

## DC Motors & Controls for many different applications

Baldor offers the widest variety of DC Motors. From 1/50 to 3000 horsepower, our rugged industrial designs may be used to power everything from a medical blood centrifuge to the printing press for your Sunday newspaper.

DC motors are available from stock in permanent magnet designs through 5 horsepower. Wound field designs are stocked through 500 HP. DC motors with special features are available from stock for special applications:

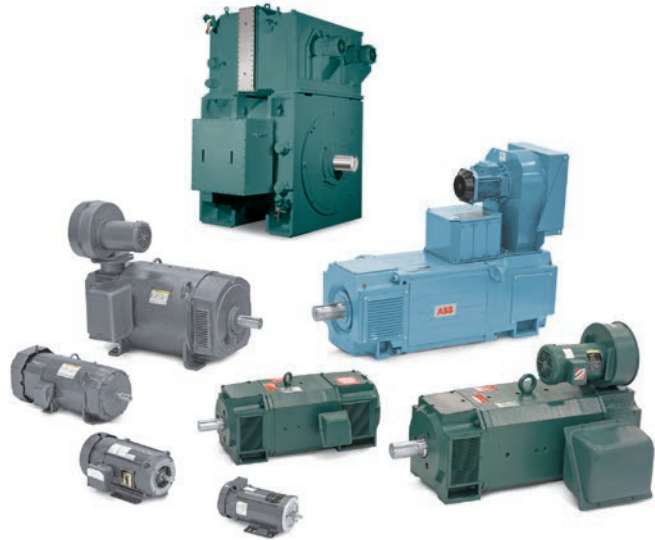
- Explosion-proof for hazardous locations
- Washdown Enclosures for food processing
- Metric mounting for replacement of motors built to IEC standards
- Permanent magnet motors with a built-in precision DC tachometer
- Right angle and parallel shaft gear motors
- 115 and 230 volt power motors built to IEEE 45 and USCG 259 standards for shipboard use

Custom motors are available through 3000 HP with special voltages, base speeds, mountings and other options. With Baldor, building a custom motor to the specifications you require can eliminate assembly time, adapters, repainting and other costly operations. You buy only what you require, and we deliver when you need it.



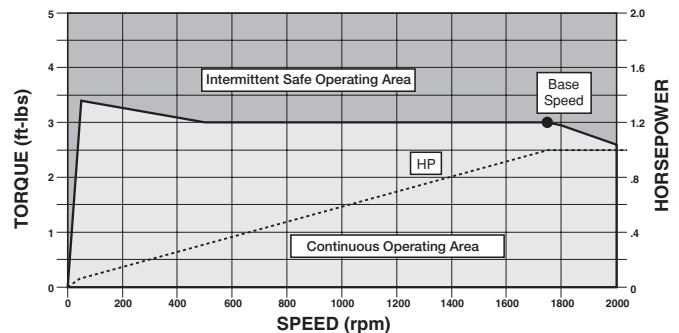
## Matched Performance™

We know how our DC motors and controls perform when used together. This assured performance gives you the Matched Performance™ that you need. The wide range of SCR controls we offer assures that we have the correct control for most applications. Let Baldor take the guesswork out of matching motors and controls.



*Baldor offers a wide range of DC motors with up to 500 Hp available from stock.*

### Performance Specifications BC140 Control and CDP3455 Motor 1HP



**Input Voltage:**

230V AC  
50/60 Hz  
1 Phase

**Base Speed:**

1750 RPM

**Operating Speed Range:**

0-2000 RPM

**Constant Torque Speed Range:**

90-1750 RPM

**Constant Horsepower Speed Range:**

1750-2000 RPM

**Speed Regulation Std. Feedback Type:**

Armature  
1% of Base Speed

**Opt. Feedback Type:**

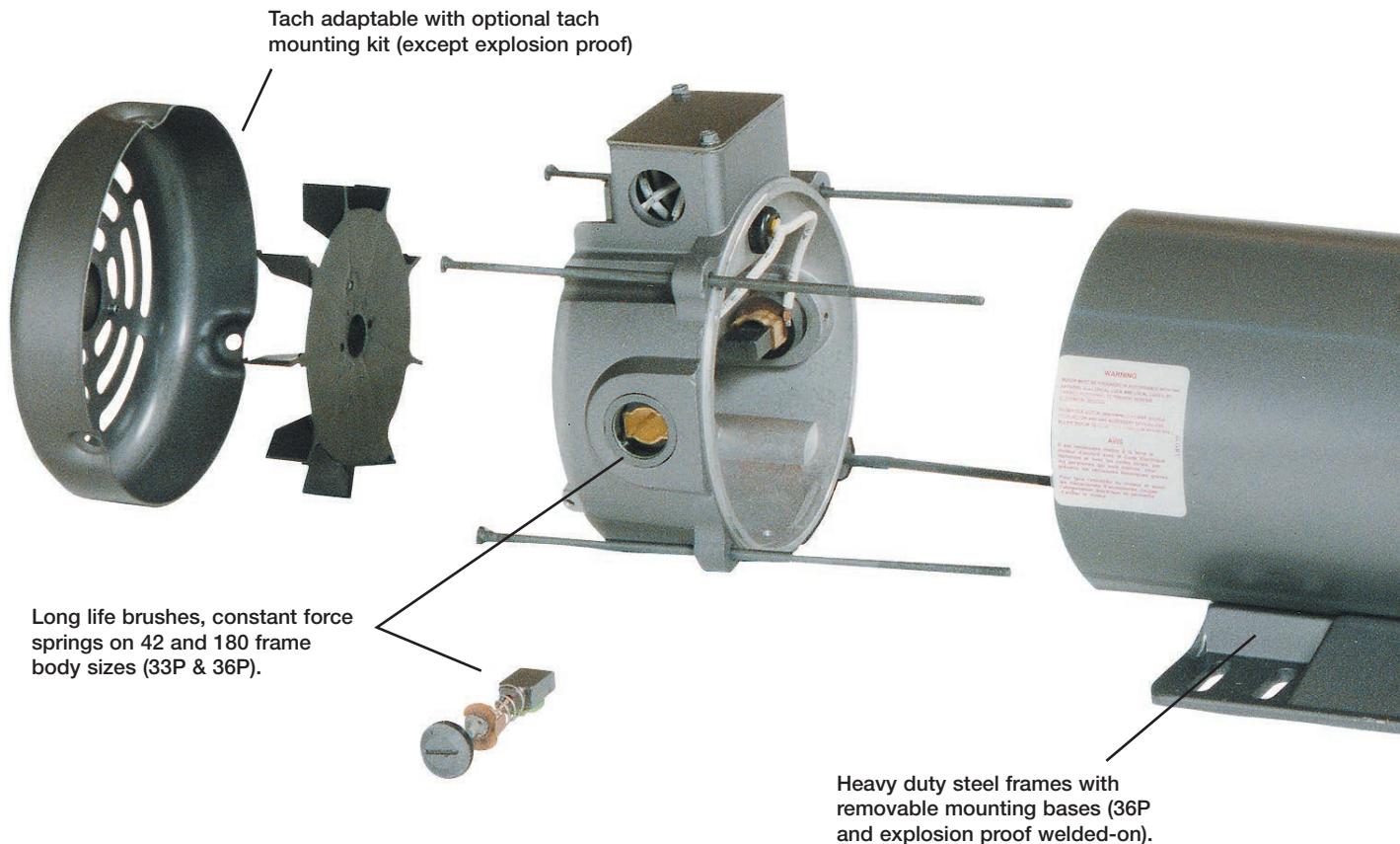
Tachometer  
1% of Set Speed

**Motor Cooling:**

TEFC

## Baldor Permanent Magnet DC Motor

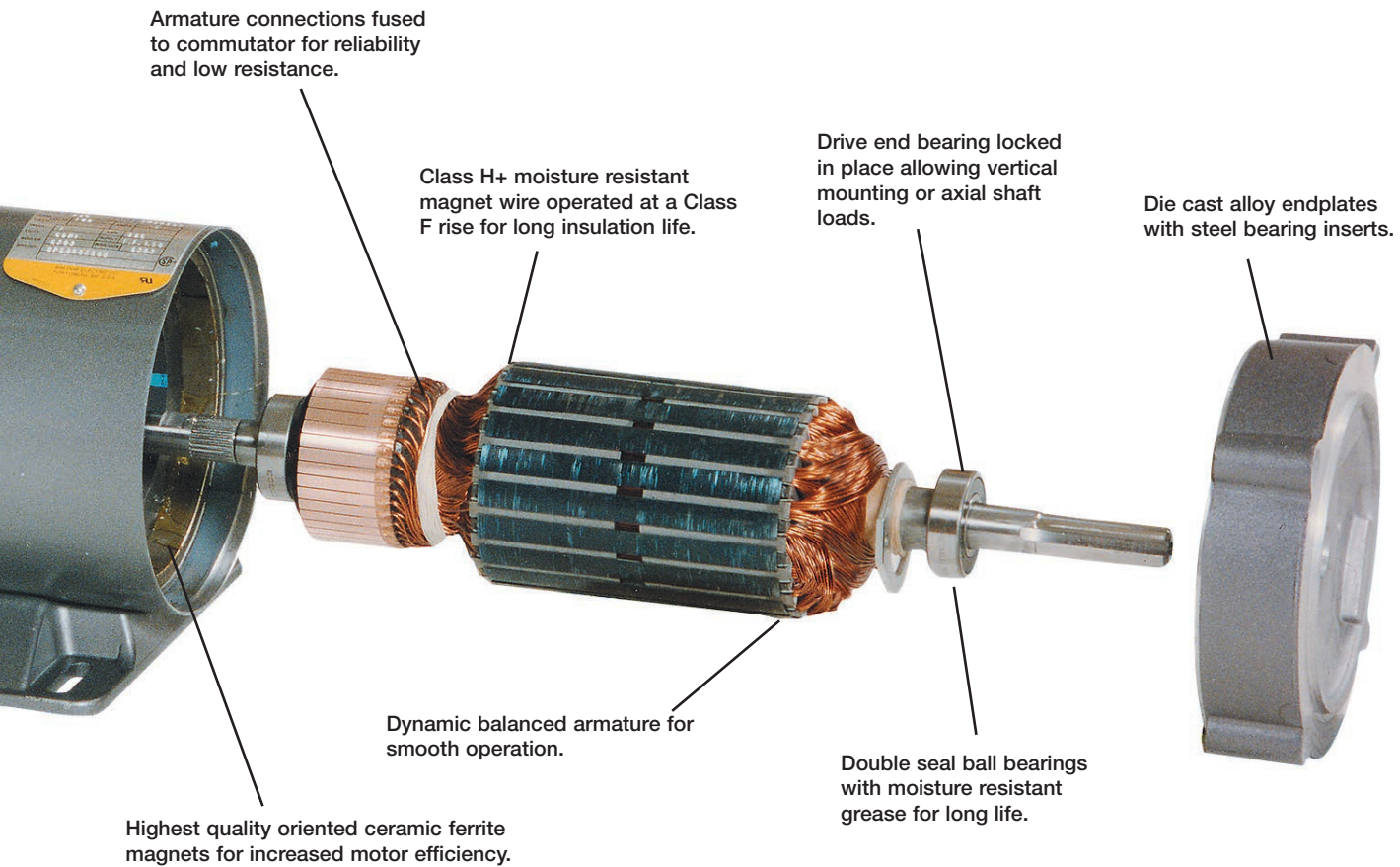
At the heart of our DC motor lineup are the many sizes of our versatile permanent magnet DC motors. These range in output from 1/50 hp to the industry's only 5 horsepower. Ruggedness, dependability and ease of use are the reasons that Baldor PMDC motors are specified by more customers than any other.



### Typical Frame Sizes for Permanent Magnet DC Motors

Hp	Base Speed				
	1150	1750	2500	3500	5000
1/50		ABP-0	ABP-0	ABP-0	ABP-0
1/25		ABP-0	ABP-0	ABP-0	ABP-0
1/10		42C, 48C or 56C	42C, 48C or 56C	42C, 48C or 56C	42C, 48C or 56C
1/8	56C	42C, 48C or 56C	42C, 48C or 56C	42C, 48C or 56C	42C, 48C or 56C
1/6	56C	42C, 48C 56C	42C or 48C 56C	42C or 48C 56C	42C, 48C or 56C
1/4	56C	56C	42C or 48C 56C	42C or 48C 56C	42C, 48C or 56C
1/3	56C	56C	56C	56C	
1/2	56C	56C	56C	56C	
3/4	143-5TC	56C	56C	56C	
1	143-5TC	56C	56C	56C	
1-1/2	182-4TC	143-5TC	143-5TC	143-5TC	
2	182-4TC	143-5TC	143-5TC	182-4TC	
3	182-4TC	182-4TC	182-4TC	182-4TC	
5		1810ATC	182-4TC	182-4TC	

Ratings 2 HP and above designed for 180 Volts only.  
ABP = Non NEMA Foot Mount



## SCR - Rated Permanent Magnet DC Motors

Baldor chooses to make a wide variety of SCR-Rated PMDC motors, each specifically designed to a horsepower range. This optimizes the motor's commutator, brushes and inertia to assure the best performance possible. We further modify these designs for specific applications, washdown, explosion proof, metric mountings and integral DC tachometer. Only Baldor offers the choice of such a wide range of DC motors from stock, so you can be assured of having the best motor for your application.



**TEFC**  
**1/8 - 5 HP**  
**90 or 180 Volt Armature**  
**42 - 1810AT Frame**



**TENV**  
**1/8 - 1 HP**  
**90 or 180 Volt Armature**  
**48 - 145TC Frame**



**Metric Face or Flange**  
**.15 - 3.7 kW, 1/5 - 5 HP**  
**180 Volt Armature**  
**IEC D63D - D112D**



**Washdown Duty**  
**Washdown White Design 1/4 - 5 HP**  
**Paint-Free Design 1/4 - 1 HP**  
**48 - 1810AT Frame**



**Explosion Proof**  
**1/4 - 1-1/2 HP**  
**90 or 180 Volt Armature**  
**56 - 145TC Frame**



**Integral DC Tach**  
**1/4 - 5 HP**  
**Integral 50 V/1000 RPM DC Tachometer**  
**90 or 180 Volt Armature**  
**48 - 1810AT Frame**



# Performance Data

## TENV & TEFC PMDC Motors\*

HP	RPM	NEMA Frame	Enclosure	Catalog Number	Arm Volts	Full Load Amps	Rated Torq. lb-ft
1/4	1750	56C	TENV	CDP3310	90	2.5	0.75
1/4	1750	56C	TENV	CDP3306	180	1.3	0.75
1/3	1750	56C	TENV	CDP3320	90	3.2	1.0
1/3	1750	56C	TENV	CDP3316	180	1.6	1.0
1/2	1750	56C	TENV	CDP3330	90	4.8	1.5
1/2	1750	56C	TENV	CDP3326	180	2.5	1.5
1/2	2500	56C	TENV	CDP3335	90	5.0	1.05
3/4	1750	56C	TEFC	CDP3440	90	7.6	2.25
3/4	1750	56C	TEFC	CDP3436	180	3.7	2.25
3/4	2500	56C	TEFC	CDP3443	90	7.5	1.58
1	1750	56C	TEFC	CDP3445	90	10.0	3.0
1	1750	56C	TEFC	CDP3455	180	5.0	3.0
1	2500	56C	TEFC	CDP3450	90	9.7	2.1
1	2500	56C	TEFC	CDP3460	180	4.9	2.1
1-1/2	1750	145TC	TEFC	CDP3575	180	7.7	4.5
1-1/2	2500	145TC	TEFC	CDP3580	180	7.0	3.15
2	1750	145TC	TEFC	CDP3585	180	9.6	6.0
2	2500	145TC	TEFC	CDP3590	180	10.0	4.2
3	1750	184TC	TEFC	CDP3603	180	14.0	9.0
3	1750	182C	TEFC	CDP3604	180	14.0	9.0
5	1750	1810ATC	TEFC	CDP3605	180	21.6	15.0

## Explosion Proof PMDC Motors

1/4	1750	56C	TEFC	CDPX3410	90	2.7	0.75
1/4	1750	56C	TEFC	CDPX3406	180	1.3	0.75
1/3	1750	56C	TEFC	CDPX3420	90	3.6	1.0
1/3	1750	56C	TEFC	CDPX3416	180	1.7	1.0
1/2	1750	56C	TEFC	CDPX3430	90	5.2	1.5
1/2	1750	56C	TEFC	CDPX3426	180	2.5	1.5
3/4	1750	56C	TEFC	CDPX3440	90	7.0	2.25
3/4	1750	56C	TEFC	CDPX3436	180	3.5	2.25
1	1750	56C	TEFC	CDPX3545	90	9.6	3.0
1	1750	56C	TEFC	CDPX3555	180	4.9	3.0
1-1/2	1750	145TC	TEFC	CDPX3575	180	7.1	4.5

## IEC Metric Frame PMDC Motors\*\*

kW/HP							
.15-.20	1800	D63D	TENV	VP7424D	180	1.1	.60
.18-.25	1750	D71D	TENV	VP3311D	180	1.3	.75
.25-.33	1750	D71D	TENV	VP3316D	180	1.6	1.0
.37-.5	1750	D71D	TENV	VP3326D	180	2.5	1.5
.37-.5	3000	D71D	TEFC	VP3428D	180	2.5	0.9
.57-.75	1750	D80D	TEFC	VP3436D	180	3.7	2.25
.57-.75	3000	D80D	TEFC	VP3439D	180	3.6	1.31
.75-1.0	1750	D80D	TEFC	VP3455D	180	5.0	3.0
.75-1.0	3000	D80D	TEFC	VP3458D	180	5.1	1.75
1.1-1.5	1750	D90D	TEFC	VP3575D	180	7.7	4.5
1.1-1.5	3000	D90D	TEFC	VP3468D	180	7.7	2.63
1.5-2.0	1750	D90D	TEFC	VP3585D	180	9.6	6.0
1.5-2.0	3000	D90D	TEFC	VP3588D	180	10.0	3.5
2.2-3.0	1750	D112D	TEFC	VP3603D	180	14.0	9.0
3.7-5.0	1750	D112D	TEFC	VP3605D	180	24.5	15.0

**NOTE:** \* Additional motors are available with washdown enclosures and with integral DC tachometers – same performance data.

\*\* Additional motors are available with B14 face

## Baldor DC Motor Construction

Baldor's broad line of DC motors continues to lead the industry with choices of permanent magnet or wound field designs. Many different configurations are available from stock or Baldor can design and build a motor to meet exact application requirements with our short lead time.

### DC Motor Construction Features

Features	Clarksville	Westville	Gainesville	Gainesville	Kings Mtn.	Shelby
Design			Round Frame NEMA	RPMIII NEMA	Super RPM NEMA	DMI IEC
HP Range	1/50 - 1/4 HP	1/8 - 5 HP	1-500 HP	1-500 HP	600-3000 HP	22-1300 kW
Class F insulation	S	S	F	F	F	H
1.0 Service factor	S	S	S	S	S	S
Long life brush system	S	S	S	S	S	S
Precision turned commutator with fused armature connections	S	S	S	S	S	S
Permanent magnet designs	S	S				
Wound field designs		S	S	S	S	S
Operation above base speed with field weakening			S	S	S	S
2 electrical pole designs	S	S	180-320	180		
4 electrical pole designs			360-500	210-440	500-840	180-280
6 electrical pole designs					960-1200	315-400
8 electrical pole designs					1400-1600	
Overload thermostat		O	S-stock motors	S-stock motors	O	S-stock motors
<b>Mechanical Features</b>						
NEMA Frame sizes	42 - 56	48 - 1810AT	182-5012AT	C180ATZ- C440ATZ	B500ATZ- B1600AT	
IEC Frame Sizes	63	71 - 112	112-315	112-280		180-400
TENV and TEFC enclosures	S	S	S	S		
TEDC enclosures			O	O	O	O
DPFG - open enclosures	O	O	S	S		
DPBV - drip proof - blower cooled enclosures			S	S	S	S
Washdown and paint free washdown models		S				
Explosion proof enclosure		S		O	O	
MSHA - Mine Safety and Health Administration models		O	O	O		
Integral DC tachometer models		S				
Tach adaptable	O	S	S	S	S	S
Steel Band - Die cast aluminum endplates, steel fan cover	S	S				
Heavy rolled steel frame - cast iron endplates & fan cover			S			
Laminated steel frame-cast iron end plates & fan cover				S	S	S
Die cast aluminum conduit box	S	S				
Stamped Steel conduit box				S		
Cast Iron conduit box			S	O		
Mill Type fabricated conduit box				O	S	S
Double sealed ball bearings	S	S	S			
Open bearings with inner and outer caps				S	S	S
Hardware - cad plated	S	S	S	S	S	S
Motor unfiltered vibration at rated voltage & frequency < 0.15 in/sec velocity	S	S	S	S	S	
Motor unfiltered vibration at rated voltage & frequency < 0.08 in/sec velocity	O	O	O	O	O	
Non-sparking external cooling fan on TEFC		S	S	S	S	
Limited Warranty	12 months	24 months	24 months	24 months	24 months	24 months

**Note:** Contact your Baldor District Office for certified data, dimensions and features of a specific motor.