

---

NEMA MOTORS

# Aggregate motors

**BALDOR • RELIANCE**



# Aggregate motors

The right product in the toughest conditions

Building on the rich history of our mechanical power transmission products, you can expect the same level of quality, trust and reliability with Baldor-Reliance® NEMA motor solutions. We understand the loads v-belt drives put on bearings as well as conveyors starting under load and the need to power through. We also understand surges in the system happen all while performing in some of the harshest environmental conditions.



## Reliability

Rugged, durable motor construction protects rotating and electrical components to provide extended operating life in industrial applications prone to dusty, dirty, wet outdoor and potentially high vibration environments.



## Performance

In this industry it is all about having enough torque available when you need it to maximize production. Selecting the right motor is key to providing the needed starting torque, peak torque and the ability to handle overloads.



## Flexibility

Ball and roller bearing designs for coupled and belted applications provide flexibility to fit any application. Large rotatable conduit boxes offer easy connection points in F1/F2, horizontal and vertical installations. Suitable for use on Sine wave and inverter power for fixed and adjustable speed operation.



## Lower operating cost

Highest energy efficient designs reduce operating costs (since 97.3% of typical motor life cycle costs are from energy consumption). Baldor-Reliance premium efficient Super-E® motor's meet and exceed all energy efficiency requirements for US, Canada and Mexico regulations.





# Severe duty ECP motors

—  
01 Baldor-Reliance severe duty motors are available from stock from 1 thru 800 Hp. For complete list of ratings, please visit baldor.com.

—  
02 Dirt, dust and water are common environmental conditions in the aggregate industry.

## Severe duty motors

Suited for normal torque applications in harsh industrial environments where reliability and highest operating efficiency is desired. Built with heavy duty cast iron enclosure and regreasable bearings to maximize the life of the motor. The entire Severe Duty line harnesses a feature rich philosophy that is standard on all frame sizes of the product family. Premium efficiency electrical designs provide 1.15 service factor and are suited for use on inverter power. Rated for IP55 enclosure protection to increase the reliability of your equipment.

### Target applications:

- Water delivery systems
- Normal & light conveying
- Pumping & drainage



—  
01



—  
02



# Crusher duty

## ECR motors

— 01 Baldor-Reliance high torque Crusher Duty motors available from 5 thru 500 Hp. For complete list of ratings, please visit baldor.com

— 02 586 & 587 frame motors offer direct interchange for existing equipment

— 03 Screen decks are prone to surges and loaded starts.

— 04 Crushers are subject to jams and overloads requiring extra torque to clear.

— 05 Heavily loaded starts and long distance transportation are common in overland conveying.

### Crusher duty motors

Building on the proven reliability of our Severe Duty motors, Crusher Duty motors are designed to meet demanding aggregate industry challenges. Equipped with industry leading locked rotor and breakdown torques and above average Service Factor up to 1.25; the Crusher Duty motors are capable of reliable operation during peak loading conditions. All designs reduce total cost of ownership and increase flexible operation with NEMA Premium Efficient designs that can operate across the line or with inverter power. A rugged all cast iron construction is enhanced with an IP55 enclosure to protect the motor in harsh environments typical for outdoor industrial applications. To ensure long life in either couple or belted applications, crusher duty motors utilize oversized ball and roller bearings. To minimize electrical damage from vibration, motors have sturdy stator coil head lacing and lead separators to prevent movement and ground faults.

Our 586/587 frame models have an IP66 rating and an oversized 4.375" diameter shaft with 4140 material as well as an oversized NU324 roller bearing for belted applications. We have also included an oversized 6322 insulated bearing on the non-drive end which is axially locked and is suitable for vertical applications. All 580 frame motors come standard as F3 mount with oversized conduit box; these motors will be provided with a terminal board for easy and convenient connection.



—  
01



—  
02

### Target applications:

- Belted conveying: feeders, stacker & overland
- Screen decks
- Augers & screw conveyors
- Log washers
- Crushers



—  
03



—  
04



—  
05



## High torque motors for severe applications

Hp	RPM	NEMA	Catalog number	Bearing type	List price	Mult. sym.	S.F.	CT (Hz)	VT (Hz)	Full load amps @ hi volts	Full load eff. % (nom.)	Full load torque (lb.-ft.)	LRT %	BDT %
5	1800	184T	ECR9054T	Oversized ball bearing	808	ST	1.25	6-60	6-60	7.1	89.5	15	227%	376%
	1200	215T	ECR9056T	Oversized ball bearing	1,395	ST	1.25	6-60	6-60	7.5	89.5	22.7	267%	363%
7.5	1800	213T	ECR9074T	Oversized ball bearing	1,139	ST	1.25	6-60	6-60	9.3	91.7	22.1	219%	350%
	1200	254T	ECR9076T	Oversized ball bearing	2,160	ST	1.25	6-60	6-60	10.9	91	33.4	320%	404%
10	1800	215T	ECR9104T	Oversized ball bearing	1,396	ST	1.25	6-60	6-60	12.3	91.7	29.7	236%	347%
	1200	256T	ECR9106T	Oversized ball bearing	2,509	ST	1.25	6-60	6-60	14	91	45	284%	367%
15	1800	254T	ECR9154T	Oversized ball bearing	1,933	ST	1.25	6-60	6-60	18.6	92.4	44.7	266%	324%
	1200	284T	ECR9156T	Oversized ball bearing	3,443	ST	1.25	6-60	6-60	19.4	91.7	67.2	301%	268%
20	1800	256T	ECR9204T	Oversized ball bearing	2,303	ST	1.25	6-60	6-60	24	93	59.7	255%	290%
	1200	286T	ECR9206T	Oversized ball bearing	4,145	ST	1.25	6-60	6-60	29	91.7	88.3	237%	314%
25	1800	284T	ECR9254T	Oversized ball bearing	2,870	ST	1.25	6-60	6-60	31	93.6	73.8	253%	282%
	1200	324T	ECR9256T	Oversized ball bearing	4,956	ST	1.25	6-60	6-60	34	93	110	219%	330%
30	1800	286T	ECR9304T	Oversized ball bearing	3,375	ST	1.25	6-60	6-60	37	93.6	89.2	261%	266%
	1200	326T	ECR9306T	Oversized ball bearing	5,522	ST	1.25	6-60	6-60	42	93	133	231%	364%
40	1800	324T	ECR9404T	Oversized ball bearing	4,371	ST	1.25	6-60	6-60	49	94.1	118	253%	270%
	1200	364T	ECR9406TR	Roller bearing	7,620	ST	1.25	6-60	6-60	49	94.1	177	267%	252%
50	1800	326T	ECR9504T	Oversized ball bearing	5,335	ST	1.25	6-60	6-60	61	94.5	147	274%	276%
	1200	365T	ECR9506TR	Roller bearing	8,911	ST	1.25	6-60	6-60	62	94.1	222	269%	249%
	900	404T	ECR9508TR	Roller bearing	11,302	ST	1.25	6-60	6-60	79.4	92.4	297	274%	265%
60	1800	364T	ECR9604T	Ball bearing	7,504	ST	1.25	6-60	6-60	70	95	177	285%	281%
		364T	ECR9604TR	Roller bearing	7,504	ST	1.25	6-60	6-60	70	95	177	285%	281%
	1200	404T	ECR9606TR	Roller bearing	10,992	ST	1.25	6-60	6-60	71	94.5	266	266%	277%
75	900	405T	ECR9608TR	Roller bearing	12,780	ST	1.25	10-60	6-60	93.2	92.4	355	286%	275%
		365T	ECR9754T	Ball bearing	9,107	ST	1.25	10-60	6-60	88	95.4	221	279%	274%
	365T	ECR9754TR	Roller bearing	9,107	ST	1.25	10-60	6-60	88	95.4	221	279%	274%	
	1200	405T	ECR9756TR-4	Roller bearing	12,615	ST	1.25	6-60	6-60	91	94.5	332	276%	287%
	900	444T	ECR9758TR-4	Roller bearing	18,677	ST	1.25	6-60	6-60	98.8	93.6	443	241%	251%
100	1800	405T	ECR91004T-4	Ball bearing	12,229	ST	1.25	6-60	6-60	115	95.4	295	248%	297%
		405T	ECR91004TR-4	Roller bearing	12,229	ST	1.25	6-60	6-60	115	95.4	295	248%	297%
	1200	444T	ECR91006TR-4	Roller bearing	16,353	ST	1.15	6-60	6-60	119	95	442	226%	273%
	900	445T	ECR91008TR-4	Roller bearing	21,773	ST	1.25	15-60	6-60	133	93.6	591	250%	251%
125	1800	444T	ECR91254T-4	Ball bearing	15,429	ST	1.15	6-60	6-60	149	95.4	368	235%	286%
		444T	ECR91254TR-4	Roller bearing	15,429	ST	1.15	6-60	6-60	149	95.4	368	235%	286%
	1200	445T	ECR91256TR-4	Roller bearing	18,794	ST	1.15	6-60	6-60	153	95.4	551	268%	265%
900	447T	ECR91258TR-4	Roller bearing	27,440	ST	1.15	30-60	6-60	171	94.1	738	254%	272%	

Catalog numbers ending in -4 are rated for 460 volts only, all other catalog numbers are rated for 230/460 volts.

- Typical conveyor applications
- Typical decks, washers, other high torque applications
- Typical crusher applications

## High torque motors for severe applications

Hp	RPM	NEMA	Catalog number	Bearing type	List price	Mult. sym.	S.F.	CT (Hz)	VT (Hz)	Full load amps @ hi volts	Full load eff. % (nom.)	Full load torque (lb.-ft.)	LRT %	BDT %
150	1800	445T	ECR91504T-4	Ball bearing	18,224	ST	1.15	10-60	6-60	168	95.8	441	230%	261%
		445T	ECR91504TR-4	Roller bearing	18,224	ST	1.15	10-60	6-60	168	95.8	441	230%	261%
	1200	447T	ECR91506TR-4	Roller bearing	21,592	ST	1.15	10-60	6-60	177	95.8	661	265%	258%
	900	449T	ECR91508TR-4	Roller bearing	30,594	ST	1.15	30-60	6-60	196	94.5	885	270%	283%
200	1800	447T	ECR92004T-4	Ball bearing	22,072	ST	1.15	15-60	6-60	225	96.2	588	239%	251%
		447T	ECR92004TR-4	Roller bearing	22,072	ST	1.15	15-60	6-60	225	96.2	588	239%	251%
	1200	449T	ECR92006TR-4	Roller bearing	26,293	ST	1.15	15-60	6-60	232	95.8	883	250%	290%
	900	L449T	ECR92008TR-4	Roller bearing	35,571	ST	1.15	30-60	6-60	277	94.5	1179	273%	282%
250	1800	449T	ECR92504T-4	Ball bearing	22,387	ST	1.15	15-60	6-60	278	96.2	736	243%	240%
		449T	ECR92504TR-4	Roller bearing	22,387	ST	1.15	15-60	6-60	278	96.2	736	243%	240%
	1200	449T	ECR92506TR-4	Roller bearing	30,113	ST	1.15	30-60	6-60	283	95.8	1105	247%	278%
		586/587	ECR582506-PPN	Roller bearing	39,263	MC	1.15	15-60	3-60	295	95.8	1102	200%	250%
	900	L449T	ECR92508TR-4	Roller bearing	47,532	ST	1.15	30-60	6-60	359	95.0	1474	265%	268%
300	1800	586/587	ECR582508-PP	Roller bearing	50,138	MC	1.15	15-60	3-60	312	95.0	1473	160%	280%
		449T	ECR93004T-4	Ball bearing	31,370	ST	1.15	30-60	6-60	336	96.2	882	270%	256%
		449T	ECR93004TR-4	Roller bearing	31,370	ST	1.15	30-60	6-60	336	96.2	882	270%	256%
	1200	586/587	ECR583004-PPN	Roller bearing	36,251	MC	1.15	15-60	3-60	343	96.2	880	250%	310%
		L449T	ECR93006TR-4	Roller bearing	39,347	ST	1.15	30-60	6-60	381	95.8	1321	305%	277%
		586/587	ECR583006-PPN	Roller bearing	46,070	MC	1.15	15-60	3-60	352	95.8	1320	230%	280%
900	586/587	ECR583008-PP	Roller bearing	54,394	MC	1.15	15-60	3-60	379	95.0	1765	160%	280%	
350	1800	449T	ECR93504T-4	Ball bearing	34,740	ST	1.15	30-60	6-60	390	96.2	1030	266%	243%
		449T	ECR93504TR-4	Roller bearing	34,740	ST	1.15	30-60	6-60	390	96.2	1030	266%	243%
		586/587	ECR583504-PPN	Roller bearing	40,139	MC	1.15	15-60	3-60	396	96.2	1025	240%	300%
	1200	L449T	ECR93506TR-4	Roller bearing	43,718	ST	1.15	30-60	6-60	433	95.8	1545	280%	252%
		586/587	ECR583506-PPN	Roller bearing	49,912	MC	1.15	15-60	3-60	407	95.8	1539	210%	250%
900	586/587	ECR583508-PP	Roller bearing	59,961	MC	1.15	15-60	3-60	436	95.2	2056	180%	300%	
400	1800	L449T	ECR94004T-4	Ball bearing	40,396	ST	1.15	30-60	6-60	442	96.2	1177	276%	242%
		L449T	ECR94004TR-4	Roller bearing	40,396	ST	1.15	30-60	6-60	442	96.2	1177	276%	242%
	1200	586/587	ECR584004-PPN	Roller bearing	44,105	MC	1.15	15-60	3-60	452	96.2	1171	220%	270%
	900	586/587	ECR584006-PPN	Roller bearing	54,961	MC	1.15	15-60	3-60	465	95.0	1763	240%	260%
450	900	587/588	ECR584008-PP	Roller bearing	66,365	MC	1.15	15-60	3-60	490	95.0	2357	140%	280%
	1800	586/587	ECR584504-PPN	Roller bearing	50,302	MC	1.15	15-60	3-60	519	96.2	1321	290%	300%
	1200	586/587	ECR584506-PPN	Roller bearing	60,161	MC	1.15	15-60	3-60	530	95.0	1983	260%	280%
500	900	587/588	ECR584508-PP	Roller bearing	68,892	MC	1.15	15-60	3-60	559	95.0	2648	150%	300%
	1800	586/587	ECR585004-PPN	Roller bearing	51,497	MC	1.15	15-60	3-60	576	96.2	1466	280%	310%
	1200	586/587	ECR585006-PPN	Roller bearing	62,461	MC	1.15	15-60	3-60	603	95.8	2200	220%	250%

Catalog numbers ending in -PP, -PPN or -4 are rated for 460 volts only, all other catalog numbers are rated for 230/460 volts. 586 and 587 frame sizes have an oversized 4.375 inch shaft diameter.

■ Typical crusher applications

### Conversion bases

Catalog number	Converts from	Converts to	List price	Mult. sym.
CB5844T	449T	586/587	2,458	A8
CB5049T	449T	505US	1,054	A8
CB50549T	449T	504U/505U	1,221	A8



---

# Quarry duty/custom capabilities

—  
01 Quarry duty motors are available in catalog ratings from 2 Hp to 10 Hp. For complete list of ratings, please visit baldor.com.

## Quarry duty motors

Low horsepower solutions for specialty high torque and overload applications in industrial environments where lighter motor weight, reliability and highest operating output are desired. Motors have heavy gauge steel frame construction rated for IP55 enclosure protection for long life in applications exposed to the elements. Premium efficiency electrical designs minimize operating costs while providing NEMA Design C torques and a 1.15 service factor. Motors are suitable for fixed speed and variable speed operation for a wide range of operational output.



## Custom capabilities

The most complete product offering for global aggregate and mining industry with custom motor designs for unique OEM requirements. Offering a complete solution including DC motors, air or water cooled, medium voltage, permanent magnet designs and submersibles all with extensive product families.



---

**ABB Motors and Mechanical Inc.**

5711 R.S. Boreham, Jr. Street  
Fort Smith, AR 72901  
Ph: 1.479.646.4711

**[new.abb.com/motors-generators](http://new.abb.com/motors-generators)**

**Additional information**

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

© Copyright 2020 ABB. All rights reserved.  
Specifications subject to change without notice.

