iron and are bored-to-size for slip fit on standard shafts. They are easy to install and remove, and are available from stock in a wide range of bore sizes.

Bore Tolerances for Types J and S Flanges, SC Hubs

These bores provide a slip fit.

Bore (in.)	Tolerance (in.)
Up to and including 2"	+ .0005 to + .0015
Over 2"	+ .0005 to +.0020

DIMENSIONS (in.)

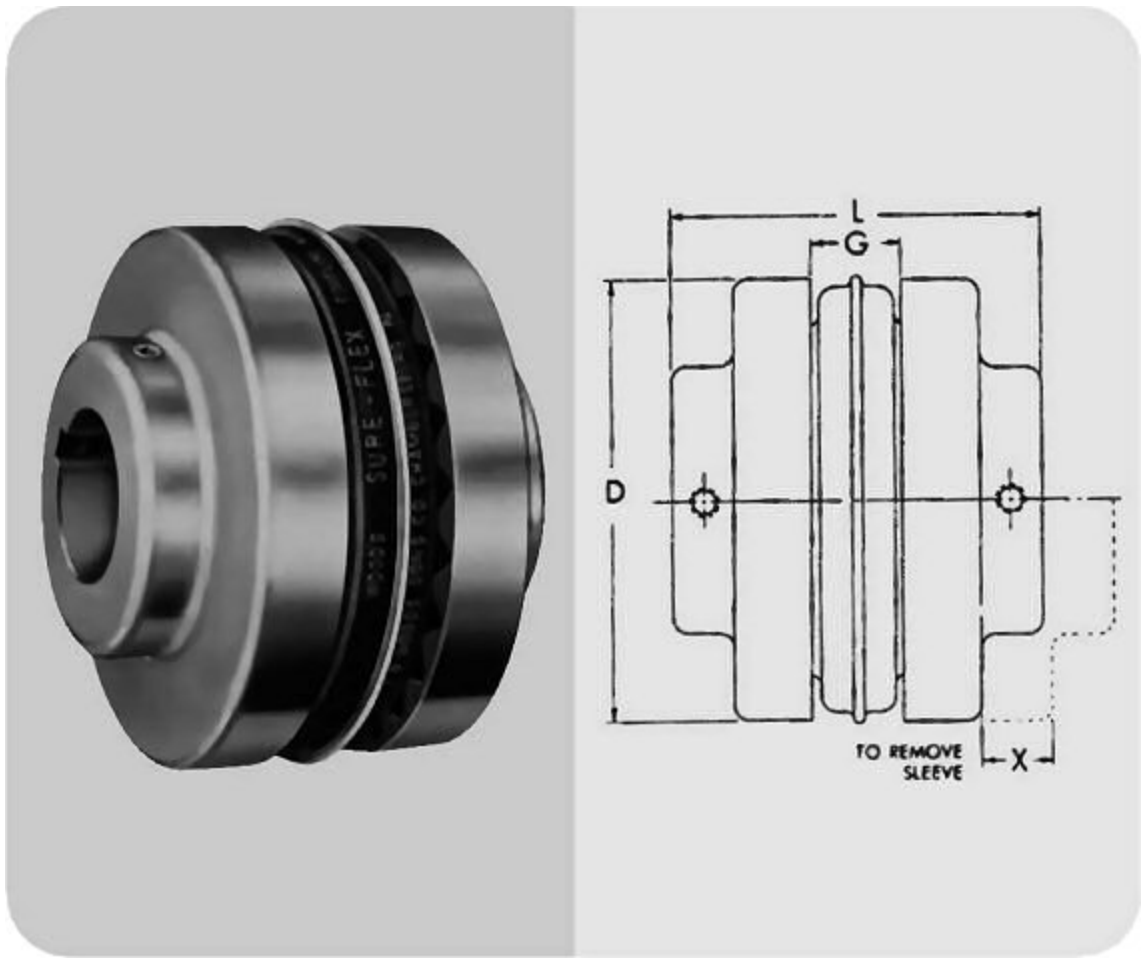
Product No.	Dimensions								Wt. (lbs.) ■	STOCK BORES ① Inches																																					
	C	D	E	G	H	L	T	X		1/2	5/8	3/4	13/16	7/8	15/16	1	1 1/16	1 1/8	1 3/16	1 1/4	1 5/16	1 3/8	1 7/16	1 1/2	1 9/16	1 5/8	1 11/16	1 3/4	1 7/8	1 15/16	2	2 1/16	2 1/8	2 3/16	2 1/4	2 3/8	2 7/16	2 1/2	2 5/8	2 3/4	2 7/8	3	3 3/8	3 7/16	3 5/8	3 7/8	3 15/16
5S	1 11/32	3.250	29/64	23/32	1 7/8	2 13/16	19/32	31/32	1.1	○	•	•	•	•	•	•	•	•	•	•																											
6S	1 5/8	4.000	17/32	7/8	2 1/2	3 1/2	25/32	1 3/32	1.9		○	•		•	•	•	•	•	•	•	•	•	•	•																							
	1 5/16	4.000	17/32	7/8	2 1/2	3 1/2	25/32	1 3/32	1.8																	•		•																			
	1 9/16	4.000	25/32	7/8	2 13/16	4	25/32	1 3/32	1.8																				•																		
7S	1 27/32	4.625	11/16	1	2 13/16	3 15/16	25/32	1 5/16	2.6		○	•		•	•	•	•	•	•	•	•	•	•	•		•			•																		
8S	2 3/32	5.450	3/4	1 1/8	3 1/4	4 7/16	29/32	1 1/2	4.4			○		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•														
	1 15/16	5.450	1 1/32	1 1/8	3 1/4	5	29/32	1 1/2	3.7																											•											
9S	2 13/32	6.350	25/32	1 7/16	3 5/8	5 1/16	1 1/32	1 3/4	6.8					○	•	•	•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•									
	2 9/32	6.350	1 1/4	1 7/16	4 1/8	6	1 1/32	1 3/4	6.2																																•						
10S	2 23/32	7.500	13/16	1 5/8	4 3/8	5 11/16	1 7/32	2	10.5									○		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					
	2 11/16	7.500	1 15/32	1 5/8	4 3/4	7	1 7/32	2	9.8																																		•				
11S	3 7/16	8.625	1 1/8	1 7/8	5 1/4	7 1/8	1 1/2	2 3/8	16.6											○		•	•	•		•		•	•		•	•	•		•	•				•	•	•	•	•			
	3 1/16	8.625	1 9/16	1 7/8	5 5/8	8	1 1/2	2 3/8	16.4																																					•	
12S	4	10.000	1 9/32	2 5/16	5 3/4	8 1/4	1 11/16	2 11/16	26.6															○		•		•	•			•	•			•			•	•	•		•	•	•	•	
13S	4 3/8	11.750	1 5/16	2 11/16	6 3/4	9 1/4	1 31/32	3 1/16	45.2																						○		•			•					•		•	•			•
14S	4 1/2	13.875	1 1/16	3 1/4	7 1/2	9 7/8	2 1/4	3 1/2	69.1																						○										•					•	
16S	6	18.875	2	4 3/4	8	14 1/4	2 3/4	4 1/4	125.3																																	○					

• in the chart denotes finished bore with keyseat and 2 setscrews; ○ is plain bore suitable for reboring .

■ Approximate weight for each flange.

TYPE S SURE-FLEX

BTS - FOR CLOSE COUPLED APPLICATIONS



COUPLINGS

Type S Sure-Flex couplings are normally supplied with the two-piece E sleeve. However, any of the sleeves can be used with Type S flanges.

Spacing between internal flange hubs equals L minus 2 times C. Spacing between shafts should be greater than 1/8 in. and less than L minus .85 times the sum of the two bore diameters.

DIMENSIONS (in.)

STOCK BORES																						Max. Bore	
Millimeters																						① Standard Keyseat	② Shallow Keyseat
14	15	16	19	20	24	25	28	30	32	35	38	42	45	48	50	52	55	60	65	70	80	90	
•	•	•	•	•	•	•	•																$1\frac{3}{16}$	$1\frac{1}{4}$
																							$1\frac{7}{16}$	$1\frac{1}{2}$
	•		•	•	•	•	•	•	•	•	•													$1\frac{3}{4}$
																								$1\frac{7}{8}$
			•		•	•	•	•	•	•	•	•											$1\frac{5}{8}$	$1\frac{7}{8}$
																							$1\frac{15}{16}$	$2\frac{1}{4}$
					•		•	•	•		•	•	•	•										$2\frac{3}{8}$
																							$2\frac{1}{2}$	$2\frac{3}{4}$
					•			•	•		•	•	•	•										$2\frac{7}{8}$
																							$2\frac{3}{4}$	$3\frac{1}{8}$
								•	•	•	•	•	•	•										$3\frac{3}{8}$
											•	•	•	•		•		•		•	•		$3\frac{3}{8}$	$3\frac{7}{16}$
																								$3\frac{7}{8}$
															•			•	•	•	•	•	$3\frac{7}{8}$	$3\frac{15}{16}$
																							$4\frac{1}{2}$	
																							5	
																							$5\frac{1}{2}$	6

SHALLOW KEYSEAT DIMENSIONS ②								
Bore	K.S.	Key	Bore	K.S.	Key	Bore	K.S.	Key
$1\frac{1}{4}$	$\frac{1}{4} \times \frac{1}{16}$	$\frac{1}{4} \times \frac{3}{16} \times 1\frac{3}{8}$						
$1\frac{1}{2}$ & $1\frac{5}{8}$	$\frac{3}{8} \times \frac{1}{8}$	$\frac{3}{4} \times \frac{5}{16} \times$ ▲	$1\frac{3}{4}$	$\frac{3}{8} \times \frac{1}{16}$	$\frac{3}{8} \times \frac{1}{4} \times 1\frac{1}{4}$			
						$1\frac{7}{8}$	$\frac{1}{2} \times \frac{1}{16}$	$\frac{1}{2} \times \frac{5}{16} \times 1\frac{9}{16}$
$1\frac{7}{8}$	$\frac{1}{2} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{3}{8} \times 1\frac{7}{8}$						
$2\frac{1}{8}$	$\frac{1}{2} \times \frac{3}{16}$	$\frac{1}{2} \times \frac{7}{16} \times 2\frac{1}{8}$						
			$2\frac{3}{8}$	$\frac{5}{8} \times \frac{1}{8}$	$\frac{5}{8} \times \frac{7}{16} \times 1\frac{7}{8}$			
			$3\frac{3}{8}$	$\frac{7}{8} \times \frac{3}{16}$	$\frac{7}{8} \times \frac{5}{8} \times 2\frac{5}{8}$			
$3\frac{7}{16}$	$\frac{7}{8} \times \frac{3}{16}$	$\frac{7}{8} \times \frac{5}{8} \times 3\frac{7}{16}$						
$3\frac{7}{8}$	$1 \times \frac{1}{4}$	$1 \times \frac{3}{4} \times 3$						

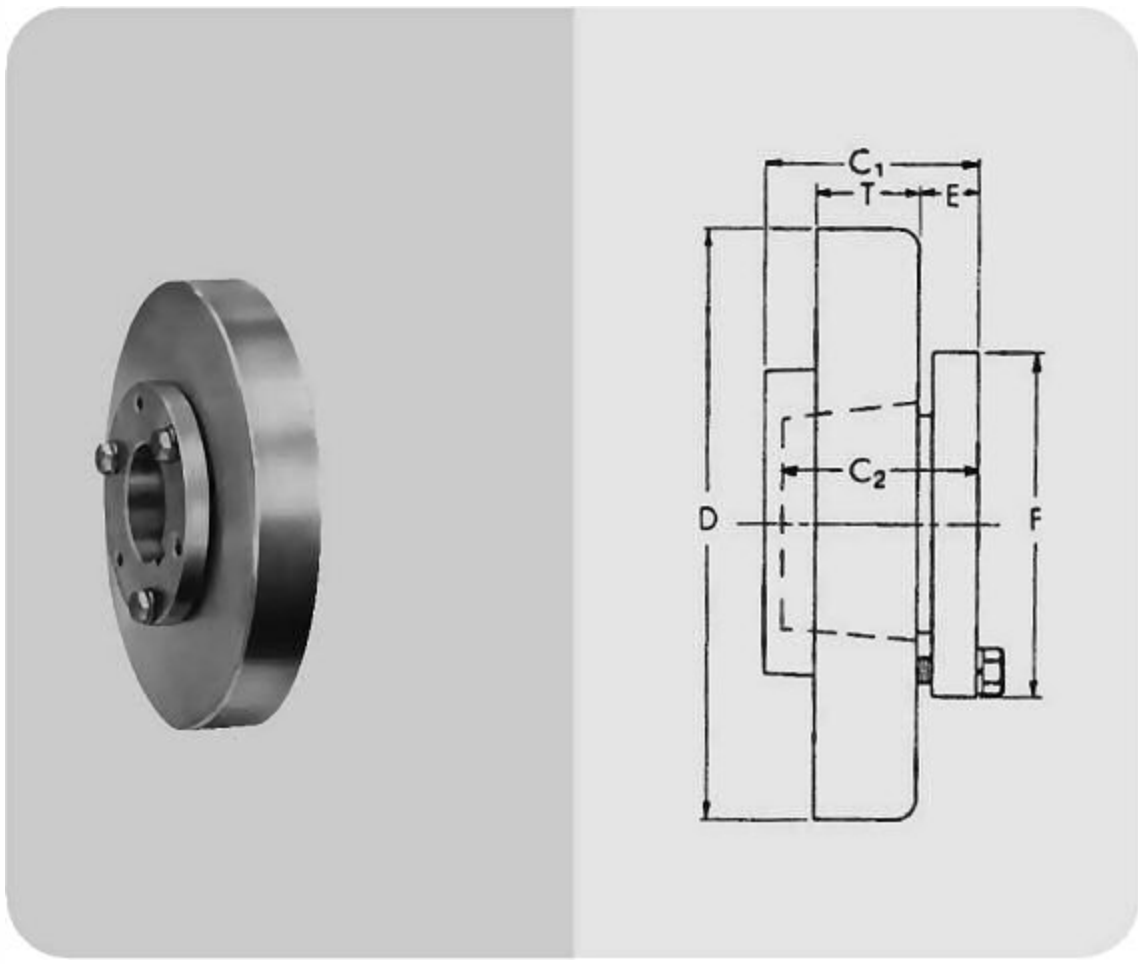
Some large bore Type S flanges are supplied with shallow keyseats. In these cases, a rectangular key is furnished. The bores involved are listed above.

▲ 1-5/8 for 1-1/2 bore, 1-5/16 for 1-5/8 bore.

ABSSAC
PRECISION MOTION SINCE 1982

TYPE B BUSHED-FLEX

QD - FOR CLOSE COUPLED APPLICATIONS



FLANGES

Type B flanges are made of high-strength cast iron the same as Types S, C and SC Sure-Flex flanges. Type B, however, is designed to accommodate Wood's Sure-Grip Bushing for easy installation and removal.

BUSHINGS

Sure-Grip Bushings offer convenient mounting of the flange 10 the shaft securely without setscrews. They are tapered and are split Through both the bushing flange and taper to provide a clamp fit, eliminating wobble, vibration and fretting corrosion. This is the same bushing used in Wood's sheaves and pulleys and is readily available everywhere.

DIMENSIONS (in.)

Product No.	Bushing Required	Dimensions									Max.* Bore	Range	Weight (lbs.) ■ Bushing
		C_1	C_2	D	E	F	G	L	T	X			
6B	JA	$1\frac{7}{32}$	1	4.000	$\frac{15}{32}$	2	$\frac{7}{8}$	$3\frac{3}{8}$	$\frac{25}{32}$	$1\frac{3}{32}$	$1\frac{1}{4}$	1.4	.8
7B	JA	$1\frac{5}{8}$	1	4.625	$\frac{15}{32}$	2	1	$3\frac{1}{2}$	$\frac{25}{32}$	$1\frac{5}{16}$	$1\frac{1}{4}$	1.9	.8
8B	SH	$1\frac{29}{32}$	$1\frac{1}{4}$	5.450	$\frac{9}{16}$	$2\frac{11}{16}$	$1\frac{1}{8}$	$4\frac{1}{16}$	$\frac{29}{32}$	$1\frac{1}{2}$	$1\frac{5}{8}$	2.9	1.0
9B	SD	$2\frac{1}{4}$	$1\frac{13}{16}$	6.350	$\frac{5}{8}$	$3\frac{3}{16}$	$1\frac{7}{16}$	$4\frac{3}{4}$	$1\frac{1}{32}$	$1\frac{3}{4}$	$1\frac{15}{16}$	4.8	1.5
10B	SK	$1\frac{15}{16}$	$1\frac{7}{8}$	7.500	$\frac{23}{32}$	$3\frac{7}{8}$	$1\frac{5}{8}$	$5\frac{1}{2}$	$1\frac{7}{32}$	2	$2\frac{1}{2}$	7.8	2.0
11B	SF	$2\frac{3}{16}$	2	8.625	$\frac{11}{16}$	$4\frac{5}{8}$	$1\frac{7}{8}$	$6\frac{1}{4}$	$1\frac{1}{2}$	$2\frac{3}{8}$	$2\frac{15}{16}$	12.0	3.5
12B	E	$2\frac{23}{32}$	$2\frac{5}{8}$	10.000	$\frac{29}{32}$	6	$2\frac{5}{16}$	$7\frac{1}{2}$	$1\frac{11}{16}$	$2\frac{11}{16}$	$3\frac{1}{2}$	18.0	9.0
13B	F	$3\frac{3}{4}$	$3\frac{5}{8}$	11.750	$1\frac{1}{16}$	$6\frac{5}{8}$	$2\frac{11}{16}$	$8\frac{3}{4}$	$1\frac{31}{32}$	3	$3\frac{15}{16}$	31.2	14.0
14B	F	$3\frac{3}{4}$	$3\frac{5}{8}$	13.875	$1\frac{1}{16}$	$6\frac{5}{8}$	$3\frac{1}{4}$	$9\frac{7}{8}$	$2\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{15}{16}$	51.4	14.0
16B	J	$4\frac{13}{16}$	$4\frac{1}{2}$	18.875	$1\frac{1}{4}$	$7\frac{1}{4}$	$4\frac{3}{4}$	$12\frac{3}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	$4\frac{1}{2}$	120.0	22.0

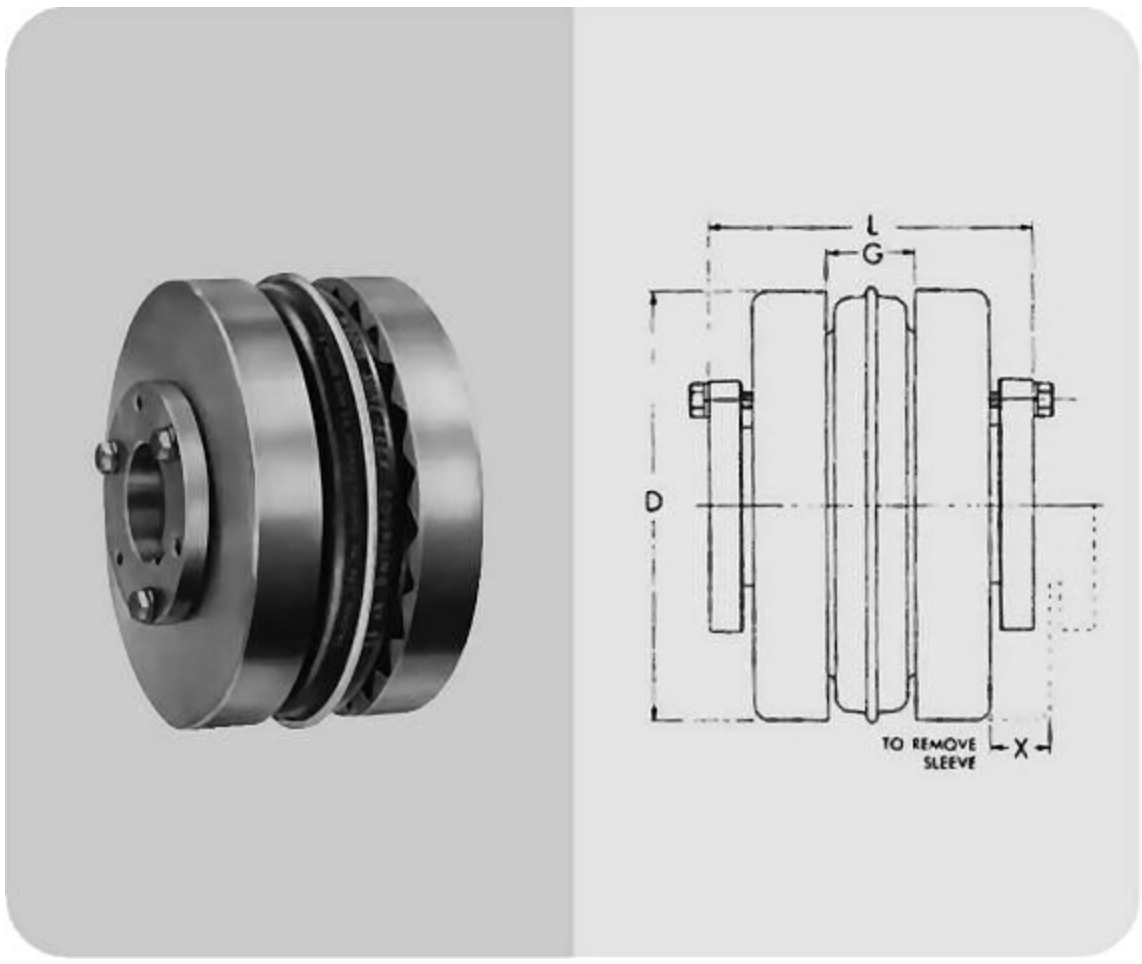
*Maximum bore with keyseat. ■ Approximate weight for each flange.

T: +44 (0)1386 421005 ***F:*** +44 (0)1386 422441 ***E:*** sales@abssac.co.uk ***W:*** www.abssac.co.uk

ABSSAC
PRECISION MOTION SINCE 1982

TYPE B BUSHED-FLEX

QD - FOR CLOSE COUPLED APPLICATIONS



COUPLINGS

Type B Sure-Flex Couplings are normally supplied with the two-piece E sleeve, and can use any EPDM or Neoprene sleeves. DO NOT use Hytrel sleeves with Type B couplings.

Spacing between internal flange hubs equals L minus 2 times C. Spacing between shafts should be greater than 118 in. and less than G.

SURE-GRIP® BUSHING KEYSEAT DIMENSIONS (in.)

Bushing	Bores	Keyseat
JA	1/2 - 1	Standard ②
	1 1/16 - 1 3/16	1/4 x 1/16
	1 1/4	1/4 x 1/32
SH	1/2 - 1 3/8	Standard ②
	1 7/16 - 1 5/8	3/8 x 1/16
	1 11/16	No K.S.
SD	1/2 - 1 11/16	Standard ②
	1 3/4	3/8 x 1/8
	1 13/16	1/2 x 1/8
	1 7/8 - 1 15/16	1/2 x 1/16
	2	No K.S.
SK	1/2 - 2 1/8	Standard ②
	2 3/16 - 2 1/4	1/2 x 1/8
	2 5/16 - 2 1/2	5/8 x 1/16
	2 9/16 - 2 5/8	No K.S.

Bushing	Bores	Keyseat
SF	1/2 - 2 1/4	Standard ②
	2 5/16 - 2 1/2	5/8 x 3/16
	2 9/16 - 2 3/4	5/8 x 1/16
	2 13/16 - 2 7/8	3/4 x 1/16
	2 15/16	3/4 x 1/32
E	7/8 - 2 7/8	Standard ②
	2 15/16 - 3 1/4	3/4 x 1/8
	3 5/16 - 3 1/2	7/8 x 1/16
F	1 - 3 1/4	Standard ②
	3 5/16 - 3 3/4	7/8 x 3/16
	3 13/16 - 3 15/16	1 x 1/8
	4	NO K.S.
J	1 7/16 - 3 13/16	Standard ②
	3 7/8 - 3 15/16	1 x 3/8
	4 - 4 1/2	1 x 1/8

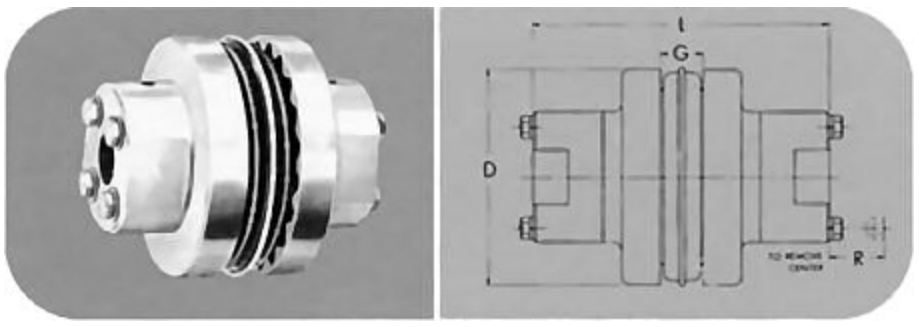
② Standard Keyseat Dimension

Shaft Dia.	Width	Depth
1/2 - 9/16	1/8	1/16
5/8 x 7/8;	3/16	3/32
15/16 x 1 1/4	1/4	1/8
1 5/16 x 1 3/8	5/16	5/32
1 7/16 x 1 3/4	3/8	3/16
1 13/16 x 2 1/4	1/2	1/4
2 5/16 x 2 3/4	5/8	5/16
2 13/16 x 3 1/4	3/4	3/8
3 5/16 x 3 3/4	7/8	7/16
3 13/16 x 4 1/2	1	1/2
4 9/16 x 5 1/2	1 1/4	5/8
5 9/16 x 6 1/2	1 1/2	3/4

ABSSAC
PRECISION MOTION SINCE 1982

TYPE SC SPACER COUPLINGS

BTS - CONVENTIONAL SPACER DESIGN



The table below shows assembled dimensions of Sure-Flex Type SC Spacer Couplings.

Coupling Size	Required Distance Between Shafts	Use Flange No.	Use Hub No.	Max. Bore Std. KS	Dimensions				Wt. (lbs.) ■
					D	L(2)	G	R	
4JSC	3-1/2	4JSC35		1-1/8 (1)	2.460	5-5/8	5/8		2.7
5SC	3-1/2	5SC35	5SCH	1-1/8	3.250	5-5/8	3/4	9/16	4.5
6SC	3-1/2	6SC35	6SCH-6SCHS	1-3/8	4.000	5-7/8	7/8	3/4	7.3
	4-3/8	6SC44	6SCH-6SCHS	1-3/8	4.000	6-3/4	7/8	3/4	8.1
	5	6SC50	6SCH-6SCHS	1-3/8	4.000	7-3/8	7/8	3/4	8.7
7SC	3-1/2	7SC35	7SCH-7SCHS	1-5/8	4.625	6-3/8	1	5/8	9.9
	4-3/8	7SC44	7SCH-7SCHS	1-5/8	4.625	7-1/4	1	5/8	10.8
	5	7SC50	7SCH-7SCHS	1-5/8	4.625	7-7/8	1	5/8	11.4
8SC	3-1/2	8SC35	8SCH-8SCHS	1-7/8	5.450	6-7/8	1-1/8	13/16	15.2
		8SC35-10	10SCH-10SCHS	2-3/8	5.450	8-1/8	1-1/8	13/16	23.2
	4-3/8	8SC44	8SCH-8SCHS	1-7/8	5.450	7-3/4	1-1/8	13/16	16.4
	5	8SC50	8SCH-8SCHS	1-7/8	5.450	8-3/8	1-1/8	1-3/16	17.4
		8SC50-10	10SCH-10SCHS	2-3/8	5.450	9-5/8	1-1/8	1-3/16	27.2
9SC	3-1/2	9SC35	9SCH-9SCHS	2-1/8	6.350	7-1/2	1-7/16	1-1/16	18.6
	4-3/8	9SC44	9SCH-9SCHS	2-1/8	6.350	8-1/4	1-7/16	1-1/16	22.2
	5	9SC50	9SCH-9SCHS	2-1/8	6.350	8-7/8	1-7/16	1-1/16	23.2
		9SC50-11	11SCH-11SCHS	2-7/8	6.350	10-3/8	1-7/16	1-3/16	40.4
	7	9SC70-11	11SCH-11SCHS	2-7/8	6.350	12-3/8	1-7/16	1-3/16	48.2
	7-3/4	9SC78-11	11SCH-11SCHS	2-7/8	6.350	13-1/8	1-7/16	1-3/16	51.0

Coupling Size	Required Distance Between Shafts	Use Flange No.	Use Hub No.	Max. Bore Std. KS	Dimensions				Wt. (lbs.) ■
					D	L(2)	G	R	
10SC	4-3/4	10SC48	10SCH-10SCHS	2-3/8	7.500	9-3/8	1-5/8	1-3/16	37.6
	5	10SC50	10SCH-10SCHS	2-3/8	7.500	9-5/8	1-5/8	1-3/16	38.4
	7	10SC70-13	13SCH-13SCHS	3-3/8	7.500	13-5/8	1-5/8	1-7/8	72.0
	7-3/4	10SC78-13	13SCH-13SCHS	3-3/8	7.500	14-3/8	1-5/8	1-7/8	76.0
	10	10SC100-13	13SCH-13SCHS	3-3/8	7.500	16-5/8	1-5/8	1-7/8	88.0
11SC	4-3/4	11SC48	11SCH-11SCHS	2-7/8	8.625	10-5/16	1-7/8	1-3/16	54.5
	5	11SC50	11SCH-11SCHS	2-7/8	8.625	10-3/8	1-7/8	1-3/16	54.7
	7	11SC70-14	14SCH	3-7/8	8.625	14-5/8	1-7/8	2	86.1
	7-3/4	11SC78-14	14SCH	3-7/8	8.625	15-3/8	1-7/8	2	90.3
	10	11SC100-14	14SCH	3-7/8	8.625	17-5/8	1-7/8	2	102.7
12SC	7	12SC70	12SCH-12SCHS	2-7/8	10.000	12-7/8	2-5/16	1-1/2	88.1
		12SC70-14	14SCH	3-7/8	10.000	14-5/8	2-5/16	2	99.1
	7-3/4	12SC78	12SCH-12SCHS	2-7/8	10.000	13-5/8	2-5/16	1-1/2	91.9
		12SC78-14	14SCH	3-7/8	10.000	15-3/8	2-5/16	2	103.3
	10	12SC100-14	14SCH	3-7/8	10.000	17-5/8	2-5/16	2	115.7
13SC	7-3/4	13SC78	13SCH-13SCHS	3-3/8	11.750	14-3/8	2-11/16	1-7/8	129.6
14SC	7-3/4	14SC78	14SCH	3-7/8	13.875	15-3/8	3-1/4	2	179.9

■ Approximate weight for completely assembled spacer coupling.

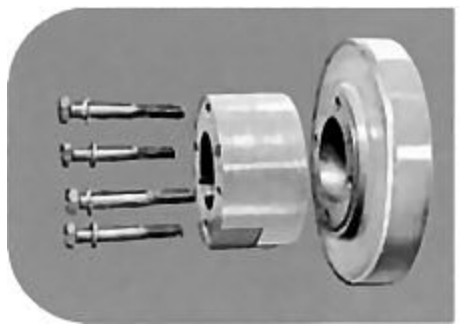
(1) 4JSC35 x 1-1/8 has shallow keyseat. (2) "L" dimension and weight will change if one or two short (HS) hubs used.

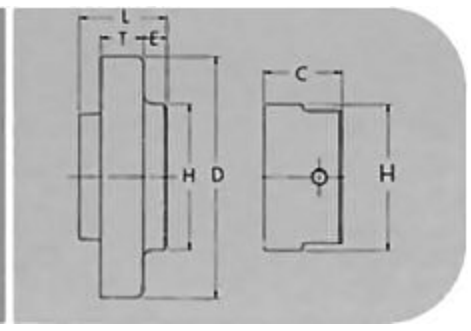
Note: specify components separately.

ABSSAC
PRECISION MOTION SINCE 1982

TYPE SC FLANGES AND HUBS

BTS - CONVENTIONAL SPACER DESIGN





Coupling Size	Flange No.	For Distance Between Shafts*	For Hub	Dimensions					Wt. (lbs.) ■
				D	E	H	L	T	
4JSC	4JSC35	3-1/8		2.460	2-1/16	2	2-1/2	7/16	1.3
SSC	SSC35	3-1/2	5SCH	3250	51/64	2	1-1 1/16	19/32	0.3
6SC	6SC35	3-1/2	6SCH-6SCHS	4.000	19/32	2-1/2	1-5/8	23/32	2.0
	6SC44	4-3/8	6SCH-6SCHS	4.000	1-1/32	2-1/2	2-1/16	23/32	2.4
	6SC50	5	6SCH-6SCHS	4.000	1-1 1/32	2-1/2	2-3/8	23/32	2.7
7SC	7SC35	3-1/2	7SCH-7SCHS	4.625	15/32	2-13/16	1-5/8	2 5/32	2.5
	7SC44	4-3/8	7SCH-7SCHS	4.625	29/32	2-13/16	2-1/16	2 5/32	3.0
	7SC50	5	7SCH-7SCHS	4.625	1-7/32	2-13/16	2-3/8	2 5/32	3.3
5SC	8SC35	3-1/2	8SCH-8SCHS	5.450	9/32	3-1/4	1-5/8	29/32	3.7
	8SC35-10	3-1/2	10SCHS	5.450	9/32	4-3/8	1-5/8	29/32	3.5
	8SC44	4-3/8	8SCH-8SCHS	5.450	23/32	3-1/4	2-1/16	29/32	4.3
	8SC50	5	8SCH-8SCHS	5.450	1-1/32	3-1/4	2-3/8	29/32	4.8
	8SC50-10	5	10SCH-10SCHS	5.450	1-1/32	4-3/8	2-3/8	29/32	5.5
9SC	9SC35	3-1/2	9SCH-9SCHS	6.350	1/16	3-5/8	1-1 1/16	1-1/32	4.1
	9SC44	4-3/8	9SCH-9SCHS	6.350	7/16	3-5/8	2-1/16	1-1/32	5.9
	9SC50	5	9SCH-9SCHS	6.350	3/4	3-5/8	2-3/8	1-1/32	6.4
	9SC50-11	5	11SCH-11SCHS	6.350	3/4	5-1/4	2-3/8	1-1/32	7.0
	9SC70-11	7	11SCH-11SCHS	6.350	1-3/4	5-1/4	3-3/8	1-1/32	10.9
	9SC78-11	7-3/4	11SCH-11SCHS	6.350	2-1/8	5-1/4	3-3/4	1-1/32	12.3
10SC	10SC48	4-3/4	10SCH-10SCHS	7.500	1 1/32	4-3/8	2-1/4	1-7/32	9.8
	10SC50	5	10SCH-10SCHS	7.500	15/32	4-3/8	2-3/8	1-7/32	10.2
	10SC70-13	7	13SCH-13SCHS	7.500	1-15/32	6-1/8	3-3/8	1-7/32	14.5
	10SC78-13	7-3/4	13SCH-13SCHS	7.500	1-27/32	6-1/8	3-3/4	1-7/32	16.5
	10SC100-13	10	13SCH-13SCHS	7.500	2-3 1/32	6-1/8	4-7/8	1-7/32	22.5
11SC	11SC48	4-3/4	11SCH-11SCHS	8.625	1/32	5-1/4	1-1/2	1-1/2	12.5
	11SC50	5	11SCH-11SCHS	8.625	1/16	5-1/4	1-9/16	1-1/2	12.6
	11SC70-14	7	14SCH	8.625	1-1/16	6-1/2	2-9/16	1-1/2	16.3
	11SC78-14	7-3/4	14SCH	8.625	1/16	6-1/2	2-15/16	1-1/2	18.4
	11SC100-14	10	14SCH	8.625	2/16	6-1/2	4-1/16	1-1/2	24.6
12SC	12SC70	7	12SCH-12SCHS	10.000	21/32	5-3/4	2-15/32	1-1 1/16	23.4
	12SC70-14	7	14SCH	10.000	21/32	6-1/2	2-15/32	1-1 1/16	21.3
	12SC78	7-3/4	12SCH-12SCHS	10.000	1-1/32	5-3/4	2-27/32	1-1 1/16	25.3
	12SC78-14	7-3/4	14SCH	10.000	1-1/32	6-1/2	2-27/32	1-1 1/16	23.4
	12SC100-14	10	14SCH	10.000	2-5/32	6-1/2	3-3 1/32	1-1 1/16	29.6
13SC	13SC78	7-3/4	13SCH-13SCHS	11.750	9/16	6-1/8	3-1/4	1-3 1/32	38.4
14SC	14SC78	7-3/4	14SCH	13.875	1/32	6-1/2	2-23/32	2-1/4	55.2

* Flanges can be mixed to form different Between-Shaft Dimensions. ■ Approximate weight for each flange. ▲ If using 10HS hub, 7/16-14NC x 2-1/4 long capscrew needed (not furnished).

Coupling Size	Hub No.	Max. Bore	STOCK BORES*		Dimensions			Wt. (lbs.) ■
			Plain Bore	Bore with Standard Keyway & Set Screw	C	H	Cap Screws Furnished	
4JSC	†	1-1/8		5/8 - 7/8 - 1 -1-1/8*	1-1/16	2		
5SC	SSCH	1-1/8	1/3	5/8 - 3/4 - 7/8 - 1 - 1-1/8	1-3/32	2	4-10 x 1-1/3	0.8
6SC	6SCH	1-3/8	5/8	3/4 - 7/8 - 1 - 1-1/8 - 1-1/4 - 1-3/8	1-7/32	2-1/3	4-1/4 x 1-3/4	1.4
	6SCHS	7/8		7/8	31/32	2-1/3	4-1/4 x 1-1/3	1.1
7SC	7SCH	1-5/8	5/8	7/8 - 1 - 1-1/8 - 1-3/8 - 1-1/3 - 1-5/8	1-15/32	2-13/16	4-1/4 x 1-7/8	2.0
	7SCHS	7/8		7/8	1-3/32	2-13/16	4-1/4 x 1-1/3	1.5
8SC	8SCH	1-7/8	3/4	7/8 - 1 - 1-1/8 - 1-3/8 - 1-1/3 - 1-5/8 - 1-3/4 - 1-7/8	1-23/32	3-1/4	4-5/16 x 2-1/4	3.2
	8SCHS	7/8		7/8	1-7/32	3-1/4	4-5/16 x 1-3/4	2.0
9SC	9SCH	2-1/8	7/8	1 - 1-1/8 - 1-3/8 - 1-1/3 - 1-5/8 - 1-3/4 - 1-7/8 - 2-1/8	1-31/32	3-5/8	4-3/8 x 2-3/4	4.2
	9SCHS	1-1/3		1-1/8	1-17/32	3-5/8	4-3/8 x 2-1/4	3.7
10SC	10SCH	2-3/8	1-1/8	1-5/8 - 1-7/8 - 2-1/8 - 2-3/8	2-11/32	4-3/8	4-7/16 x 3-1/4	7.4
	10SCHS	1-5/8		1-1/8	1-21/32	4-3/8	4-7/16 x 2-1/3	5.5
11SC	11SCH	2-7/8	1-1/8	1-7/8 - 2-1/8 - 2-3/8 - 2-7/8	2-23/32	5-1/4	4-1/3 x 3-1/3	12.2
	11SCHS	1-7/8		1-1/8 - 1-5/8	1-29/32	5-1/4	4-1/3 x 2-3/4	9.3
12SC	12SCH	2-7/8	1-3/8	2-1/8 - 2-3/8 - 2-7/8	2-31/32	5-3/4	4-5/8 x 4	16.6
	12SCHS	2-1/3		2-3/8	2-17/32	5-3/4	4-5/8 x 3-1/3	14.1
13SC	13SCH	3-3/8	1-3/8	2-3/8 - 2-7/8 - 3-3/8	3-11/32	6-1/8	4-5/8 x 4-1/3	19.9
	13SCHS	2-1/3		2-1/8 - 2-3/8	2-15/32	6-1/8	4-5/8 x 3-1/3	16.0
14SC	14SCH	3-7/8	1-5/8	2-3/8 - 2-7/8 - 3-3/8 - 3-7/8	3-2 7/32	6-1/3	4-5/8 x 5	24.2

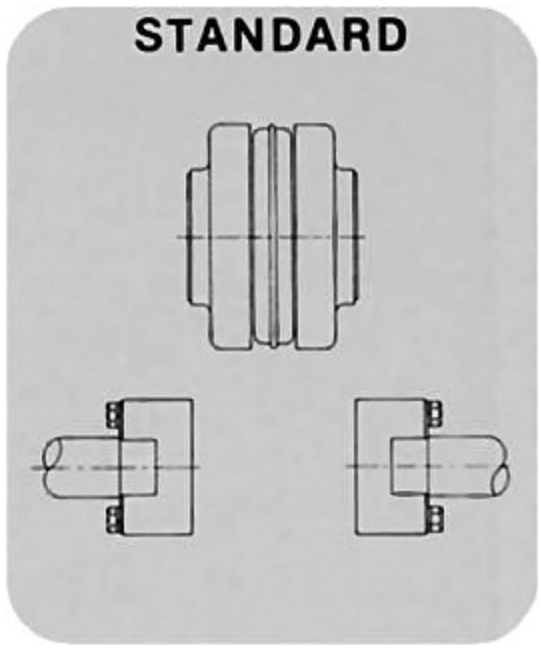
† FOR 4JSC the hub is an integral part of the flange. 4JSC x 1-1/8 has 1/4 x 1/16 shallow keyseat. ■ Approximate weight for each hub.

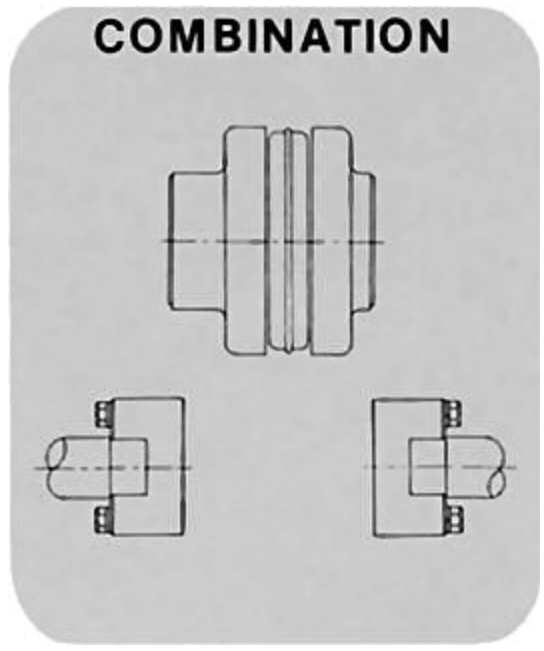
ABSSAC
PRECISION MOTION SINCE 1982

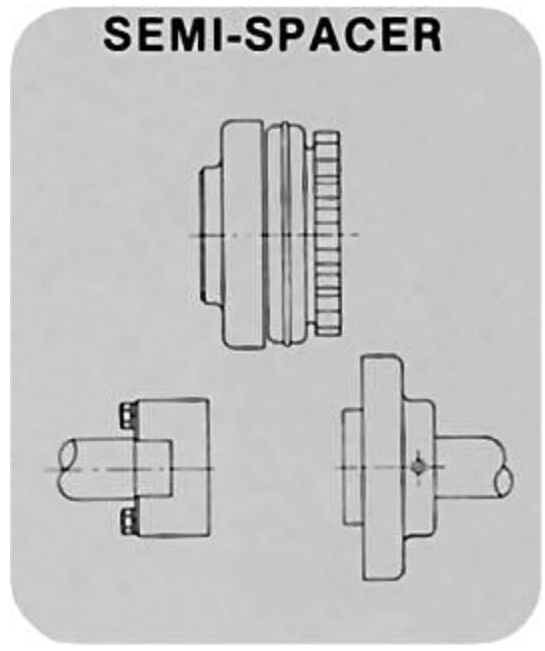
BETWEEN SHAFT SPACINGS AVAILABLE

Spacer couplings are available having the most popular between shaft dimensions. Other spacings can be achieved by mixing flanges.

The "Standard" column provides spacings using identical flanges; the "Combination" column mixes flanges; the column headed "Semi-Spacer" uses one flange that is not made for spacer coupling applications and thus does not have a detachable hub.







STANDARD	
Spacing	**Use Flanges***
3-1/2	2-( ) SC35
4-3/8	2-( ) SC44
5	2-( ) SC50
7	2-( ) SC70
7-3/4	2-( ) SC78
10	2-( ) SC100

COMBINATION	
Spacing	**Use Flanges***
3-15/16	SC35 & SC44
4-1/4	SC35 & SC50
4-11/16	SC44 & SC50
5-1/4	SC35 & SC70
5-5/8	SC35 & SC78
5-11/16	SC44 & SC70
6	SC50 & SC70
6-1/16	SC44 & SC78
6-3/8	SC50 & SC78
6-3/4	SC35 & SC100**
7-3/16	SC44 & SC100**
7-3/8	SC70 & SC78
7-1/2	SC50 & SC100
8-1/2	SC70 & SC100
8-7/8	SC78 & SC100

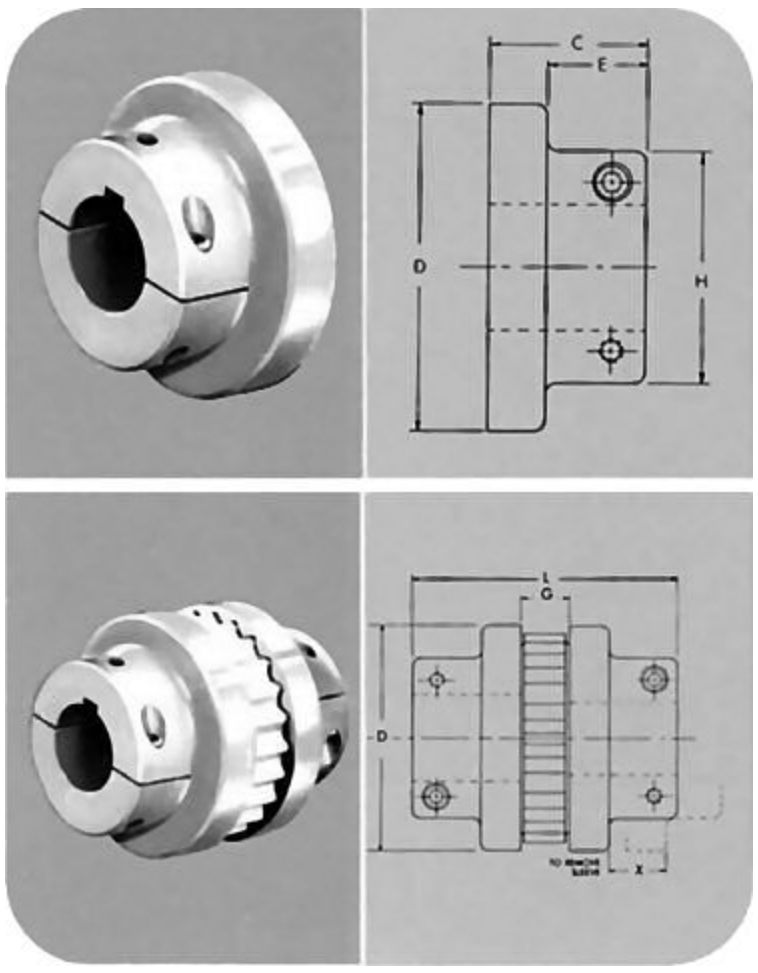
SEMI-SPACER	
Spacing	**Use Flanges***
1-7/8	S & SC35
2-5/16	S & SC44
2-5/8	S & SC50
3-5/8	S & SC70
4	S & SC78
5-1/8	S & SC100

* Check individual coupling size for flange availability.
** Non-Stock
Note: Other combinations available - consult factory.

ABSSAC
PRECISION MOTION SINCE 1982

TYPE C SURE-FLEX

CLAMPHUB - SPACER DESIGN



FLANGES

Sure-Flex. Type C Clamp Hub flanges employ integral locking collars and screws to assure a clamp fit on the shaft. One setscrew is furnished over the key. They are designed primarily for applications where flanges must be removed from one or both shafts without moving either the driver or doven units. A typical application is a screw compressor which uses a replaceable face seal around the input shaft.

COUPLINGS

Type C Clamp Hub Couplings normally use Hytrel sleeves. However, any of the sleeves shown can be used. Type C couplings may often be used where spacer couplings are required.

Spacing between internal flange hubs equals G.

DIMENSIONS (in.)

Flange Size	S k Bores	Min. Bore	Maximum Bore		Distance Between Shafts		Dimensions							Approx Wt. (lbs.)* ■
			Standard Keyseat	Shallow Keyseat	Min.	Max.	C	D	E	G	H	L	X	
6C	1-1/8, 1-7/8, 40mm	7/8	1-5/8	1-7/8	2	2-3/4	1-15/16	4.000	1.16	7/8	3	4-3/4	1	2.6
7C	1-3/8, 1-7/8, 35mm, 40mm	1-1/8	1-7/8	-	2-5/16	3-7/16	2-3/16	4.625	1.41	1-1/16	3-1/4	5-7/16	1-3/16	3.6
8C	1-3/8, 1-5/8, 1-3/4, 1-7/8, 2-1/8, 2-1/4, 2-3/8, 40mm	1-3/8	2-1/4	2-3/8	2-9/16	4	2-1/2	5.450	1.59	1-1/8	3-7/8	6-1/8	1-3/8	6.5
9C	1-5/8, 1-3/4, 1-7/8, 2, 2-1/8, 2-1/4, 2-3/8, 2-1/2	1-5/8	2-1/2	2-11/16	3-1/16	4-5/8	3	6.350	1.97	1-7/16	4-1/4	7-7/16	1-9/16	9.8
10C	1-5/8, 1-7/8, 2-1/4, 2-3/8, 2-1/2	1-5/8	2-7/8	-	3-9/16	5-1/4	3-1/2	7.500	2.28	1-11/16	5	8-11/16	1-13/16	16.6
11C	2-1/8, 2-3/8, 2-1/2	1-7/8	3-3/8	-	4-1/8	5-7/8	4	8.625	2.5	1-7/8	5-3/8	9-7/8	2-1/8	26.0
12C	2-1/8	1-7/8	3-3/8	-	4-7/8	6-1/2	4-3/8	10.000	2.69	2-3/8	6	11-1/8	2-3/8	38.3

* Weight of one flange.

Bore Tolerances for Type C Flanges

These bores provide a slip fit.

Bore (in.)	Tolerance (in.)
Up to and including 2"	+.0005 to +.0015
Over 2"	+.0005 to +.0020

Shallow Keyseat Dimensions

Some large bore Type C flanges are supplied with shallow keyseats. In these cases, a rectangular key is furnished. The flanges and bores involved are as follows:

Size	Bore Range	KS	Key Furnished
6C	1-11/16 to 1-7/8	1/2 x 1/16	1/2 x 5/16 x 1-7/8
8C	2-5/16 to 2-3/8	5/8 x 1/16	5/8 x 3/8 x 2-1/2
9C	2-7/16 to 2-11/16	5/8 x 3/16	5/8 x 1/2 x 3

T: +44 (0)1386 421005 ***F:*** +44 (0)1386 422441 ***E:*** sales@abssac.co.uk ***W:*** www.abssac.co.uk

ABSSAC
PRECISION MOTION SINCE 1982

SURE-FLEX COUPLINGS

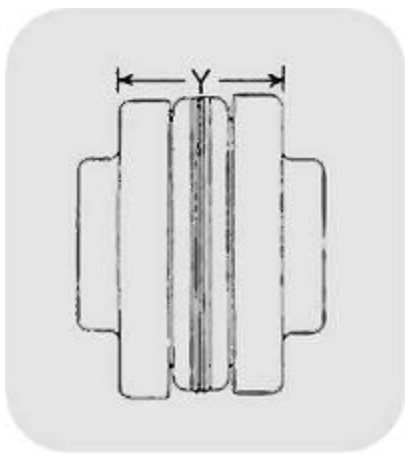
Installation Instructions

Sure-Flex flanges (outer metallic parts) and sleeves (inner elastomeric members) come in many sizes and types. First, determine the size and type of components being used. Remove all components from their boxes, and loosely assemble the coupling on any convenient surface. (Do not attempt to install the wire ring on the two-piece E or N sleeve at this time.) Also check maximum RPM values in the table against operating speed. All rubber sleeves (EPDM and Neoprene) have the same ratings for a given size and may be used interchangeably. However, because rubber and Hytrel sleeves have completely different ratings, they never should be used interchangeably.

1 Inspect all coupling components and remove any protective coatings or lubricants from bores, mating surfaces and fasteners. Remove any existing burrs, etc. from the shafts.

2 Slide one coupling flange onto each shaft, using snug-fitting keys where required. When using Type B flanges, follow the instructions furnished with the Sure-Grip bushing.

3 Position the flanges on the shafts to approximately achieve the Y dimension shown In the table. It is usually best to have an equal length of shaft extending into each flange. Move one flange to its final position. Torque fasteners to proper values. Slide the other flange far enough away to install the sleeve. With a two-piece sleeve, do not move the wire ring to its final position; allow it to hang loosely in the groove adjacent to the teeth.



4 Slide the loose flange on the shaft until the sleeve is completely seated in the teeth of each flange. (The "Y" dimension is for reference and not critical.) Secure the flange to the shaft. Different coupling sleeves require different degrees of alignment precision. Locate the alignment values for your sleeve size and type in the table.

5 Check parallel alignment by placing a straight-edge across the two coupling flanges and measuring the maximum offset at various points around the periphery of the coupling without rotating the coupling. If the maximum offset exceeds the figure shown under "Parallel" in the table, realign the shafts.

6 Check angular alignment with a micrometer or caliper. Measure from the outside of one flange to the outside of the other at intervals around the periphery of the coupling. Determine the maximum and minimum dimensions without rotating the coupling. The difference between the maximum and minimum must not exceed the figure given under "Angular" in the table. If a correction is necessary, be sure to recheck the parallel alignment.

Parallel

Angular

MAXIMUM RPM AND ALLOWABLE MISALIGNMENT

(Dimensions in inches)

Sleeve Size	Maximum RPM	Types JE, IN, JES, JNS, E & N			*Type H & HS		
		Parallel	Angular	Y	Parallel	Angular	Y
3	9200	.010	.035	1.188			
4	7600	.010	.043	1.500			
5	7600	.015	.056	1.938			
6	6000	.015	.070	2.375	.010	.016	2.375
7	5250	.020	.081	2.563	.012	.020	2.563
8	4500	.020	.094	2.938	.015	.025	2.938
9	3750	.025	.109	3.500	.017	.028	3.500
10	3600	.025	.128	4.063	.020	.032	4.063
11	3600	.032	.151	4.875	.022	.037	4.875
12	2800	.032	.175	4.688	.025	.042	5.688
13	2400	.040	.195	6.688	.030	.050	6.625
14	2200	.045	.242	7.750	.035	.060	7.750
16	1500	.062	.330	10.250			

Note: Values shown above apply if the actual torque transmitted is more than ¼ the coupling rating. For lesser torque, reduce the above values by ½.

*Type H and HS sleeves **should not** be used as direct replacements for EPDM or Neoprene sleeves.

7 If the coupling employs the two-piece sleeve with the wire ring, force the ring into its groove in the center of the sleeve. It may be necessary to pry the ring into position with a blunt screwdriver.

8 Install coupling guards per OSHA requirements. **CAUTION: Coupling sleeves may be thrown from the coupling assembly with substantial force when the coupling is subjected to a severe shock load or abuse.**

T: +44 (0)1386 421005 ***F:*** +44 (0)1386 422441 ***E:*** sales@abssac.co.uk ***W:*** www.abssac.co.uk

COPYRIGHT

"ABSSAC" is a registered trade mark 2375859

All rights are reserved.

The use of this catalogue is made available to you by Abssac Limited. The exclusive right to control the use of the copyright and trademarks on this site is controlled by Abssac Limited. These may not be copied, reproduced, published, distributed, modified or otherwise used in any form including electronic copying without the express permission of Abssac Limited. Abssac Limited has made all reasonable endeavor to ensure that the material on this site is accurate. You agree that Abssac Limited, nor any other person involved in creating or providing this catalogue shall be liable for any indirect or consequential damage arising from the use of any information contained in this catalogue.

The information contained in this catalogue is provided 'as is' without warranty of any kind, either expressed or implied. Abssac Limited assumes no responsibility for errors or omissions in this catalogue or other documents which are reference by or linked to this catalogue. This catalogue could include technical or other inaccuracies including typographical errors. Updates and changes are periodically added to the information herein; these changes will be incorporated in new editions of this catalogue. Abssac Limited may make improvements and/or changes in the product(s) or service(s) described in this publication at any time. You agree that the above terms represent the entire basis of the agreement between us, upon which you are permitted to enter this site and you agree that all relations between us are subject to the Law of England and Wales.

ABSSAC
PRECISION MOTION SINCE 1982

STANDARD CONDITIONS OF SALE

1. Interpretation

1.1 In these Conditions:
"Buyer" means the person who accepts a quotation of the Seller for the sale of the Goods or whose order for the Goods is accepted by the Seller
"Goods" means the goods (including any instalment of the goods or any parts for them) which the Seller is to supply in accordance with these Conditions
"Seller" means ABSSAC LIMITED a company incorporated in England and whose registered number is 1677177.
"Conditions" means the standard terms and conditions of sale set out in this document and (unless the context otherwise requires) includes any special terms and conditions agreed in writing between the Buyer and the Seller
"Contract" means the Contract for the purchase and sale of the Goods
"Writing" includes telex, cable, facsimile transmission, E-Mail and comparable means of communication

1.2 Any reference in these Conditions to any provision of a statute shall be construed as a reference to that provision as amended, re-enacted or extended at the relevant time

1.3 The headings in these Conditions are for convenience only and shall not affect their interpretation

2. Basis of the sale

2.1 Subject to Condition 3 below, the Seller shall sell and the Buyer shall purchase the Goods in accordance with any oral or written order of the Buyer which is accepted by the Seller, or any written quotation of the Seller which is accepted by the Buyer, subject to these Conditions which shall govern the Contract to the exclusion of any other terms and conditions subject to which any such quotation is accepted or purported to be accepted, or any such order is made or purported to be made, by the Buyer

2.2 No variation, addition or waiver of any of these Conditions shall be effective unless it is in Writing and signed by a duly authorised representative of both the Seller and the Buyer

2.3 The Seller's employees or agents are not authorised to make any representations concerning the Goods unless confirmed by the Seller in Writing. In entering into the Contract the Buyer acknowledges that it does not rely on any such representations which are not so confirmed

2.4 Samples supplied and advice or recommendations as to storage, application or use of the Goods given by the Seller or its employees or agents to the Buyer or its employees or agents are for guidance only and any such matter which is not confirmed in Writing by the Seller is followed or acted upon entirely at the Buyer's own risk and accordingly the Seller shall not be liable for any such advice or recommendation which is not so confirmed then the Buyer should depend on their accuracy only after obtaining specific written confirmation to that effect from the Seller

2.5 Any typographical, clerical or other error or omission in any sales literature, quotation, price list, acceptance of offer, invoice or other document or information issued by the Seller shall be subject to correction without any liability on the part of the Seller

3. Quotations and acceptance of orders

3.1 Quotations issued by the Seller are invitations to order Goods from the Seller. No Contract will exist until the Seller has accepted the Buyer's order in accordance with condition 3.3.

3.2 Subject to condition 3.1 the price in the quotation should be valid for a period of 30 days from the date of the quotation unless otherwise advised by the Seller in Writing

3.3 The Seller shall not be bound by any order submitted by the Buyer unless and until confirmed by the Seller in Writing

3.4 Scheduled call off purchase orders made by the Buyer with the Seller are for twelve month periods only, or until 19th December ofthat year, depending which comes first unless otherwise agreed in Writing by the Seller

3.5 The Buyer is committed to purchasing any remaining amount of products on his purchase order if the Buyer decides to cancel the order mid schedule unless otherwise agreed in Writing by the Seller

3.6 No order which has been accepted by the Seller may be cancelled by the Buyer except with the agreement in Writing of the Seller on the terms that the Buyer shall indemnify the Seller in full against all loss (including loss of profit), costs (including the costs of all labour and materials used), damages, charges and expenses incurred by the Seller as a result of cancellation.

3.7 Compliance with United States Export Regulations
It is Abssac's policy to request, if applicable, the end use and end user details in all sales and repairs of USA origin products and in all transfers of technical data or software to ensure compliance with applicable u.s. export control laws and regulations. Because the products you are purchasing may be used outside of the United States, we will need confirmation of the following from the (buyer). It is on the onus of the buyer to ensure that Abssac is informed of the following information.

1.1 (Buyer) will not export or re-export any USA origin products, technology or software to Cuba, Iran, Iraq, Libya, North Korea, Sudan, or Syria, unless otherwise authorized by the United States Govern ment.

2.1 (Buyer) will not sell, transfer, export or re-export any USA origin products for use in activities which involve the development, production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor use USA origin products in any facilities which are engaged in activities relating to such weapons.

3.1 (Buyer) acknowledge that u.s. law prohibits the sale, transfer, export or re-export or other participation in any export transaction involving USA origin products with individuals or companies listed in the u.s. Commerce Department's Table of Denial Orders, the u.s. Treasury Department's list of Specially Designated Nationals or the u.s. Department of State's list of individuals debarred from receiving Munitions List items.

4.1 (Buyer) will abide by all applicable u.s. export control laws and regulations for any products purchased from USA origin products, software or technology.

5.1 (Buyer) agree that the export control requirements in No. 1-4 above shall survive the completion, early termination, cancellation or expiration of the applicable purchase order, agreement or contract.

4. Specifications

4.1 The Buyer shall be responsible to the Seller for ensuring the accuracy of the terms of any order (including any applicable specification) submitted by the Buyer, and for giving the Seller any necessary information relating to the Goods within a sufficient time to enable the Seller to perform the Contract in accordance with its terms

4.2 The quantity, quality and description of any specification for the Goods shall be those set out in the Seller's quotation (if accepted by the Buyer) or the Buyer's order (if accepted by the Seller)

4.3 If Goods are supplied in accordance with the Buyer's specifications the Buyer shall be solely responsible for the specifications and ensuring that they are accurate

4.4 If any technical calculations are made by the Seller using information supplied by the Buyer the Buyer accepts that they are responsible for supplying accurate technical information and accordingly the Seller is not liable in respect of calculations based on incorrect information given

4.5 If Goods are to be manufactured or any process is to be applied to the Goods by the Seller in accordance with a specification or request submitted by the Buyer or should any change be made to the Goods at the request of the Buyer the Buyer shall indemnify the Seller against all loss damages costs and expenses awarded against or incurred by the Seller in connection with or paid or agreed to be paid by the Seller in settlement of any claims for infringement of any patent, copy right, design, trade mark or other industrial or intellectual property rights of any person which results from the Seller's use of the Buyers specification

4.6 The Seller reserves the rights to make any changes in the specification of the Goods which are required to conform with any applicable statutory or EC requirements or, where the Goods are to be supplied to the Seller's specification, which do not materially affect their quality or performance

4.7 At all times the buyer has the responsibility to adequately guard and maintain the product supplied in accordance with relevant operation manuals, service factors and health and safety legislation applicable for any product supplied by ABSSAC Limited.

4.8 The seller (Abssac Limited) shall not in any event be liable for any consequential damages, secondary charges, expenses for installing or disconnecting, or losses or injuries to persons or property resulting from any alleged defect in the product or any use of the product, and lor in manner that exceeds its design, duty cycle and or ability.

4.9 It remains the responsibility of the buyer to test any samples or other products that the seller will provide for fatigue, stress and general ability in the application. All products that the seller provides and are used in both real and test situations are considered by Abssac Ltd to have been thoroughly tested to meet and exceed the anticipated life and duty requirement of the product in its application by the buyer. It remains the responsibility of the buyerto give all technical information to the seller and all buyers are responsible for meeting health and safety measures and adequately guarding users and all associated parties against all and any possible failures in line with the health and safety requirements.

Other Where recommended guidelines of serviceable or replaceable parts and maintenance/inspection requirements are exceeded or ignored by the user and/or buyer, no warranty or other claim can or will exist. Where minimum or maximum values/sizes/limits/dimensions/fitting instructions and technical data of parts are ignored/abused/extended/not applied/not actioned or used in excess ofthe design or standard parameters ofthe product by the user and/or buyer then no warranty claim or other claim can exist.

No warranty or other claim can exist or be made by the user or buyer or other to the seller or its agent or other for any part used in motor sport, military or aviation. No warranty is given to this type of application.

All or any secondary or further processes/disassembly/machining/ heating/drying/coating or any other additional process the originally supplied product or associated part/product after dispatch from the seller or its agent voids any warranty claim or other claim.

It remains the responsibility of the buyer or user to advise us the seller of any and all certification/test/traceable certification requirement.

Conversations may be recorded as part of our ongoing customer service program.

5. Packaging

5.1 Packaging for the Goods shall be at the discretion of the Seller which has the right to pack the Goods in such a manner and with such materials and in such quantities as in his absolute discretion thinks fit unless detailed packaging instructions are received from the Buyer prior to agreeing a price for the Goods which the Seller agrees to in Writing

6. Price of the Goods

6.1 Price of the Goods shall be the Seller's quoted price or, where no price has been quoted (or a quoted price is no longer valid) the price listed in the Seller's published price list current at the date of acceptance of this order. Where the Goods are supplied for export from the United Kingdom, the Seller's published export price list shall apply. All prices quoted are valid for 30 days only or until earlier acceptance by the Buyer, after which time they may be altered by the Seller without given giving written notice to the Buyer

6.2 The price is exclusive of any applicable value added tax, which the Buyer shall be additionally liable to pay to the Seller

6.3 All prices stated shall be subject to variation at the sole discretion of the Seller at any time without prior notice and the Seller shall notify the Buyer of any variation before delivery of the Goods

7. Payment

7.1 Liability for payment for the Goods supplied to customers who have a trading account with the Seller shall arise on delivery and payment in cash is due 30 days from the date of the invoice or as otherwise specifically agreed in Writing by the Seller. Payment shall be due and the company shall be entitled to sue for the price whether or not property in the Goods has passed by virtue of condition 10 and not withstanding the delivery may not have taken place as a result of the Buyer's wrongful or refusal to accept delivery. The time of payment of the price shall be of the essence of the Contract

7.2 Liability for payment forthe Goods supplied on a proforma invoice basis for customers who do not have a trading account with the Seller shall be prior to delivery of the Goods. The ti me of payment of the price shall be of the essence of the Contract. It is the Buyer's responsibility to give written notice to the Seller of any payment under proforma invoice arrangements

7.3 Sums paid after the due date shall pay interest until the day payment is received at the rate of 5% per annum above the base rate from time to time of National Westminster Bank Pic occurring from day to day from the date of delivery until the date of payment in full

7.4 If the recovery of sums outstanding from the Buyer is passed to a debt collection agency the Buyer shall pay the Seller's costs in instructing the said debt collection agency and all ancillary legal costs

7.5 Without prejudice to any other rights or remedies ofthe Seller any in default of the Buyer in making payment on the due date shall entitle the Seller to suspend deliveries under the Contract or any other Contract so long as the default continues and break the Contract as repudiated by the Buyer and determined if the Buyer has not within 14 days of receiving written notice from the Seller paid all sums due to the Seller.

8. Delivery

8.1 Delivery shall take place when the Goods are unloaded at or delivered to the Buyer's premises or other delivery location agreed between the Seller and the Buyer exceptthat if the Buyer collects or arranges collection of the Goods from the Seller's premises, or nominates a carrier for the Goods delivery shall take place when the Goods are loaded on the collection or carriers vehicle

8.2 Any dates quoted for delivery of the Goods are approximate only and the Seller will not be liable for any delay in delivery of the Goods however so caused. Time for delivery shall not be of the essence of the Contract unless previously agreed by the Seller in Writing. The Goods may be delivered by the Seller in advance of the quoted delivery date upon giving responsible notice to the Buyer

8.3 The Buyer shall accept immediate delivery or arrange to collect the Goods or arrange suitable storage, failing which the company may either:

8.3.1 effect delivery by whatever means they think most appropriate; or

8.3.2 arrange storage atthe Buyer's risk and expense pending delivery; or

8.3.3 re-sell or otherwise dispose ofthe Goods without prejudice to any other rights the Seller may have against the Buyer for breach of Contract or otherwise

8.4 Where the agreement provides for delivery by instalments each delivery shall constitute a separate Contract and failure by the Seller to deliver any one or more of the instalments in accordance with these Conditions or any claim by the Buyer in respect of any one or more instalments shall not entitle the Buyer to treat the Contract as a whole as repudiated

8.5 The Buyershall not be entitled to reject the Goods by reason only of short delivery

8.6 The quantity of the Goods delivered under the Contract shall be recorded by the Seller upon dispatch from the Seller's factory or warehouse and the Seller's records shall be accepted by the Buyer as conclusive evidence of the quantity delivered.

8.7 It is the Buyer's responsibilityto notify the seller if Goods have not been received by the Buyer within seven days of the date of receipt of the Seller's invoice, therefore, if no notification is made the Buyer shall be deemed to have received the Goods.

8.8 If the Seller fails to deliver the Goods (or any instalment) for any reason other then any cause beyond the Seller's reasonable control or the Buyer's fault, and the Seller is accordingly liable to the Buyer, the Seller's liability shall be limited to the excess (if any) of the cost to the Buyer (in the cheapest available market) of similar Goods to replace those not delivered over the price of the Goods. The seller is under no obligation or liability in respect of failure to complete or delay or failure to deliver the goods comprised in any order or contract caused directly or indirectly by act of war or terrorism, strikes, lockouts, labour troubles, breakdowns, delays in transport, accidents, delay in obtaining material, fire, government prohibition, delivery of necessary fuel requirements, any and all problems or other restrictions relating to design or other manufacturing difficulties that arise during an order.

8.9 If the Buyer fails to take delivery of the Goods or fails to give the Seller adequate delivery instructions at the time stated for delivery (otherwise than by reason of any cause beyond the Buyer's reasonable control or by reason of the Seller's fault) then, with out prejudice to any other right or remedy available to the Seller, the Seller may:

8.9.1 store the Goods until actual delivery and charge the Buyer for the reasonable costs (including insurance) of storage;
or

8.9.2 sell the Goods at the best price readily obtainable and (after deducting all reasonable storage and selling expenses) account to the Buyer for the excess over the price under the Contract or charge the Buyer for any shortfall below the price under the Contract

9. Examinations and claims

9.1 The Buyer shall upon delivery examine the Goods and shall promptly (but in any event within seven working days of delivery) notify in Writing the Seller and the carrier, where relevant, of any apparent damage defect or shortage.

9.2 The Buyer shall comply with the carriers rules, regulations and requirements so as, when appropriate, to the Seller to make a claim against the carrier in respect of any damage or loss in transit.

9.3 Claims in respect of damage defects or shortage not apparent on examination and under clause 9.1 must be notified in Writing to the Seller within 7 days of the date of delivery

9.4 Notification under clauses 9.1 to 9.3 above shall be first made by telephone then by notice in Writing delivered by facsimile transmission or by first class recorded delivery mail and addressed to Abssac Limited Units 19/20 Bond Industrial Estate Wickhamford Evesham Worcs WRll 7RH.

9.5 In default of such notification the seller shall be deemed conclusively to have properly preformed its obligations under the Contract.

10. Property and risk

10.1 All risk including that of dam age to or loss of the Goods shall pass to the Buyer:

10.1.1 at the time when the Seller notifies the Buyer that the Goods are available for collection the case of Goods to be supplied at the Seller's premises
or

10.1.2 at the time of delivery but prior to unloading or if the Buyer wrongfully fails to take delivery of the Goods at the time when the Seller has tendered to delivery of the Goods in the case of Goods to be supplied otherwise than at the Seller's premises
or;

10.1.3 at the time of delivery of the Goods to a carrier for delivery to the Buyer in the case of Goods to be supplied in a manner otherwise than as set out in Conditions 10.1.1 or 10.1.2 above

10.2 The Buyer shall fully insure the Goods against all risks from the times stipulated forthe passing of risk in condition 10.1 above up to the time when the proprietary rights in such Goods pass to the Buyer

10.3 Property (both legal and beneficial) in the Goods shall remain in the company until all sums owing to the Seller whether under the Contract or any other Contract at any time between the Seller and the Buyer made prior to the date of the Contract ("the Indebtedness) shall have been paid in full, until such time the Buyer shall hold the Goods as bailee for the Seller

10.4 The Buyer shall not be entitled to pledge or in any way charge by way of security for any indebtedness any of the Goods which remain the property of the Seller, but if the Buyer does so all moneys owing by the Buyer to the Seller shall (without prejudice to any other right or remedy of the Seller) forthwith become due and payable

10.5 The Buyer until otherwise notified by the Seller or on the happening of any of the event specified in Condition 10.7 ("the Events") may in the ordinary course of business sell the Goods and pass property in them ("the Re-Sale") subject to the stipulations ("the Stipulations") imposed in Condition 1 0.5

10.6 The Stipulations are that until the Indebtedness has been fully discharged;

10.6.1 the Goods shall not be converted into any other product or mixed with any other Goods to make another product ("the New Product") nor will the Buyer sell the New Product and property in it ("the Sale") but if the Buyer in breach of the above provision does convert or mix the Goods property in the New Product shall atthe earliest moment that such vesting is possible, vest and remain in the Seller whether or not property in the Goods is at the moment extinguished

10.6.2 the Re-Sale shall be for the account of the Seller and, unless the Seller by written notice requires the paymentto it of the proceeds ofthe Re-Sale ("the Proceeds") to the extent of the Indebtedness, in which case the Buyer shall forthwith on receipt of such notice or as soon as thereafter as it shall receive the Proceeds makes its payment, the Buyer shall retain the Proceeds in a separate bank accountto the order of the Seller and not mix them with any other monies

10.6.3 in the event of a breach by the Buyer of its obligations under additions 10.6.1 the Seller shall have the right to trace the Proceeds in to any other moneys which may have been mixed and the Buyer shall indemnify the Seller on a full indemnity basis against loss, damage, costs or expenses incurred in such tracing

10.6.4 until the Re-Sale the Seller has have the right to repossess the Goods or take possession of the New Product at any time and for this purpose shall have the right to enter on to any premises or land in the ownership or possession of the Buyer and remove the Goods and/or the New Product not withstanding that they are affixed to such premises or land and the Buyer shall indemnifythe Seller on a full indemnity basis against all loss, damage, costs or expenses so arising including loss, damage, costs or expenses in respect of third party claims. Such taking of possession re delivery shall be without prejudice in the obligation of the Buyer to purchase Goods

10.6.5 the Goods and the New Product shall until their Re-Sale or Sale be stored separately, protected and insured and identified and clearly marked as the Seller's property

10.7 The Events are;

10.7.1 The giving of any notice to the Buyer that a receiver, manager, administrative receiver, supervisor, nominee or administrator is to be or has been appointed over any of the property or assets of the Buyer or that a petition to wind up the Buyer is to be or has been presented or that an application for an administration order is to be or has been made or any notice of a resolution to wind up the Buyer (say for the purposes of bona fide reconstruction or amalgamation)

10.7.2 A decision by the Buyer that the Buyer intends to make any arrangement or composition with its creditors generally.

10.7.3 Where the Buyer pursuant to section 123 or 268 of the Insolvency Act 1986 appears to be unable to pay a debt or appears to have no reasonable prospects of being able to pay a debt

10.7.4 any distress or execution levied as threatened to be levied on any property or assets of the Buyer

10.7.5 the inability of the Buyer to pay its debts as they fall due

10.7.6 on receipt of notification from the company under Condition 10.5 or on the happening of any of the Events the Buyer shall immediately deliver the Goods and the New Product property in which the Product is reserved to or is vested in the Seller to such address as the Seller shall specify in default of which or in the alternative, the Seller shall have the right to enter on any premises or land in the ownership or possession of the Buyer in order to recover the Goods and the New Product and the Buyer shall indemnify the Seller on a full indemnity basis against all loss, damage, costs or expenses as arising including loss, damage, cost or expenses in respect of third party claims

11. Breach by or insolvency by the Buyer

11.1 if the Buyer shall not comply with any of its obligations to the Seller or upon the occurrence of any of the Events referred to in clause 10.7 the Seller shall have the right forthwith to terminate the Contract but without affecting any other claim right or remedy of the Seller against the Buyer and without any liabilityto the Buyer, and if the Goods have been delivered but not paid for the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary

12. Export Terms

12.1 In these Conditions "Incoterms" mean the international rules for the interpretation of trade terms of the International Chambers of Commerce as in force at the date when the Contract is made. Unless the Context otherwise requires, any term or expression which is defined in or given a particular meaning my the provisions Incoterms shall have the same meaning in these Conditions, but if there is any conflict between the provisions of Incoterms and these Conditions, the latter shall prevail

12.2 Where the Goods are supplied for export from the United Kingdom, the provisions of this clause 12 shall (subject to any special terms agreed in Writing between the Buyer and the Seller) apply not withstanding any other provision of these Conditions

12.3 The Buyer shall be responsible for complying with any legislation or regulations governing the importation of the Goods in to the country or destination and forthe payment of any duties on them

12.4 Unless otherwise agreed in Writing between the Buyer and the Seller, the Goods shall be delivered fob the air or sea port of shipment and the Sellers shall be under no obligation to give notice under section 32(3) of the Sale Of Goods Act 1979

12.5 The Buyer shall be responsible for arranging for testing and inspection of the Goods at the Sellers premises before shipment. The Seller shall have no liability for any claim in respect of any defect in the Goods which would be apparent on inspection and which is made after shipment, or in respect of any damage during transit

12.6 Payment of all amounts due to the Seller shall be made by irrevocable letter of credit opened by the Buyer in favour of the Seller and confirmed by a bank acceptable by the Seller, or by telegraphic transfer in to the Sellers aforementioned bank account or if the Seller agrees in Writing on or before acceptance of the Buyer order to waive this requirement, by acceptance by the Buyer and delivery to the Seller of a bill of exchange drawn on the Buyer payable 60 days after sight of the order to the Seller at such branch of National Westminster Bank in England as may be specified in the bill of exchange

12.7 Unless otherwise specifically agreed between the Seller and the Buyer all Exports sales shall be made by delivery to the Buyer's premises and the Seller's prices shall be increased to cover the Seller's costs in making such deliveries

12.8 The Buyer warrants that if an import licence or permit is required for the importation of the Goods into the county or destination then such import licence or permit has been obtained or would be obtain prior to shipment

13. Cancelation, suspension and termination

13.1 If the Buyer shall purport to cancel the whole or any part of the Contract the Seller may by notice in Writing to the Buyer elect to treat the Contract as repudiated and the Buyers shall thereupon be liable to pay the Seller by way of liquidated damages a sum equal to all the expenses incurred by the Seller in connection with the Contract including an appropriate amount in respect of administration overheads, costs and loss of profit. The Sellers reasonable estimate of the expenses incurred shall be final and binding on the parties

13.2 If for any cause whatsoever beyond its control the Seller is unable to make any delivery on the applicable delivery date or preform any of its obligations under the Contract the Seller may be notice in Writing to the Seller terminate the Contract or suspend the Contract without liability of any loss or damage thereby occurred by the Buyer

14. Intellectual property

14.1 The Buyer shall not infringe any patent, trade name, registered design, copyright industrial or other intellectual property right belonging to the Seller in relation to the Goods or any other goods or matters supplied by the Seller with or in relation to the Goods

14.2 The Buyer shall promptly reportto the Seller particulars of any use by any person of a patent, trade name, registered design, trade mark or get up of Goods which might amountto infringement of any patent, trade mark, registered design, copy right, industrial or other intellectual property right attaching to the Goods or to unfair competition on passing off

14.3 In the event that it comes to the notice of the Buyer that any person alleges that a patent, trade name, registered design, copy right, industrial or other intellectual property right is invalid or that they infringe any rights of that person or that they are open to any form of attach the Buyer shall not make any omissions but shall promptly report the matter to the Seller

14.4 The Seller shall have conduct of all proceedings relating to any patent, trade name, registered design, copy right, industrial or other intellectual property right attaching to the Goods

15. Force majeure

15.1 In so far as the performance of the Contract by the Seller may be affected by any strike, any lack of available, shipping or transport or materials, any restriction regulation or decree by any local or municipal authority or government department or by any cause beyond the Seller's reasonable control (which shall be construed without reference to the proceeding causes) the Seller may elect at its absolute discretion either;

15.1.1 to terminate the Contract or;

15.1.2 to proceed to preform or continue performance under the Contract within a reasonable time after the termination of such events of circumstance

15.2 In the event that the Seller makes an election under clause 15.1 the Buyer shall accept the Goods or such part of them as are delivered to it not withstanding any delay

16. Exclusion of Contract (rights of the third party) Act 1999

16.1 Nothing in these Conditions will confer on any third party any benefit or the right to enforce any terms of these Conditions

17. Proper law

17.1 The Contract is and shall be deemed to be made in England and shall in all respects be governed by English Law and shall be subject to the non-exclusive jurisdiction of the English Court

18. General

18.1 Any notice required or permitted to be given by either party to the other under these Conditions shall be in Writing and addressed to that other party at its registered office or principal place of business or such other address as may atthe relevanttime having been notified pursuant to this provision to the party giving the notice

18.2 No waiver by the Seller of any breach of the Contract by the Buyer shall be consider as a waiver of any subsequent breach of the same or any other provision

18.3 If any provision of these Conditions is held by any competent authority to be invalided or unenforceable in whole or in part the validity of the other provisions of these Conditions and the remainder of the provision in question shall not be affected

18.4 No liability, warranty or any other claim can or will exist for any product(s) during or as a consequence of or any consequence whatsoever resulting directly or indirectly from or in connection with any of the following regardless of any other contributory cause or event from :
Terrorism Terrorism is defined as any act or acts including and not limited to the use or threat of force/violence/harm or damage to life or property orthe threat of such harm or damage including harm or damage by nuclear and or chemical and or biological and or radiological means. Caused or occasioned by any persons or groups or so claimed in whole or in part for political religious ideological or similar purposes. Or, any action taken in controlling preventing suppressing or in anyway relating to the above.
War War or invasion, act of foreign enemy hostilities of a warlike operation or operations (whether war be declared or not) civil war rebellion revolution insurrection civil commotion assuming the proportions of or amounting to an uprising military or usurped power. Or any action taken in controlling preventing suppressing or in any way relating to any of the above.

18.5 Any dispute arising under or in connection with these Conditions or the sale ofthe Goods shall be referred to arbitration by a single arbitrator appointed by agreement or (in default) nominated on the application of either party by the president forthetime being of the Law Society.
Abssac Limited may make changes to the contents/ improvements and/or changes in the product(s) or service(s) described in this publication at any time.

August 2013.