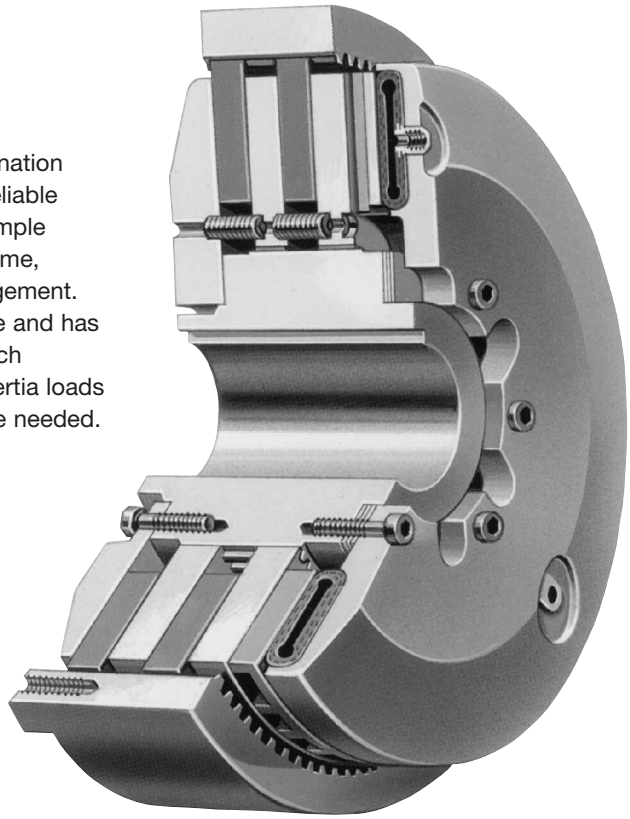
Standard Vent Clutches

Coupling Clutches

The Wichita Standard Vent Combination Clutch-Coupling is designed for reliable in-line power transmission. The simple air-tube design, with small air volume, speeds engagement and disengagement. It is unaffected by centrifugal force and has no self-energization like drum clutch designs. Ideally suited for large inertia loads where smooth controlled starts are needed.

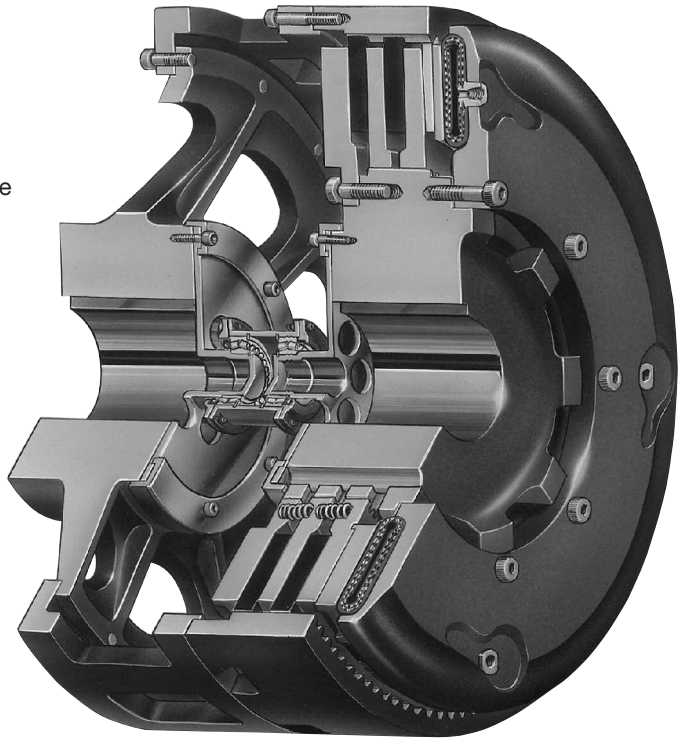
See pages 125 thru 129.



Grinding Mill Clutches

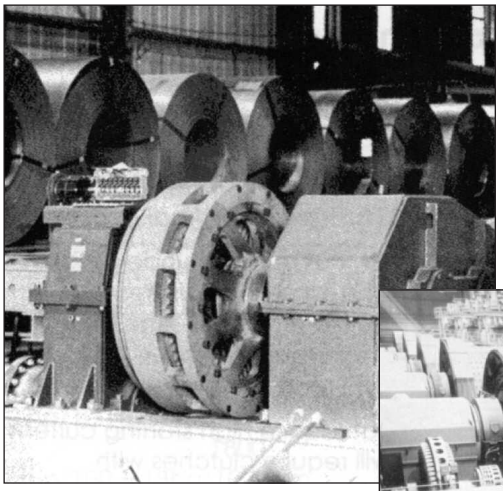
Wichita Grinding Mill Clutches are specially designed to provide quick, smooth starts with limited current surge for heavy duty grinding mills. The clutch is adaptable to remote control allowing centralized operation through simple air or electric circuits.

See pages 130 thru 137.

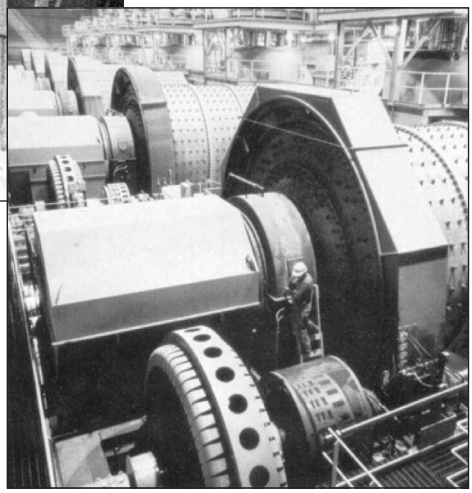


Typical Applications

Reliable, trouble-free Wichita Standard Vent Clutches handle maximum loads on drilling rigs.



Wichita ATD-342 Clutches allow smooth acceleration of coil transporter.



Wichita Grinding Mill Clutches provide shock-free start-up of large inertia loads.

Application Guidelines

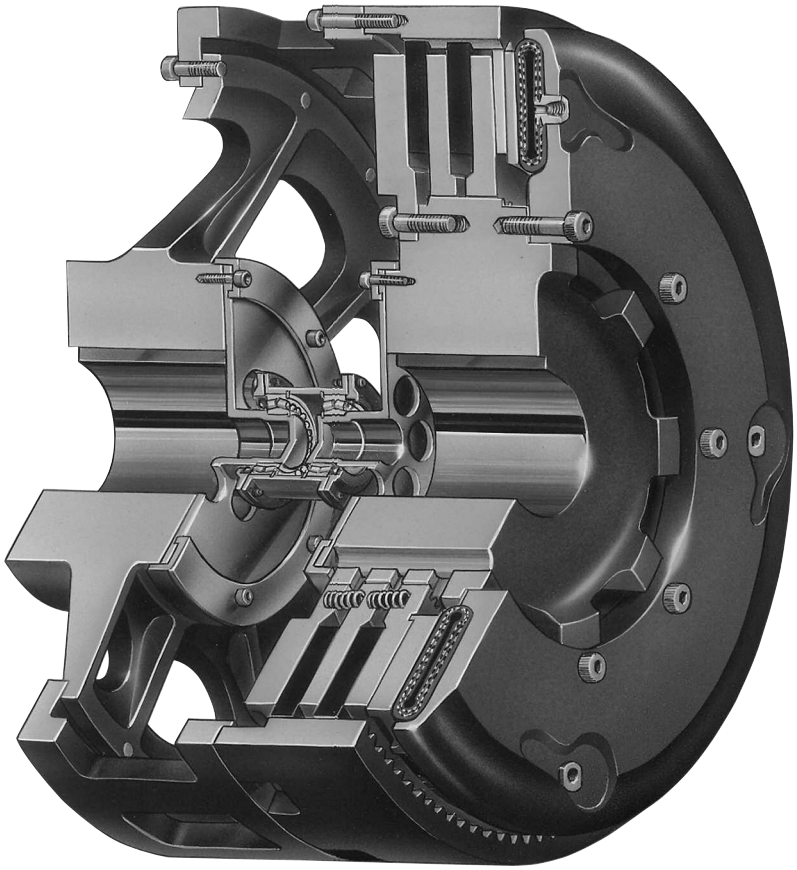
Clutch selection is made by knowing the application horsepower/100 RPM, the available air pressure, required torque and the clutch heat horsepower. The Requirements Table (Chart A) gives application factors ranging from light duty (the A group) to extra heavy duty (the D group).

Chart A

Field of Application	Group A	Group B	Group C	Group D
Pumps		Centrifugal compressors	Reciprocating compressors over 2 cylinders, centrifugal fans & blowers	Reciprocating compressors one or two cylinders
Agitators	Liquid	Semi-solid	Solids	
Brick manufacturing			Brick press, extruder, pug mill	
Can & bottling machine		Bottle-can feeders, filling, mixers		
Engine driven equipment			Crane, hoist, engine	Crowd
Grinding mills			Ball-rod-sag-pebble	Crushers, shakers
Lumber processing		Yarder	Carriages, conveyers	Chipper, logger
Marine		Propulsion clutch CP wheel	Shaft brakes, propulsion reversing type, anchor winch	
Bulk material handling	Conveyors evenly loaded, line shaft evenly loaded	Feeders	Elevators	
Metal production & metalforming		Coilers, slitters, press brake, non-geared press, geared press	Draw bench, rolling mill, shear, back geared press, deep draw press, transfer press, toggle press	Hammer mill, forming press, forging press, header press, knuckle press
Paper industry dryer sections & calenders consult factory			Fourdrinier to 500 FPM, paper mill plane & smoothing press	Fourdrinier to 1800 RPM press selections, calenders & dryers
Petroleum production		Drilling & service rig master clutches, compound clutches, rotary, drum		Mud pumps, PTO clutches
Rubber manufacturing	Transfer machines evenly loaded		Banberry mixer, drum mixer, extruder, calender	Centrifuge

Grinding Mill Clutches

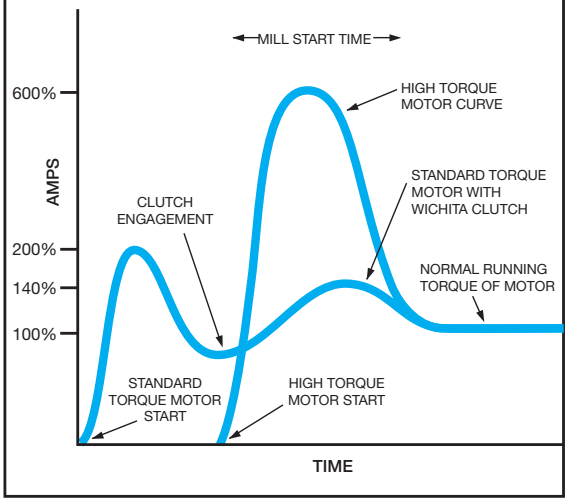
- **Designed for heavy duty applications**
- **Quick, smooth starting**
- **High heat dissipation for jogging and inching**



Wichita Grinding Mill Clutches are specially designed to provide quick, smooth starts with limited current surge for heavy duty grinding mills. The clutch is adaptable to remote control allowing centralized operation through simple air or electric circuits.

- No adjustment or lubrictation
- Eliminates need for special high torque motors
- Torque capacity not affected by centrifugal force
- High heat dissipation for jogging and inching

Standard Torque Motor with Wichita Clutch vs. High Torque Motor

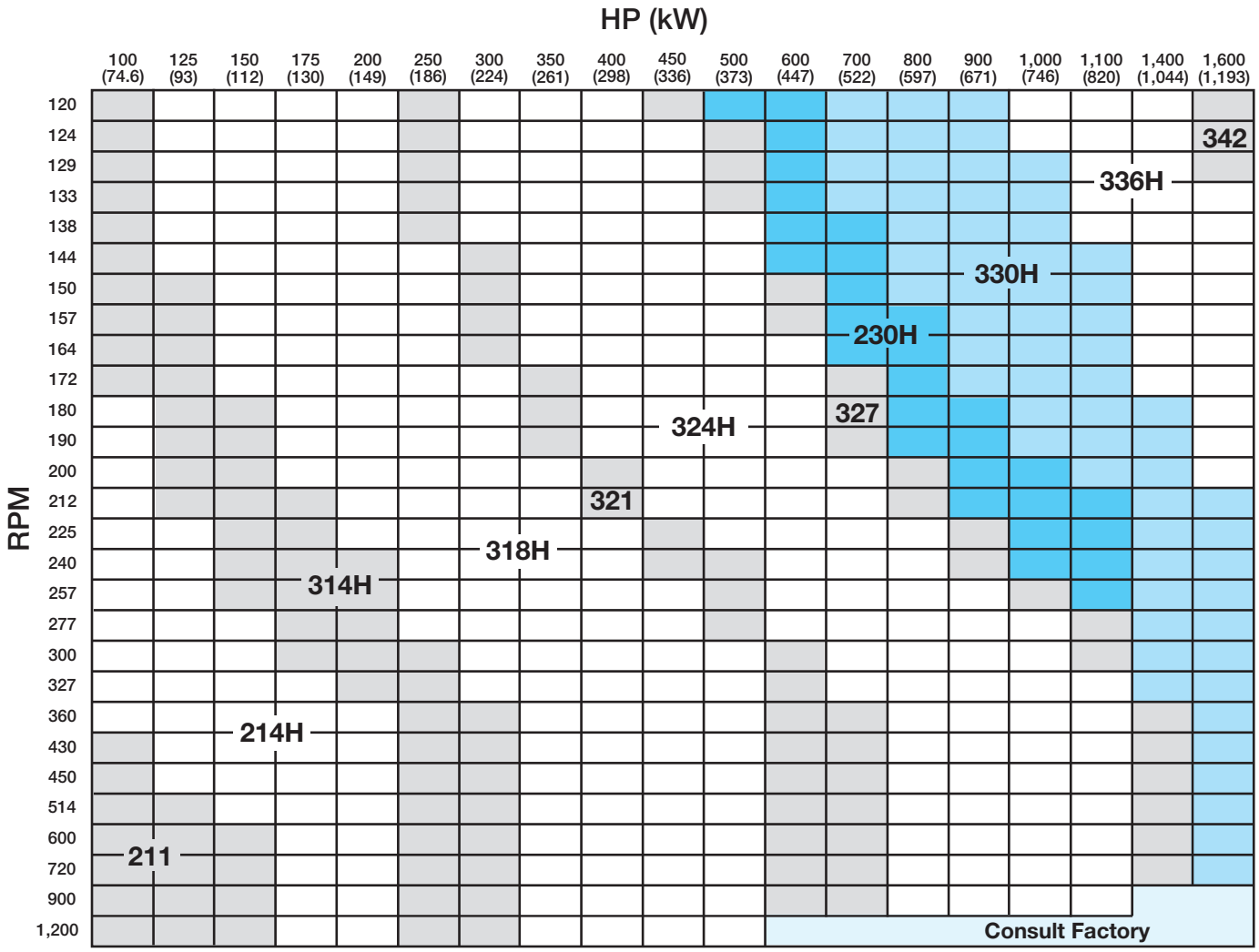


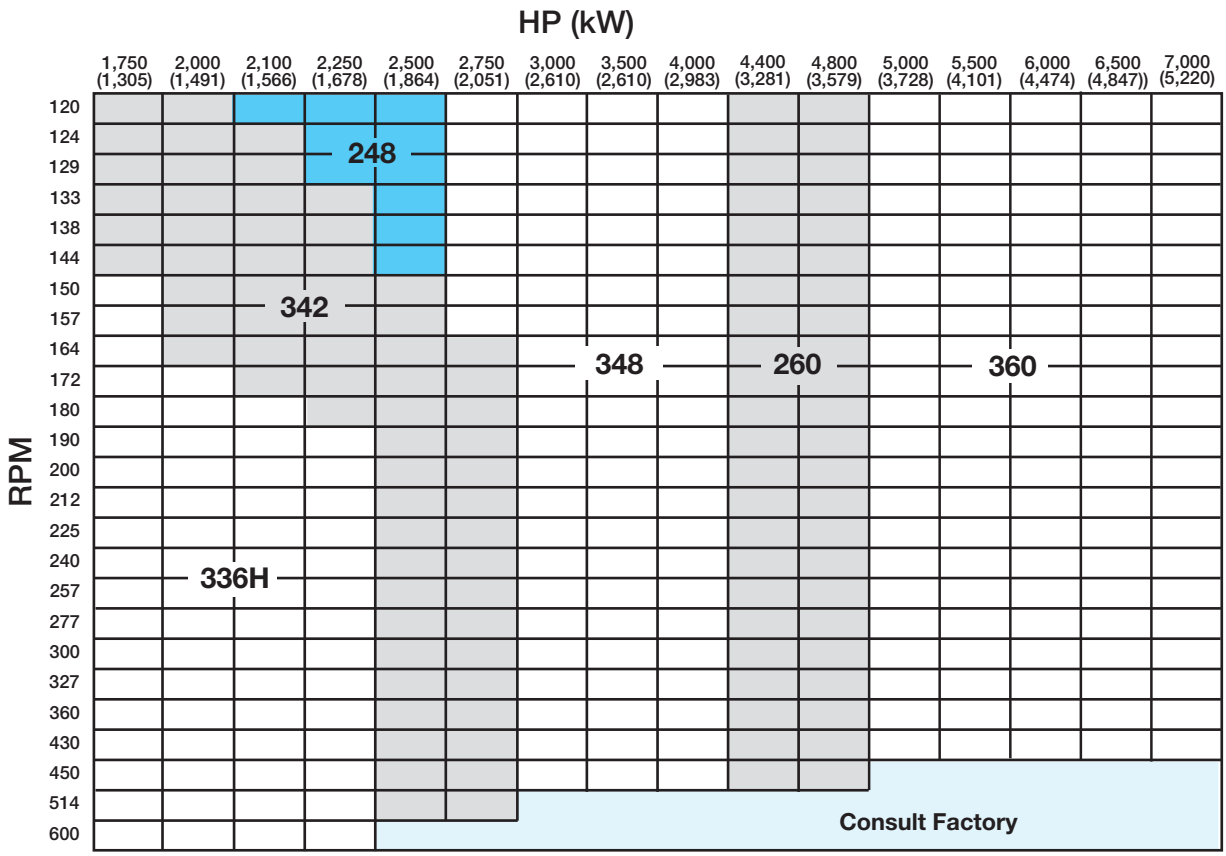
Specifications

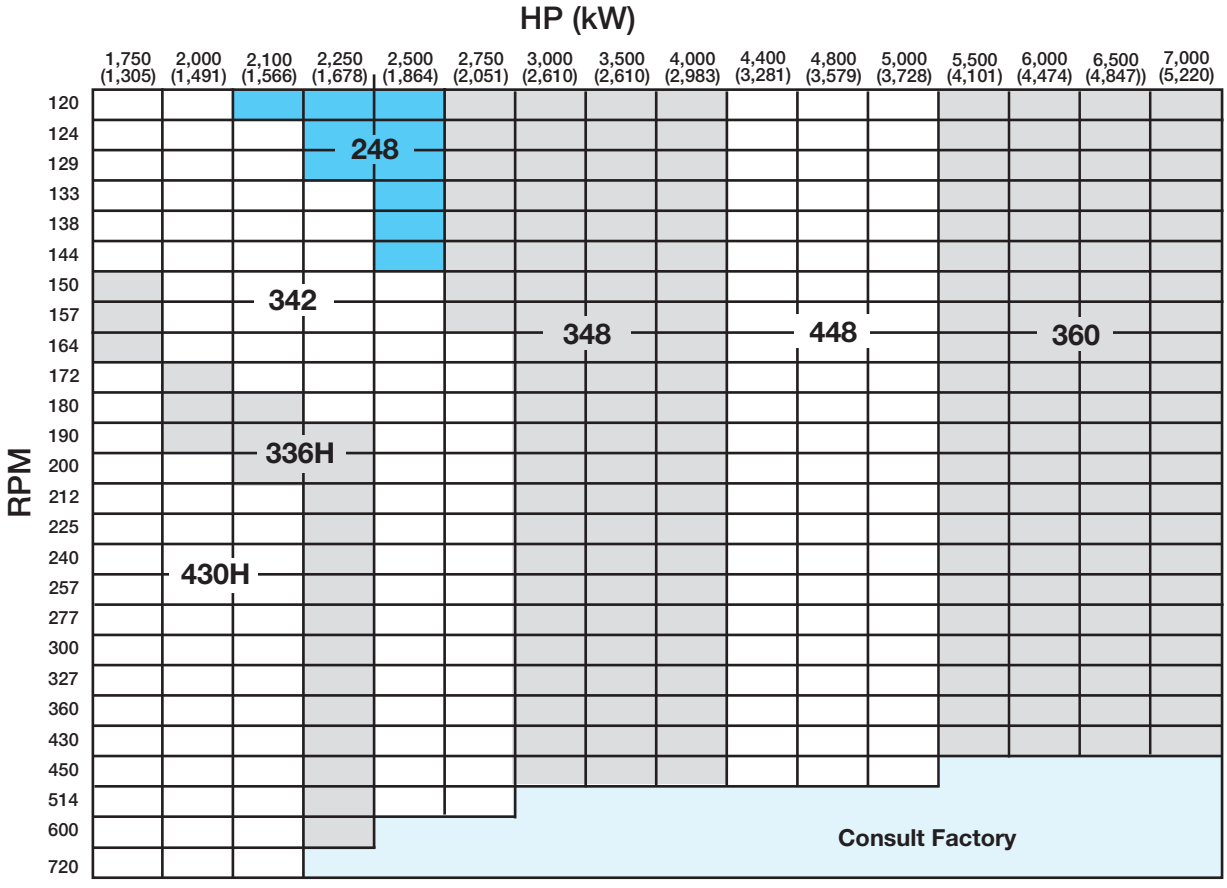
Technical						Capacity				
Model Size ATD–	Air Supply	Total Weight lb.	Total WR^2 $lb.ft.^2$	Driving Adapter Ring & Disc		Diameter Friction Disc-in.	Max. Speed (RPM) For 6000 FPM @ Fric Disc O.D.	HP per 100 RPM	Lining Area $in.^2$	Rated Torq. in.lbs. 100 PSI
				Wt.	WR^2					
211 GMC	5/8"-18	130	24	57	16	11	2,100	18	228	31,800
214H GMC	5/8"-18	333	111	152	58	14	1,640	40	336	71,600
314H GMC	5/8"-18	385	132	190	75	14	1,640	60	504	107,400
318H GMC	1"-14	727	333	356	220	18	1,275	120	792	225,000
321 GMC	1"-14	980	663	500	280	21	1,100	150	1,086	263,000
324H GMC	1"-14	1,350	970	590	600	24	950	270	1,722	461,000
327 GMC	1"-14	1,580	1,130	675	540	27	850	300	2,190	517,500
230H GMC	1"-14	2,126	2,046	1,036	1,150	30	760	380	1,664	654,000
330H GMC	1"-14	2,600	2,100	1,125	1,250	30	760	570	2,496	981,000
430H GMC	1"-14	3,578	2,980	1,497	1,148	30	760	760	3,328	1,308,000
336H GMC	1"-14	3,550	4,650	1,510	2,215	36	640	885	3,450	1,813,500
342 GMC	1-1/2"-12	4,815	10,505	2,315	6,130	42	540	1,275	4,212	2,179,000
248 GMC	1-1/2"-12	6,580	16,275	2,825	9,523	48	475	1,600	4,020	2,805,000
348 GMC	1-1/2"-12	7,540	18,470	3,274	9,700	48	475	2,400	6,030	4,207,500
448 GMC	1-1/2"-12					48	475	3,200	8,040	5,610,000
260 GMC	1-1/2"-12	10,600	37,300	5,750	23,600	60	380	3,470	7,240	5,950,000
360 GMC	1-1/2"-12	13,390	47,850	5,900	27,550	60	380	5,200	10,850	8,925,000
460 GMC	1-1/2"-12	16,860	57,705	7,500	33,238	60	380	6,940	14,480	11,900,000
560 GMC	1-1/2"-12	20,050	78,642	8,300	28,512	60	380	8,675	18,100	14,875,000
372 GMC	1-1/2"-12					72	300	7,758	14,460	13,965,000
472 GMC	1-1/2"-12					72	300	10,344	19,280	18,620,000
572 GMC	1-1/2"-12					72	300	12,930	24,100	23,275,000

Standard Vent Clutches

Grinding Mill Quick Selection Chart




HP (kW)
1,750 (1,305)
2,000 (1,491)
2,100 (1,566)
2,250 (1,678)
2,500 (1,864)
2,750 (2,051)
3,000 (2,610)
3,500 (2,610)
4,000 (2,983)
4,400 (3,281)
4,800 (3,579)
5,000 (3,728)
5,500 (4,101)
6,000 (4,474)
6,500 (4,847))
7,000 (5,220)
RPM
120
124
129
133
138
144
150
157
164
172
180
190
200
212
225
240
257
277
300
327
360
430
450
514
600
248
342
336H
348
260
360
Consult Factory


HP (kW)
1,750 (1,305)
2,000 (1,491)
2,100 (1,566)
2,250 (1,678)
2,500 (1,864)
2,750 (2,051)
3,000 (2,610)
3,500 (2,610)
4,000 (2,983)
4,400 (3,281)
4,800 (3,579)
5,000 (3,728)
5,500 (4,101)
6,000 (4,474)
6,500 (4,847))
7,000 (5,220)
RPM
120
124
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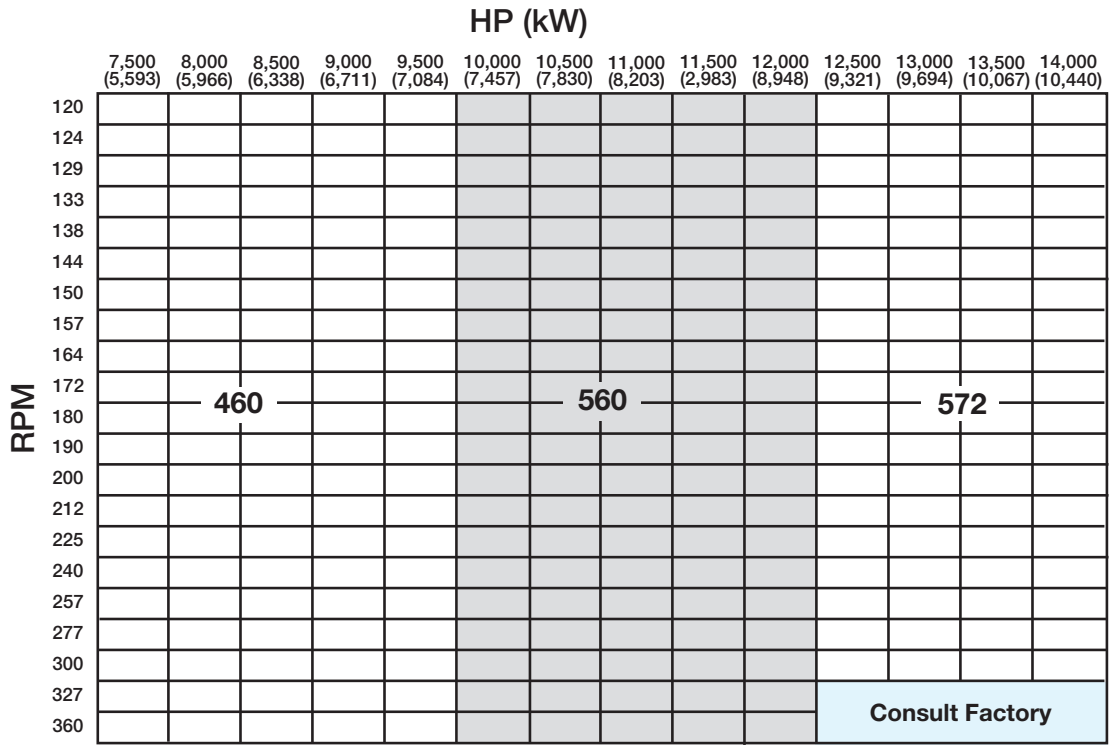
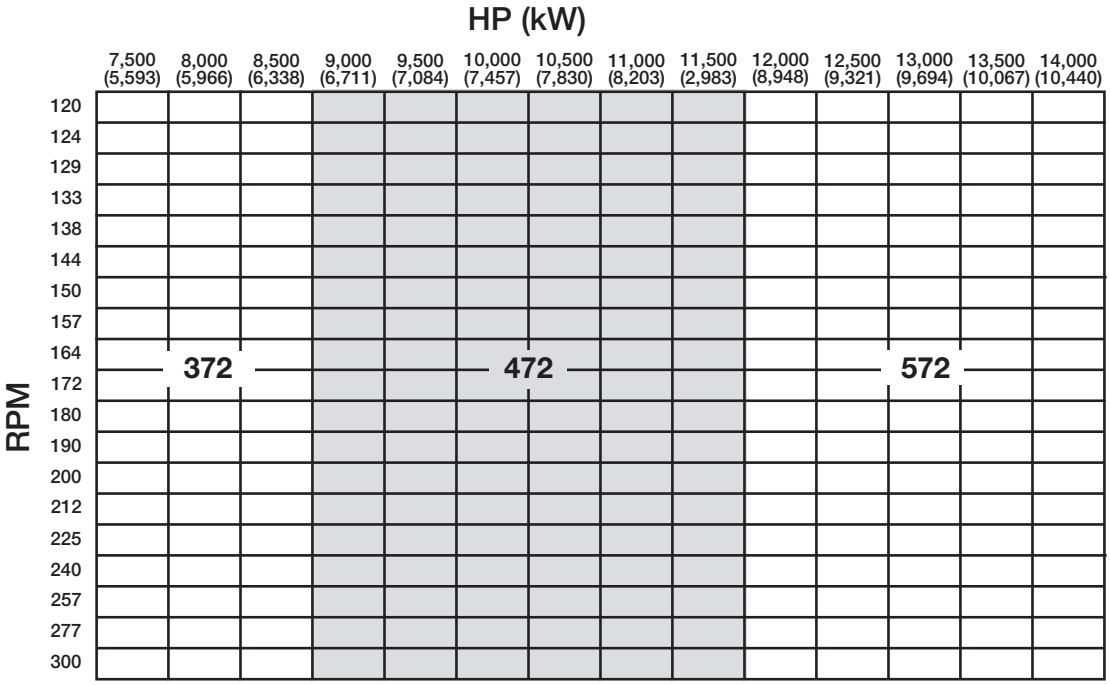
200
212
225
240
257
277
300
327
360
430
450
514
600
720
248
342
336H
430H
348
448
360
Consult Factory

E

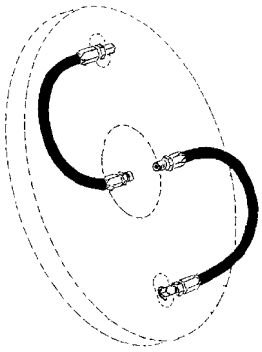
Standard Vent Clutches

Grinding Mill Quick Selection Chart

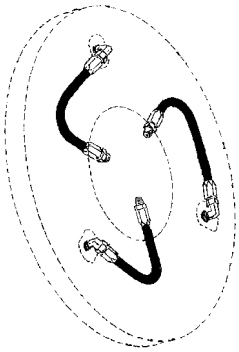




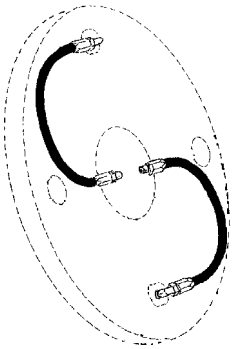
Air Hose Kits



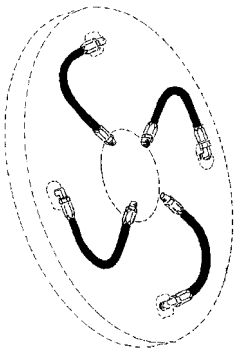
Model	Part Number
8"	8-908-812-200-3 8-908-821-200-4 QRV
11"	8-911-812-200-4 8-911-821-200-5 QRV
14"	8-914-812-201-5 8-914-821-202-5 QRV



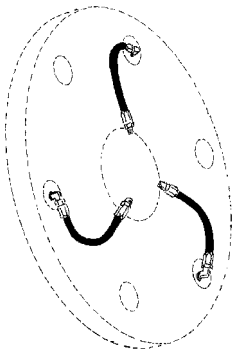
Model	Part Number
18"	8-918-812-301-5 8-918-821-300-5 QRV
21"	8-921-812-301-5 8-921-821-302-5 QRV
24"	8-924-812-300-5 8-924-821-302-5 QRV
27"	8-927-812-300-5 8-927-821-301-5 QRV



Model	Part Number
30"	8-930-815-201-5
30"H	8-931-821-200-5 QRV
36"	8-936-815-200-5 8-936-821-200-5 QRV
42"	8-942-815-200-5 8-942-821-200-5 QRV
48"	8-948-815-200-5 8-948-821-200-5 QRV



Model	Part Number
30"H	8-931-821-400-5 QRV

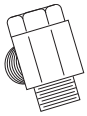


Model	Part Number
60"	8-960-812-300-5

Air hose kits contain all necessary parts (fittings, hoses and extensions) to completely plumb only the clutch.

Optional Quick Release Valves can replace elbows on most units (see page 138).

Roto-couplings (see page 138).

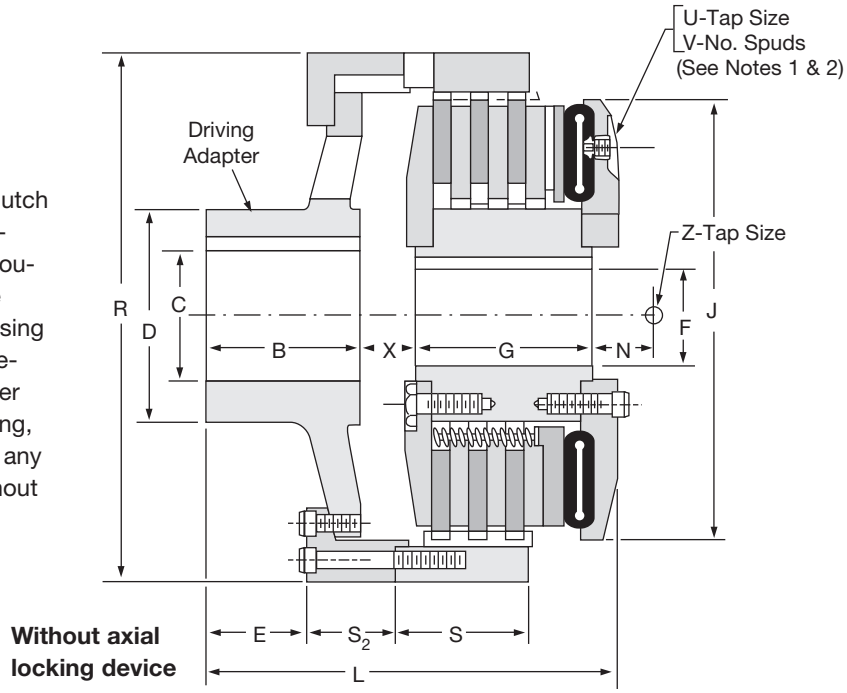


E

Grinding Mill Clutches

Driving Adapters

The driving adapter is designed to allow the clutch to be used in a shaft-to-shaft or through-shaft coupling arrangement. The quick-change feature, using a driving elbow piece between the driving adapter and the clutch driving ring, enables replacement of any wearing clutch part without disturbing either shaft.



Dimensions: inches (Consult factory for drawing before final layout.)

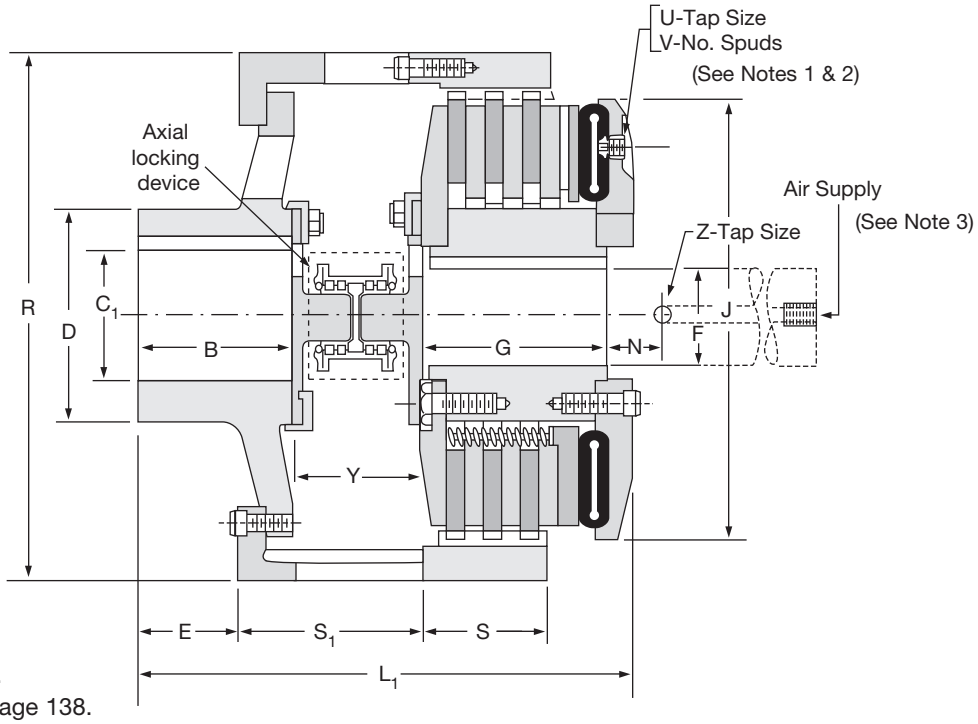
Model Size ATD–	B	C* Max. Bore Rect. Key	C1* Max. Bore Rect. Key	D	E	F* Max. Bore Rect. Key	G	J	L	L_1
211 GMC	3.00	3.00	—	5.00	2.00	3.00	4.25	11.94	10.00	—
214H GMC	3.25	4.13	—	6.25	2.13	3.38	5.75	16.31	11.88	—
314H GMC	3.25	4.13	—	6.25	2.13	3.38	7.18	16.31	13.38	—
318H GMC	6.00	4.00	—	6.00	4.38	4.00	7.31	21.31	17.43	—
321 GMC	6.00	6.50	—	9.00	4.00	5.38	8.63	21.31	20.50	—
324H GMC	7.31	7.50	—	10.00	5.56	5.38	8.43	27.00	21.56	—
327 GMC	7.31	7.63	—	11.50	5.56	7.00	9.00	27.00	20.94	—
230H GMC	8.75	9.38	9.38	14.00	6.50	7.00	7.88	32.38	22.63	24.43
330H GMC	8.75	9.38	9.38	14.00	6.50	7.00	10.88	32.38	25.25	26.94
336H GMC	10.00	9.38	9.38	14.00	7.88	8.00	12.88	38.25	26.75	34.75
342 GMC	10.00	12.00	12.00	18.00	7.43	10.00	11.88	44.13	27.63	34.50
248 GMC	13.63	15.00	13.25	20.00	10.13	12.00	10.88	52.38	29.63	36.88
348 GMC	13.63	15.00	13.25	20.00	10.13	12.00	13.63	52.38	32.13	39.50
260 GMC	16.25	18.00	15.00	24.00	12.25	14.00	16.25	61.50	40.00	42.50
360 GMC	16.25	18.00	15.00	24.00	12.25	14.00	20.00	61.50	43.75	46.25
460 GMC	16.25	18.00	15.00	24.00	12.25	14.00	23.50	61.50	47.13	49.63
560 GMC	20.25	17.00	17.00	30.00	16.25	17.00	27.00	61.50	—	57.20

* Maximum bore uses rectangular key, contact Wichita Engineering.

Note: For mounting, use socket head capscrews conforming to the ASTM-574-97a.

With axial locking device

The axial locking device is an optional feature offered by Wichita. This device prevents damage to the mill motor bearings during motor start-up by axially locking the armature to magnetic center.



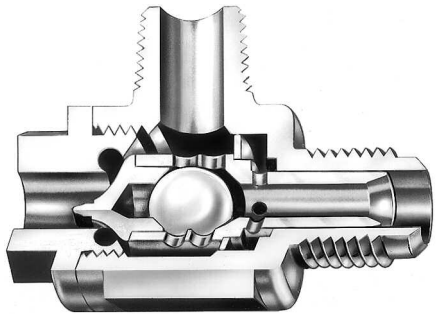
Notes:

1. Air Hose Kits, page 135.
2. Quick Release Valves, page 138.
3. Roto-couplings, page 138.

Model Size ATD–	N	R	S	S_1	S_2	U tap size	V spuds	X	Y	Z tap size	Air Supply
211 GMC	2.25	13.63	N/A	—	5.38	1/2" NPT	2	1.62	—	1/2" NPT	5/8"-18
214H GMC	2.25	17.50	3.25	—	3.13	1/2" NPT	2	2.13	—	1/2" NPT	5/8"-18
314H GMC	2.25	17.50	4.75	—	3.13	1/2" NPT	2	2.13	—	1/2" NPT	5/8"-18
318H GMC	2.43	22.00	5.88	—	3.50	1/2" NPT	3	3.06	—	1/2" NPT	1"-14
321 GMC	2.38	25.00	6.25	—	6.25	1/2" NPT	3	4.75	—	1/2" NPT	1"-14
324H GMC	2.75	28.00	6.25	—	5.50	1/2" NPT	3	4.50	—	1/2" NPT	1"-14
327 GMC	2.38	31.00	6.50	—	4.63	1/2" NPT	3	3.75	—	1/2" NPT	1"-14
230H GMC	2.75	34.00	5.63	5.75	5.75	1/2" NPT	4	4.25	5.00	1/2" NPT	1"-14
330H GMC	2.88	34.00	8.13	7.43	5.75	1/2" NPT	4	4.25	5.00	1/2" NPT	1"-14
336H GMC	2.88	41.00	9.13	12.13	4.00	1/2" NPT	4	2.50	10.00	1/2" NPT	1"-14
342 GMC	3.50	49.25	9.63	12.69	5.69	1/2" NPT	4	3.50	10.00	1/2" NPT	1-1/2"-12
248 GMC	3.75	56.00	7.38	13.25	6.13	1/2" NPT	4	2.75	10.00	1/2" NPT	1-1/2"-12
348 GMC	3.50	56.00	9.88	13.38	6.13	1/2" NPT	4	2.75	10.00	1/2" NPT	1-1/2"-12
260 GMC	2.00	66.75	9.00	14.00	11.50	1/2" NPT	6	7.50	10.00	1/2" NPT	1-1/2"-12
360 GMC	2.00	66.75	13.00	14.00	11.50	1/2" NPT	6	7.50	10.00	1/2" NPT	1-1/2"-12
460 GMC	2.00	66.75	16.50	14.00	11.50	1/2" NPT	6	7.50	10.00	1/2" NPT	1-1/2"-12
560 GMC	4.0	74.25	20.13	14.60	—	1/2" NPT	6	—	10.00	1/2" NPT	1-1/2"-12

Standard Vent Clutches

Quick Release Valve



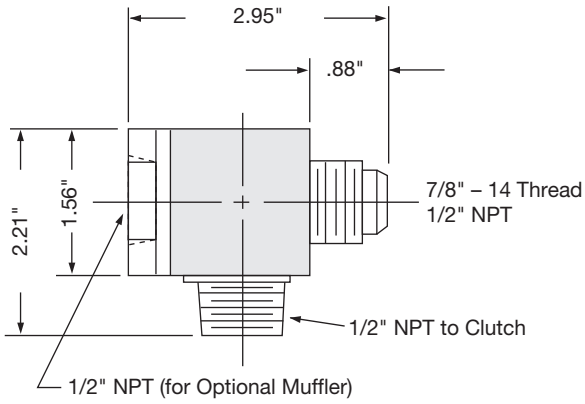
8-263-610-011-1 7/8" – 14 Thread
8-263-610-021-1 1/2" NPT

The Wichita Springless Quick Release Valve discharges twice as fast as any other valve tested in our laboratory and is four to five times faster than some common makes of valves.

This valve will close and seal with less than 20 lbs. pressure. Most others require 25 to 30 lbs. to definitely seal. In actual tests, the Wichita Valve made many hundreds of thousands of engagements and disengagements before the slightest leak occurred, or any parts needed replacement. Other valves which were tested required major replacement in fewer than 20,000 cycles.

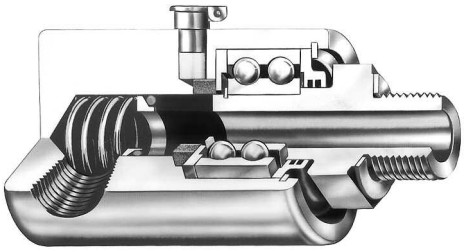
Quality Material

Body and Cap: High strength aluminum alloy
Stem: Molded nylon
Check Valve: Nylon ball
"O" Ring: Neoprene



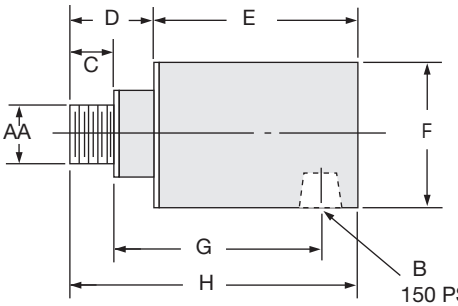
Standard thread arrangement of 1/2" size. 1/2" pipe thread on the tube connection and choice of 1/2" pipe thread, or standard 7/8-14NF thread for flared fitting thread on inlet connection. (Fits standard No. 10 high-pressure hose fitting.)

Roto-couplings



The Wichita Roto-coupling is a device to connect, or couple, a non-rotating air, gas, or fluid line to a rotating shaft.

- Long life, no maintenance
- Felt seal eliminates bearing contamination
- Fast, easy installation



Dimensions: inches

Wichita Part No.	AA	B	C	D	E	F	G	H	Max. RPM
8-240-701-003-1	5/8-18NF	1/4" NPT	.40	1.046	2.250	1.500	2.13	3.297	3,500
8-240-705-001-1	1"-14 NF	1/2" NPT	.75	1.250	3.188	2.500	3.00	4.438	3,500
8-240-708-001-1	1"-14 NF	3/4" NPT	.75	1.313	4.688	2.875	3.69	5.440	3,500
8-240-710-002-1	1-1/2"-12 NF	1" NPT	1.13	1.937	4.875	3.250	3.44	6.812	2,500
8-240-712-001-1	2"-12 NF	1-1/2" NPT	1.13	2.813	5.250	4.250	5.38	8.062	2,500
8-240-714-001-3	2" NPT	2" NPT	1.50	3.000	7.062	4.625	7.00	10.062	1,000
8-240-716-000-3	2-1/2" NPT	2-1/2" NPT	1.88	3.250	9.375	7.000	7.75	12.625	750