BSD® Electromagnetic Clutches and Brakes

Electromagnetic Multi Disc Clutches and Brakes
Electromagnetic Single Surface Clutches and Brakes
Spring Loaded Brakes


Electromagnetic-Multi-Disc Clutches and -Brakes
(non saturated)
Low residual torque. Wet- and dry operation. Universally applicable, in particular: Machine Tools, Hoists, Food- and Paper Processing Machines, Textile Machinery. Torques up to 22 000 Nm.

Electromagnetic-Single-Surface Clutches and -Brakes
(without slip rings)

Electromagnetic-Single-Surface Clutches
(double saturated, without slip rings)

Electromagnetic-Single-Surface Clutches and -Brakes

Twin-Surface-Electromagnetic Brakes (electromagnetically released)
No residual torque. Dry operation. High thermal rating. Universally applicable, e.g. Electric Motors, Holst Equipment, Conveying Equipment.
Creating a torque of an electromagnetic clutch is highly influenced by the engagement time which depends on the time of building up the magnetic field until armature disc rests against the pole, and on the response time. After achievement of nominal current the coupling transmits full torque.

Disengagement time is defined as that time in which 10% of the actuation torque will be achieved after having taken off the current.

Those actuation times can be highly varied by using electronics. An over-excitation, for example, shortens engagement time. An increased voltage causes faster current increase and may be held until the clutch reaches its full torque. Thereafter, voltage must be reduced to its nominal value.

The coil is embedded in the coil body, the ends of the wire are connected to two slip rings being isolated to each other. The coil body is connected to the input shaft by a key. On its outer diameter there are gear teeth which carry the sintered discs. The outer body is connected to the output shaft. The outer discs are held in axial slots having hardened surfaces, machined in the outer body. The alternately stacked discs form the disc pack which transmits the torque by friction when the coil is energized.

The clutch is operated from a 24 V DC supply which is transmitted to the slip rings by brushes.

Admissible slip ring speeds: Wet operation with bronze brushes in energized condition: 20 m/s. Dry operation with coal brushes up to max. 60 m/s.

Brakes are special designs of clutches. As the coil body does not rotate, the ends of the wire are freely carried outwards. The coil body is machined with a spigot and tapped holes on its reverse side. It is rigidly fixed to the machine frame. The centre sleeve (of antimagnetic material) is connected to the coil body. This allows the free movement of the brake shaft.

Admissible speed may be limited by individual installation conditions (e.g. vertical installation) and operating conditions as well as by size and design.

Burn marks on slip rings may cause increased wear of brushes and are, therefore to be avoided or to be removed immediately by fine emery.

Instructions for installation, lubrication and maintenance are attached to each shipment.
Electromagnetic Single Surface Clutches and Brakes without slip rings

**Description**

1) Air gap between coil body and armature disc in deenergized condition.

Creating a torque of an electromagnetic clutch is highly influenced by the engagement time which depends on the time of building up to magnetic field until armature disc rests against the pole, and on the response time. After achievement of nominal current the coupling transmits full torque.

Disengagement time is defined as that time in which 10 % of the actuation torque will be achieved after having taken off the current.

Those actuation times can be highly varied by using electronics. An over-excitation, for example, shortens engagement time. An increased voltage causes faster current increase and may be held until the clutch reaches its full torque. Thereafter, voltage must be reduced to its nominal value.

Admissible speed may be limited by individual installation conditions (e.g. vertical installation) and operating conditions as well as by size and design.

**Design without Bearing:**
The clutch consists of the stationary coil body with potted coil, rotor with friction lining and armature disc with diaphragm spring.

The coil body is fixed to the machine housing whereas the rotor is mounted on a shaft. It rotates in the coil body with a small radial air gap. The armature disc is secured by screws to the face of the driving or driven part. It is unimportant whether the rotor or the armature disc is driving or driven.

**Bearing Design:**
For easy assembly clutches with ball bearings are available. The coil body is running in bearings on the rotor. Therefore, the complete unit can be mounted on the shaft. The coil body is only secured by bolts or similar parts against rotation due to the bearing friction.

**Brake Design:**
The brake consists of the coil body with coil, in which the friction lining is permanently fixed acting as braking surface. The body is connected by a centering fit and screws to a machine housing, motor frame or similar fixed parts.

As for clutches the armature disc is secured to the mating part.

Instructions for installation, lubrication and maintenance are attached to each shipment. Balancing on request. Important:
Specify standard, class and speed.

**BSD® Electromagnetic Single Surface Clutches Double Saturated**

**Description**

(*) Radial misalignment between rotor and armature disc

Creating a torque of an electromagnetic clutch is highly influenced by the engagement time which depends on the time of building up to magnetic field until armature disc rests against the pole, and on the response time. After achievement of nominal current the coupling transmits full torque.

Disengagement time is defined as that time in which 10% of the actuation torque will be achieved after having taken off the current.

Those actuation times can be highly varied by using electronics. An over-excitation, for example, shortens engagement time. An increased voltage causes faster current increase and may be held until the clutch reaches its full torque. Thereafter, voltage must be reduced to its nominal value.

The magnetic flux of single surface clutches with double magnetic saturation, which is generated in the coil of the stationary coil body, permeates the rotor and armature disc to form a magnetic circuit.

As a result of the magnetic separations in the rotor and armature disc the force of the magnetic field is double utilised. Therefore, no friction lining is necessary and the clutch is suitable for either oil or dry operation.

Admissible speed may be limited by individual installation conditions (e.g. vertical installation) and operating conditions as well as by size and design.

**Design without Bearing**

The coil body is connected to the machine frame whereas the rotor is mounted to the shaft. Latter rotates in the coil body with a small radial air gap. The armature disc is secured by screws to the face of the driving or driven part. It is unimportant whether the rotor or the armature disc driving or driven.

**Bearing Design**

For easy assembly clutches with ball bearings are available. The coil body is running in bearings on the shaft. Therefore, the complete unit can be mounted on the shaft. The coil body is only secured by bolts or similar parts against rotation due to the bearing friction.

Our slip-on design offers another assembly aid. The armature part additionally runs in bearings on the shaft. In addition to the
usual protection against rotation it is only mounted to the aluminium flange of the mating part, such as a pinion or flexible coupling.

Instructions for installation, lubrication and maintenance are attached to each shipment. Balancing on request. Important: Specify standard, class and speed.

**BSDq Electromagnetic Single Surface Clutches, single saturated n Description**

Creating a torque of an electromagnetic clutch is highly influenced by the engagement time which depends on the time of building up to magnetic field until armature disc rests against the pole, and on the response time. After achievement of nominal current the coupling transmits full torque.

Disengagement time is defined as that time in which 10 % of the actuation torque will be achieved after having taken off the current.

Those actuation times can be highly varied by using electronics. An over-excitation, for example, shortens engagement time. An increased voltage causes faster current increase and may be held until the clutch reaches its full torque. Thereafter, voltage must be reduced to its nominal value.

The coil is embedded in the coil body, the ends of the wires are connected to two slip rings being isolated to each other. The coil body is connected to the input shaft via the coil body hub by means of a key or centred on the input shaft by ball bearings.

The friction ring is screwed to the coil body using shims. The varying number of these shims facilitates readjustment of the operating air gap. The mating surface consists of split half rings which are radially screwed to the armature disc. Therefore, an easy replacement of these wear parts is possible.

In deenergized condition the armature disc is free to move. It is connected to the armature hub or the driven part by a hardened diaphragm spring.

The clutch is operated from a 24 V DC supply which is transmitted to the slip rings through shrouded brush holders. Admissible slip ring speed for dry operation: max. 60 m/sec.

Admissible speed may be limited by individual installation conditions (e.g. vertical installation) and operating conditions as well as by size and design.

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<table>
<thead>
<tr>
<th>Type 185</th>
<th>Type 181</th>
<th>Type 182</th>
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<tbody>
<tr>
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<td>5. Friction Ring</td>
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<td>10. Socket Head Screws</td>
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<tr>
<td>27. Ball Bearing</td>
<td>27. Ball Bearing</td>
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**Size**

max. admissible parallel misalignment between pole surface

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</tr>
</tbody>
</table>

Air gap

Creating a torque of an electromagnetic clutch is highly influenced by the engagement time which depends on the time of building up to magnetic field until armature disc rests against the pole, and on the response time. After achievement of nominal current the coupling transmits full torque.

Disengagement time is defined as that time in which 10 % of the actuation torque will be achieved after having taken off the current.

Those actuation times can be highly varied by using electronics. An over-excitation, for example, shortens engagement time. An increased voltage causes faster current increase and may be held until the clutch reaches its full torque. Thereafter, voltage must be reduced to its nominal value.

The coil is embedded in the coil body, the ends of the wires are connected to two slip rings being isolated to each other. The coil body is connected to the input shaft via the coil body hub by means of a key or centred on the input shaft by ball bearings.

The friction ring is screwed to the coil body using shims. The varying number of these shims facilitates readjustment of the operating air gap. The mating surface consists of split half rings which are radially screwed to the armature disc. Therefore, an easy replacement of these wear parts is possible.

In deenergized condition the armature disc is free to move. It is connected to the armature hub or the driven part by a hardened diaphragm spring.

The clutch is operated from a 24 V DC supply which is transmitted to the slip rings through shrouded brush holders. Admissible slip ring speed for dry operation: max. 60 m/sec.

Admissible speed may be limited by individual installation conditions (e.g. vertical installation) and operating conditions as well as by size and design.
Burn marks on slip rings may cause increased wear of brushes and are, therefore to be avoided or to be removed immediately by fine emery.

Instructions for installation, lubrication and maintenance are attached to each shipment. Balancing on request. Important: Specify standard, class and speed.

Twin Surfaces Spring Loaded Brakes

The brakes shown are electrical safety brakes being released by closed electrical circuit. Consequently, the brakes are closed in deenergized condition.

Helical springs press against the armature disc. The rotor with its friction linings is compressed between the armature disc and the corresponding surface of the machine. The shaft with its gear hub is braked. When the current is switched on, a magnetic field is set up. The armature disc is attracted to the coil body against the spring pressure thus releasing the rotor. The shaft is then able to rotate.

The coil body is centred to the machine frame by a threaded distance ring and is tightened by fastening screws.

The rotor is located on the gear hub and is free to move in axial direction by the guided gearing. The gear hub is axially fixed on the shaft.

Standard coil voltage is 24 or 190 V DC, but for the holding brake size 100 and 110 only 190 V DC.

Admissible speed may be limited by individual installation conditions (e.g. vertical installation) and operating conditions as well as by size and design.

Instruction for installation and maintenance are attached to each shipment.
**BSD® Pressure Operated Clutches and Brakes**

**Pneumatic Clutches, Hydraulic Clutches**
**Diaphragm Clutches, Spring Loaded Multi Disc Brakes**

**Druckluft-Kupplungen / Drucköl-Kupplungen**

Drehmoment: 80 - 200 000 Nm. Für Naß- und Trockenlauf. Luftdruck 7 bar. Öldruck 24 bar.

**Membran-Kupplungen**

**Federdruck-Lamellen-Bremse**

Drehmoment: Bremsmoment 63 - 40 000 Nm. (Auf Anfrage bis 500 000 Nm).

**Shifting of different revolutions (speed). Retardation and acceleration. Disengaging and engaging. Integratable into machine parts. High speeds and high number of actuations. Precise shifting. Transmission of torque by friction. High actuating precision. Combination with flexible and torsionally stiff couplings. No wear adjustments.**

**Pneumatic Clutches / Hydraulic Clutches**
No maintenance. Wet and dry operation. Small dimensions. Low residual torque. Supply of pressure oil through shaft or radial inlets. Also spring-loaded. Torque: 80 to 200 000 Nm. For wet and dry operation. Air pressure 7 bar. Oil pressure 24 bar.

**Diaphragm clutches**
Robust design. Little maintenance. Short (narrow) design. Torque: 400 to 104 000 Nm. (on demand larger). Dry operation: Special cast-organic linings. Wet operation: Steel-/Sintermetal linings.

**Spring-loaded, multi disc brakes**
Low residual torque. Suitable as safety element. No maintenance. Small dimensions. Wet and dry operation. Torque: Brake torque 63 to 40 000 Nm (up to 500 000 Nm on demand).
**BSD** Pneumatic- and Hydraulic Clutches \*Description\**

**Type 700 and 750**

Pressure operated clutches type 700 and 750 are pressure operated friction clutches in multi disc design. They are used where it is necessary to transmit high speeds with small dimensions, e.g. in machine tools, construction equipment, elevators, etc.

Light filtered hydraulic oil or clean dry compressed air are to be used. The pressure medium and coolant supply lines go through the shaft. Cross sections of the supply lines should be about 20% larger than the hub ducts. We recommend the use of rotary connections on page rotary connectors.

Precautions must be taken to ensure that leakage cannot occur through the shaft mounting clearances.

The realisation of the maximum rating presupposes that wet operation is used. Adequate branded oil is to be used according to our recommendations on lubrication page recommendation.

Pneumatic- and hydraulic Clutches do not require wear adjustment or maintenance.

Instructions for installation, lubrication and maintenance are attached to each shipment.

Balancing on request. Important: Specify standard, class and speed.

The inner member is fixed to the shaft by a key and carries the inner disc on gear teeth cut on its outside diameter. On the internally cut teeth of the outer member the outer discs are positioned and alternate with the inner discs to form the discs pack. The disc pack is terminated on one side by the pressure plate, screwed to the piston and on the other side by the end plate and the snap ring. The cylinder is connected to the inner member by socket head screws and sealed by means of the O-ring.

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**BSD** Pneumatic- and Hydraulic Clutches \*Description\**

**Type 730 and 760 **

Pressure operated clutches type 730 and 760 are pressure operated clutches in multi disc design. They are used where it is necessary to transmit high speeds with small dimensions.

The Clutches are fitted with friction pairs of steel-sinter bronze and are suitable for dry and wet operation. A radial inlet is provided for supply of pressure medium. Special bearings transmit the generated axial forces which compress the disc pack. The below *(graph)* shows the curve of bearing life time related to torque’s.

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**BSD** Spring Loaded Clutches \*Description\**

**Type 770 **

Spring-loaded clutches type 770 are closed in pressureless condition and can be hydraulically released. Torque is transmitted by the discs. The clutches are used where
safety systems must continue to operate or are to be connected automatically in case of power failure. The forces which are necessary to transmit the torque by compressing the disc pack are generated by preloaded springs. The medium is supplied by a stationary pressure inlet producing a counter force. This force passes through special bearings neutralising the spring effect for the period of releasing.

The Pressure Operated Clutches Type 730, 760 and 770 do not require wear adjustment or maintenance.

Instructions for installation, lubrication and maintenance are attached to each shipment.

Balancing on request. Important: Specify standard, class and speed.

BSD® Diaphragm Clutches ⊳ Description

Diaphragm clutches are pressure operated friction clutches in single disc or multi disc design. They are mainly used in the construction of heavy machinery as robust driving elements. There is a wide variety of application such as shears, presses, rolling mill drives, shipbuilding and motorconstruction, cranes. Diaphragm clutches are of durable design, they do not require maintenance and their shifting element is a reinforced fabric, oil-proof rubber diaphragm. Large cross sections of supply, of pressure medium are essential to achieve short actuation times. The clutches are fitted with friction pairs of cast iron-organic dry friction material. Therefore, the linings have to be protected from lubrication residues otherwise the torque will be reduced. The supply of pressure medium is delivered through holes drilled in the shaft, cross sections of the inlet bores should be about 20 % larger.

The clutches do not require wear adjustment or maintenance.

Instructions for installation and maintenance are attached to each shipment.

Balancing on request. Important: Specify standard, class and speed.

BSD® Spring Loaded Multi Disc Brakes ⊳ Description

Spring loaded multi disc brakes are manufactured using a number of standard parts and are hydraulically released. They are most efficiently used as safety and retaining brakes in hydrostatic drives of all types. Their structural layout makes direct release possible through the hydraulic oil flow so that the system pressure may reach the maximum of 300 bar. Minimum release pressures are between 10 and 39 bar depending on size and type.

Type 790 - ... - 100 and Type 792 - ... - 100 offers the possibility of assembly between a hydraulic motor and gearbox. Adaption by the user to the design should follow the contours of covers. The inner discs may be directly assembled to gear teeth on the drive shaft.

The brakes are provided with friction pairs of steel-sinter bronze for wet and dry operation. Lubrication for wet operation by branded oils can be taken from our recommendation table.

A clean and filtered light hydraulic oil should be used to protect cylinder and piston surfaces. Please refer to us on the use of pressure media of other viscosity's.
In event of hydraulic failure, after removing the bolts (18,19), the piston may be released through the spring cover with the assistance of three bolts, screwed into the piston. Where this is not possible for structural reasons, manual emergency release may be carried out using a hydraulic hand pump.

The hexagon headed bolt (16) acts as a drain for condensed water or as an oil drain. Depending on the installation, a drainage pipe can often replace the bolt. The bolting in the outer body and cylinder provide for ease of assembly, but they cannot bear the operating load. Latter is carried by the main fastening bolts.

Instructions for installation, lubrication and maintenance are attached to each shipment.

The inner member being fixed to the shaft by a key carries the inner discs on gear teeth cut into the outside diameter. The outer discs are carved on internal teeth cut into the outer body and alternate with the inner discs to form the disc pack. The springs being integrated in the piston produce a pressure acting against the disc pack in unreleased condition. If pressure is supplied to the brake, the springs are pressed together, i.e. the disc pack is released from the pressure force and no torque is transmitted.

Type approved by Germanischen Lloyd and Det Norske Veritas


Multi Disc Clutches are mechanically operated friction clutches in multi disc design.

Operation is made by hand levers. Indirect operation (electrical, hydraulic, pneumatic) is possible by using a cylinder acting on both sides or an electrical switching device with respective shifting linkage.

Shifting under load and during operation is admissible.

Combinations with other BSD® power transmission elements – e.g. a flexible shaft coupling – are also available as well as special designs. Possible special designs: single disc design with turbo cooling, vertical installation, without levers as spring-loaded clutch, to be integrated in customer's machine parts, etc.
BSD® Multi Disc Clutches

Description

Multi disc clutches are suitable to engage and disengage drives, machines or machine parts. Due to axial displacement of an engaging sleeve with shifting ring an axial force acts on the disc pack by means of 3 pivoted levers which are set at 120° to one another on the circumference of the inner body. This means friction contact and thus transmission of torque.

No force, which arises from shifting linkage, may act on the shifting ring in engaged and disengaged condition in order to avoid an increased wear of the shifting ring. This means that stops are to be provided at the cylinder or at the shifting linkage in case of indirect operation (e.g. shifting cylinder).

Engaging and disengaging force must evenly act on the two opposing pins of the shifting ring.

Multi disc clutches can be used for dry and wet operation, but should not dip into oil. Lubrication according to our recommendation NR 555. Correct adjustment of torque should be done at customer’s site, most suitably when starting operation.

Internal lubrication (cooling) will be necessary at high initial speeds or for thermal ratings being higher than normally admissible. The inner bodies of double clutches are supplied separately.

Balancing on request. Important: Specify standard, class and speed.

Rexnord Antriebstechnik Dortmund, Telefon: 0231/8294-0, Telefax: 0231/827274
Überlastungs-Kupplungen

BSD®-Rutsch-Kupplungsabläufe, BSD-Lamellen-Rutschkupplungen

Overload Clutches

BSD® Torque Limiters, BSD Multi Disc Torque Limiter Clutches


BSD®-Rutsch-Kupplungsabläufe


Einsatz: fast alle Industriebereiche, insbesondere Fördermaschinen, Landmaschinen, Nahrungsmittelindustrie, Holzverarbeitung.

Drehmoment: bis 8000 Nm als Standard.

BSD®-Lamellen-Rutschkupplungen


Einsatz: fast alle Industriebereiche, insbesondere Fördermaschinen, Landmaschinen, Nahrungsmittelindustrie, Werkzeugmaschinen.

Drehmoment: bis 40000 Nm. (Auf Anfrage größer).

Overload clutches offer individual possibilities for reach drive application to eliminate damages and risks being caused by overload. Transmission of torque by friction.

BSD® Torque Limiters


Application: Nearly all industries, especially conveying equipment, agricultural machines, food industry, wood processing.

Torque: Up to 8,000 Nm as standard.

BSD® Multi Disc Torque Limiter Clutches

Little maintenance. High wear reserves. Large torques at small dimensions. Steel/sinter. Simple adjustment of torque. Wet and dry operation.

Application: Nearly all industries, especially conveying equipment, agricultural machines, food industry, machine tools.

Torque: Up to 40,000 Nm (on request larger).

Rexnord Antriebstechnik

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D-44032 Dortmund

Telefon 02 31 / 68 94-0
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Torque limiters are used where it is necessary to protect engines, gear drives or machine parts from overload. If the slipping torque - being adjusted by an adjusting nut - is exceeded the torque limiter will start to slip. The slipping torque can be adjusted between 10 and 100 % of the specified maximum torque.

In general, type 382 (without liner) is used for low and medium speeds and a low number of slipping cycles. Type 383 has the same dimensions but a liner is provided in addition.

The slipping torque is adjusted by means of a hook-spanner.

As standard torque limiters are designed for dry operation. Wet operation may be possible. Please consult Rexnord.

Geared wheels, sprockets, belt pulleys, etc., may be used as transmission elements. Important: the transmission element must show a plane parallelism of max 0.02 mm and a surface roughness of 6 to 16 µm.

We recommend k 6 as shaft fit and for the bore of the transmission element fit H 8.

Bores are to be machined with a tolerance of ± 0.02 mm rectangular to the friction surfaces.

Combinations with flexible couplings or other BSD® power transmission components may be possible.

Installation and maintenance instructions are accompanying each shipment Balancing on demand. Important: standard, class and speed to be specified.

BSD® torque limiters are provided with asbestos-free linings.
The inner body fixed to the drive shaft by a key carries the inner discs on gear teeth cut on its outside diameter. The outer discs are positioned in internal gear teeth cut into the outer body. The alternate drive and driven discs from the disc pack. The disc pack is bounded at each end by thrust plates. The snap rings act as a counter balance for the axial load applied through the disc springs.

Up to size 63 the disc springs are centrally located in the inner body. To adjust the clutch the disc springs which are arranged in single, double or triple stacking must be prestressed by means of the adjusting nut. The set screw acts as a locking device for the adjusting nut against the inner body.

From size 100 upwards the axial load is generated by the disc spring columns which are arranged separately on the adjusting ring and mounted on guide pins. The key prevents adjusting ring from rotation while turning of the adjusting nut. With the aid of the socket head screws (not included in the supply) the thrust plate is pulled towards the adjusting ring. Release of the load on the adjusting nut facilitates the adjustment procedure.

Combinations with flexible couplings or other BSD® power transmission components may be possible.

Installation and maintenance instructions are accompanying each shipment. Balancing on demand. Important: standard, class and speed to be specified.
BSD® Freewheels and BSD® Backstops
Clamping Roller and Wedge Type Design – also Centrifugal Releasing

Freewheels and Backstops are known and reliable as clamping roller designs. They operate by engaging the rollers into a given angle to block one direction of rotation.

Freewheels and backstops with centrifugal releasing wedge type elements having same connecting dimensions have also been proved as reliable designs. They feature high idling (overrunning) speeds and long idling (overrunning) times.

For some years freewheels and backstops with wedge type clamping elements carried in recesses have been available. Special feature: the clamping elements are carried in recesses (shaped as circular arc) of the inner part. Advantage: positive engagement between inner part and clamping element resulting in area contact instead of linear contact. Consequently, freewheels and backstops which are equipped with these clamping elements are especially suitable for high shock loads. BSD® freewheels are also available in combination with flexible couplings and overload clutches. Torque up to 370,000 Nm. Application e.g.: main and secondary drives, dual drives, auxiliary and inspection drives, rolling mill machinery, iron and steel mill machinery, printing machinery, agricultural and packing machinery.

BSD® backstops are typical safety elements. They prevent undesired reversal direction of rotation. Application: wherever reverse rotation shall be blocked off – e.g. for conveyor belts, bucket conveyors, pumps and gears.

BSD® Freiläufe und BSD® Rücklauf sperren
Klemmrollen- und Klemmkörper-Ausführung – auch fliehkraft abhebend


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e-mail: info@rexnord-antrieb.de
Clamping roller freewheels and backstops are equipped with cylindrical rollers as clamping elements. The rollers engage between the contact surface of the outer race and the clamping surface of the inner hub in one direction of rotation blocking this direction. They are free slipping in the opposite direction of rotation. Compression springs acting on the clamping rollers by thrust pins ensure the clamping readiness.

- Ball bearings incorporated on both sides center the outer race to the inner hub.
- Radial and axial forces are admissible by considering the capability of the incorporated bearings.
- Freewheels and Backstops which are manufactured in series are provided with symmetrical basic components. The direction of blocking may be changed by reasonable constructive modifications at site. Option: to specify blocking direction when ordering.
- The torque of Backstops which acts against the admissible direction of rotation is carried by a torque arm support with retaining pin. Important: the retaining pin must be carried in an oval hole having radial clearance.
- Shocks and strokes - e.g. in case of assembly and disassembly - must be avoided.
- Reinforced compression springs will increase the shifting precision.
- As standard oil lubrication is used. Exception: type 201 and type 271 are self-centering and are provided with grease filling.
- We recommend oil mist or spray for gearbox application.
- Oil filling is not included.

Freewheels and Backstops with centrifugal releasing wedge type clamping elements are mainly identical to the clamping roller design regarding the operating principle, dimensions and modular design. The wedge type elements are caged forming a modular unit. The geometrical design of the wedge type clamping elements ensures contact-free running between elements and raceway surfaces of the freewheel when exceeding a certain speed. The description of clamping roller design generally also applies to centrifugal releasing designs. Differences:

- As standard grease filling is provided.
- Oil lubrication may be possible. Please consult Rexnord.

Lubrication according to lubrication recommendation NR 555, this page.

Instructions for installation, lubrication and maintenance are attached to each shipment. If torque's TN are exceeded, loads on the connecting elements (shafts, fitting keys, bolts, etc.) have to be reviewed.