

HOLD BACK

EPL XT SERIES



FOR HIGH-SPEED OVERRUNNING

Higher Torque and Longer Life
"LIFT OFF TYPE"

Elecon Peripherals Limited is part of Elecon Group & is engaged in manufacturing of Hold Backs, Over Riding Clutches, Over Running Clutches, Cone Clamping Devices, Shrink Disc, Thruster Brakes, Jaw Clutches, Jigs, Fixtures and many other products.

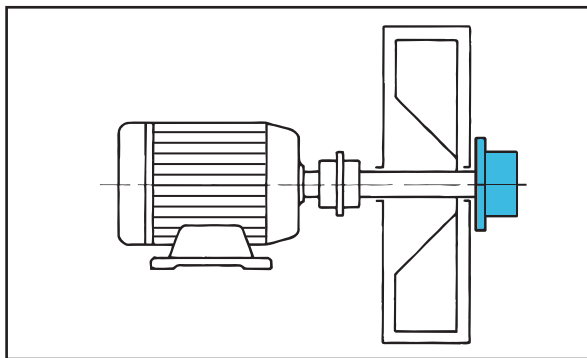
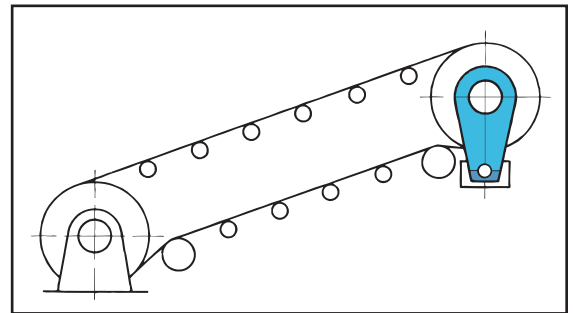
Our innovative thinking sets us apart & allows us to develop progressive & economical solutions to support the customers.

AREAS OF APPLICATION & FUNCTIONS

HOLDING BACK

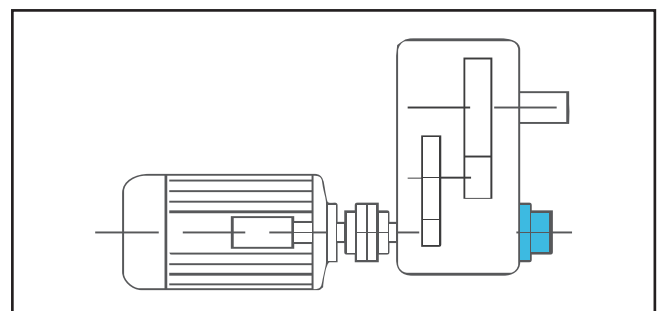
Inclined Conveyors Elevators.

The holdback prevent material being conveyed from running back in the event of power failure or when the drive motor is switch off.



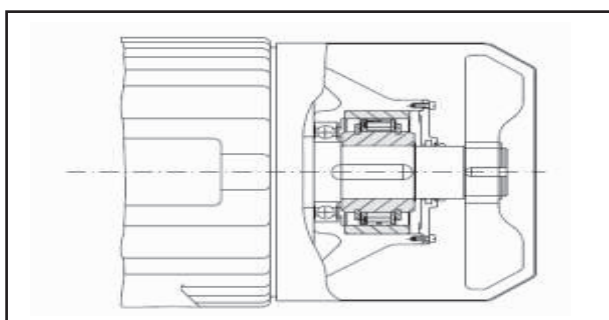
Fans Blowers and Pumps

The hold back prevents these returning back in the event of reverse pressure exerted by the load



Gear Drives

In the drive gear boxes of conveyors the holdback prevents the system from returning back when the power is switched off.



Geared Motors & Electric Motors

The holdbacks safeguard these from starting up in the reverse direction of rotation.

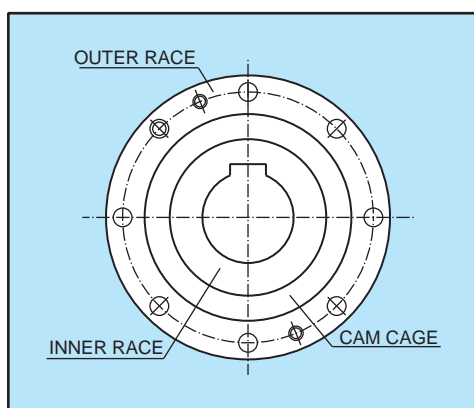
HOLD BACK TO STOP REVERSE ROTATION

EPL XT Hold Back is High Torque version and mainly used in backstop application and overrunning clutches. Prevention of reverse rotation for gearboxes, inclined conveyor and bucket elevator are typical application examples.

EPL XT Hold Back assures not only the immediate backstop function under the high torque, but also the long service life by the "Lift-Off" design.

In addition installation on the high speed shaft with low torque enables selection of more compact models with resulting lower cost.

We offer the most appropriate model from wide range of size according to your needs. The cam cages in our EPL XT Series and imported from Japan.



Innovative Design that Extends Service Life

The cams used in EPL XT Cam Clutch enclose a unique cross section that provides positive mechanical engagement only when needed. This result is a greatly increased service life compared to conventional types.

Backstop Applications for High-Speed Overrunning

When the Cam Clutch is stationary, the cam locks the inner and outer races together. When the inner race (load side) overruns at a high speed, the cam disengages by releasing from the inner race (fig 1). When the inner race stops, the cam rotates back into an engaged position. If the inner race tries to rotate in the reverse direction, the cams then serve as prop between the anchored outer race and inner race to prevent the reverse rotation and provide backstopping.

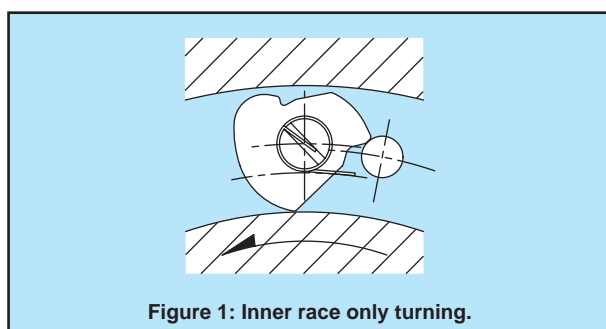


Figure 1: Inner race only turning.

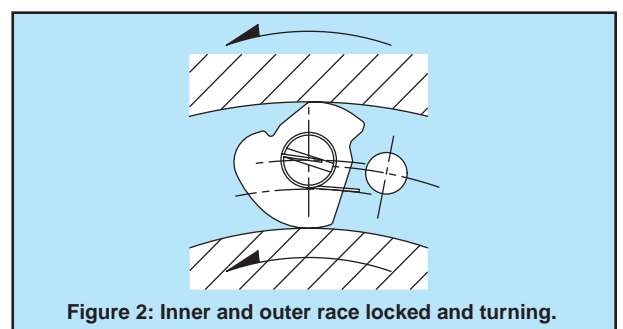


Figure 2: Inner and outer race locked and turning.

Economical Design

EPL XT series features a simple design in which the Cam Clutch mechanism is incorporated in a cage between standard dimension inner and outer bearing races. This allows the Cam Clutch to be easily and economically integrated into a wide variety of mechanical systems.

EPL XT SERIES

EXAMPLE OF APPLICATIONS

Mounting Position

Intermediate shaft of gearbox

Use: Backstop for medium speed overrunning

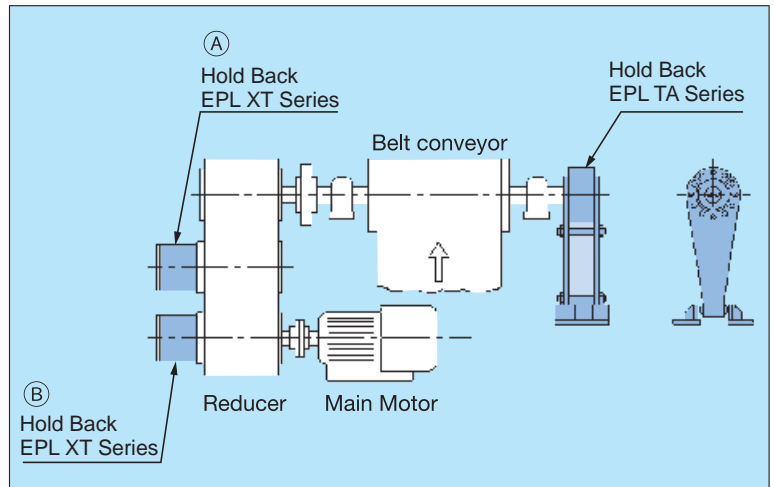
Mounting Position

Input shaft of Reducer

Use: Backstop for high-speed overrunning other application

Fan Backstopping

Backstopping function in high speed inner race overrunning.



SELECTION OF HOLD BACK

For Back Stop Application

Calculate the torque on the Cam Clutch according to the following formula:

$$T = \frac{9550 P}{N} \cdot SF$$

T : Loaded torque (N m)

P : Nominal torque of Motor (kW)

N : Shaft speed (r/min)

SF: Service factor

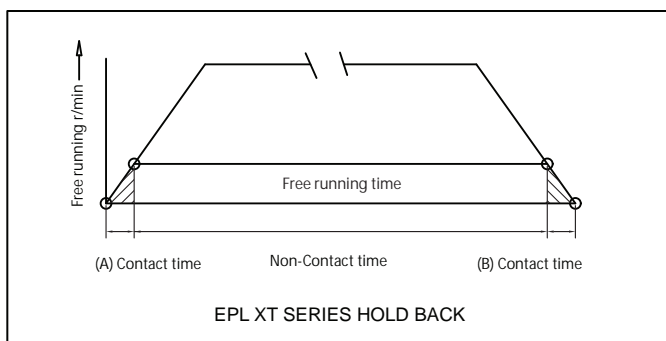
Select Clutch by:

- Design torque requirement and service factor
- The actual overrunning speed should be between MIN r/min and MAX r/min
- Bore

In case the overrunning speed is less than MIN r/min or higher than MAX r/min, please contacts EPL.

- Notes:**
- SF 1.6 (Service condition: For belt conveyor or bucket elevator)
 - Select the clutch whose T.C. satisfies the calculated backstop torque (T).
 - If there is a chance of motor stall, include the stall torque ratio in your calculations.

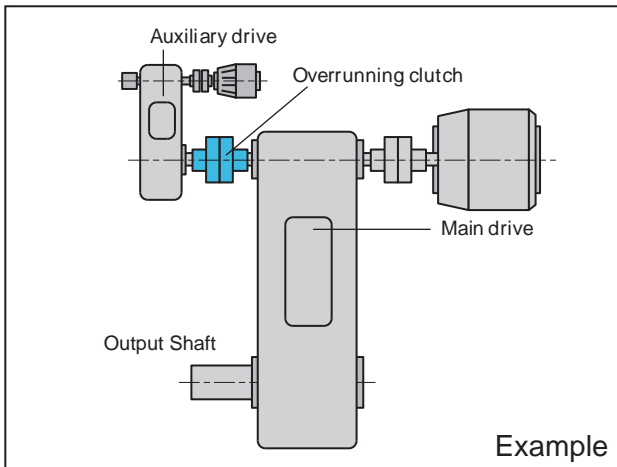
LIFE CYCLE OF EPL XT SERIES HOLD BACK



Friction in the clutch mechanism only occurs during a very short period of time denoted by "a" and "b". "a" is the time during which the cam is engaged until the acceleration of inner race causes it to disengage. "b" is the time during which the cam engages when the inner race decelerates.

EPD SERIES

APPLICATION AS OVERRUNNING CLUTCH



The example shows a over running cam clutch installed in the drive system of Auxiliary Drive and Main Drive. The Auxiliary Drive system powers the Main Drive at low speed through the engagement of the cam clutch until Main Drive accelerates to cam clutch release speed. Then the cam automatically disengages and runs as high speed ball bearings because there is no mechanical contact in the clutch.

General Information for Installation and Usage

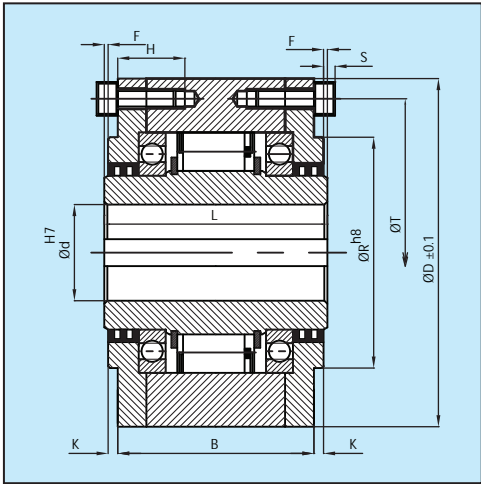
1. EPD series is a modular type Overrunning Clutch which is delivered as a EPD XT series Basic type with inbuilt F1 and F2 flanges.
2. All models are pre-greased.
3. We recommend a Shaft tolerance of h6 or j6, and DIN6885. 1 keyway is standard.
5. Clean the surface of both end of the outer race and the contact surfaces of the flanges, torque arm and cover.
6. Verify the direction of rotation and attach the flanges, torque arm or cover.
7. When installing sprocket, gear, and other equipment to the clutch, fit them on the surface of the flange by using hexagon socket cap screws.
8. By installing each option part on the opposite side, the direction of rotation can be changed.
9. Fix the grease nipple and set screw to the option parts.
10. When mounting the clutch onto the shaft, apply pressure to the inner race but never to the outer race. Tap the inner race lightly with a soft hammer moving around the race circumference so the Cams moves slowly and uniformly onto the end of the shaft.
11. Do not use grease that contains EP additives.



CAPACITIES

Model	Torque Capacity	Inner Race Overrunning Speed		Max. Engagement
	N-m	Min. (r/min)	Max. (r/min)	Speed (r/min)
EPD 20	607	880	3600	350
EPD 25	980	720	3600	300
EPD 30	1715	610	3600	240
EPD 40	3479	490	3600	200
EPD 45	4735	480	3600	200
EPD 52	6517	450	3600	190
EPD 55	8526	420	3000	180
EPD 60	14210	460	2500	180
EPD 70	20384	420	2200	180
EPD100	33908	370	1300	180

DIMENSIONS



Z = number of fixing holes for screws G on pitch circle T

Type with centrifugal lift-off (Shaft overrunning)						Bore d		B	D	F	G	H	K	L	R	S	T	Z			
With oil lubrication			With grease lubrication			Standard	min max	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Type	Torque Nm	Lift-off speed r.p.m.	Type	Torque Nm	Lift-off speed r.p.m.															mm	mm
EPD 20 XT	607	350	EPD 20 XTG	607	350	30	-	-	20	30	65.5	106	0.75	M 6	26	5	77	70	2.5	90	6
EPD 25 XT	980	300	EPD 25 XTG	980	300	35	40	-	25	40	81.1	126	0.75	M 6	30	5	93	80	2.5	105	6
EPD 30 XT	1715	240	EPD 30 XTG	1715	240	45	50	-	30	50	88.5	151	0.75	M 8	36	6	102	100	4	130	6
EPD 40 XT	3479	200	EPD 40 XTG	3479	200	45	55	60	40	60	102.5	181	0.75	M10	37	6	116	120	6.5	160	6
EPD 45 XT	4735	200	EPD 45 XTG	4735	200	55	65	70	40	70	115.5	196	1.25	M12	38.5	6	130	130	8.5	170	8
EPD 52 XT	6517	190	EPD 52 XTG	6517	190	65	75	80	50	80	130.5	216	1.75	M14	44.5	8	150	150	8.5	190	8
EPD 55 XT	8526	180	EPD 55 XTG	8526	180	75	85	90	50	90	146.5	246	1.75	M14	48	10	170	160	6.5	215	8
EPD 60 XT	14210	180	EPD 60 XTG	14210	180	85	95	100	70	105	182.5	291	1.75	M14	55	10	206	190	6.5	250	8
EPD 70 XT	20384	180	EPD 70 XTG	20384	180	120	-	-	70	120	192.5	321	1.25	M16	58.5	10	215	210	9	280	8
EPD 100XT	33908	180	EPD100 XTG	33908	180	150	-	-	100	150	248.5	411	3.75	M20	79	10	276	270	11.5	365	10

Keyways to DIN 6885/p1. Tolerance of keyway width; JS 10. The table torques are nominal torques and contain a safety factor of 2. Freewheels with standard bores are available immediately. Other bore diameters made to order.

OVERRUNNING CLUTCH WITH FLEXIBLE COUPLING

We also supply Overrunning Clutch EPD XT Series with Flexible Coupling as Fig. 1.

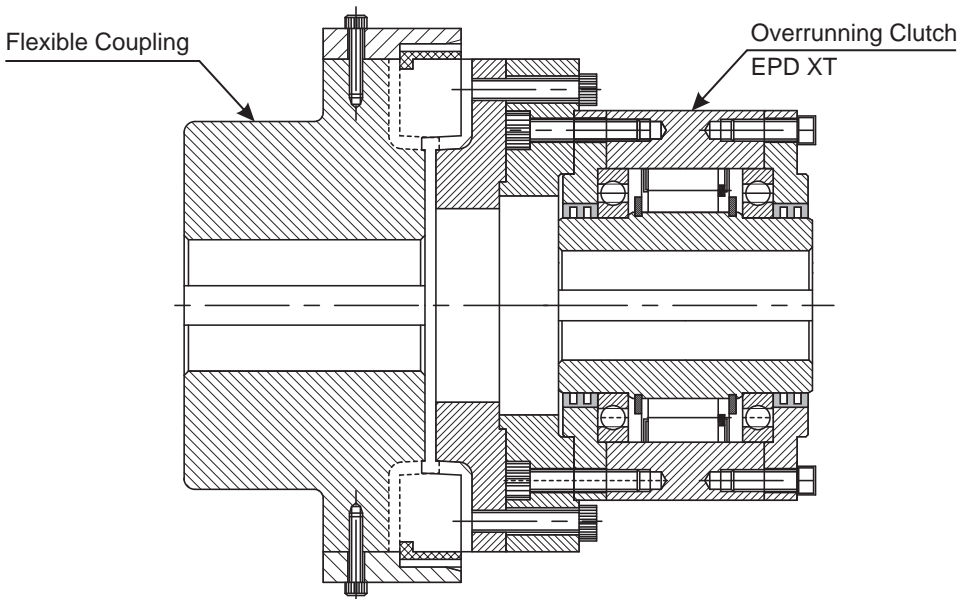
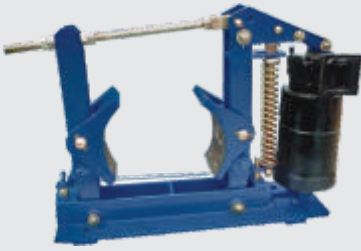


Fig. 1.

OUR OTHER PRODUCTS



Thruster Operated Brake



Shrink Disc



Locking Assemblies

MARKETING & SERVICING COMPANY



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