

ENGINEERING
TOMORROW

Danfoss

Brochure

Airflex[®] Inching Drive Systems

Safer, simpler, faster solutions for mill startups and maintenance

VICKERS
by Danfoss

Low-power, high torque auxiliary drives put your operators in control

Shutting down and starting up grinding mills for maintenance and inspections can be challenging and dangerous. Many companies still rely on manual techniques to move machinery through its cycles, such as jogging the start/stop button. This inefficient technique is not only hazardous for workers but potentially damaging to mechanical systems.

Airflex Inching Drive Systems are the safer, simpler, faster solution. These low-power, high torque auxiliary drives allow you to control mill rotational movement from an inching pace to up to two revolutions per minute. They are designed and engineered to help elevate safety, prevent load freezing, simplify maintenance, extend component lifetimes, and maximize mill uptime.

Safety. First.

Airflex Inching Drives are designed to keep operators safe from accidental motor starts during mill maintenance and inspection. All drives feature a fail-safe brake, which engages automatically as the operator's first line of defense. To further improve safety and operator control, a keyed interlock feature keeps machinery from starting accidentally, while a pendant controller with a precision joystick gives operators unrestricted views of inching progress and mill position.

Faster, easier maintenance improves mill uptime

A solid steel coupling engagement mechanism connects to the driven pinion with a fast and simple movement

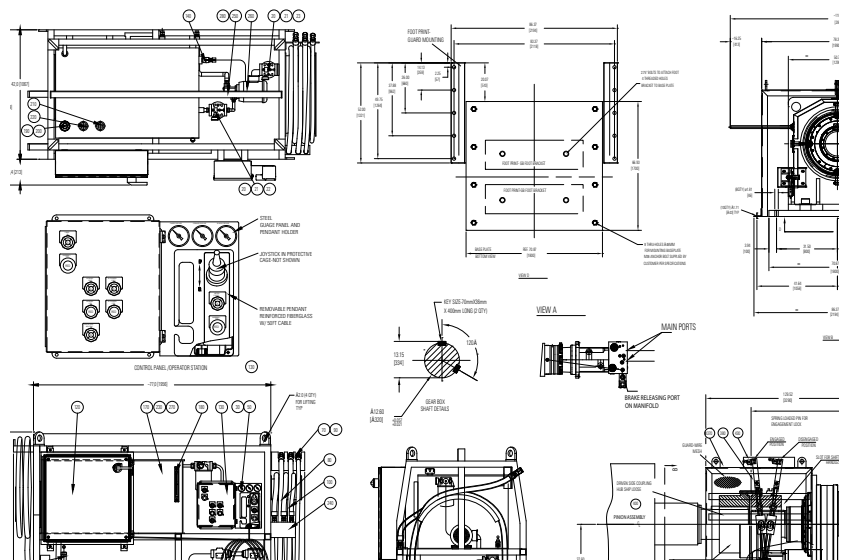
With Airflex Inching Drives, your operators have the tools they need to take control of grinding mill maintenance and inspections:

- A pendant controller with infinitely variable speed allows operators to inch machinery along smoothly
- System monitors and condition indicators give operators complete control of the operation, ensuring accurate rotation and position holding
- Non-reversible hydraulic hose connections ensure proper operation by preventing the possibility of incorrect connections
- A single-point lift system makes drives portable and easy to move around your facility or operation



Airflex's long history of delivering solution-based products to the mining industry has resulted in innovative features designed to make your grinding mill maintenance and inspections safer, faster and easier.

- **Shiftable coupling** sleeve and **robust handle** make engaging and disengaging the unit a simple matter, reducing installation time
- **Filtration system** enhances drive portability, reduces risk of equipment damage and extends the lifetime of peripheral equipment
- **Quick connects** speed maintenance and reduce the risk of damage to equipment
- **Sealed reservoirs** and oil coolers help extend component lifetimes
- **Torque-limiting** and **fail-safe brake** technology reduces the risk of equipment damage and maximizes component life
- **Bi-directional** rotation enables complete operator control



The solutions you need.

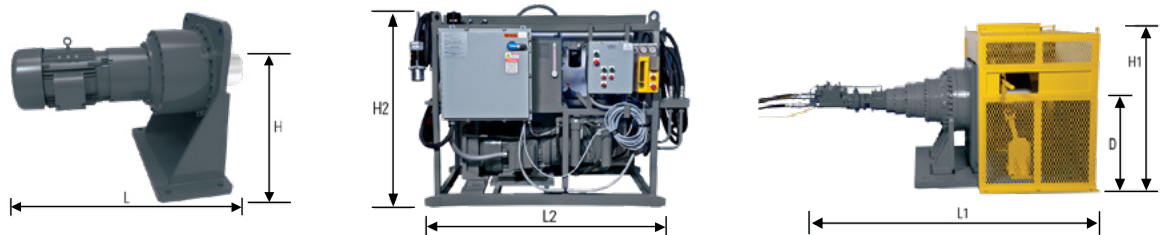
Customized to your exact specifications.

Airflex's well-known expertise at controlling massive loads with precision has produced a full line of Inching Drives engineered for a wide range of power and torque requirements. Find the drive that best fits the specifications of your grinding mill.

Power/Torque Level	Each Inching Drive comes with these standard features	Premium Package	Premium Plus Package
Electro-mechanical Up to 100HP 30,000 lb-ft	Electric motor, brake, gearbox, manual coupling combination	Standard package PLUS: Shiftable coupling - Easy connection, reducing installation time	Premium Package PLUS: Variable frequency drive - Enhances precision of positioning capability
	Local controller	Safety interlocks - Prevents equipment damage	Attached pendant control - Increases safety and enhances flexibility of operation
Low Power Hydraulic 25-200HP 20,000-100,000 lb-ft	Open circuit hydraulic system, hydraulic motor, brake, gearbox, manual coupling combination	Standard package PLUS: Shiftable coupling	Premium Package PLUS: Variable speed with attached pendant control
	Local controller	Safety interlocks	Hydraulic overrunning load management - Safer mill positioning
		Quick connect for hydraulic/electrical components - Enhanced portability and prevents excess oil loss between installations	Filtration - Extends lifetime of components
		Torque limiting - Protects pinion	Oil cooler - Enables continuous operation
High Power Hydraulic 100-500HP 50,000-1,000,000 lb-ft	Closed circuit hydraulic system, variable speed, hydraulic motor, brake, gearbox, manual coupling combination	Standard package PLUS: Shiftable coupling	Premium Package PLUS: Attached pendant control with wireless option - Increases safety and enhances mobility
	Local controller	Coupling guard with safety interlocks	Hydraulic overrunning load management - Extends lifetime of components
		Quick connect for hydraulic/electrical components	Sealed reservoirs - Extends lifetime of components
		Torque limiting	Self-contained oil filling system - Eases maintenance
		Filtration system - Extends lifetime of components	'Correct connection' indicators - Prevents operator error
		Oil cooler - Enables continuous operation	

Optional add-ons available for any level: spare hub, extra base plates, additional interlocks

Specifications



Electro-mechanical type

Power (hp)	Torque (lb. ft.)	L (in)	H* (in)
10	13130	36	18
15	19695	42	24
25	32825	48	30
30	39390	54	36
50	65650	72	36

*Other dimensions on request

Low and High power hydraulic type

Dimensions and Weights**

Power (hp)	Torque (lb. ft.)	Gear drive assembly				Weight (lbs.)	HPU			
		D (in)	L1 (in)	H1 (in)	W1 (in)		L2 (in)	H2 (in)	W2 (in)	Max Weight (lbs.)
10	22961	4.7	50	11	21	1200	74	57	39	1200
20	49526	5.3	52	11	21	1600	74	57	39	1500
25	82544	6.3	56	12	24	2000	74	57	39	2000
50	114972	6.7	62	13	27	2500	91	67	42	2700
60	172752	7.9	67	15	30	4500	91	67	42	3000
100	229944	8.3	72	17	34	5000	100	67	42	4000
125	333502	9.5	81	19	39	7500	103	96	53	4000
150	477576	11.0	87	21	42	10000	103	96	53	5000
250	651262	13.4	100	23	46	13000	135	106	60	5500
300	787900	16.0	128	28	55	24000	135	106	60	6500
500	1200000	20.0	155	36	60	26000	135	106	60	8000

**Weights and dimensions are approximate and should be used for estimation purposes only

The Danfoss **Advantage**

World-class, Worldwide

Danfoss supports Airflex® products with distributor locations in over 65 countries worldwide. Parts, experienced sales engineers, and instant access to Danfoss' power transmission knowledge base and manufacturing resources are as close as your local Airflex representative.

Engineered to Last

Danfoss combines over 70 years of industrial clutch and brake experience with groundbreaking, innovative, and proven product designs to deliver efficient and reliable application solutions you can count on. All Airflex products are backed by service to ensure complete satisfaction.

Custom Solutions

Danfoss' application engineering team is available to work with your engineers to optimize an application solution. From a single component to a complete system solution, the Danfoss application engineering and sales teams are ready to help you get the job done right the first time, every time.

Genuine Airflex Replacement Parts

Providing the highest reliability in harsh duty conditions for the lowest total life cycle cost

When you purchase a Danfoss product, you expect quality solution that will keep your application running at peak performance under the harshest operating conditions. Danfoss continuously strives to produce the highest quality product available because that is what customers require.

There are various choices in the market for friction material and other replacements parts, but why risk performance. Genuine Airflex replacement parts are an exact and will ensure your clutch or break will continue to perform to original specifications for its entire operating life.

To find out about genuine Airflex replacements parts, contact your Airflex representative or an Airflex authorized distributor.

To learn more about how Airflex products can meet your application requirement, visit www.danfoss.com



Danfoss Power Solutions, Nordborgvej 81, 6430 Nordborg, Denmark, Tel. +45 74 88 22 22, Fax +45 74 65 25 80
www.danfoss.com, E-mail: info@danfoss.com

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