

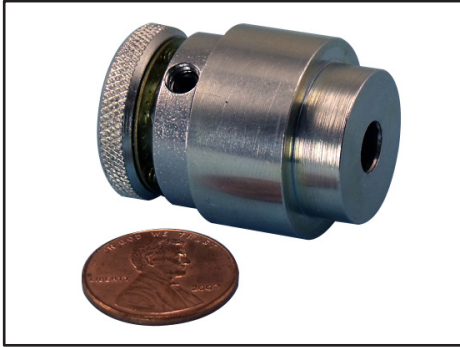
P, S, E, A, V
Series

COUPLINGS

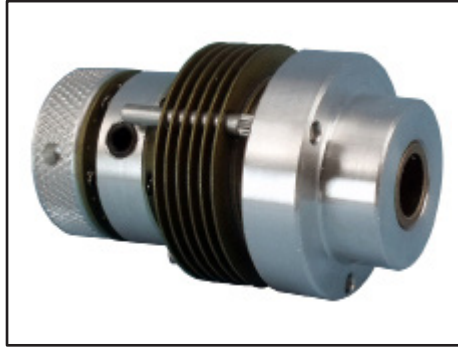
Slip Clutches

Adjustable & Fixed

P, S, E, A, V
Series



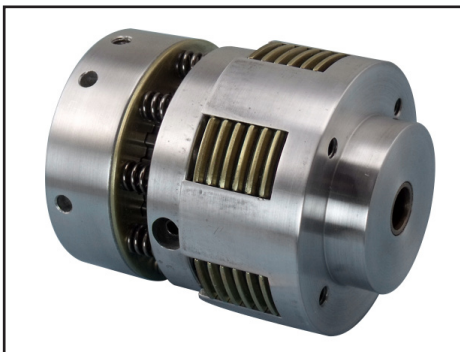
Compact - 2 to 10 in-lb



Standard - 2.5 to 100 in-lb



Low Backlash - 16 to 75 in-lb



Low Backlash, High Torque - 500 in-lb



Pneumatic - 12 to 75 in-lb



Vertical, Thrust Capable - 12 to 100 in-lb

Torques to 500 In-lb in continuous applications

**Get torques to 750 in-lb, 50% more torque in any size
in low or medium duty slip applications**

30 million slip cycle life!

Fixed torque to + 20%, tighter tolerances available

Backlash: 6° for P, S, A & V Series, 2° for E series

Temperature Range: -4° to 140° F

Maximum RPM: 1,000

Shaft to Shaft Style or Pulley/Gear/Sprocket Style

Custom clutches with non-standard bores, keyways, torques

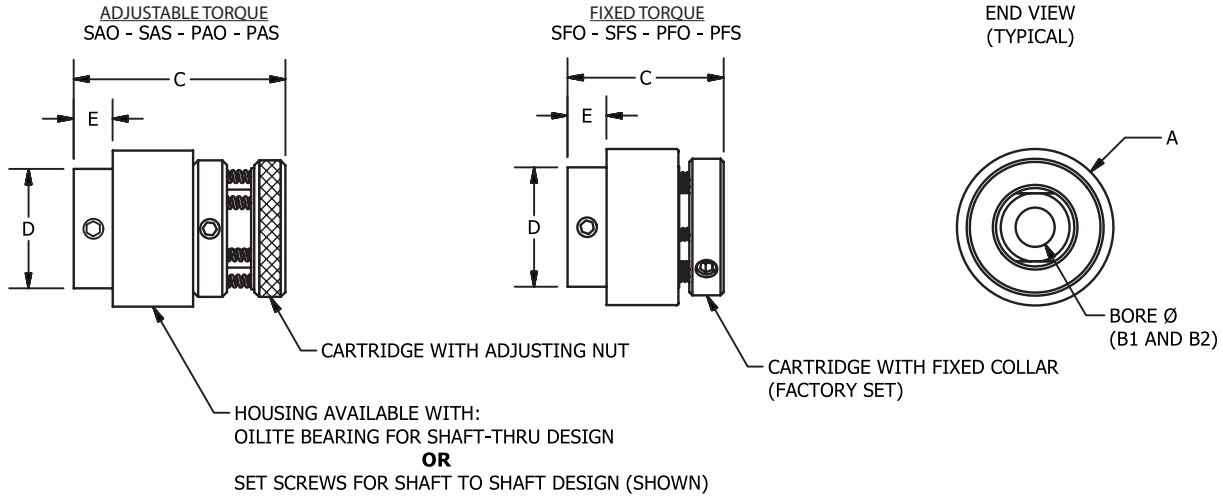
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Slip Clutches

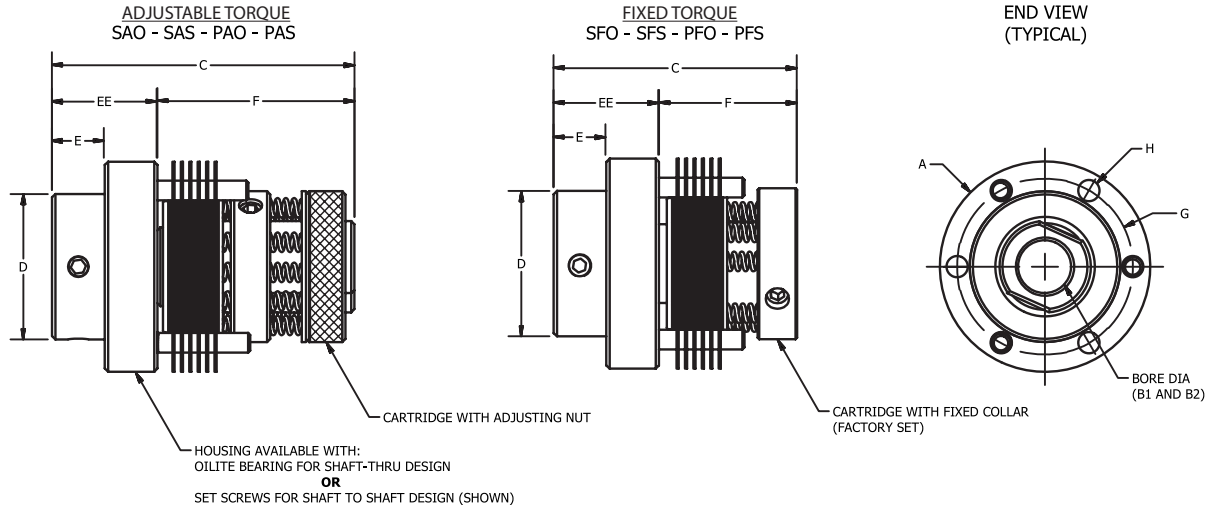
Compact: Adjustable & Fixed



Single Plate										
Part Number		Type	Torque* (in-lb)	Watts	A (in)	B1 & B2 Min Bore	B1 & B2 Max Bore	C (in)	D (in)	E (in)
Shaft-Shaft	Pulley Style									
PAS 16	PAO 16	Adjustable	2	1	1.00	0.250	10mm	1.06	0.76	0.25
PFS 16	PFO 16	Fixed	2	1	1.00	0.250	10mm	0.78	0.76	0.25

Multiplate										
Part Number		Type	Torque* (in-lb)	Watts	A (in)	B1 & B2 Min Bore	B1 & B2 Max Bore	C (in)	D (in)	E (in)
Shaft-Shaft	Pulley Style									
SAS 16	SAO 16	Adjustable	10	6	1.00	0.250	10mm	1.31	0.76	0.25
SFS 16	SFO 16	Fixed	10	6	1.00	0.250	10mm	1.00	0.76	0.25

*Torque Capacity @ 50 RPM (50% higher torque possible for lower duty cycles. Call for assistance.)



Single Plate														
Part Number		Type	Torque* (in-lb)	Watts	A (in)	B1 & B2 Min Bore	B1 & B2 Max Bore	C (in)	D (in)	E (in)	EE (in)	F (in)	G (in)	H (in)
Shaft-Shaft	Pulley Style													
PAS 20	PAO 20	Adjustable	2.5	1	1.25	0.250"	10mm	1.06	0.76	0.19	0.31	0.75	1.062	0.09
PFS 20	PFO 20	Fixed	2.5	1	1.25	0.250"	10mm	0.78	0.76	0.19	0.31	0.47	1.062	0.09
PAS 24	PAO 24	Adjustable	4	2	1.50	0.375"	13mm	1.32	1.01	0.19	0.38	0.94	1.312	0.13
PFS 24	PFO 24	Fixed	4	2	1.50	0.375"	13mm	1.07	1.01	0.19	0.38	0.69	1.312	0.13
PAS 32	PAO 32	Adjustable	8	5	2.00	12mm	16mm	1.72	1.38	0.25	0.50	1.22	1.672	0.19
PFS 32	PFO 32	Fixed	8	5	2.00	12mm	16mm	1.22	1.38	0.25	0.50	0.72	1.672	0.19
PAS 44	PAO 44	Adjustable	12	7	2.75	12mm	16mm	1.72	1.63	0.25	0.50	1.22	2.375	0.19
PFS 44	PFO 44	Fixed	12	7	2.75	12mm	16mm	1.22	1.63	0.25	0.50	0.72	2.375	0.19
PAS 48	PAO 48	Adjustable	25	9	3.00	0.625"	1.000"	2.75	1.76	0.50	1.00	1.75	2.625	0.25
PFS 48	PFO 48	Fixed	25	9	3.00	0.625"	1.000"	2.25	1.76	0.50	1.00	1.25	2.625	0.25

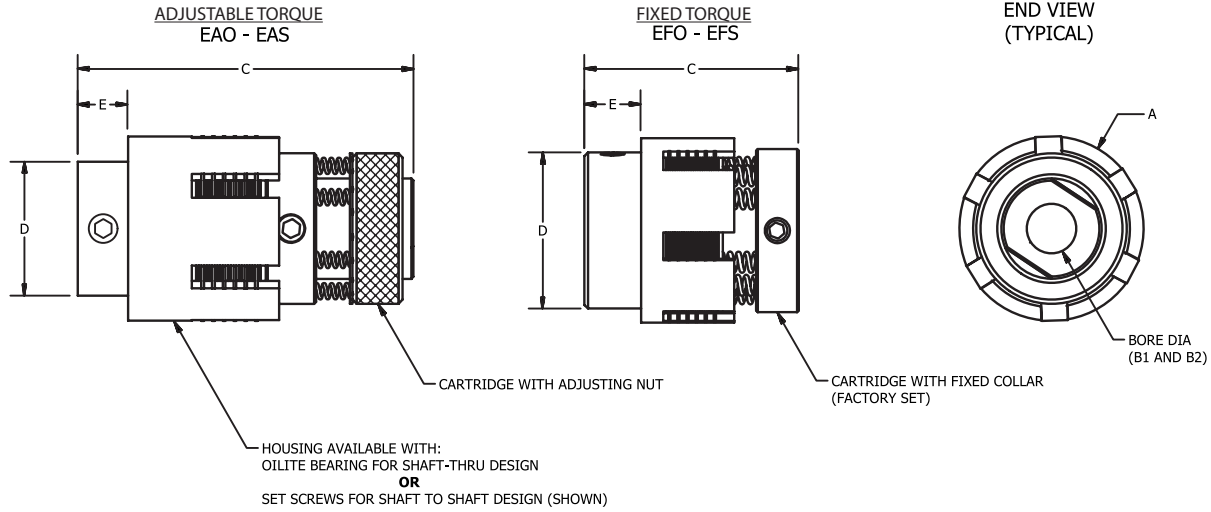
Single Plate														
Part Number		Type	Torque* (in-lb)	Watts	A (in)	B1 & B2 Min Bore	B1 & B2 Max Bore	C (in)	D (in)	E (in)	EE (in)	F (in)	G (in)	H (in)
Shaft-Shaft	Pulley Style													
SAS 20	SAO 20	Adjustable	12	6	1.25	0.250"	10mm	1.50	0.76	0.25	0.50	1.00	1.062	0.09
SFS 20	SFO 20	Fixed	12	6	1.25	0.250"	10mm	1.19	0.76	0.25	0.50	0.69	1.062	0.09
SAS 24	SAO 24	Adjustable	25	15	1.50	0.375"	13mm	2.50	1.01	0.37	0.75	1.75	1.312	0.13
SFS 24	SFO 24	Fixed	25	15	1.50	0.375"	13mm	2.00	1.01	0.37	0.75	1.21	1.312	0.13
SAS 32	SAO32	Adjustable	50	30	2.00	12mm	16mm	2.87	1.38	0.50	1.00	1.88	1.672	0.19
SFS 32	SFO 32	Fixed	50	30	2.00	12mm	16mm	2.38	1.38	0.50	1.00	1.31	1.672	0.19
SAS 44	SAO 44	Adjustable	75	43	2.75	12mm	16mm	2.87	1.63	0.50	1.00	1.88	2.375	0.19
SFS 44	SFO 44	Fixed	75	43	2.75	12mm	16mm	2.38	1.63	0.50	1.00	1.31	2.375	0.19
SAS 48	SAO 48	Adjustable	100	55	3.00	0.625"	1.000"	3.50	1.76	0.50	1.00	2.50	2.625	0.25
SFS 48	SFO 48	Fixed	100	55	3.00	0.625"	1.000"	3.00	1.76	0.50	1.00	2.00	2.625	0.25

*Torque Capacity @ 50 RPM (50% higher torque possible for lower duty cycles. Call for assistance.)

COUPLINGS

Slip Clutches

Low Backlash: Adjustable & Fixed
Same Torque Capacity in Smaller Diameter than Standard



Part Number		Type	Torque* (in-lb)	Watts	A (in)	B1 & B2 Min Bore	B1 & B2 Max Bore	C (in)	D (in)	E (in)
Shaft-Shaft	Pulley Style									
EAS 16	EAO 16	Adjustable	16	9	1.00	0.250"	10mm	1.50	0.75	0.25
EFS 16	EFO 16	Fixed	16	9	1.00	0.250"	10mm	1.19	0.75	0.25
EAS 24	EAO 24	Adjustable	25	15	1.38	0.375"	10mm	2.50	1.00	0.37
EFS 24	EFO 24	Fixed	25	15	1.38	0.375"	10mm	2.00	1.00	0.37
EAS 32	EAO 32	Adjustable	50	30	1.63	12mm	16mm	2.44	1.38	0.50
EFS 32	EFO 32	Fixed	50	30	1.63	12mm	16mm	1.87	1.38	0.50
EAS 44	EAO 44	Adjustable	75	43	2.25	12mm	16mm	2.44	1.63	0.50
EFS 44	EFO 44	Fixed	75	43	2.25	12mm	16mm	1.87	1.63	0.50
EAS 52	EAO 52	Adjustable	500	85	3.25	0.750"	32mm	4.00	2.00	0.50

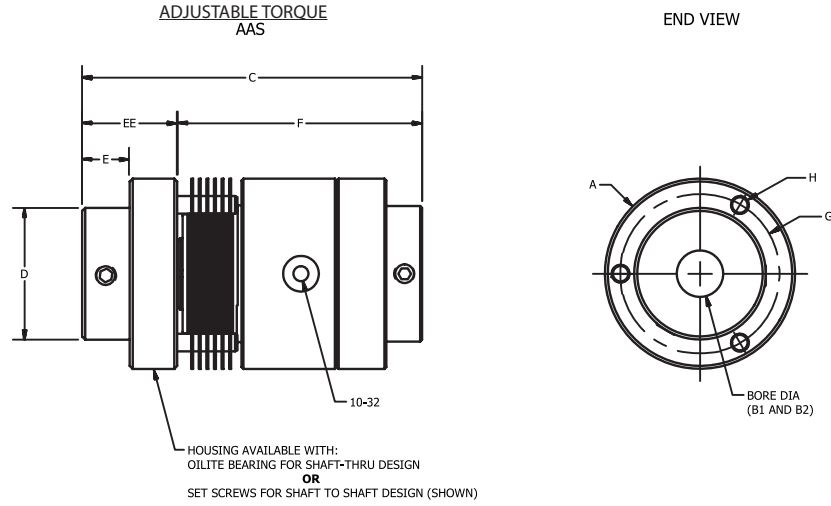
*Torque Capacity @ 50 RPM (50% higher torque possible for lower duty cycles. Call for assistance.)

COUPLINGS

Slip Clutches

Pneumatic: Adjustable

Same Torque Capacity in Smaller Diameter than Standard



Part Number		Type	Torque* (in-lb)			Watts	A (in)	B1 & B2 Min Bore	B1 & B2 Max Bore	C (in)	D (in)	E (in)	EE (in)	F (in)	G (in)	H (in)	J
Shaft-Shaft	Pulley Style		Rated*	Max**													
AAS20	AAO20	Adjustable	12	20	7.00	1.25	0.250"	10mm	2.500	0.760	0.25	0.5	2.000	1.062	0.94	10-32	
AAS24	AAO24	Adjustable	25	50	14.00	1.5	0.375"	13mm	3.380	1.010	0.38	0.75	2.630	1.312	0.125	10-32	
AAS32	AAO32	Adjustable	50	100	28.00	2	12mm	16mm	3.630	1.380	0.5	1	2.630	1.672	0.188	10-32	
AAS44	AAO44	Adjustable	75	300	42.00	2.75	12mm	16mm	3.630	1.630	0.5	1	2.630	2.375	0.188	10-32	

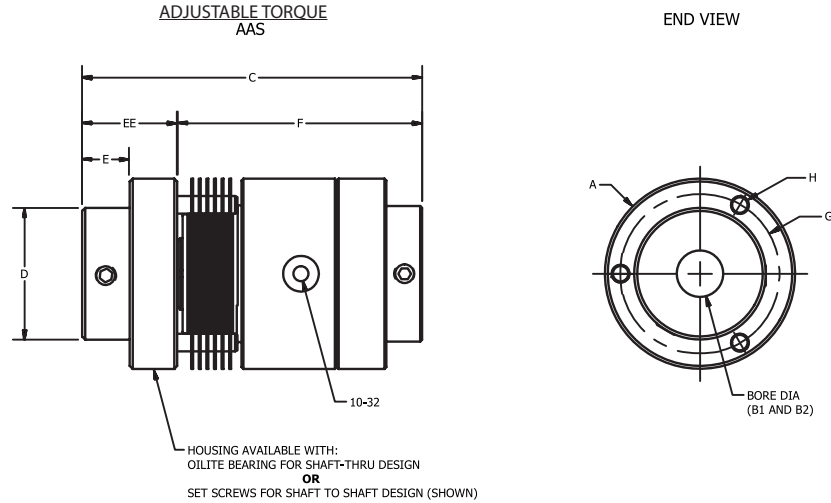
*Torque Capacity @ 50 RPM (50% higher torque possible for lower duty cycles. Call for assistance.)

**Maximum torque (@ 100 psi)

COUPLINGS

Slip Clutches

Vertical, Thrust Capable: Adjustable
Same Torque Capacity in Smaller Diameter than Standard



Part Number	Type	Torque* (in-lb)	Thrust Load	Watts	A (in)	B1 Min Bore	B1 Max Bore	L1 (in)	B2 (in)	L2 (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
VAS20	Adjustable	12	165	6	1.25	0.250"	10mm	0.750	0.250	0.500	2.05	0.75	0.350	0.98	1.062	0.094
VAS24	Adjustable	25	255	15	1.50	0.375"	13mm	1.250	0.250	0.500	2.85	1.00	0.375	1.69	1.312	0.125
VAS32	Adjustable	50	300	30	2.00	12mm	16mm	1.250	0.250	0.500	3.00	1.375	0.500	1.80	1.672	0.188
VAS44	Adjustable	75	400	43	2.75	12mm	16mm	1.250	0.250	0.700	3.30	1.625	0.500	1.80	2.375	0.188
VAS48	Adjustable	100	665	55	3.00	0.625"	1.000"	1.750	0.250	0.700	4.00	1.75	0.500	2.43	2.625	0.250

*Torque Capacity @ 50 RPM (50% higher torque possible for lower duty cycles. Call for assistance.)

**Maximum torque (@ 100 psi)

COUPLINGS

Slip Clutches

Part Number System, Shaft Penetration, Bore Codes

Type	Shaft Penetration Specifications			
	Minimum		Maximum	
	Cartridge	Housing	Cartridge	Housing
PAS16	0.50	0.22	0.75	0.31
PFS16	.175-250	0.22	0.47	0.31
PAS20	0.50	0.22	0.75	0.31
PFS20	.175-250	0.22	0.47	0.31
PAS24	0.60	0.22	0.94	0.38
PFS24	.300-400	0.22	0.69	0.38
PAS32	0.86	0.22	1.22	0.50
PFS32	.350-450	0.22	0.72	0.50
PAS44	0.86	0.22	1.22	0.50
PFS44	.350-450	0.22	0.72	0.50
PAS48	1.13	0.38	1.75	1.00
PFS48	.350-700	0.38	1.25	1.00
SAS16	0.56	0.22	1.00	0.31
SFS16	.175-250	0.22	0.69	0.31
SAS20	0.56	0.22	1.00	0.31
SFS20	.175-250	0.22	0.69	0.31
SFS24	0.86	0.32	1.75	0.75
SFS24	.300-400	0.32	1.21	0.75
SAS32	1.06	0.38	1.88	1.00
SFS32	.350-450	0.38	1.31	1.00
SAS44	1.06	0.38	1.88	1.00
SFS44	.350-450	0.38	1.31	1.00
SAS48	1.15	0.38	2.50	1.00
SFS48	.350-700	0.38	1.25	1.00

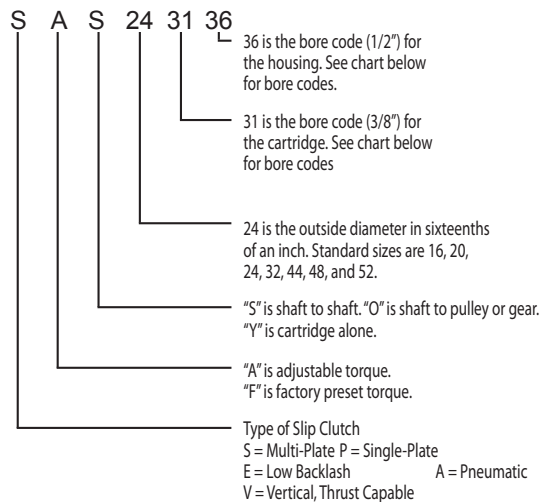
Type	Shaft Penetration Specifications			
	Minimum		Maximum	
	Cartridge	Housing	Cartridge	Housing
EAS16	0.55	0.22	1.18	0.31
EFS16	.175-250	0.22	0.88	0.31
EAS24	0.97	0.32	1.75	0.75
EFS24	.300-400	0.32	1.25	0.75
EAS32	1.07	0.38	1.88	0.57
EFS32	.350-450	0.38	1.30	0.57
EAS44	1.07	0.38	1.88	0.57
EFS44	.350-450	0.38	1.30	0.57
EAS52	1.85	0.44	3.25	0.75
AAS20	0.32	0.22	2.00	0.50
AAS24	0.32	0.32	2.63	0.75
AAS32	0.32	0.38	2.63	1.00
AAS44	0.45	0.38	2.63	1.00
VAS20	0.55	0.27	0.75	0.50
VAS24	0.88	0.32	1.25	0.50
VAS32	1.08	0.32	1.25	0.50
VAS44	1.08	0.40	1.25	0.70

*Cartridge minimum penetration for fixed torque clutches depend on the torque setting.



Example of gear mounted on slip clutch
(We can supply gears + pulleys)

IDENTIFICATION



Size	AVAILABLE BORES B1 & B2																					
	INCH +.002/-0.000										METRIC +.05/-0											
	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/4	8	9	10	12	13	14	15	16	20	24	25	30	32
16	.	.	.							.	.	.
20	.	.	.							.	.	.
24			.	.							.	.	.
32				.	.						.	.	.	.	.
44				.	.						.	.	.	.	.
48				.	.	.	.	.			.	.	.	.	.	.	.	.	.	.	.
52				.	.	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
CODE	24	27	31	36	41	47	50	53	55	28	30	32	35	37	38	40	42	48	51	52	56	58

Slip Clutches

Technical Notes

General

Ondrives.US Slip Clutches control torque for intermittent, continuous or overload slip. The clutches will drive in both directions, slip when the torque setting is reached, and resume driving as the load is reduced. They are excellent as continuous drag brakes, protection against accidental or intentional overloads, for “soft starts”, slip at the end of a stroke, etc.

Ondrives.US Slip Clutches are precision devices containing 2 to 12 brass plates interfaced with a long life friction material. Soft springs maintain pressure on the friction plates, assuring constant torque. An adjacent part of your mechanism can often be used as the Slip Clutch housing.

Fixed torque clutches are available preset at the factory.

Capacity

The clutch capacity is based on continuous operation at 50 RPM for over 30 million cycles. Torque, RPM, duty cycle and life are inter-dependent. A reduction of any of these will allow an increase in any other.

Running at 25 RPM will allow twice the torque, or running for only 10% of the cycle will allow higher RPM, etc. The limit is based on heat build up measured in watts per:

$$\text{Watts} = \text{Torque (inch pounds)} \times \text{RPM} \times 0.011 \times \text{Duty cycle \%}$$

(Duty cycle % = time in slip/total time)

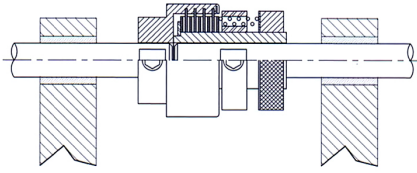
Example: An SAS20.3131 can dissipate 6 watts continuously. This translates to:

Inch - lbs	x	RPM	x	% Slip	x	constant	=	Watts
10		50		100%		0.011		5.5
2		250		100%		0.011		5.5
2		500		50%		0.011		5.5
2		1000		25%		0.011		5.5

Call us with any questions about specifications and use

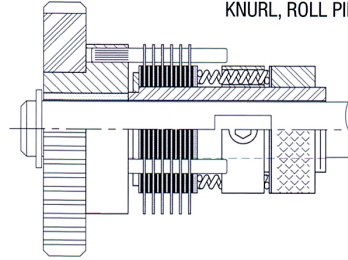
A

SHAFT TO SHAFT
SHAFTS MUST BE SUPPORTED
AND ALIGNED WITHIN .010-.015



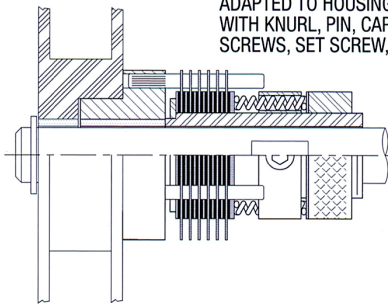
B

GEAR/PULLEY/SPROCKET
ADAPTED TO HOUSING WITH
KNURL, ROLL PIN, CAP SCREWS, ETC.



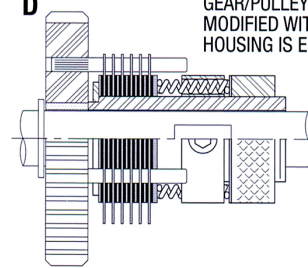
C

SUPPLY or REWIND SPOOL
ADAPTED TO HOUSING
WITH KNURL, PIN, CAP
SCREWS, SET SCREW, KEY, ETC.



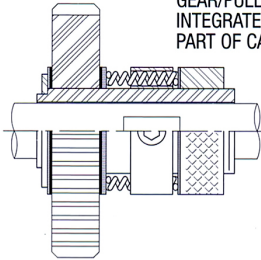
D

GEAR/PULLEY/SPROCKET
MODIFIED WITH PINS FOR ENGAGEMENT
HOUSING IS ELIMINATED



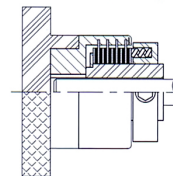
E

GEAR/PULLEY/SPROCKET
INTEGRATED AS
PART OF CARTRIDGE



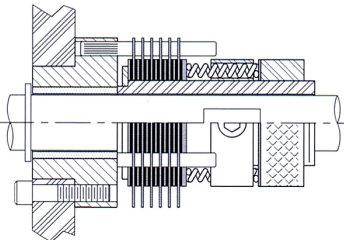
F

KNOB ADAPTED TO HOUSING
KNURL, SET SCREW, PIN, ETC.



G

MACHINE FRAME
ADAPTED WITH CAP SCREWS
TO HOUSING



H

ROTARY POSITION HOLDER
(HINGE)

