

G3 Damper Drive Modules

KEY FEATURES

- Long maintenance-free life
- 2 million operations warranty
- Integral manual override - compact assembly
- Robust construction with durable finish
- Direct mount control modules
- Same mounting footprint available to replace existing equipment
- Infinite lever arm adjustment Interfaces with existing installations
- Manual override usable with actuator removed
- 40 years actuation experience

OPTIONS

- Double acting and spring fail-safe (open or closed)
- Modulating (3-15 psi and 4-20mA or digital positioning)
- Fail to low signal
- Lock in last position
- Limit switch remote position indication
- 4-20mA angle retransmission
- High visibility position indication
- Handwheel extension
- Remote manual override status indication

SPECIFICATION

CASING - Sand cast LM25 and mild steel

FINISH - Epoxy stove enamel.

SEALS - Nitrile rubber 'O' ring seals.

TEMPERATURE RANGE -

Standard -20°C to 80°C (-4°F to 175°F)

Consult Kinetrol regarding applications outside this range.

*Patent No: US 6,393, 931 B1

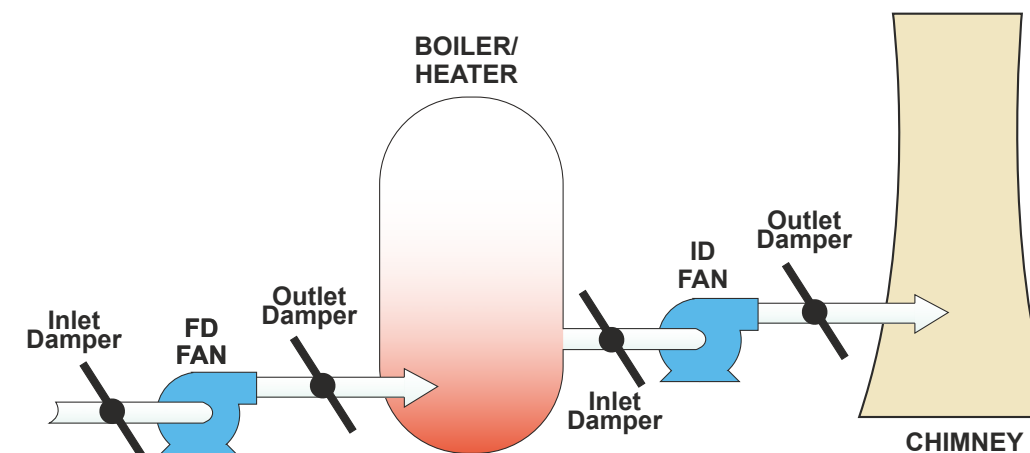
G3 Drives are purpose designed solutions to air/gas flow control problems in new or existing burner, heater, boiler and turbine systems in power plants and a wide range of industrial applications.

The patented* G3 Damper Drive units set a new standard for control and durability. Combining the proven performance and reliability of Kinetrol's vane type actuator with an equally rugged integral manual override/mounting frame, the new damper drive is compact and unbeatable when it comes to control accuracy and cycle life.

Kinetrol's vane type rotary pneumatic actuator eliminates the lost motion and wear associated with geared drives and the conversion from linear to rotary motion. This results in a long maintenance-free life (reducing down time and maintenance costs) and improved control (cutting fuel and production costs).

Compatible with all damper types, replacing existing floor mounted pneumatic, electric, hydraulic or electrohydraulic drives could not be easier as Kinetrol's G3's are simple and quick to retrofit.

An example of the layout in a 'typical' combustion system where Dampers are used for air flow control.



Replace floor standing drives with Kinetrol

OUTPUT LEVER - Dimensions are customer specified to facilitate direct interchange when Kinetrol drive is replacing an existing drive. (Please Note: Safety measures such as guarding, should always be in place to ensure that the moving lever cannot cause injury to anyone within the vicinity).

LEVER LOCKING ASSEMBLY - Provides infinite angular adjustment of output lever for ease of installation.

ROBUST HOUSING - Protects and seals critical bearings that are greased for life. Unaffected by coal dust, fly ash and moisture etc.

OPTIONAL LIMIT SWITCH BOX - Gives remote indication of manual override status. May be used for inter lock safety system etc.

LIFTING EYE - Strong lifting eye for site handling.

KINETROL VANE TYPE ACTUATOR - Compact with dual adjustable travel stops and one moving part (no grinding gears or hysteresis) gives high efficiency & reliability.

ACTUATOR MOUNTING PLATE - Allows actuator to be removed and refitted without opening up gear

HANDWHEEL - The handwheel is available in a range of diameters to suit application torque requirements and can be easily fitted to either side of the gearbox without requiring additional parts.

LATCHING DE-CLUTCH LEVER - Engages gears for manual operation or disengages gears for pneumatic operation.

HANDWHEEL EXTENSION - When necessary a handwheel extension can be specified to ensure the handwheel is at safe distance from output lever to avoid risk of operator injury.

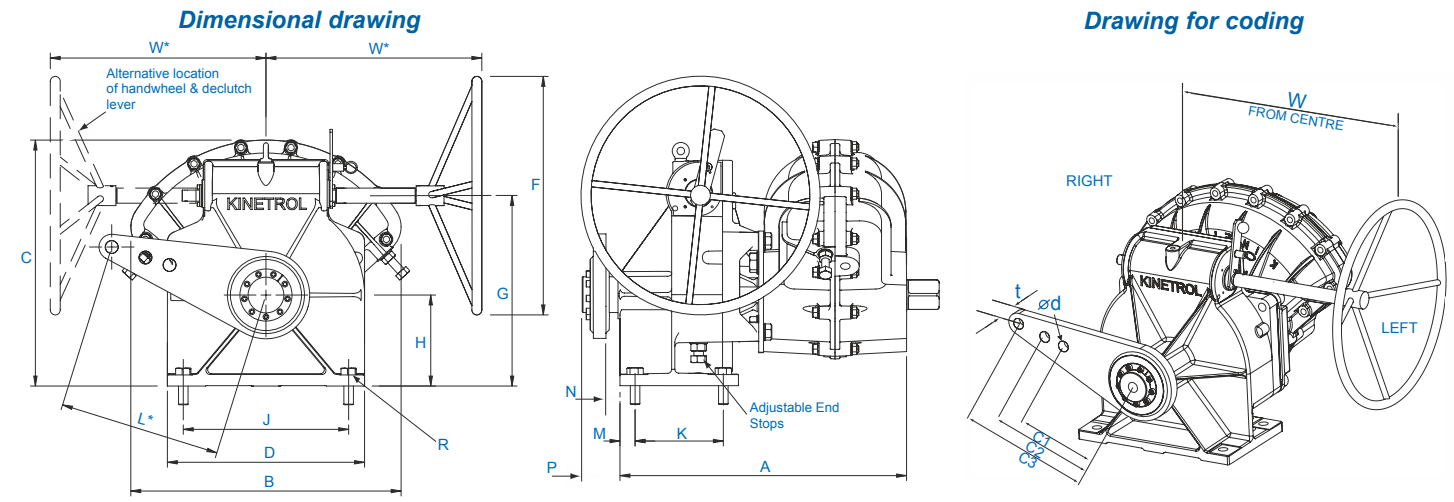
Key Industries Include:

- Power Generation
- Petrochemical
- Iron, Steel & Metals
 - Cement
- Paper & Pulp
 - Sugar
- Hospitals

Opportunities to put the Kinetrol Damper Drive to Work

- Crossover Dampers
- Forced-Draft Fan Dampers
- Induced-Draft Fan Dampers
- Fuel Nozzle Positioning Control
- Gas-Recirculation Fan Dampers
 - Hot Air Dampers
 - Primary-Air Dampers
- Secondary (Auxiliary) Air Dampers
 - Tertiary Air Dampers
 - Tempering Air Dampers
- Variable-Inlet Vane Dampers
 - Cyclone Air
- Pulverisator Air/Fuel Ratio
- Flue Gas Recirculation
 - Backdraft Damper
 - Baghouse Service
- Gas Turbine Intake & Exhaust
 - Desulphurisation

KINETROL



PRINCIPAL DIMENSIONS IN MM (Dimensions marked * are variables)

Model	A	B	C	D	W*	F*	G	H	J	K	∅R	M	P	Weight	7 bar OUTPUT TORQUE (Nm)
140	410	353	390	275	300	300	300	165	216	152	21	25	70	46Kg	1375
160	495	525	470	275	330	400	300	165	216	152	21	25	70	51Kg	3100
180	721	680	620	496	432	600	479	229	416	222	27	38	94	141Kg	6900
200	981	680	620	496	508	600	479	229	416	222	27	38	94	158Kg	12760

PRINCIPAL DIMENSIONS IN INCHES (Dimensions marked * are variables)

Model	A	B	C	D	W*	F*	G	H	J	K	∅R	M	P	Weight	80psi OUTPUT TORQUE (lbf.ins)
149	16.2	14.1	15.4	10.8	12.0	12.0	11.8	6.5	8.5	6.0	0.83	1.0	2.8	102lb	9600
169	19.5	20.7	18.5	10.8	13.0	16.0	11.8	6.5	8.5	6.0	0.83	1.0	2.8	112lb	21600
189	28.4	26.8	24.3	19.5	17.0	24.0	18.9	9.0	16.38	8.75	1.05	1.5	3.7	310lb	48000
209	38.6	27.2	24.3	19.5	20.0	24.0	18.9	9.0	16.38	8.75	1.05	1.5	3.7	350lb	89000

W* Table shows default dimensions, Longer offsets are available

The weights listed above exclude the weight of the actuator, please see catalogue for actuator weights.



Ordering Codes

HANDWHEEL SIDE (SEE SKETCH)
L=LEFT
R=RIGHT

HANDWHEEL DIAMETER (F)
2=254mm 10"
3=300mm 12"
4=400mm 16"
5=600mm 24"
6=762mm 30"

AVAILABLE ON MODELS:

14	16	18	20
E			
S	E		
E	S		
		E	S
			S

OUTPUT LEVER THICKNESS (t)
1=3/8"
2=1/2"
3=5/8"
4=3/4"
5=7/8"
6=1"
7=1 1/8"
8=1 1/4"
9=1 1/2"

OPTIONAL LIMIT SWITCH BOX (TO INDICATE IF HANDWHEEL IS ENGAGED OR DISENGAGED) OPTIONS:
0 = NO LIMIT SWITCH
1 = 2 x i/S PROX. SENSORS
2 = 2 x PNEUMATIC LS
4 = 2 x V3 MECH LS
5 = 2 x 20260 Vac PROX.*
6 = 2 x 560 Vdc PROX.*
7 = 4 x V3 MECH LS

WHERE APPLICABLE:
S = STANDARD
Y = NO COST OPTION
E = EXTRA COST OPTION
[] = NOT AVAILABLE

INCLUDING D/A ACTUATOR:
144 = ISO BASIC D/A ACT
147 = ANSI BASIC D/A ACT
164 } ISO D/A ACT (FOR USE WITH OR WITHOUT POSITIONER)
184 }
204 }
167 } ANSI D/A ACT (FOR USE WITH OR WITHOUT POSITIONER)
187 }
207 }

HOLE DIAMETER (d)
2=12.7mm 1/2"
3=15.9mm 5/8"
A=11/16"
4=19.1mm 3/4"
5=22.2mm 7/8"
6=25.4mm 1"
7=28.6mm 1 1/8"
8=31.8mm 1 1/4"
9=38.1mm 1 1/2"

LEVER HOLE PATTERN

No.	DISTANCE FROM CENTRE			AVAILABLE ON MODELS			
	C1	C2	C3	14	16	18	20
01	101.6mm 4"	152.4mm 6"	203.2mm 8"	Y			
02	127mm 5"	152.4mm 6"	177.8mm 7"	Y	Y		
03	127mm 5"	198.1mm 7.8"	254mm 10"	Y	Y	Y	
04	152.4mm 6"	254mm 10"	304.8mm 12"	Y	Y	Y	Y
05	165.1mm 6.5"	190.5mm 7.5"	215.9mm 8.5"	Y	Y	Y	
06	190.5mm 7.5"	215.9mm 8.5"	241.3mm 9.5"	Y	Y	Y	Y
07	266.7mm 10.5"	292.1mm 11.5"	317.5mm 12.5"	Y	Y	Y	Y
08	228.6mm 9"	342.9mm 13.5"	457.2mm 18"	Y	Y	Y	Y
09	254mm 10"	304.8mm 12"	381mm 15"	Y	Y	Y	Y
10	254mm 10"	381mm 15"	508mm 20"	Y	Y	Y	Y
11	254mm 10"	317.5mm 12.5"	406.4mm 16"	Y	Y	Y	Y
12	254mm 10"	330.2mm 13"	406.4mm 16"	Y	Y	Y	Y
13	304.8mm 12"	406.4mm 16"	444.5mm 17.5"	Y	Y	Y	Y
14	317.5mm 12.5"	363.2mm 14.3"	406.4mm 16"	Y	Y	Y	Y
15	147.3mm 5.8"	279.4mm 11"	304.8mm 12"	Y	Y	Y	
16	152.4mm 6"	190.5mm 7.5"	228.6mm 9"	Y	Y		
17	101.6mm 4"		304.8mm 12"	Y			
18			127mm 5"	Y	Y		
19			203.2mm 8"	Y	Y	Y	

POSITION MONITOR ON LS BOX:
C=YES
0=NO

IF NECESSARY, FIT OPTIONAL EXTENSION TO ENSURE THAT HANDWHEEL IS AT A SAFE DISTANCE FROM MOVING OUTPUT LEVER.

* Not available with ATEX approval

The policy of KinetroL is one of continuous improvement. We reserve the right to alter the product as described and illustrated without notice. For confirmation of the current specification, contact KinetroL Limited.