



# SELECTION



## FLEXIDYNE

### SIMPLIFIED SELECTION PROCEDURE

The tables on pages PT3-6 -PT3-7 give FLEXIDYNE mechanism size and amount of flow charge to provide starting capacities from 100-200% of motor nameplate HP of a NEMA Design B squirrel cage induction motor. This starting capacity is satisfactory for most ordinary industrial applications.

The FLEXIDYNE unit sizes shown in the simplified selection tables suggest the most economical FLEXIDYNE mechanism for a given RPM and HP. In some cases, under the same conditions, there may be other sizes of FLEXIDYNE which may be utilized.

#### STEP 1

Determine the approximate starting torque percentage for the application. As a guide, suggested percentages are listed in the table below.

#### STEP 2

Determine motor speed and HP to be used. Refer to tables on pages PT3-6 -PT3-7 based on 1760, 1175, or 875 RPM NEMA Design B motors.

#### STEP 3

Check maximum bore from Selection/Dimensions pages.

#### STEP 4

Consider overload protection. If there is any chance of excessive slippage of the FLEXIDYNE mechanism and consequent overheating due to unattended overload or abnormal starting conditions, select an overload protection device from the Modifications/Accessories pages. Refer to Thermal Capacity Charts in Engineering/Technical section.

### FLEXIDYNE MECHANISM STARTING TORQUE

Application	Range	Application	Range	Application	Range
Air Conditioning	130-175%	Cranes (Bridge Draw)	150-200%	Mixers	130-150%
Agitators	130-175%	Crushers	150-200%	Oven Drivers	150-175%
Belt Conveyors	130-150%	Dryers	130-175%	Paper Mills	
Blenders	130-175%	Fans	150-175%	Agitator	130-175%
Blowers	150-175%	Lumber Chippers	150-200%	Hydropulper	130-175%
Bucket Elevators	130-175%	Sawdust Conv.	130-175%	Chipper	150-200%
Can Filling Machine	125-150%	Matl. Handling Equip.	130-150%	Drier	130-150%
Compressors	150-175%	Mills (Ball, Pebble)	150-175%	Pumps	125-150%

**NOTE:** Since FLEXIDYNE Drives and Couplings are selected primarily as torque limiting devices by using the starting torque percentages shown above, the use of a service factor is not necessary.



## FLEXIDYNE

### OTHER APPLICATIONS

The information on the previous page provides a simple method of selecting the FLEXIDYNE mechanism size when used with NEMA Design B motors under general operating conditions. Selection for any other application is based on the specific conditions and requirements of the installation. The power transmitting characteristics of the FLEXIDYNE unit vary with input speed and amount of flow charge used. A FLEXIDYNE unit can be adapted to the specific conditions and requirements of the individual application by using the proper amount of flow charge. **FLEXIDYNE units are not recommended for variable speed applications, engines or speeds below 700 RPM.**

DODGE engineers welcome inquiries on FLEXIDYNE mechanism selection for applications not previously covered. It is suggested that their experience be called upon to recommend the best installation.

Please provide the following information with your request:

- Type, HP, RPM, shaft size of motor
- Type, RPM, shaft size of driven machine
- Frequency of starts, reversals, and overloads
- Time required to accelerate
- For high inertia loads,  $WR^2$
- Starting HP and Overload Breakaway HP desired
- Functions the FLEXIDYNE unit must perform

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# SELECTION



## FLEXIDYNE

### SELECTION OF FLEXIDYNE MECHANISM SIZE (BASED ON% OF STARTING TORQUE FOR NEMA DESIGN B MOTORS) 1760 RPM

Rated Motor HP	FLEXIDYNE Mech Size	100% @ 1760 rpm			125% @ 1750 RPM			150% @ 1740 RPM			175% @ 1700 RPM			200% @ 1650 RPM		
		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge	
			Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.
1/2	5D, 5C	.5	0	8	.62	0	9	.75	0	9.5	.85	0	10	.94	0	10.5
3/4	5D, 5C	.75	0	9	.94	0	10.5	1.1	0	11	1.3	0	11.5	1.4	*	*
1	55D, 55C	1.0	0	9	1.2	0	10	1.5	0	11	1.7	0	12	1.9	0	13
1-1/2	55D, 55C	1.5	0	10	1.9	0	12	2.2	0	13.5	2.5	0	14	2.8	0	16
2	55D, 55C	2.0	0	12	2.5	0	13.5	3.0	0	15	3.4	0	17	3.8	0	18
3	70D, 70C	3.0	1	11	3.7	1	13	4.5	1	14	5.1	2	0	5.7	2	2
5	70D, 70C	5.0	1	14	6.2	2	1	7.5	2	4	8.5	2	8	9.4	2	10
7-1/2	75D, 75	7.5	1	11	9.4	1	14	11.2	2	1	12.7	2	4	14.1	2	9
10	75D, 75C	10	1	15	12.5	2	3	14.9	2	6	17.0	2	9	18.8	2	12
15	9D, 9C	15	2	9	18.8	3	0	22.3	3	7	25.5	3	13	28.3	4	2
20	9D, 9C	20	3	2	25	3	10	30	4	0	34	4	8	38	5	3
25	11D, 11C	25	4	3	31	4	12	37	5	0	42	5	8	47	6	2
30	11D, 11C	30	4	10	37	5	0	45	5	12	51	6	3	57	6	12
40	11D, 11C	40	5	5	50	6	0	60	6	8	68	7	3	75	8	0
50	11D, 11C	50	5	13	62	6	10	74	7	6	85	8	2	94	8	11
60	15D, 15116	60	7	3	75	8	3	89	9	1	102	10	1	113	10	14
75	15D, 15116	75	8	3	94	9	3	111	10	3	127	11	0	141	12	0
100	15D, 15116	100	9	7	125	10	10	149	11	9	170	12	8	188	13	5
125	D15131 ▲	125	7	3	156	8	6	186	9	4	212	10	4	236	11	1
150	D15131 ▲	150	8	3	187	9	3	224	10	3	255	11	1	283	12	1

### 1175 RPM

Rated Motor HP	FLEXIDYNE Mech Size	100% @ 1760 rpm			125% @ 1750 RPM			150% @ 1740 RPM			175% @ 1700 RPM			200% @ 1650 RPM		
		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge	
			Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.
1/4	5D, 5C	.25	0	8.5	..	..	..	.46	0	10.5	..	..	..	..	..	..
1/2	55D, 55C	.5	0	11	.62	0	15	.75	0	13	.85	0	15	.94	0	16
3/4	55D, 55C	.75	0	12	.94	0	15	1.1	0	16	1.3	0	17	1.4	0	18
1	70D, 70C	1.0	1	10	1.2	1	12	1.5	1	14	1.7	2	1	1.9	2	4
1-1/2	70D, 70C	1.5	1	13	1.9	2	1	2.2	2	3	2.5	2	6	2.8	2	9
2	75D, 75C	2.0	1	10	2.5	1	13	3.0	2	0	3.4	2	2	3.8	2	6
3	75D, 75C	3.0	1	15	3.7	2	3	4.5	2	7	5.1	2	10	5.7	2	12
5	9D, 9C	5.0	2	4	6.2	2	11	7.4	3	1	8.5	3	8	9.4	3	12
7-1/2	9D, 9C	7.5	3	0	9.3	3	9	11.1	3	14	12.7	4	4	14.1	4	12
10	11D, 11C	10	5	0	12.4	5	5	14.8	5	10	17	6	3	19	7	0
15	11D, 11C	15	5	14	18	6	5	22	7	0	25	7	14	28	9	0
20	11D, 11C	20	6	8	25	7	14	30	8	4	34	8	13	38	9	10
25	15D, 15116	25	8	8	31	9	13	37	10	12	42	11	13	47	12	10
30	15D, 15116	30	9	7	37	10	10	44	11	11	51	12	9	57	13	8
40	15D, 15116	40	10	14	50	12	14	59	13	0	68	14	0	75	15	3
50	15D	50	12	0	62	13	1	74	14	2	85	15	8	..	..	..
	D15116 ▲	50	8	8	62	9	13	74	10	12	85	11	8	94	12	0
60	18D	..	..	..	..	..	..	..	..	..	..	..	..	94	15	11
	15D	60	12	11	75	14	1	89	15	6	..	..	..	..	..	..
75	D15116 ▲	60	9	7	75	10	10	89	11	11	102	12	9	113	13	8
	18D	..	..	..	..	..	..	..	..	..	102	17	4	113	19	6
100	15D	75	13	14	93	15	8	..	..	..	..	..	..	..	..	..
	D15116 ▲	75	10	9	93	11	13	111	12	11	127	13	10	141	14	12
125	18D	..	..	..	..	..	..	111	17	10	127	19	10	141	21	14
	18D, 18172	100	15	12	124	18	7	148	20	9	170	22	13	189	24	13
150	18D, 18172	125	18	7	155	21	1	185	23	3	212	25	3	236	27	3
200	D18172 ▲	150	20	5	186	22	15	222	25	0	254	27	0	283	29	4
250	D18172 ▲	200	15	12	249	18	10	285	20	5	340	22	13	377	24	13
		250	18	9	312	21	0	370	23	2	424	25	3	470	27	0

\* Use a Size 55 FLEXIDYNE unit. Fill with 11 oz. of Flow Charge for 1.5 Starting HP

▲ Flow charge is listed for one cavity. For duplex (double cavity) units, numbered with prefix "D", the amount listed is required for each cavity.

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## FLEXIDYNE

### SELECTION OF FLEXIDYNE MECHANISM SIZE

(BASED ON% OF STARTING TORQUE FOR NEMA DESIGN B MOTORS)

875 RPM

Rated Motor HP	FLEXIDYNE Mech Size	100% @ 1760 rpm			125% @ 1750 RPM			150% @ 1740 RPM			175% @ 1700 RPM			200% @ 1650 RPM		
		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge		Start-ing HP	Flow Charge	
			Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.		Lbs.	Oz.
1/2	70D, 70C	.5	1	12	.62	1	15	.75	2	1	.85	2	4	.94	2	6
3/4	70D, 70C	.75	2	0	.94	2	3	1.1	2	6	1.3	2	8	1.4	2	12
1	75D, 75C	1.0	1	13	1.2	2	0	1.5	2	3	1.7	2	7	1.9	2	8
1-1/2	75D, 75C	1.5	2	2	1.9	2	7	2.2	2	10	2.5	2	11	2.8	2	12
2	9D, 9C	2.0	2	6	2.5	2	12	2.9	3	0	3.4	3	8	3.7	3	12
3	9D, 9C	3.0	3	0	3.7	3	8	4.4	4	0	5.0	4	6	5.6	4	14
5	11D, 11C	5.0	5	6	6.2	5	14	7.3	6	10	8.4	7	0	9.4	7	8
7 1/2	11D, 11C	7.5	6	8	9.3	7	2	10.9	8	0	12.6	8	8	14.0	9	5
10	15D, 15116	10	8	6	12.4	9	8	14.6	10	9	16.8	11	7	18.7	12	5
15	15D, 15116	15	10	5	19	11	7	22	12	8	25	13	5	28	14	6
20	15D, 15116	20	11	12	25	12	13	29	13	14	34	15	1	38	15	8
25	D15116	25	9	7	31	10	9	36	11	11	42	12	8	47	13	5
30	D15116	30	10	5	37	11	7	44	12	8	50	13	5	56	14	6
40	18D, 18172	40	15	3	50	18	0	58	20	6	67	22	8	75	24	7
50	18D, 18172	50	17	14	62	20	4	73	22	14	84	24	14	94	26	14
60	18D, 18172	60	19	13	75	22	6	87	24	15	101	26	1	112	28	12
75	D18172 ▲	75	14	8	93	17	2	109	19	11	126	21	13	141	23	12
100	D18172 ▲	100	17	14	124	20	4	146	22	14	168	24	14	187	26	14
125	D18172 ▲	125	20	2	155	22	13	182	25	7	210	27	4	234	29	4

▲ Flow charge is listed for one cavity. For duplex (double cavity) units, numbered with prefix "D", the amount listed is required for each cavity.