



Terex<sup>®</sup> Minerals Processing Systems

# D SERIES APRON FEEDERS



**WORKS FOR YOU.™**

# DEPENDABLE

## Quality Equipment and Support You Can Depend On

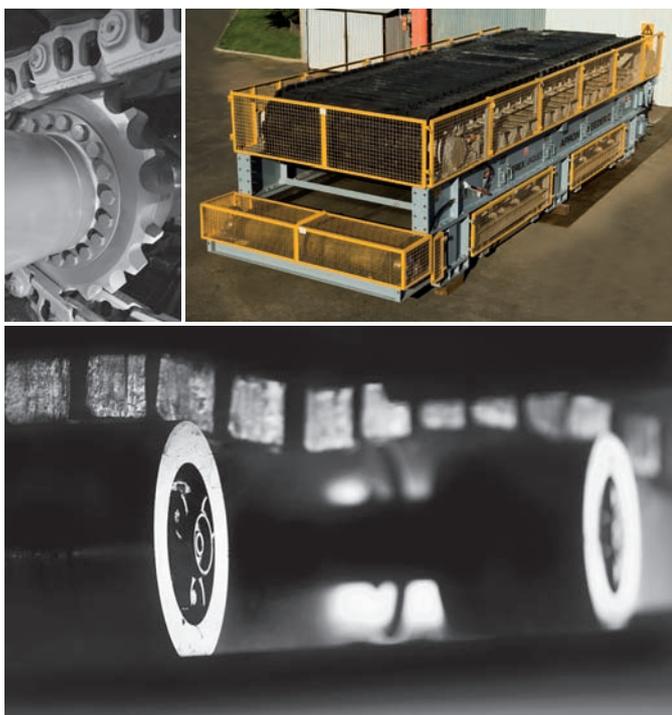
Terex® Minerals Processing Systems understands your business and we are dedicated to offering cost-effective solutions for your needs.

In today's competitive environment, you need to have high quality equipment. It's even better to know that your equipment is backed by an outstanding support network.

Customer satisfaction is our goal. Our service, parts, applications and sales teams are trained to provide our customers with crushing and screening process knowledge and fast friendly service. With over eight decades of experience, you can depend on us.



Please note: some photos in this publication show Terex® Jaques apron feeders with the safety guards removed. This is only in order to make technical features of the machine visible. It is not meant to illustrate the machine's normal operation.



## Rugged

**Terex® Jaques D Series apron feeders use heavy-duty crawler tractor track rollers and chain, a fabricated support frame, and high-strength steel head shafts and tail shafts.**

**Because of their durable, long-life components, our D Series apron feeders are low maintenance even under severe conditions.**

Typical applications include primary hopper recovery, stockpile reclaim, crusher feed and reclaim, ship and rail-car loading and unloading stations, ore pass recovery and other installations requiring a controlled feed.

We have over 50 years experience in designing and installing heavy-duty apron feeders. Our engineering application team ensures that each feeder is designed for the required duty, whether it is a relatively low capacity or as high as 14,500 mtp (16,000 tph).

Each machine is backed by total after-market service and spare parts.

**WORKS FOR YOU.™**

# MOVE MOUNTAINS



## Terex® Jaques D Series Apron Feeders

- Capacities up to 14,500 mtph (16,000 tph)
- Custom designed for any application
- Variable speed optimises plant capacity
- Proven design based on crawler tractor components
- Long wearing parts, low maintenance, low operating costs

## Benefits and Features

▶ **Long life, low maintenance and reduced operating costs.**

Proven heavy duty design.

▶ **Custom designed to suit each application and capacity.**

Many models of various widths and any length.

▶ **Long life because of impact and wear resistance.**

Cast manganese steel-ribbed flights.  
Special purpose flights also available.  
Single or twin bump rails as required.

▶ **Optimises plant capacity.**

Variable speed electro-mechanical or hydraulic drive.

▶ **Reduced tip height and ramp costs.**

Can be installed at an incline of up to 25 degrees.

▶ **Easy to unblock bridging in the hopper.**

Reversing capability.

▶ **Safety protection.**

Nip point guards down each side and tail of feeder.

▶ **High percentage surge pile recovery.**

Feeder can accept high head-load with long slots under surge piles.

▶ **Optimises plant and load-out station performance.**

A constant feed rate, when speed is controlled by a downstream conveyor belt scale.



▶ **Reduces costly truck waiting time.**

Correct feeder selection matches plant hopper capacity to dump truck capacity.

▶ **Sprockets can be replaced without splitting the chain.**

Segmental drive sprockets.

▶ **Easy to lubricate.**

Centralised lubrication at head and tail.  
Optional automatic lubrication.

▶ **Reduced spillage under feeder.**

Optional in-built dribble or scraper conveyor.

▶ **Simple to maintain the correct chain tension.**

Hydraulic chain tension adjustment is standard on most models.

## Apron Feeder Construction Details

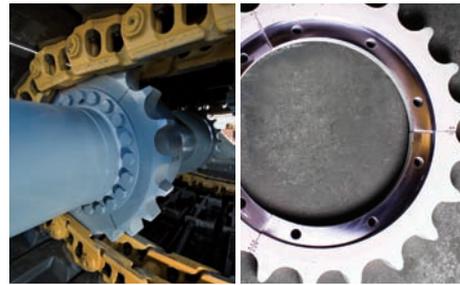


### ▲ Frame

The frame is welded, with rolled-steel longitudinal beams and cross members for rigid support of the carrying rollers. Modular carrier roller support frames are bolted to the cross beams for ease of removal and installation.

### Impact rails

Impact rails incorporate Bolt on Bump Rail design for ease of maintenance and replacement. These are fitted to the feeder frame to prevent permanent distortion of the flights under severe impact loading. Clearance is maintained between the underside flight ribs and the impact rail to prevent the flights dragging on the rail during normal operation. These heavy-gauge structural members add rigidity to withstand the impact loads during loading.



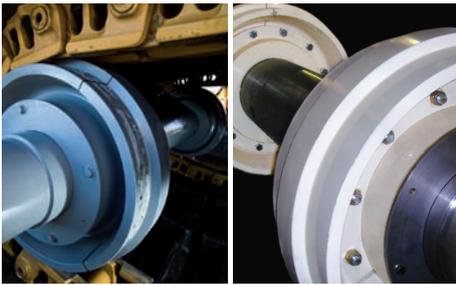
### ▲ Head shaft and sprockets

Segmental hardened steel sprockets are machined at the mounting interface with the sprocket hubs. The hubs are keyed to the drive shaft.

Sprockets incorporate a hunting tooth design which have the effect of increasing the life of the sprockets.

The segmented sprockets can be easily reversed for increased life.

Head shafts are high-strength steel and sized to suit the load requirements. The head shafts are fully machined to take bearings, sprocket hubs, seals and the drive. The drive may be located on either side of the feeder. Twin drives can be supplied when required.



#### ▲ Tail shaft and traction wheels

The traction wheels are a cast steel segmented design mounted to a steel hub, to allow maintenance and removal without the need to split or dismantle the feeder chain. They are machined and mounted to the tail shaft to accurately centre and track the chain. Each traction wheel hub is attached to the tail shaft with a friction grip locking assembly. There is minimal load at the tail end of the feeder, which assures a long life for the traction wheels.

An optional speed sensor can be supplied that provides a pulsing signal, that can be used by the plant controls to monitor speed.



#### ▲ Bearings

High capacity low-friction spherical roller bearings are used for both the head and tail shafts. The bearings are double-row, self-aligning spherical bearings in heavy-duty cast housings. A combination of labyrinth and lip seals are fitted to all bearing housings to protect from harsh environments.

At the tail end, the bearing housings have an adjustable screw allows positive positioning of the housings over the range of the chain adjustment.

All bearing housings are bolted to the main frame. The bolt holes at the tail end of the frame are slotted as to allow the tail shaft to be moved backwards for chain adjustment and maintenance.

#### ▲ Lubrication

Centralised greasing points are installed as standard at the head-shaft and tail-shaft ends of the feeder. An optional single-point centralised and automatic lubrication system options are also available.

## Apron Feeder Construction Details



### ▲ Carrier rollers

The carrier rollers are closely spaced, standard tractor components. They are designed and manufactured for long wear and maintenance-free service. Features include lifetime-lubricated fully sealed bearings, a hardened and ground shaft fitted with a central thrust shoulder, and hardened rollers.



### ▲ Return rollers

The return rollers support the return-strand of the flights and chain. Each roller is a modified crawler tractor carrier roller, with lifetime lubricated seals. Each roller is supported by a bracket which is bolted to the main frame for ease of removal and installation. Inspection ports located in the main beams in close proximity to the Return Rollers offer visual inspection of Rollers condition and wear, without disturbing any components



### ▲ Chain

Sealed and Lubricated (SALT) track chains are supplied as standard to give a long working life.

Pins and bushes are hardened on the wearing surfaces. The chain links are dropped-forged for increased load capacity. Their extra-wide design and large pin-bearing area reduces wear. Cone-shaped metal seals between the bushing end and the link counterbore keep contaminants out.

### Chain adjustment

Chain adjustment is carried out by loosening the tail shaft bearing housing mounting bolts and then opening the double acting hydraulic take-up cylinder to eliminate slack. Once this is complete, bearing housing bolts are re-tightened.

## ▼ Drive systems

Drive systems are selected for an efficient and cost-effective solution to a given application. A range of drive types can be supplied, including electro-mechanical and hydraulic. Variable speed drives are standard.

Feeders speed can be easily controlled from zero speed through to maximum from a remote location.

### **Electro-mechanical drive**

The drive system for the feeder generally includes a planetary reducer with a torque arm mounted on the head shaft. The mounting is either in-line or right-angled, with a direct-coupled AC electric motor. The speed of the motor is controlled by a variable voltage, variable frequency drive controller, which is commonly called a VVVF drive.

If needed for the application, independent coolers can be provided for the reducer and electric motor.

### **Hydraulic drive**

Hydraulic drives consist of a hydraulic motor, housed directly on the head shaft, and a hydraulic power unit.

Individual feeders can be driven by their own power unit. Or several feeders can draw their power from a single source. The power unit can be custom-designed, with stand-by filters and pumps to reduce maintenance down-time.



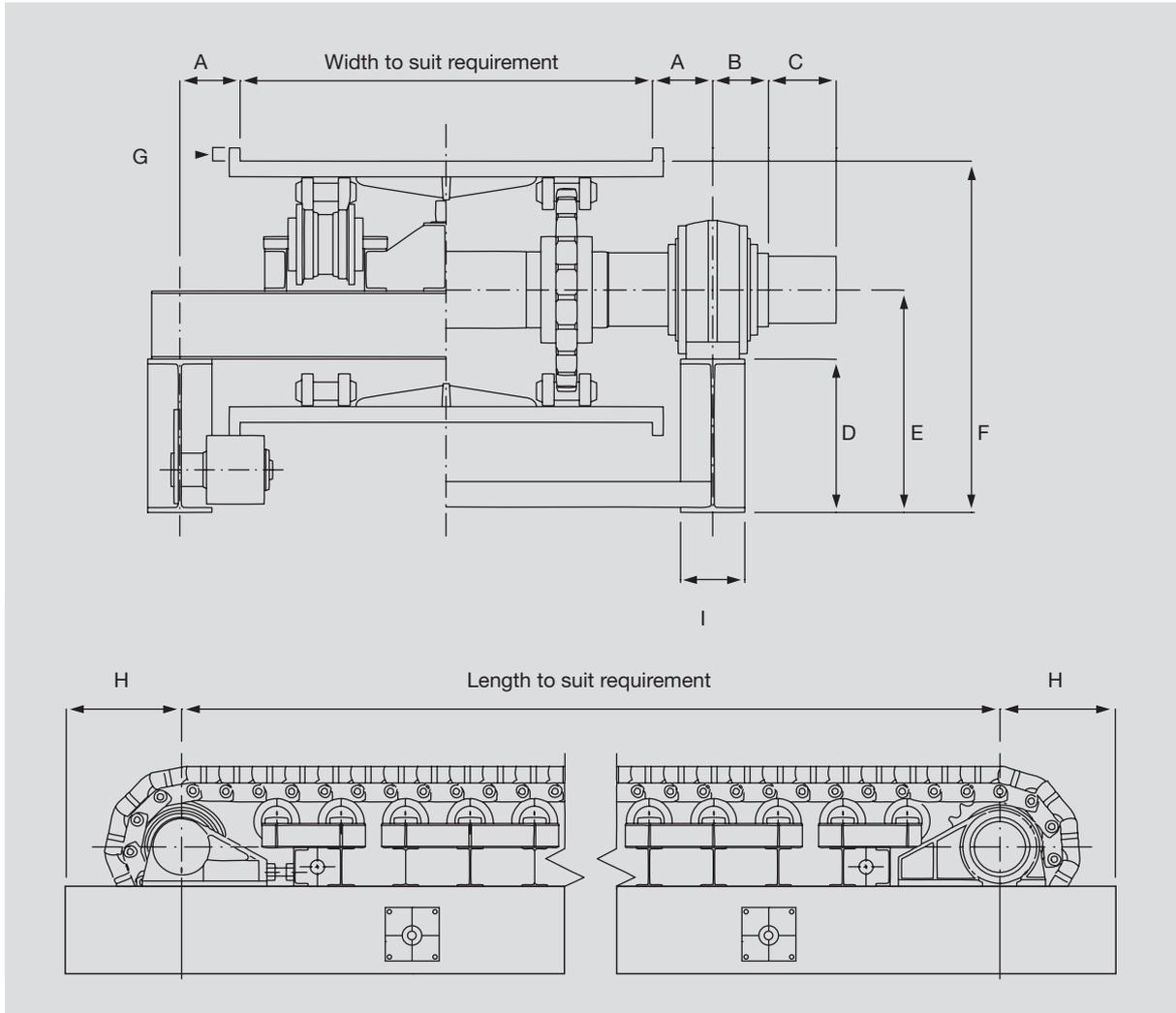
## ▲ Manganese steel flights

Our standard flights are cast work-hardening manganese steel which has properties making it ideal for high impact and abrasive conditions. The flights are ribbed on the underside for extra strength and have a machined chain mounting interface. Alloy steel bolts fix the flights to the chain. The clearance between adjacent flights is minimised to reduce leakage.

Alternatively, for some less severe applications, pressed steel flights are also available.

## Checklist for Purchasing an Apron Feeder

Terex® Jaques Apron Feeders		Why it matters
✓	Complete range, with capacities to 14,500 tph.	Feeders available for any application.
✓	Standard SALT tractor chain and carrying rollers used.	Very robust, low wear, low maintenance.
✓	Over 50 years experience in designing heavy-duty apron feeders for all applications.	Ensures a feeder suited to the purpose.
✓	Return rollers sealed for life.	Long wearing, no maintenance.
✓	Full range of drive types, including electro-mechanical and hydraulic.	Efficient and cost-effective solutions for each application.
✓	Positive continuous drive.	Effectively moves materials with poor flowability.
✓	10% reversing capabilities.	Assists in clearing blockages in the hopper and turning material on the feeder pan.
✓	Reduced tip height.	Can be inclined up to 25 degrees with lifter bars.
✓	Rugged construction and rigid support.	Able to withstand high head loads.
✓	Correct selection of feeder model and drive	Capable of pulling out from large cross-sectional areas under surge piles and within dump hoppers.
✓	Ore pass feeders and stockpile reclaim feeders.	A means for extracting material when there are high head-loads.
✓	Bolt on modular carrier roller support frame.	Allows replacement of carry rollers without splitting the chain.
✓	Half-pitch sprockets with an odd number of teeth.	Doubles the life of the sprockets.
✓	Closely spaced carrying rollers, using standard tractor components.	Long wear and maintenance-free service for the rollers.
✓	Hydraulic chain tension adjustment is standard.	Quick method of tension adjustment.
✓	Standard flights are cast work hardening manganese steel.	Flights resist impact and abrasion.
✓	Extensive branch network for spares and service support.	Greatly reduces downtime and lets you plan production confidently.
✓	Process knowledge of technical staff.	Expert help in integrating apron feeders into your plant.
✓	Proven in the field.	A factor in your Duty of Care in selecting equipment.



Approx. dimensions	D3	D4	D6	D8	D9	D10	D11
A	150	178	200	225	260	250	290
B	158	165	165	190	200	275	340
C	To suit drive requirements*						
D	457	457	528	700	716	816	1200
E	607	663	725	985	1046	1080	1460
F	864	1048	1139	1560	1689	1705	2322
G	65	38	60	60	70	70	100
H	500	600	750	750	1000	1000	1200
I	190	190	210	250	275	300	500

Footnote: Dimensions shown are approximate only and could be subject to change. Use only certified installation drawings for construction purposes. Dimensions shown are in millimetres.

\* Nominal 300mm for Electro-mechanical Drive and 150mm for Hydraulic Drive.



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**Give us a call to learn more about our extensive equipment range.**

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