DYNATECT™

DYNAMIC EQUIPMENT PROTECTION

Global Leaders in Dynamic Protection
for Equipment and People

PRECISION SLIP CLUTCHES

Polyclutch

MECHANICAL CLUTCHES • PNEUMATIC SLIP CLUTCHES

DYNATECT.DE

Subject to change in accordance with technical advances

www.dynatect.de

SLIP CLUTCH LINE OVERVIEW

How to determine the perfect clutch for your application

Three factors in determining the right clutch are:
- the maximum shaft size
- torque capacity of the clutch
- wattage capacity

Maximum wattage capacities are listed for each model in the series specifications. Please consider the maximum torque capacities when making your selection.

Slip Clutch	For max. Shaft Size	Max. Torque Capacitites (Nm)					Unique Features	Page
		1.2	12	17	34	56		
 **SERIES 16** (mechanical)	Diameter up to 10 mm						• Most compact model • Can accommodate shaft sizes up to 10 mm • Very cost-effective for low torque needs • Torque capacities up to 1.2 Nm • Available in a fixed torque or adjustable torque configuration	10
 **SLIPPERS** (mechanical)	Diameter up to 25 mm						• Our standard-duty mid-size clutch • Can accommodate shaft sizes up to 25 mm • Economical for low torque but larger shaft applications • Torque capacities up to 12 Nm • Available in a fixed torque or adjustable torque configuration	12
 **V-SERIES SLIPPERS** (mechanical)	Diameter up to 25 mm						• Torque control for driving, capping and other applications where thrust loads are applied • Self-supporting design eliminates need for through-shaft, allows vertical installation without driveshaft modifications • Can accommodate shaft sizes up to 25 mm • Integrated ball bearing allows thrust loads of up to 295 kg without any effect on torque • Torque capacities up to 17 Nm	14
 **SLIP-EASE** (mechanical)	Diameter up to 32 mm						• Our series with the smallest and largest available models (19 - 83 mm outside diameter) • For applications where space is at a premium and low backlash is required • Smallest outside diameter to torque ratio • Can accommodate shaft sizes up to 32 mm • Torque capacities up to 56 Nm • Available in a fixed torque or adjustable torque configuration	16
 **SLIP-AIRE** (pneumatical)	Diameter up to 16 mm						• Based on mechanical slipper design: pneumatic piston replaces adjustment nut • Applications: adjustment while machine is running or from a remote location • Can accommodate shaft sizes up to 16 mm • Torque capacities up to 34 Nm	18

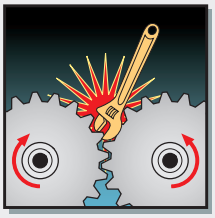
CONTINUOUS SLIP CLUTCHES

...solve many design engineering problems

Polyclutch slip clutches can slip continuously or intermittently for over 30 million cycles.

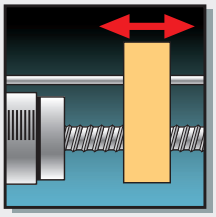
This opens up many design engineering options including:

OVERLOAD PROTECTION



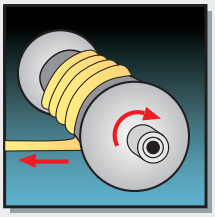
Protect machinery and operator. Clutch will slip when mechanism is jammed.
Motion will continue when impediment is removed.

SOFT STARTS/ CUSHIONED STOPS



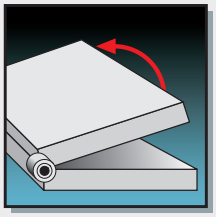
Inertia makes clutch slip when starting and/or stopping. Results in less shock throughout the system. Ideal for slip at the end of stroke.

TENSION CONTROL



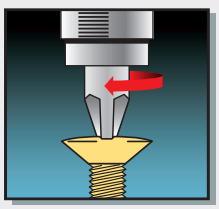
Maintain constant tension while winding or unwinding wire, paper, film, thread, etc. Slip clutch automatically compensates for changes in speed and diameter. Pneumatic clutch can change tension during operation.

POSITIONING HINGE



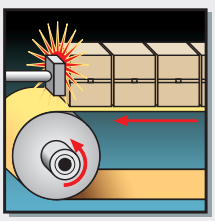
Hold lid, cover, door, light fixture, screen, etc., at any position. Fingertip control. Combine with one way clutch for free movement in one direction.

TORQUE CONTROL



Screw bottle caps, screws, controls, etc. to correct torque setting. Combine with one way clutch to slip at rated torque in one direction and freewheel or positive drive in other direction.

FORCE CONTROL



Push product against gate with constant force. Remove gate and move to next position. No damage to product or conveyor – clutch does all the slipping. Also used for overload protection when jammed and for indexing the conveyor.

ABOUT PRECISION SLIP CLUTCHES

POLYCLUTCH eliminates stiction

Polyclutch has developed a unique technology and manufacturing process, resulting in static friction that is lower than dynamic friction.
This characteristic generates repeatable torque control and smooth operation while slipping.

- No sudden shock on sensitive paper, film, wire, thread, etc.
- Repeatable cushioned torque for protection during overload
- Ideal for friction hinges when smooth movement of lids, doors, screens, covers, etc. is required
- Smooth, accurate starting/stopping of conveyors, indexing mechanisms, linear actuators, etc.
- Repeatable accurate torque for capping machines, automatic screw driving, valve control, etc.

Our proprietary burn-in process ensures that all Polyclutch Slip Clutches will perform consistently right out of the box, with no break-in period required.

APPLICATIONS:
- Overload Protection (machine and personnel safety)
- Torque Control (bottle capping, fastener driving)
- Tension Control (printing, stamping, labeling and take-up reels)
- Positioning Hinge (covers, medical equipment, light fixtures)

A GREAT ALTERNATIVE TO:
- Servo-Motors: our solution costs less
- Magnetic clutches: smaller, less expensive
- Ball detent: no clicking, no reset required
- Torque limiters: consistent repeatability, continuous slip
- Electronic protection only: added mechanical safety in electronically controlled systems

KEY BENEFITS:
- Smooth breakaway and continuous slip
- Long life of 20 to 30 million cycles in slip condition
- Torque range from 0.06 Nm to 85 Nm
- Fixed, adjustable or custom designs
- Clutches are bi-directional
- No lubrication needed
- Also available in stainless steel
- Compliant with RoHS regulations

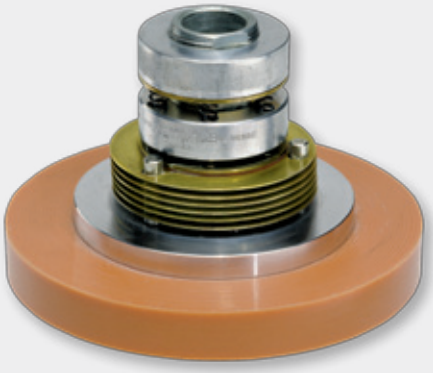
LIMITATIONS:
- Maximum shaft size: 32 mm on a through-shaft
- Not to be used as a universal joint or a spring coupler
- Does not de-couple at overload
- Cannot be exposed to radiation

Please contact us if slip clutch would be directly exposed to weather or wash down.

APPLICATION EXAMPLES

POLYCLUTCH EXTENDS MACHINERY LIFE

Polyclutch adjustable slip clutches control the precise amount of torque to tighten bottle caps, without wear or breakage, in this capping line application. All the slippage is in the clutch, with no appreciable wear.



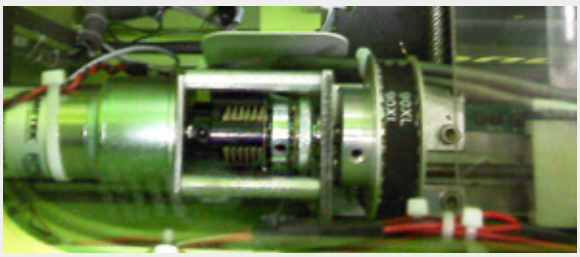
CONSTANT TORQUE GIVES YOU THE SLIP

A slip clutch acts as a continuous drag brake to meet the specific torque requirement for this unwind/rewind system application in a DATAMAX® bar code printer.
Other applications apply constant tension to film, wire, thread, paper etc.

APPLICATION EXAMPLES

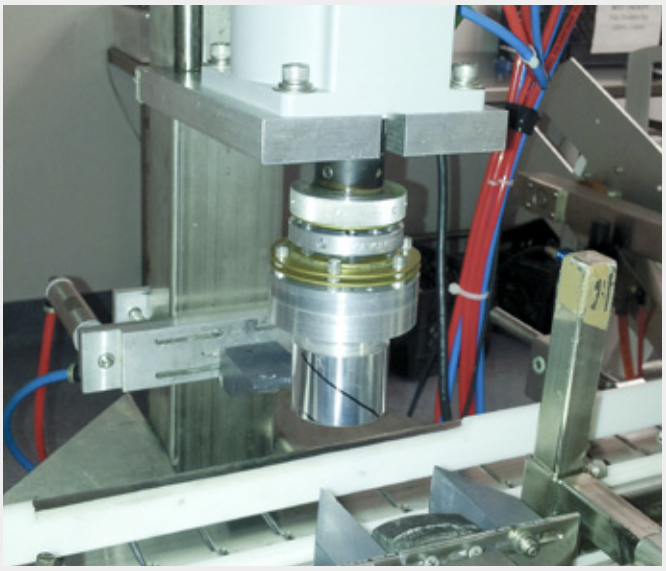
AUTOMATED KIOSKS

Polyclutch slip clutches are an integral part of many retail kiosks. As shown in this photo, a slip clutch is used to protect the sensitive drive mechanisms of these automated machines.



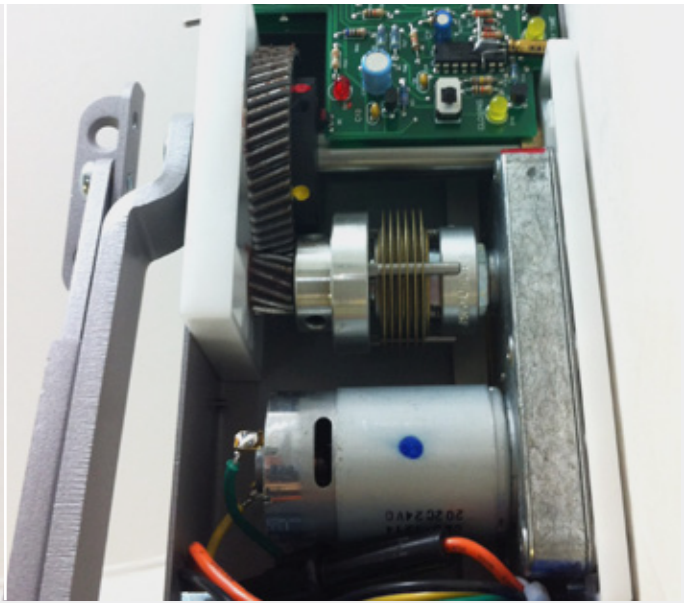
CAPPING MACHINES

The V-Series slipper is the ideal solution for torque control on capping machines. This example shows an application of a bottle capping machine for serum products in the biotechnology sector.



DISABLED ACCESS SYSTEMS

A Polyclutch slip clutch provides safety in many disabled access systems, as seen in this photo, where it is being used for overload protection in an automated door opener.



APPLICATION EXAMPLES

MRI BEDS

Polyclutch adds a mechanical safety feature for moving MRI beds for protecting the patient.

ICE-DISPENSING MACHINES

Hidden deep inside of this ice-making machine, a Polyclutch slip clutch prevents overload to the drive mechanism during the forming and dispensing of ice cubes.

RETAIL VENDING KIOSKS

A Polyclutch protects this machine against any type of overload or jamming during the process of dispensing a DVD.

APPLICATION EXAMPLES

CONVEYORS

Polyclutch slip clutches offer an added level of safety and protection to both the machine and its operators.

LABEL PRINTERS

Polyclutch slip clutches are the perfect solution for adding just the right amount of tension to any reel or spool without having to worry about the tension varying over time or wearing out prematurely.

INSPECTION ROBOTS

The Machine Lab Inc., an industry leader in defense robotics, uses two Polyclutch slip clutches in each robot arm for overload protection.

SERIES 16

Our most compact model features big torque in a small package

Part number example (see page 22 for part number identification)

P F S 16 - 8 mm T**

1 2 3 4 5

5 — 8 mm bore dia. in clutch cartridge and housing *

4 — Series 16 (25.4 mm outside dia.)

3 — S = Shaft to shaft
O = Shaft-through

2 — F = Fixed torque (factory preset)
A = Adjustable torque

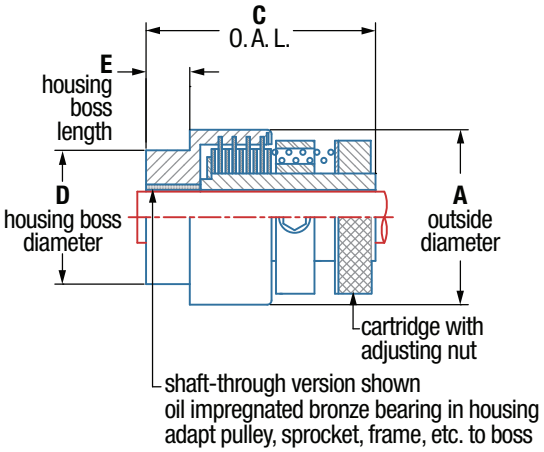
1 — Single-Plate Slipper

* Smaller or larger bore dia. up to B max. = optional
T** Preset Torque Value, customer-specified

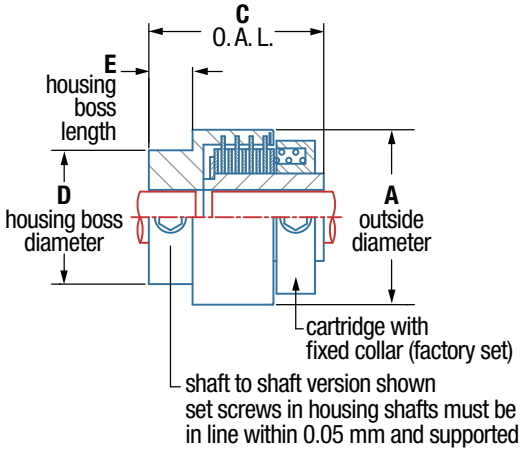
SERIE 16 SPECIFICATIONS

For slip clutch operation and mounting options see pages 20 - 21.

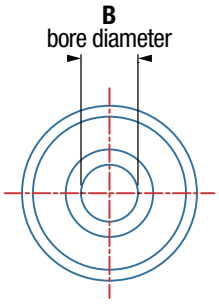
ADJUSTABLE
SAO SAS PAO PAS
SAO SHOWN



FIXED FACTORY SET - NON ADJUSTABLE
SFO SFS PFO PFS
SFS SHOWN



END VIEW TYPICAL



Model-Number	A mm	B Standard* mm	B max. mm	C mm	D mm	E mm	Capacity at 50 RPM Nm	Capacity at 50 RPM Watts	Friction Surfaces
SFS 16 / SFO 16 SAS 16 / SAO 16	25.40	8	10	25.40 33.27	19.30	6.35	1.13	6	8
PFS 16 / PFO 16 PAS 16 / PAO 16	25.40	8	10	19.81 26.92	19.30	6.35	0.23	1	2

* Smaller or larger bore dia. up to B max. = optional

Please note that torque capacities are only guidelines.
Higher torques and speeds are possible depending on operating conditions.

SLIPPER

The Polyclutch slipper controls torque for intermittent, continuous or overload slip. It contains a number of brass plates interfaced with long life friction material. Soft springs maintain pressure on the friction plates, assuring constant torque.

An adjacent component of your mechanism can often be used as the clutch housing, reducing overall cost or space concerns.
Torque control in one direction can be achieved by combining with our one-way clutch.

Part Number Examples (see page 22 for part number identification)

S A O 32 - 12 mm

1. Multi-Plate Slipper
2. A = Adjustable torque
F = Fixed torque (factory preset)
3. O = Shaft-through
S = Shaft to shaft
4. Series 32 (50.8 mm outside dia.)
5. 12 mm bore dia. in clutch cartridge and housing

P F S 44 - 12 mm - 14 mm* T**

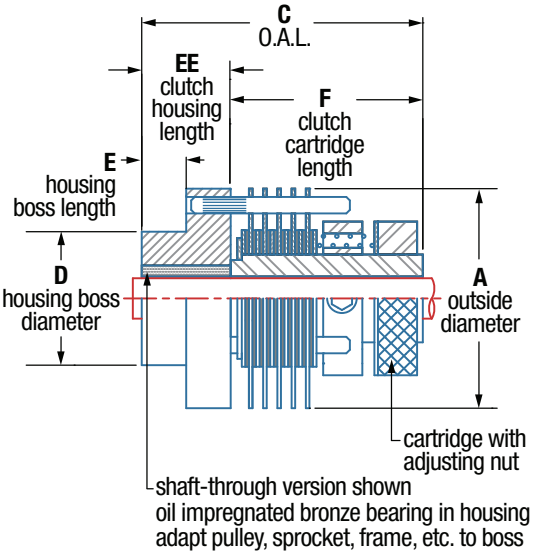
1. Single-Plate Slipper
2. F = Fixed torque (factory preset)
A = Adjustable torque
3. S = Shaft to Shaft
O = Shaft-through
4. Series 44 (69.85 mm outside dia.)
5. 12 mm bore dia. in clutch cartridge
6. 14 mm bore dia. in housing*

* Housing bore size needed only if different from cartridge bore size.
T** Preset Torque Value, customer-specified

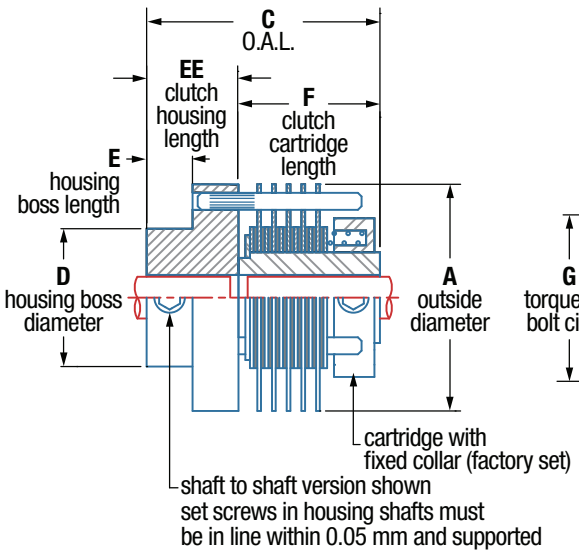
SLIPPER SPECIFICATIONS

For slip clutch operation and mounting options see pages 20 - 21.

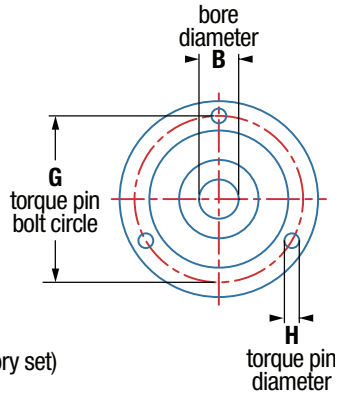
ADJUSTABLE
SAO SAS PAO PAS
SAO SHOWN



FIXE DFACTORY SET - NON ADJUSTABLE
SFO SFS PFO PFS
SFS SHOWN



END VIEW TYPICAL



Note: Multi-plate clutches shown. Single-plate clutch supplied with one set of friction plates and pads.

Model Number	A mm	B Standard* mm	B max. mm	C mm	D mm	E mm	EE mm	F mm	G mm	H mm	Capacity at 50 RPM Nm	Capacity at 50 RPM Watts	Friction Surface
SFS 20 / SFO 20 SAS 20 / SAO 20	31.75	8	10	30.2 38.1	19.30	6.35	12.70	17.50 25.40	26.97	2.38	1.35	6	8
SFS 24 / SFO 24 SAS 24 / SAO 24	38.10	10	13	50.08 63.5	25.65	9.65	19.05	31.75 44.50	33.32	3.18	2.82	15	12
SFS 32 / SFO 32 SAS 32 / SAO 32	50.80	12	16	58.7 72.9	35.18	12.70	25.40	33.30 47.80	42.47	4.78	5.65	30	12
SFS 44 / SFO 44 SAS 44 / SAO 44	69.85	12	16	58.7 72.9	41.53	12.70	25.40	33.30 47.80	60.33	4.78	8.47	43	12
SFS 48 / SFO 48 SAS 48 / SAO 48	76.20	16	25	76.2 88.9	44.70	12.70	25.40	50.80 63.50	66.80	6.35	11.29	55	12
PFS 20 / PFO 20 PAS 20 / PAO 20	31.75	8	10	19.8 26.9	19.30	4.83	7.87	11.90 19.10	26.97	2.38	0.28	1	2
PFS 24 / PFO 24 PAS 24 / PAO 24	38.10	10	13	27.0 33.5	25.65	4.83	9.65	17.50 23.90	33.32	3.18	0.45	2	2
PFS 32 / PFO 32 PAS 32 / PAO 32	50.80	12	16	31.0 43.7	35.18	6.35	12.70	18.30 31.00	42.47	4.78	0.90	5	2
PFS 44 / PFO 44 PAS 44 / PAO 44	69.85	12	16	31.0 43.7	41.53	6.35	12.70	18.30 31.00	60.33	4.78	1.35	7	2
PFS 48 / PFO 48 PAS 48 / PAO 48	76.20	16	25	57.15 69.85	44.70	12.70	25.40	31.75 44.45	66.80	6.35	2.26	13	2

* Bore diameters (Dimension B) other than standards shown are available up to the maximum diameter.

Please note that torque capacities are only guidelines. Higher torques and speeds are possible depending on operating conditions.

V-SERIES SLIPPER

The V-Series Slipper provides torque control for driving, capping and other applications where thrust loads are applied. Its integrated ball bearing allows thrust loads up to 295 kg without any effect on torque.

Self-supporting hub design allows for easy installation; shaft-through support is not required. The V-Series slipper may be used for pulley applications; and its design allows rebuilding, if necessary.

Horizontal and vertical installation without driveshaft modifications!

Application with tool holder (screwdriver)

Application with a module to tighten bottle caps

Part Number Examples (see page 22 for part number identification)

V A S 20 - 8 mm

1 2 3 4 5

- 5: 8 mm bore dia. in clutch cartridge and housing
- 4: Series 20 (31.75 mm outside dia.)
- 3: S = Shaft to shaft; O = Shaft-through
- 2: A = Adjustable torque
- 1: V-Series Slipper

V A S 44 - 12 mm - 10 mm*

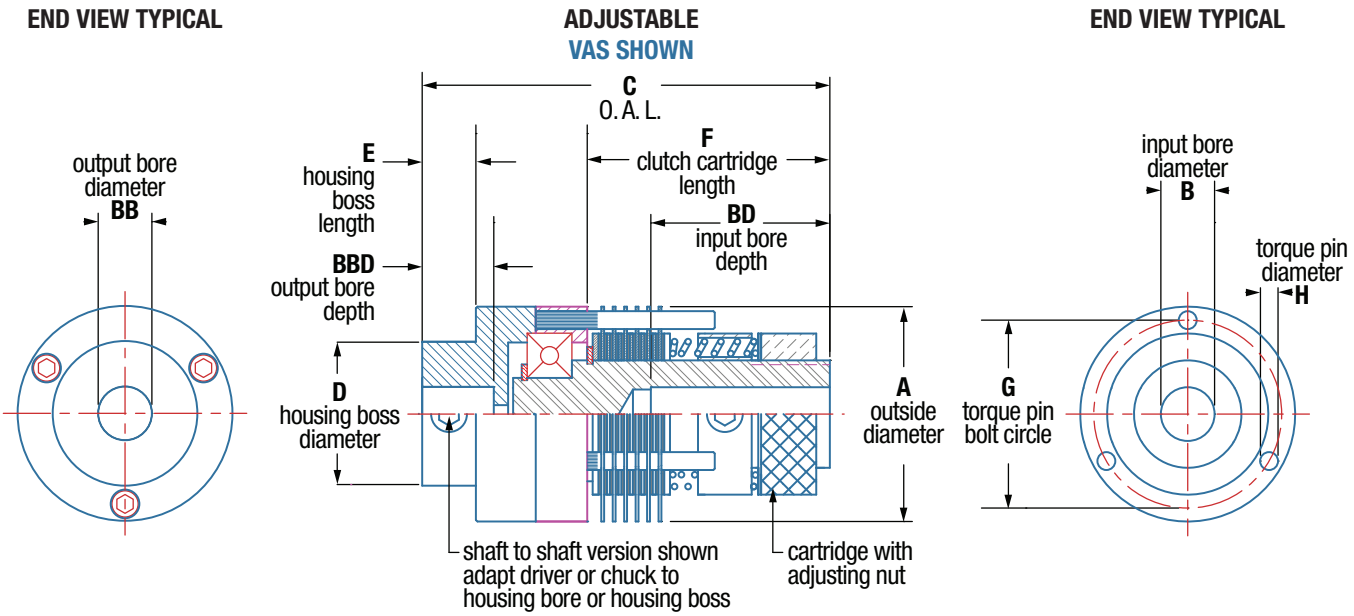
1 2 3 4 5 6

- 6: 10 mm bore dia. in housing*
- 5: 12 mm bore dia. in cartridge
- 4: Series 44 (69.85 mm outside dia.)
- 3: S = Shaft to shaft; O = Shaft-through
- 2: A = Adjustable torque
- 1: V-Series Slipper

* Housing bore size needed only if different from cartridge bore size.

V-SERIES SLIPPER SPECIFICATIONS

For slip clutch operation and mounting options see pages 20 - 21.



Model Number	A mm	B Standard* mm	B max. mm	BD mm	BB** mm	BBD mm	C mm	D mm	E mm	F mm	G mm	H mm
VAS 20	31.75	8	10	19.05	6.35	12.70	52.07	19.05	8.89	24.89	26.97	2.39
VAS 24	38.10	10	13	31.75	6.35	12.70	72.39	25.40	9.53	42.93	33.32	3.18
VAS 32	50.80	12	16	31.75	6.35	12.70	76.20	34.93	12.70	45.72	42.47	4.78
VAS 44	69.85	12	16	31.75	6.35	17.78	83.82	41.28	12.70	45.72	60.33	4.78
VAS 48	76.20	16	25	44.45	6.35	17.78	101.60	44.45	12.70	61.72	66.80	6.35

* Smaller or larger bore dia. up to B max. = optional
** Standard output bore (Dimension BB): other diameters (English and Metric). hex sizes or custom configurations are available upon request

Model Number	Thrust Load	Capacity at 50 RPM		Friction Surface
	N	Nm	Watts	
VAS 20	37	1.36	6	8
VAS 24	57	2.82	15	12
VAS 32	67	5.65	30	12
VAS 44	89	8.47	43	12
VAS 48	149	11.29	55	12

Please note that torque capacities are only guidelines. Higher torques and speeds are possible depending on operating conditions.

SLIP-EASE

Utilizes an axial loaded multi-plate design. For applications where space is at a premium and low backlash is required.

EAO 12
Shaft-through installation type, adjustable, 19 mm diameter dia.

Part Number Examples (see page 22 for part number identification)

E A S 32 - 8 mm - 10 mm*

1 2 3 4 5 6

- 6: 10 mm bore dia. in housing*
- 5: 8 mm bore dia. in clutch cartridge
- 4: Series 32 (41.28 mm outside dia.)
- 3: S = Shaft to shaft; O = Shaft-through
- 2: A = Adjustable torque; F = Fixed torque (factory preset)
- 1: Slip-Ease

E F O 44 - 12 mm

1 2 3 4 5

- 5: 12 mm bore dia. in clutch cartridge and housing
- 4: Series 44 (57.15 mm outside dia.)
- 3: O = Shaft-through; S = Shaft to shaft
- 2: F = Fixed torque (factory preset); A = Adjustable torque
- 1: Slip-Ease

* Housing bore size needed only if different from cartridge bore size.

Watts = Torque (Nm) x RPM x Duty cycle (%)① x 0.096

EXAMPLES:

The maximum Watts capacity of the Polyclutch series **EAS/EAO 52** is 85 Watts.

■ At a torque of 17 Nm a Watts capacity of 82 Watts is calculated by:

17 Nm x 50 RPM x 1 (= 100 %) duty cycle x 0.096

This clutch will reach a life of 20-30 million cycles in continuous slip condition.

■ The same values at a torque of 56 Nm result in a Watts capacitiy of 269 W. In this case the heat generation would be too high and can lead to failure.
But if RPM and duty cycle are lower, the same life of 20 - 30 Millionen cycles can be achieved:

56 Nm x 30 RPM x 0.5 (= 50 %) x 0.096 = 81 W

■ The same applies if duty clycles are at 100 % , but RPM is lower:

56 Nm x 15 RPM x 1 (= 100 %) x 0.096 = 81 W

In this case the clutch will also reach a life of 20-30 million cycles in continuous slip condition.

① Percent of the time the clutch is slipping, expressed as a decimal.

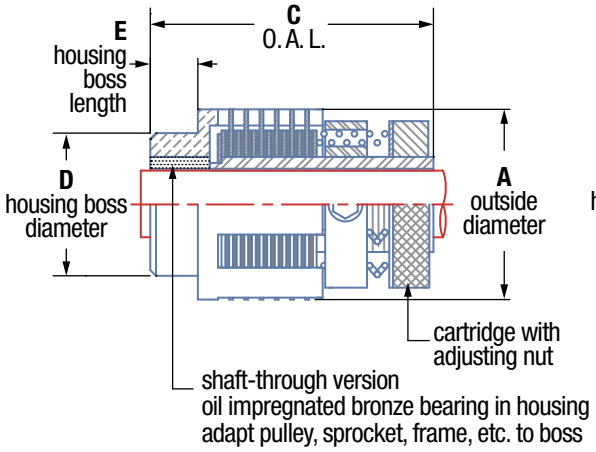
For example: 0.25 = 25 % of the time the clutch is slipping.

i CAD drawings and models are available for download :
www.dynatect.de/slip-clutch-polyclutch.html

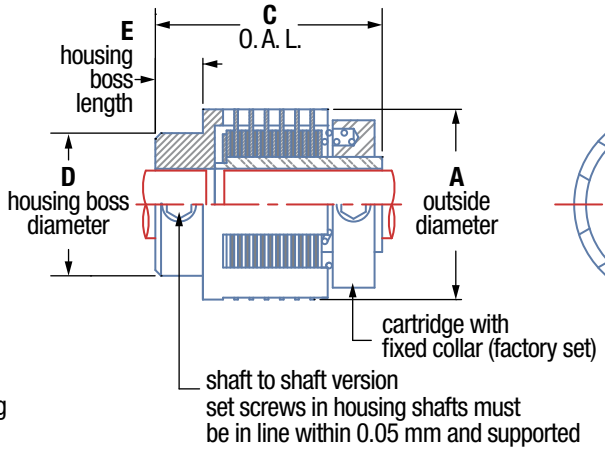
SLIP-EASE SPECIFICATIONS

For slip clutch operation and mounting options see pages 20 - 21.

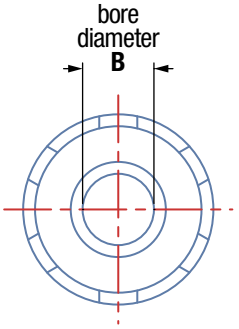
ADJUSTABLE
EAO EAS
EAO SHOWN



FIXED FACTORY SET - NON ADJUSTABLE
EFO EFS
EFS SHOWN



END VIEW TYPICAL



Model Number	A mm	B Standard* mm	B max. mm	C mm	D mm	E mm	Capacity at 50 RPM Nm	Capacity at 50 RPM Watts	Friction Surface
EAO 12 / EAS 12	19.05	5	6	31.75	14.28	4.78	0.96	4.5	8
EFO 12 / EFS 12	19.05	5	6	25.40	14.28	4.78	0.96	4.5	8
EFS 16 / EFO 16	25.40	8	10	30.22	19.05	6.35	1.81	9	12
EAS 16 / EAO 16	25.40	8	10	38.10	19.05	6.35	1.81	9	12
EFS 24 / EFO 24	34.90	10	13	50.80	25.40	9.65	2.82	15	12
EAS 24 / EAO 24	34.90	10	13	63.50	25.40	9.65	2.82	15	12
EFS 32 / EFO 32	41.28	12	16	47.50	34.93	12.70	5.65	30	12
EAS 32 / EAO 32	41.28	12	16	62.0	34.93	12.70	5.65	30	12
EFS 44 / EFO 44	57.15	12	16	47.50	41.28	12.70	8.47	43	12
EAS 44 / EAO 44	57.15	12	16	62.0	41.28	12.70	8.47	43	12
EAS 52 / EAO 52	82.55	20	32	101.6	50.80	12.70	16.95**	85	12

* Smaller or larger bore dia. up to B max. = optional
** Maximum capacity is 56 Nm. Heat generation should not exceed maximum Watts capacity.

SLIP-AIRE

The Polyclutch Slip-Aire is an air actuated version of the mechanical Polyclutch slip clutch. It has the same long life friction plates, assuring constant torque or tension.
With air actuation it can be used to engage/disengage, to vary the torque during operation, or to adjust the torque remotely at any time.
Ideal for servo mechanisms, it transmits higher torque levels than comparably sized mechanical slip clutches.

Part Number Examples (see page 22 for part number identification)

A A S 32 - 12 mm - 16 mm*

1. Slip-Aire
2. A = Adjustable torque
3. S = Shaft to shaft; O = Shaft-through
4. Series 32 (50.8 mm outside dia.)
5. 12 mm bore dia. in clutch cartridge
6. 16 mm bore dia. in housing*

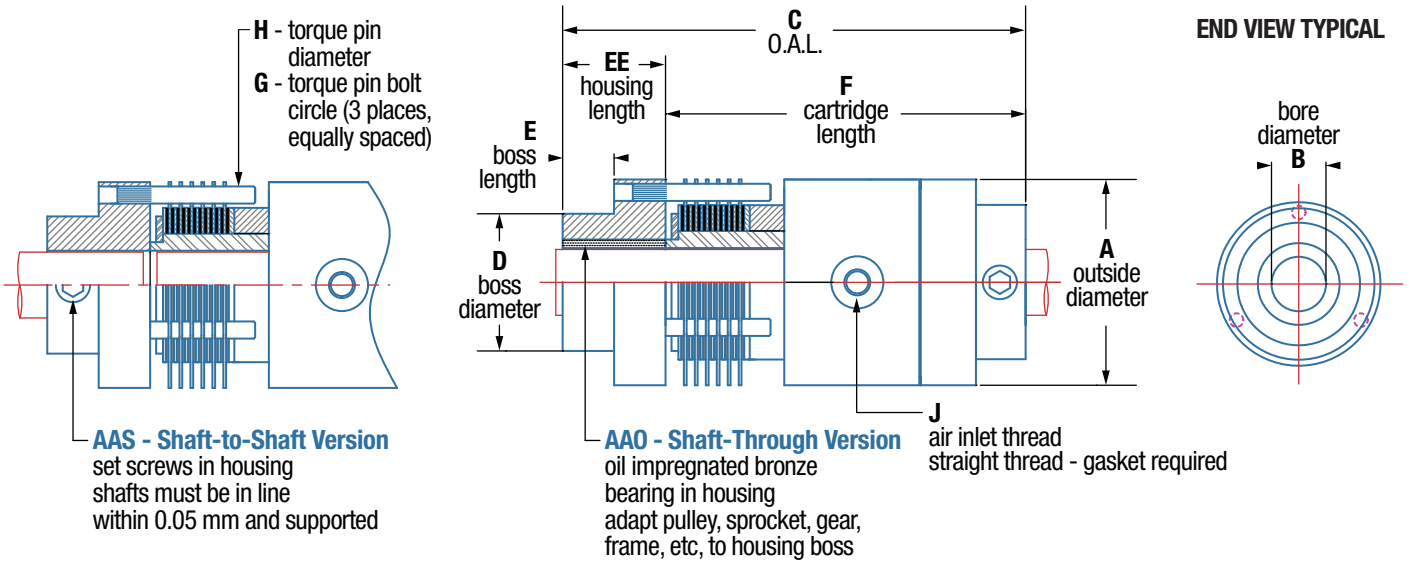
A A O 20 - 8 mm

1. Slip-Aire
2. A = Adjustable torque
3. O = Shaft-through; S = Shaft to shaft
4. Series 20 (31.75 mm outside dia.)
5. 8 mm bore dia. in clutch cartridge and housing

* Housing bore size needed only if different from cartridge bore size.

SLIP-AIRE SPECIFICATIONS

For slip clutch operation and mounting options see pages 20 - 21.



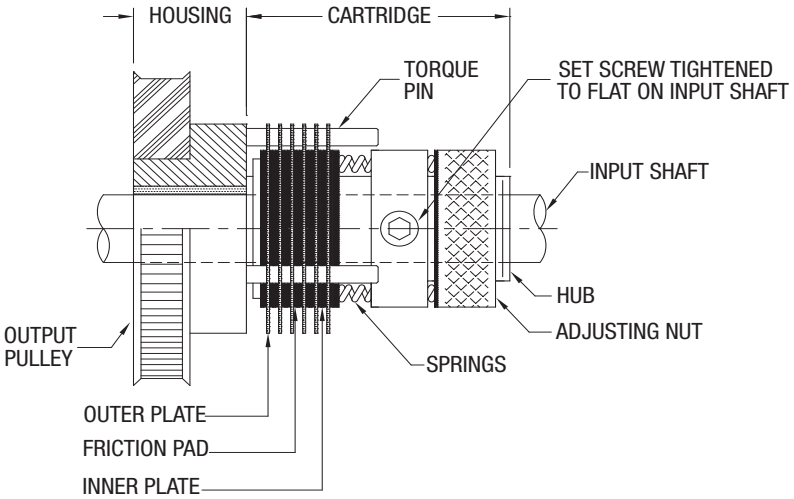
Model Number	A mm	B Standard* mm	B max. mm	C mm	D ② mm	E mm	EE mm	F mm	G mm	H mm	J mm
AAS 20 / AAO 20	31.75	8	10	63.50	19.30	6.35	12.70	50.80	26.98	2.39	10-32
AAS 24 / AAO 24	38.10	10	13	85.85	25.65	9.65	19.05	66.80	33.73	3.18	10-32
AAS 32 / AAO 32	50.80	12	16	92.20	35.18	12.70	25.40	66.80	42.47	4.78	10-32
AAS 44 / AAO 44	69.85	12	16	92.20	41.53	12.70	25.40	66.80	60.33	4.78	10-32

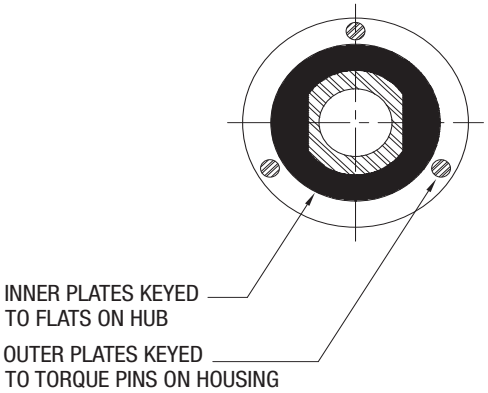
* Smaller or larger bore dia. up to B max. = optional

Model Number	continuous at 50 RPM ① Nm	max. at 100 RPM ② Nm	Watts	Friction Surface
AAS 20 / AAO 20	1.36	2.26	6	8
AAS 24 / AAO 24	2.82	5.65	15	12
AAS 32 / AAO 32	5.65	11.3	30	12
AAS 44 / AAO 44	8.47	33.9	43	12

① Rated torque for continuous operation at 50 RPM. Torque can be higher or lower depending on actual RPM and duty cycle (see page 16).
② Maximum torque attainable (at 7 bar).

CONSTRUCTION, INSTALLATION & CAPACITY





CONSTRUCTION

A Polyclutch consists of two parts: a cartridge and a housing (see above). The cartridge includes the clutch pack: outer plates, friction pads, inner plates.

- The cartridge is set screwed or keyed to the input shaft
- Plates are brass with a proprietary finish
- Inner plates are keyed to the cartridge hub
- Outer plates are keyed to the cartridge housing
- Friction pads are a proprietary plastic-based composite (no asbestos)

The housing is either set screwed or keyed to the output shaft, or (as shown), attached to the output gear or pulley, with a bronze bearing to allow relative motion between the input shaft and the output gear/pulley.

Torque is controlled by changing the pressure applied to the clutch pack. In an adjustable style clutch, the torque level is controlled by compressing the springs with the adjusting nut. In a fixed style clutch, a collar is attached to the hub in a fixed position, and the torque level is set by pushing and locking the spring collar to a calibrated position.

All slip clutch torques are calibrated to +/- 20% but can be held to closer tolerances.

Backlash of 6° is standard for Slipper models and 2° for the Slip-Ease models. Slipper models can be held to 2° if required.

Our proprietary burn-in process ensures that all Polyclutch Slippers will perform consistently right out of the box, with no break-in period required.

INSTALLATION (s. page 21 for mounting options)

Shaft-through versions: Insert input shaft into cartridge and tighten set screws. Insert housing around input shaft, with torque pins engaging holes in outer plates. Input shaft will keep the cartridge and housing aligned.

Shaft to Shaft versions: Insert input shaft into cartridge and tighten set screws. Insert output shaft into housing and tighten set screws. Input and output shafts must be properly journaled with centerlines within +/- .010 T.I.R.

Do not lubricate the clutch. Friction materials are designed to run without additional lubrication. Lubrication will cause a change in torque and erratic behavior. The inherent axial loaded design will keep dirt and dust out of the friction surfaces.

CAPACITY

The clutch capacity is based on continuous operation at 50 RPM for over 25 million cycles. Torque, RPM, duty cycle and life are interdependent. 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. (see also page 16). The limit is based on heat buildup measured in watts per:

Watts= Torque (Nm) x RPM x duty clycle* x 0.096

Please consult our factory for high torque, high RPM and rapid cycling applications.

* Percent of the time the clutch is slipping, expressed as a decimal. For example, 0.5 = 50% of the time the clutch is slipping.

MOUNTING OPTIONS

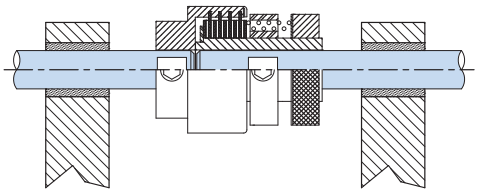
Typical mounting for mechanical and pneumatic slip clutches

All Polyclutch slip clutches perform the basic function of controlling the torque between two elements. They can be supplied as a shaft-to-shaft coupling or a shaft to pulley, gear, or sprocket model.

Polyclutch custom slip clutches can be provided with non-standard bore sizes, keyways, low backlash or higher torque, minus housings and with pulley, gear or sprocket.

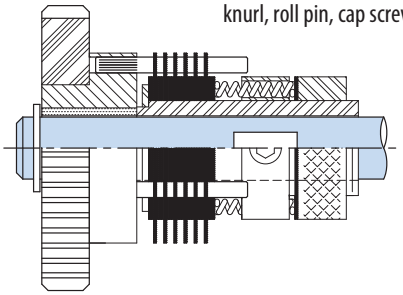
Example 1

Shaft to shaft
Shafts must be supported and aligned within 0.254 - 0.381 mm



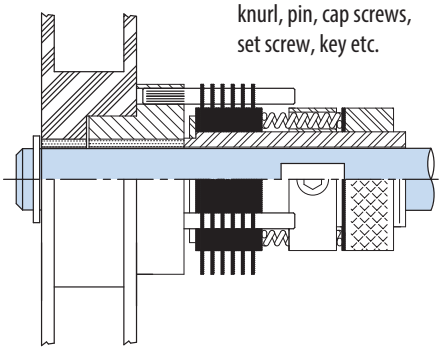
Example 2

Gear, Pullex, Sprocket adapted to housing with knurl, roll pin, cap screws etc.



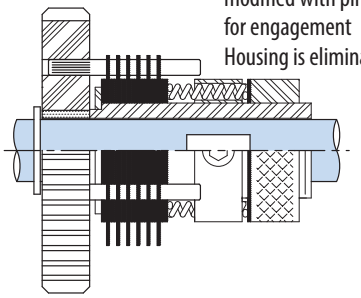
Example 3

Supply or rewind spool adapted to housing with knurl, pin, cap screws, set screw, key etc.



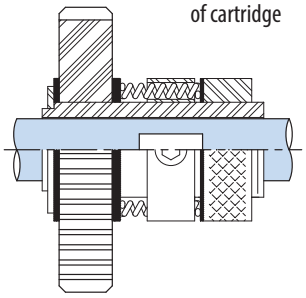
Example 4

Gear, Pulley, Sprocket modified with pins for engagement Housing is eliminated



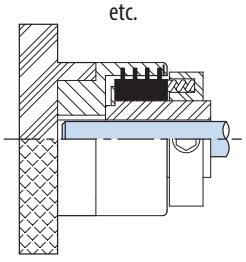
Example 5

Gear, Pulley, Sprocket integrated as part of cartridge



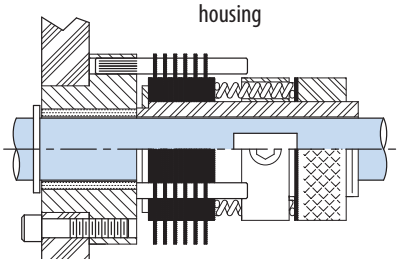
Example 6

Knob adapted to housing knurl, set screw, pin, etc.



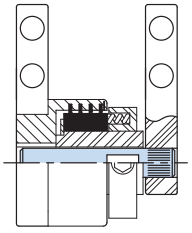
Example 7

Machine frame adapted with cap screws to housing

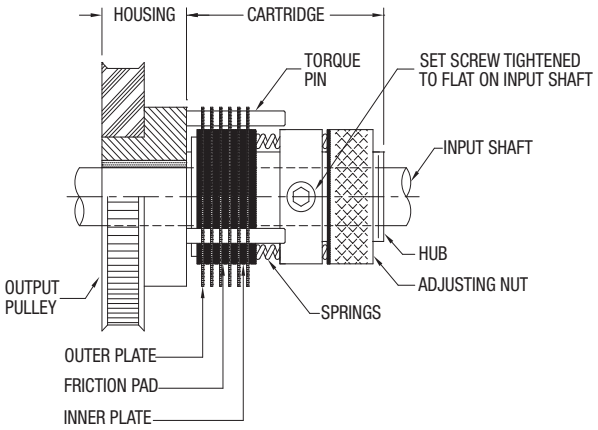


Example 8

Rotary position holder (hinge)



PART NUMBER IDENTIFICATION



Example:

S A S 24 - 4 mm - 6 mm

1 2 3 4 5 6

Housing Bore Size
Only provided in case of bore diameter deviation in the cartridge

Cartridge Bore Size

Series (Outer Diameter)

Installation Type
S = Shaft to shaft
O = Shaft-through
Y = Cartridge only

Torque Setting
A = Adjustable torque
F = Fixed torque (factory preset)

Type of Slip Clutch
S = Multi-Plate Clutch / P = Single-Plate Clutch / V = V-Series Slipper
E = Slip-Ease Model / A = Slip-Aire (pneumatic slip clutch)

OPTIONS

Polyclutch Slip Clutches are designed to cover a wide range of solutions. To help better fit the clutch to your specific application, here is a list of standard options:

- Bore size changes – English (inches) and metric (mm)
- High torque option, accomplished by extra springs – "H" part no. suffix
  Will increase capacity of standard adjustable slip clutches by 50%
  (note: removing springs will lower capacity, increase sensitivity)
- Keyways – English and metric – "K" part no. suffix
- Low backlash in Slipper clutch – "UL" part no. suffix
- Heavy inner plates for extra cooling – "D" part no. suffix
- Stainless steel construction – "Q" part no. **prefix**
- Two-plate Slipper clutch – "R" version (part no. begins with "R")
- Plastic cover for Slipper and Slip-Aire clutches

CUSTOM CLUTCHES

If you are looking for something outside of our standard options, our engineers will work with you to help design a clutch for your specific application.

DYNATECT™
DYNAMIC EQUIPMENT PROTECTION

POLYCLUTCH

Datum / *Date:* _____

Adresse / *Address:* _____

Firma / *Company:* _____

PLZ / *Postal Code:* _____ Ort / *City:* _____

Ansprechpartner / *Contact:* _____

Land / *Country:* _____

Email: _____

Telefon / *Phone:* _____ Fax: _____

❑ Einmaliger Bedarf (Stück) / *Unique requirement (pcs):* _____

❑ Serienbedarf (Stück p.a.) / *Series requirements (pcs):* _____

Verwenden Sie auch Schutzabdeckungen und/oder Energieführungen?/
Do you use protective covers and/or cable carriers?

❑ Ja / *Yes* ❑ Nein / *No*

ANWENDUNG / *APPLICATION*

❑ Überlastschutz/
Overload Protection

❑ Drehmomentregelung (z.B. Schraubverschluss-, Abfüllanlagen)/
Torque Control (e.g. bottle capping, screwdriver)

❑ Konstante Zugspannung, Kraft / *Constant Tension-Force*

❑ Bremsen / *Brakes*

❑ Sanfter Start, weicher Stopp / *Soft Start- Cushioned Stop*

❑ Positionsarretierung / *Position Retention*

❑ Andere / *Other:* _____

Betriebsumgebung: (bitte Angabe von besonderen Anforderungen, korrosiver Stoffe, Wasser usw.)/
Operating Environment *(please list specific requirements, corrosives, water etc.):*

_____

Einbaulage / *Orientation:*

❑ vertikal / *vertical* ❑ horizontal / *horizontal*

Temperaturbereich von / *Temperature Range from*

_____ bis / *to* _____ (°C)

ANGABEN POLYCLUTCH / *DETAILS POLYCLUTCH*

Beschreibung der Anwendung / *Description of Application:* _____

_____

Polyclutch Teile-Nummer (falls bekannt) / *Polyclutch Part Number (if known):* _____

❑ Mechanische Rutschkupplung / *Mechanical Slip Clutch*

❑ Pneumatische Rutschkupplung / Pneumatic Slip Clutch

❑ Einweg-Kupplung / *One-Way Clutch*

❑ Klauenkupplung / *Jay Clutch*

Anwendung für / *Type of Mount:*

❑ Welle-Welle / Shaft-Shaft

Eingangswellen-Durchmesser / *Input Shaft Diameter:* _____

Ausgangswellen-Durchmesser / *Output Shaft Diameter:* _____

❑ Durchgehende Welle / *Shaft Trough Mounting*

Antriebswellen-Durchmesser / *Input Shaft Diameter:* _____

Zur Kopplung an (Zahnrad, Riemenscheibe, Rahmen....)/
Output Type (gear, pulley, frame): _____

Bitte unbedingt ausfüllen / *Please specify in any case*

Gewünschtes Drehmoment / *Torque Range:* _____ Nm

U/min (an der Kupplung) / *RPM (at the clutch):* _____

Arbeitszyklus (Prozentsatz der Zeit, in der die Kupplung rutscht)/
Duty Cycle (percentage of time the clutch will be in slip condition):

_____

Maximaler Platzbedarf (falls Einbauraum begrenzt ist)/
Max. Space Limitations (only if limitation exists): _____

Anforderungen an die Lebensdauer (Anzahl der Zyklen, falls bekannt)/
Life requirements (number of cycles, only if a specification exists): _____

Please fill in the form and send it by Fax: +49 8122 966 6-70 or by email: info@dynatect.de
Interactive inquiry forms can be filled in online at: www.dynatect.de

NSF
Registered to ISO 9001

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85445 Schwaig, Germany

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33803 Steinhagen, Germany

Polyclutch 11/2016

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