

Premium efficiency motors for energy conservation

IronHorse® Premium Efficiency AC electric motors meet the requirements of the Energy Independence and Security Act of 2007. The MTCP2 Series gives you a low cost of entry so you get a quicker payback on your investment. All our Ironhorse motors are in stock and ready for same-day shipment; if your order is over \$49, you get free shipping too!

Cast Iron T Frame Motors 1 to 300 hp

TC Frame up to 30 hp

Premium efficiency, ^CCSA_{US} certified, ISO9001, CE Mark, Standards of Excellence

All cast iron frame ribbed design for maximum cooling



IRONHORSE
AUTOMATIONDIRECT®

starting at
\$180.00

Class F winding insulation

NSK/SKF/NTN brand premium quality ball (1-75 hp) or roller (100-300 hp) bearings

All MTCP2 models are totally enclosed fan cooled (TEFC)

Standard NEMA T frame up to 300 hp (C-flange kit optional)

TC frame models (C-face) available up to 30 hp

Steel fan cover

Cast iron junction box with rubber gasket and rubber dust curtain

Solid (full frame length) cast iron mounting feet



Three-phase - 208-230/460 Volt, T Frame - TEFC Enclosure, 1200,1800, 3600 RPM

- Premium Efficiency
- Premium grade quality
- All cast iron frames
- Drive-end ball bearings (1-75 hp) or roller bearings (100-300 hp) are installed in all MTCP2 motors
- Electrically reversible
- C-flange kits for C-face mounting are available
- C-face models available up to 30 hp

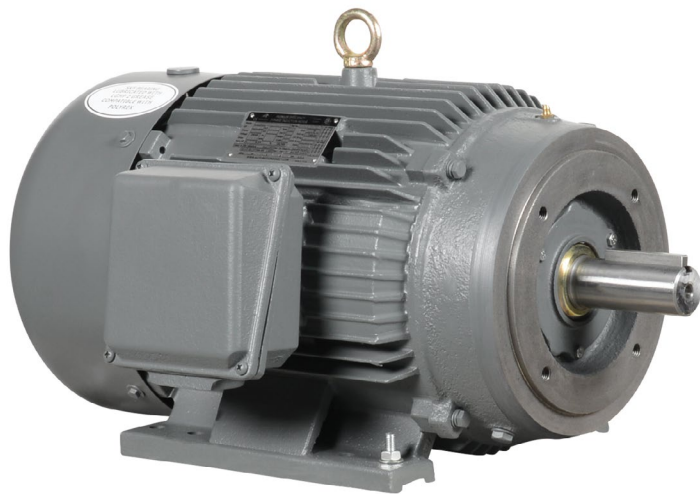
IronHorse[®] MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

T-Frame TEFC Motors – Three-Phase Industrial Duty – 1 to 300 hp

TC-Frame (C-Face) TEFC Motors – Three-Phase Industrial Duty – 1 to 30 hp



**Premium Efficiency
Three-Phase Cast Iron T-Frame**



**Premium Efficiency
Three-Phase Cast Iron TC-Frame**

Features

- Available in 1200, 1800, & 3600 rpm
- Totally Enclosed Fan Cooled (TEFC) enclosure
- NEMA TC-frame (C-face) and T-frame motors
- Cast iron frame with ribbed design for maximum cooling
- Solid full frame length cast iron mounting feet
- Steel fan cover
- Cast iron junction box with rubber gasket and rubber dust cover
- NSK/NTN/SKF brand premium quality ball (1-75 hp) or roller bearings (100-300 hp)
- Maintenance free bearings (10 hp and below)
- V-ring shaft seals on drive end and on opposite drive end
- Electrically reversible
- Class F winding insulation
- Service Factor: 1.25 (1-200 hp), 1.15 (250-300 hp), 1.0 with AC drive (ALL)
- Meets or exceeds Premium Efficiency standards
- Class I, Div 2 hazardous locations
- Inverter ratings: 20:1 (variable torque); 10:1 (constant torque)
- Two year warranty
- cCSA_{US} certified, ISO9001, CE

Accessories & Spare Parts Available

- STABLE motor slide bases for adjustable mounting
- C-flange kits (for converting T-frame motors to TC-frame)
- Replacement junction boxes
- Replacement fans
- Replacement fan shrouds

Applications

- Fans
- Conveyors
- Pumps
- Material Handling
- Metal Processing
- Textile Processing
- Test Stands

IronHorse[®] MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

T-Frame TEFC Motors – 3-Phase Industrial Duty – 1–300 hp – 1800 rpm

TC-Frame (C-Face) TEFC Motors – 3-Phase Industrial Duty – 1–30 hp – 1800 rpm

Motor Specifications – Premium-Efficiency T & TC Frame Three-Phase Motors – 1800 rpm												
Part Number ⁽¹⁾	Price	HP ⁽²⁾	Base RPM @60Hz (50Hz)	Phase	Voltage	Housing	NEMA Frame	Mounting ⁽³⁾	Holes / Foot	Service Factor ⁽⁶⁾ (@50Hz)	F.L. Amps @208- 230V/460V	Approx Product Weight (lb) ⁽⁴⁾
MTCP2-001-3BD18	\$180.00	1	1800 (1500)	3	208-230/460V	TEFC cast iron	143T	F1(F2)	2	1.25 (1.0)	3.61-3.27 / 1.63	41
MTCP2-001-3BD18C	\$202.00						143TC					
MTCP2-1P5-3BD18	\$214.00	1.5					145T					
MTCP2-1P5-3BD18C	\$218.00						145TC					
MTCP2-002-3BD18	\$243.00	2					145T					
MTCP2-002-3BD18C	\$266.00						145TC					
MTCP2-003-3BD18	\$438.00	3					182T					
MTCP2-003-3BD18C	\$465.00						182TC					
MTCP2-005-3BD18	\$419.00	5					184T					
MTCP2-005-3BD18C	\$481.00						184TC					
MTCP2-7P5-3BD18	\$642.00	7.5					213T					
MTCP2-7P5-3BD18C	\$668.00						213TC					
MTCP2-010-3BD18	\$720.00	10					215T					
MTCP2-010-3BD18C	\$822.00						215TC					
MTCP2-015-3BD18	\$984.00	15					254T					
MTCP2-015-3BD18C	\$1,092.00						254TC					
MTCP2-020-3BD18	\$1,173.00	20					256T					
MTCP2-020-3BD18C	\$1,306.00						256TC					
MTCP2-025-3BD18	\$1,616.00	25					284T					
MTCP2-025-3BD18C	\$1,565.00						284TC					
MTCP2-030-3BD18	\$1,665.00	30					286T					
MTCP2-030-3BD18C	\$1,671.00						286TC					
MTCP2-040-3BD18	\$2,064.00	40					324T					
MTCP2-050-3BD18	\$2,148.00	50					326T					
MTCP2-060-3BD18	\$3,073.00	60					364T					
MTCP2-075-3BD18	\$3,266.00	75					365T					
MTCP2-100-3BD18	\$3,961.00	100					405T					
MTCP2-125-3BD18	\$4,576.00	125					444T					
MTCP2-150-3BD18	\$5,837.00	150					445T					
MTCP2-200-3BD18	\$6,828.00	200			445/7T							
MTCP2-250-3D18	\$10,002.00	250	449T									
MTCP2-300-3D18	\$12,975.00	300	449T									

1) Please review the AutomationDirect Terms & Conditions for warranty and service on this product.
 2) For warranty on motors 50 hp and above, motors must be inspected by an EASA motor repair or service center.
 3) F1(F2) indicates F1 conduit box mounting location, field convertible to F2 (as shown on dimensional diagram).
 4) Certain heavy and oversized items can be shipped only via LTL. Check our web site for current shipping method constraints by part number.
 5) F.L. Amps @ 460V only.
 6) The service factor changes from 1.25 to 1.0 under the following conditions:
 • When running the motor at 208VAC @ 60Hz
 • When running the motor at 200/400VAC @ 50Hz
 • When used with a VFD

IronHorse[®] MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

T-Frame TEFC Motors – Three-Phase Industrial Duty – 1–20 hp – 1200 & 3600 rpm

Motor Specifications – Premium-Efficiency T-Frame Three-Phase Motors – 1200 rpm

Part Number ⁽¹⁾	Price	HP	Base RPM @60Hz (50Hz)	Phase	Voltage	Housing	NEMA Frame	Mounting ⁽²⁾	Holes / Foot	Service Factor ⁽⁴⁾ (@50Hz)	F.L. Amps @208-230V/460V	Approx Product Weight (lb) ⁽³⁾
MTCP2-001-3BD12	\$241.00	1	1200 (1000)	3	208-230/460V	TEFC cast iron	145T	F1(F2)	4	1.25 (1.0)	3.86-3.49 / 1.75	53
MTCP2-1P5-3BD12	\$339.00	1.5					182T		2		5.22-4.72 / 2.36	91.5
MTCP2-002-3BD12	\$383.00	2					184T		4		6.59-5.96 / 2.98	100
MTCP2-003-3BD12	\$504.00	3					213T		2		9.92-8.97 / 4.48	166
MTCP2-005-3BD12	\$565.00	5					215T		4		16.1-14.5 / 7.27	179
MTCP2-7P5-3BD12	\$890.00	7.5					254T		2		20.8-18.8 / 9.41	247
MTCP2-010-3BD12	\$1,062.00	10					256T		4		27.8-25.1 / 12.5	258
MTCP2-015-3BD12	\$1,286.00	15					284T		2		42.9-38.8 / 19.4	366
MTCP2-020-3BD12	\$1,419.00	20					286T		4		56.5-51.1 / 25.5	419

- 1) Please review the AutomationDirect Terms & Conditions for warranty and service on this product.
- 2) F1(F2) indicates F1 conduit box mounting location, field convertible to F2 (as shown on dimensional diagram).
- 3) Certain heavy and oversized items can be shipped only via LTL. Check our web site for current shipping method constraints by part number.
- 4) The service factor changes from 1.25 to 1.0 under the following conditions:
 - When running the motor at 208VAC @ 60Hz
 - When running the motor at 200/400VAC @ 50Hz
 - When used with a VFD

Motor Specifications – Premium-Efficiency T-Frame Three-Phase Motors – 3600 rpm

Part Number ⁽¹⁾	Price	HP	Base RPM @60Hz (50Hz)	Phase	Voltage	Housing	NEMA Frame	Mounting ⁽²⁾	Holes / Foot	Service Factor ⁽⁴⁾ (@50Hz)	F.L. Amps @208-230V/460V	Approx Product Weight (lb) ⁽³⁾
MTCP2-1P5-3BD36	\$188.00	1.5	3600 (3000)	3	208-230/460V	TEFC cast iron	143T	F1(F2)	2	1.25 (1.0)	4.62-4.18 / 2.09	45.2
MTCP2-002-3BD36	\$218.00	2					145T		4		6.05-5.48 / 2.74	50.7
MTCP2-003-3BD36	\$307.00	3					182T	F1	2		6.45-7.64 / 3.82	80.5
MTCP2-005-3BD36	\$355.00	5					184T		4		13.3-12.0 / 6.01	96
MTCP2-7P5-3BD36	\$523.00	7.5					213T	F1(F2)	2		20.9-18.9 / 9.45	160
MTCP2-010-3BD36	\$557.00	10					215T		4		27.0-24.4 / 12.2	180
MTCP2-015-3BD36	\$1,008.00	15					254T		2		38.8-35.1 / 17.5	261
MTCP2-020-3BD36	\$1,178.00	20					256T		4		51.1-46.2 / 23.1	297

- 1) Please review the AutomationDirect Terms & Conditions for warranty and service on this product.
- 2) F1(F2) indicates F1 conduit box mounting location, field convertible to F2 (as shown on dimensional diagram).
- 3) Certain heavy and oversized items can be shipped only via LTL. Check our web site for current shipping method constraints by part number.
- 4) The service factor changes from 1.25 to 1.0 under the following conditions:
 - When running the motor at 208VAC @ 60Hz
 - When running the motor at 200/400VAC @ 50Hz
 - When used with a VFD

IronHorse[®] MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

T-Frame TEFC Motors – Three-Phase Industrial Duty – 1–300 hp

TC-Frame (C-Face) TEFC Motors – Three-Phase Industrial Duty – 1–30 hp

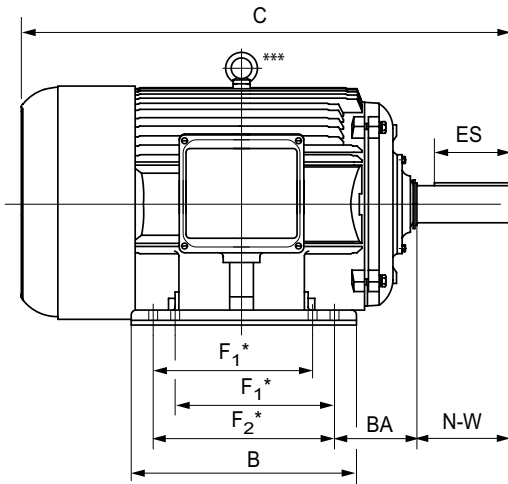
Performance Data – T & TC Frame Three-Phase MTCP2 Motors (460 Volt except as indicated) – 1200, 1800, 3600 rpm																
Part Number	HP	NEMA Design	FL RPM	Minimum Speed (rpm)		Current @ 230V/460V (Amps)			Torque (lb-ft)			Maximum Speed (rpm)		FL Efficiency (%)	F.L. Power Factor	Rotor Inertia (lb.-ft ²)
				CT 10:1	VT 20:1	No Load	Full Load	Locked Rotor	Full Load	Locked Rotor	Break-down	CHP ⁽¹⁾	Safe			
MTCP2-001-3BD12	1	B	1160	116	58	2.3/1.5	3.49/1.75	30/15	4.53	8.15	12.00	1800	2400	82.5	0.65	0.118
MTCP2-001-3BD18(C)			1755	175.5	87.75	2.2/1.1	3.27/1.63	30/15	2.99	8.37	11.96	2700	3600	85.5	0.67	0.089
MTCP2-1P5-3BD12	1.5	B	1180	118	59	3.1/1.55	4.72/2.36	40/20	6.67	16.68	24.01	1800	2400	87.5	0.68	0.401
MTCP2-1P5-3BD18(C)			1755	175.5	87.75	2.9/1.45	4.45/2.22	40/20	4.49	12.57	17.51	2700	3600	86.5	0.73	0.105
MTCP2-1P5-3BD36			3490	348.5	174.25	2.1/1.05	4.18/2.09	40/20	2.26	4.97	7.01	5400	7200	84	0.80	0.043
MTCP2-002-3BD12	2	B	1175	118	59	3.7/1.85	5.96/2.98	50/25	8.9	20.47	29.37	1800	2400	88.5	0.71	0.462
MTCP2-002-3BD18(C)			1755	175.5	87.75	3.9/1.95	5.93/2.97	50/25	5.98	16.15	20.93	2700	3600	86.5	0.73	0.116
MTCP2-002-3BD36			3490	349	174.5	2.5/1.25	5.48/2.74	50/25	3.01	6.92	9.63	5400	7200	85.5	0.80	0.05
MTCP2-003-3BD12	3	B	1175	117.5	58.75	5/2.5	8.97/4.48	64/32	13.3	20.62	31.92	1800	2400	89.5	0.7	0.646
MTCP2-003-3BD18(C)			1755	175.5	87.75	4.6/2.3	8.16/4.08	64/32	9	19.80	28.80	2700	3600	89.5	0.77	0.23
MTCP2-003-3BD36			3490	350.5	175.25	3.52/1.7	7.64/3.82	64/32	4.49	9.43	15.72	5400	7200	86.5	0.85	0.133
MTCP2-005-3BD12	5	B	1175	117.5	58.75	7.1/3.55	14.5/7.27	92/46	22.2	35.52	53.28	1800	2400	89.5	0.72	0.946
MTCP2-005-3BD18(C)			1755	175.5	87.75	5.4/2.7	12.6/6.3	92/46	15	30.00	42.00	2700	3600	89.5	0.83	0.326
MTCP2-005-3BD36			3490	350.5	175.25	3.1/1.55	12.0/6.01	92/46	7.49	16.48	26.22	5400	7200	88.5	0.88	0.178
MTCP2-7P5-3BD12	7.5	B	1175	117.5	58.75	8.4/4.2	18.8/9.41	127/63.5	33.5	60.30	93.80	1800	2400	91	0.82	2.03
MTCP2-7P5-3BD18(C)			1760	176	88	8.0/4.0	18.5/9.23	127/63.5	22.3	41.26	60.21	2700	3600	91.7	0.83	0.689
MTCP2-7P5-3BD36			3505	350.5	175.25	6.4/3.2	18.9/9.45	127/63.5	11.2	17.92	33.60	5400	5400	89.5	0.83	11.2
MTCP2-010-3BD12	10	B	1175	117.5	58.75	11.6/5.8	25.1/12.5	162/81	44.7	80.46	125.16	1800	2400	91	0.82	2.27
MTCP2-010-3BD18(C)			1760	176	88	9.8/4.9	24.3/12.2	162/81	29.7	51.98	77.22	2700	3600	91.7	0.84	0.814
MTCP2-010-3BD36			3500	350	175	7.3/3.7	24.4/12.2	162/81	14.9	22.35	41.72	5400	5400	90.2	0.85	0.369
MTCP2-015-3BD12	15	B	1185	118.5	59.25	17/8.5	38.8/19.4	232/116	66.5	96.43	152.95	1800	2400	91.7	0.79	4.09
MTCP2-015-3BD18(C)			1765	176.5	88.25	15/7.5	36.2/18.1	232/116	44.6	84.74	120.42	2700	3600	92.4	0.84	1.89
MTCP2-015-3BD36			3540	354.5	177.25	9.8/4.9	35.1/17.5	232/116	22.2	37.74	55.50	5400	5400	91	0.88	1.06
MTCP2-020-3BD12	20	B	1185	118.5	59.25	49.2/24.6	51.1/25.5	290/145	88.6	124.04	194.92	1800	2400	91.7	0.80	5
MTCP2-020-3BD18(C)			1765	176.5	88.25	18/9	47.4/23.7	290/145	59.5	107.10	148.75	2700	3600	93	0.85	2.33
MTCP2-020-3BD36			3540	354	177	46.2/23.1	46.2/23.1	290/145	29.7	47.52	68.31	5400	5400	91	0.89	1.26
MTCP2-025-3BD18(C)	25	1770	177	88.5	21.2/10.6	58.8/29.4	365/182.5	74.2	111.30	178.08	2700	2700	93.6	0.85	3.36	
MTCP2-030-3BD18(C)	30	1770	177	88.5	24/12	70.6/35.3	435/217.5	89	133.50	213.60	2700	2700	93.6	0.85	3.83	
MTCP2-040-3BD18	40	1775	177.5	88.75	34/17	93.7/46.8	580/290	118	188.80	306.80	2700	2700	94.1	0.85	6.11	
MTCP2-050-3BD18	50	1775	177.5	88.75	41/20.5	115/57.6	725/362.5	148	236.80	384.80	2700	2700	94.5	0.86	6.89	
MTCP2-060-3BD18	60	1780	178	89	56/28	142/71.2	870/435	177	362.85	442.50	2700	2700	95	0.83	14.7	
MTCP2-075-3BD18	75	1780	178	89	74/37	177/88.7	1085/542.5	221	397.80	508.30	2700	2700	95.4	0.83	17.5	
MTCP2-100-3BD18	100	1785	178.5	89.25	70/35	228/114	1450/725	294	470.40	735.00	2700	2700	95.4	0.86	31.2	
MTCP2-125-3BD18	125	1790	179	89.5	104/52	292/146	1815/907	367	587.20	880.80	2700	2700	95.4	0.84	40.1	
MTCP2-150-3BD18	150	1790	179	89.5	113/56.5	349/175	2170/1085	440	704.00	1056.00	2700	2700	95.8	0.84	48.5	
MTCP2-200-3BD18	200	1790	179	89.5	144/72	458/229	2900/1450	587	997.90	1467.50	2700	2250	96.2	0.85	64.3	
MTCP2-250-3D18	250	1790	179	89.5	91.9 ²	280 ²	1825 ²	773	1546.00	2009.80	2700	2250	96.2	0.87	78.8	
MTCP2-300-3D18	300	1790	179	89.5	103 ²	336 ²	2200 ²	880	1760.00	2200.00	2700	2250	96.2	0.87	94.1	

1) Maximum Constant HP RPM is for direct coupled loads.

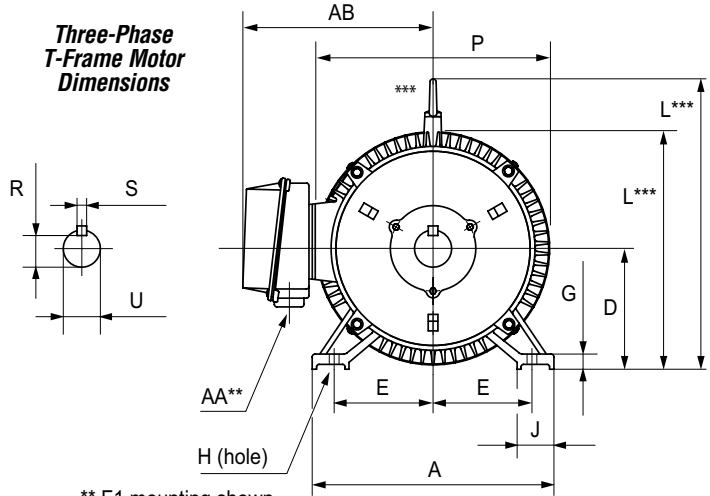
2) Current @460V (Amps)

IronHorse® MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

T-Frame TEFC Motors – Three-Phase Industrial Duty – 1 to 300 hp



* Various frame sizes have 2 or 4 mounting holes per mounting foot (one mounting foot per side).



** F1 mounting shown.
 ** Some frame sizes are F1/F2 convertible.
 *** Frames 143T & 145T have no lifting eyelet.

Dimensions [inches, except as noted] – Premium-Efficiency T-Frame Three-Phase Motors – 1800 rpm

Part Number	HP	NEMA Frame	A	AA**	AB	B	BA	C	D	E	ES	F ₁ *	F ₂ *	G	H	J	N-W	L	P	R	S	U
1800 rpm Motors																						
MTCP2-001-3BD18	1	143T	7	3/4" NPT	6.7	5.6	2.25	12.47	3.5	2.75	1.41	n/a	4	0.47	0.34	1.45	2.25	7.6	7.8	0.771	0.188	0.8759
MTCP2-1P5-3BD18	1.5	145T	7	3/4" NPT	6.7	6.6	2.25	13.47	3.5	2.75	1.41	4	5	0.47	0.34	1.45	2.25	7.8	8	0.771	0.188	0.8759
MTCP2-002-3BD18	2		7	3/4" NPT	6.7	6.6	2.25	13.47	3.5	2.75	1.41	4	5	0.43	0.34	1	2.25	7.8	8	0.771	0.188	0.8759
MTCP2-003-3BD18	3	182T	9	1" NPT	7.2	6	2.75	15	4.5	3.75	1.78	n/a	4.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
MTCP2-005-3BD18	5	184T	9	1" NPT	8.2	7	2.75	16	4.5	3.75	1.78	4.5	5.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
MTCP2-7P5-3BD18	7.5	213T	10.5	1" NPT	8.5	7.5	3.5	19.5	5.25	4.25	2.41	n/a	5.5	0.71	0.41	2.4	3.38	10.6	10.6	1.201	0.312	1.375
MTCP2-010-3BD18	10	215T	10.5	1" NPT	8.5	9	3.5	21	5.25	4.25	2.41	5.5	7	0.71	0.41	2.4	3.38	10.6	10.4	1.201	0.312	1.375
MTCP2-015-3BD18	15	254T	12.5	1.5" NPT	10.5	10.3	4.25	23.3	6.25	5	2.91	n/a	8.25	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675
MTCP2-020-3BD18	20	256T	12.5	1.5" NPT	10.5	12	4.25	25.3	6.25	5	2.91	8.25	10	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675
MTCP2-025-3BD18	25	284T	14	1.5" NPT	11.5	12.4	4.75	26.63	7	5.5	3.28	n/a	9.5	0.87	0.53	2.8	4.62	14.3	14	1.591	0.5	1.875
MTCP2-030-3BD18	30	286T	14	1.5" NPT	11.5	13.9	4.75	28.1	7	5.5	3.28	9.5	11	0.87	0.53	2.8	4.62	14.3	14	1.591	0.5	1.875
MTCP2-040-3BD18	40	324T	16	2" NPT	14.5	13.5	5.25	29.6	8	6.25	3.91	n/a	10.5	0.99	0.66	2.8	5.25	16	15.7	1.845	0.5	2.125
MTCP2-050-3BD18	50	326T	16	2" NPT	14.5	15	5.25	31.2	8	6.25	3.91	10.5	12	0.99	0.66	2.8	5.25	16	15.7	1.845	0.5	2.125
MTCP2-060-3BD18	60	364T	17	3" NPT	16.5	15	5.88	32.58	9	7	4.28	n/a	11.25	1.18	0.66	3	5.88	18.8	19.1	2.021	0.625	2.375
MTCP2-075-3BD18	75	365T	17	3" NPT	16.5	16	5.88	33.6	9	7	4.28	11.25	12.25	1.18	0.66	3	5.88	18.8	19.1	2.021	0.625	2.375
MTCP2-100-3BD18	100	405T	20	3" NPT	19	17	6.62	38.1	10	8	5.65	12.25	13.75	1.18	0.81	3.2	7.25	21.1	21.6	2.45	0.75	2.875
MTCP2-125-3BD18	125	444T	22	2x3" NPT	20	18.5	7.5	41.9	11	9	6.91	n/a	14.5	1.38	0.81	3.35	8.5	23	23.5	2.88	0.875	3.375
MTCP2-150-3BD18	150	445T	22	2x3" NPT	20	20.5	7.5	44	11	9	6.91	14.5	16.5	1.38	0.81	3.35	8.5	23	23.5	2.88	0.875	3.375
MTCP2-200-3BD18	200	445/7T	22	2x3" NPT	20	24	7.5	47.4	11	9	6.91	16.5	20	1.38	0.81	3.35	8.5	23	23.5	2.88	0.875	3.375
MTCP2-250-3D18	250	449T	22	2x3" NPT	19.5	31	7.5	58	11	9	6.91	n/a	25	1.58	0.81	3.4	8.500	23	24	2.88	0.875	3.375
MTCP2-300-3D18	300		22	2x3" NPT	19.5	31	7.5	58	11	9	6.91	n/a	25	1.58	0.81	3.4	8.500	23	24	2.88	0.875	3.375

* Various frame sizes have 2 or 4 mounting holes per mounting foot.

** AA dimension is conduit fitting size.

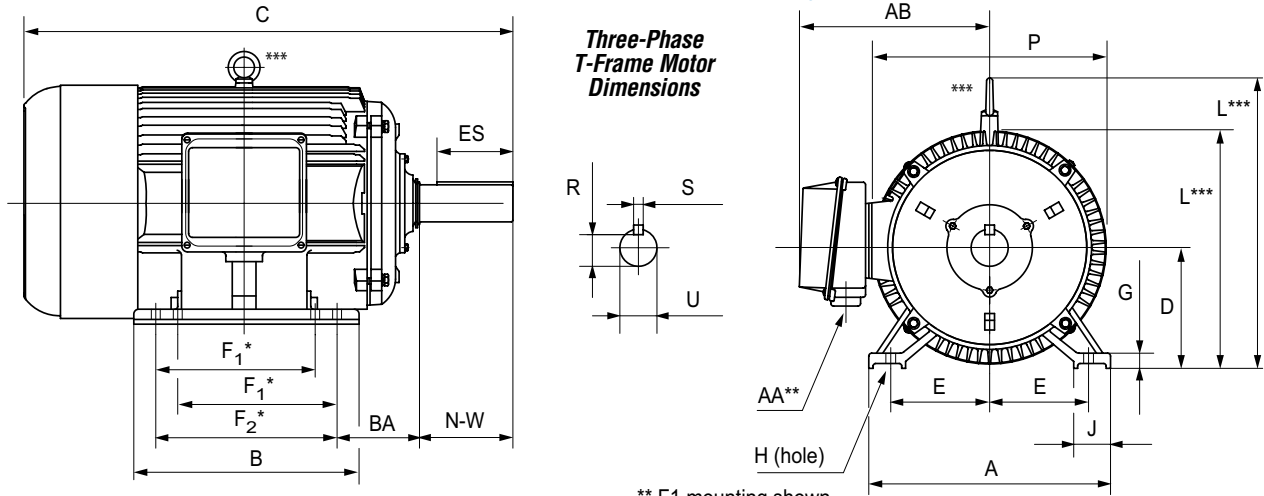
F1 mounting shown; some frame sizes are F1/F2 convertible; refer to T Frame "Motor Specifications" table.

(F2 mounting = conduit entrance on right side facing shaft.)

*** Frame sizes 143T(C) and 145T(C) have no lifting eyelet.

IronHorse[®] MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

T-Frame TEFC Motors – Three-Phase Industrial Duty – Dimensions



* Various frame sizes have 2 or 4 mounting holes per mounting foot (one mounting foot per side).

** F1 mounting shown.
 ** Some frame sizes are F1/F2 convertible.
 *** Frames 143T & 145T have no lifting eyelet.

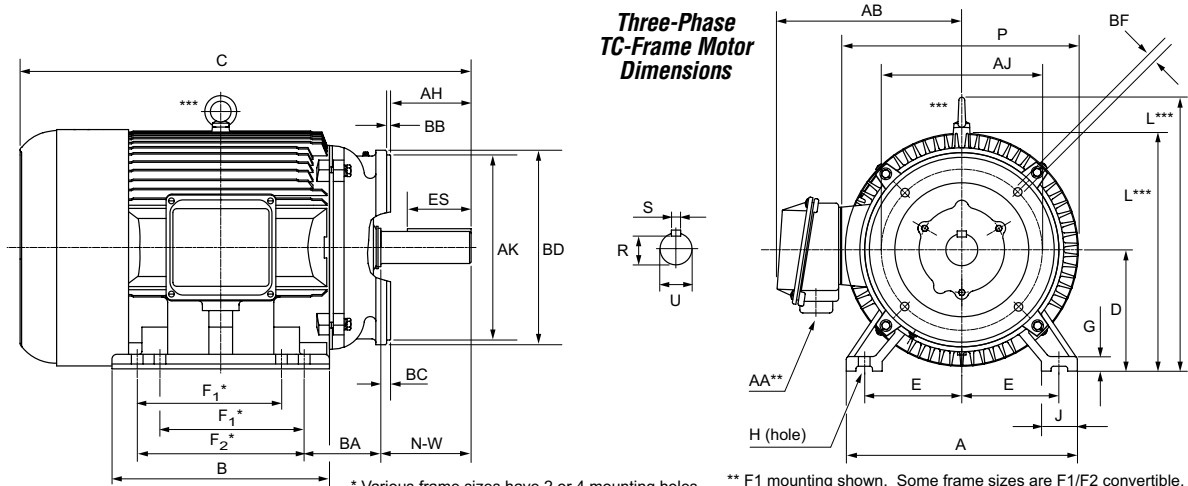
Dimensions [inches, except as noted] – Premium-Efficiency T-Frame Three-Phase Motors – 1200 & 3600 rpm

Part Number	HP	NEMA Frame	A	AA**	AB	B	BA	C	D	E	ES	F ₁ *	F ₂ *	G	H	J	N-W	L	P	R	S	U
1200 rpm Motors																						
MTCP2-001-3BD12	1	145T	7	3/4" NPT	6.7	6.6	2.25	13.47	3.5	2.75	1.41	4	5	0.43	0.34	1	2.25	7.8	8	0.771	0.188	0.8759
MTCP2-1P5-3BD12	1.5	182T	9	1" NPT	7.2	6	2.75	15	4.5	3.75	1.78	n/a	4.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
MTCP2-002-3BD12	2	184T	9	1" NPT	8.2	7	2.75	16	4.5	3.75	1.78	4.5	5.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
MTCP2-003-3BD12	3	213T	10.5	1" NPT	8.5	7.5	3.5	19.5	5.25	4.25	2.41	n/a	5.5	0.71	0.41	2.4	3.38	10.6	10.6	1.201	0.312	1.375
MTCP2-005-3BD12	5	215T	10.5	1" NPT	8.5	9	3.5	21	5.25	4.25	2.41	5.5	7	0.71	0.41	2.4	3.38	10.6	10.4	1.201	0.312	1.375
MTCP2-7P5-3BD12	7.5	254T	12.5	1.5" NPT	10.5	10.3	4.25	23.3	6.25	5	2.91	n/a	8.25	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675
MTCP2-010-3BD12	10	256T	12.5	1.5" NPT	10.5	12	4.25	25.3	6.25	5	2.91	8.25	10	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675
MTCP2-015-3BD12	15	284T	14	1.5" NPT	11.5	12.4	4.75	26.63	7	5.5	3.28	n/a	9.5	0.87	0.53	2.8	4.62	14.3	14	1.591	0.5	1.875
MTCP2-020-3BD12	20	286T	14	1.5" NPT	11.5	13.9	4.75	28.1	7	5.5	3.28	9.5	11	0.87	0.53	2.8	4.62	14.3	14	1.591	0.5	1.875
3600 rpm Motors																						
MTCP2-1P5-3BD36	1.5	143T	7	3/4" NPT	6.7	5.6	2.25	12.47	3.5	2.75	1.41	n/a	4	0.47	0.34	1	2.25	7.6	7.8	0.771	0.188	0.8759
MTCP2-002-3BD36	2	145T	7	3/4" NPT	6.7	6.6	2.25	13.47	3.5	2.75	1.41	4	5	0.43	0.34	1	2.25	7.8	8	0.771	0.188	0.8759
MTCP2-003-3BD36	3	182T	9	1" NPT	7.2	6	2.75	15	4.5	3.75	1.78	n/a	4.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
MTCP2-005-3BD36	5	184T	9	1" NPT	8.2	7	2.75	16	4.5	3.75	1.78	4.5	5.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
MTCP2-7P5-3BD36	7.5	213T	10.5	1" NPT	8.5	7.5	3.5	19.5	5.25	4.25	2.41	n/a	5.5	0.71	0.41	2.4	3.38	10.6	10.6	1.201	0.312	1.375
MTCP2-010-3BD36	10	215T	10.5	1" NPT	8.5	9	3.5	21	5.25	4.25	2.41	5.5	7	0.71	0.41	2.4	3.38	10.6	10.4	1.201	0.312	1.375
MTCP2-015-3BD36	15	254T	12.5	1.5" NPT	10.5	10.3	4.25	23.3	6.25	5	2.91	n/a	8.25	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675
MTCP2-020-3BD36	20	256T	12.5	1.5" NPT	10.5	12	4.25	25.3	6.25	5	2.91	8.25	10	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675

* Various frame sizes have 2 or 4 mounting holes per mounting foot.
 ** AA dimension is conduit fitting size.
 F1 mounting shown; some frame sizes are F1/F2 convertible; refer to T Frame "Motor Specifications" table.
 (F2 mounting = conduit entrance on right side facing shaft.)
 *** Frame sizes 143T(C) and 145T(C) have no lifting eyelet.

IronHorse® MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

TC-Frame TEFC Motors – Three-Phase Industrial Duty – Dimensions



Dimensions [inches, except as noted] – Premium-Efficiency TC-Frame Three-Phase Motors – 1800 rpm

Part # MTCP2- xxx 3BD18C	HP	NEIMA Frame	A	AA**	AB	AH	AJ	AK	B	BA	BB	BC	BD	BF	C	D	E	ES	F ₁ *	F ₂ *	G	H	J	N-W	L	P	R	S	U
-001-	1	143TC	7	3/4" NPT	6.7	1.96	5.875	4.5	5.6	2.25	0.16	0.29	6.5	3/8-16	12.5	3.5	2.75	1.41	n/a	4	0.47	0.34	1	2.25	7.6	7.8	0.771	0.188	0.8759
-1P5-	1.5	145TC	7	3/4" NPT	6.7	1.96	5.875	4.5	6.6	2.25	0.16	0.29	6.5	3/8-16	13.5	3.5	2.75	1.41	4	5	0.43	0.34	1.2	2.25	7.8	8	0.771	0.188	0.8759
-002-	2		7		6.6				1.41									0.43			1.2								
-003-	3	182TC	9	1" NPT	7.2	2.37	7.25	8.5	6	2.75	0.25	0.38	9	1/2-13	15	4.5	3.75	1.78	n/a	4.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
-005-	5	184TC	9	1" NPT	8.2	2.37	7.25	8.5	7	2.75	0.25	0.38	9	1/2-13	16	4.5	3.75	1.78	4.5	5.5	0.6	0.41	2	2.75	9.5	9.7	0.986	0.25	1.125
-7P5-	7.5	213TC	10.5	1" NPT	8.5	2.87	7.25	8.5	7.5	3.5	0.25	0.51	9	1/2-13	20.3	5.25	4.25	2.41	n/a	5.5	0.71	0.41	2.4	3.38	10.6	10.4	1.201	0.312	1.375
-010-	10	215TC	10.5	1" NPT	8.5	2.87	7.25	8.5	9	3.5	0.25	0.51	9	1/2-13	21.8	5.25	4.25	2.41	5.5	7	0.71	0.41	2.4	3.38	10.6	10.4	1.201	0.312	1.375
-015-	15	254TC	12.5	1.5" NPT	10.5	3.75	7.25	8.5	10.3	4.25	0.25	0.25	10	1/2-13	23.3	6.25	5	2.91	n/a	8.25	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675
-020-	20	256TC	12.5	1.5" NPT	10.5	3.75	7.25	8.5	12	4.25	0.25	0.25	10	1/2-13	25.3	6.25	5	2.91	8.25	10	0.79	0.53	2.40	4	12.9	12.6	1.416	0.375	1.675
-025-	25	284TC	14	1.5" NPT	11.5	4.38	9	10.5	12.4	4.75	0.25	0.25	11.25	1/2-13	26.6	7	5.5	3.28	n/a	9.5	0.87	0.53	2.8	4.62	14.3	14	1.591	0.5	1.875
-030-	30	286TC	14	1.5" NPT	11.5	4.38	9	10.5	13.9	4.75	0.25	0.24	11.25	1/2-13	28.1	7	5.5	3.28	9.5	11	0.87	0.53	2.8	4.62	14.3	14	1.591	0.5	1.875

* Various frame sizes have 2 or 4 mounting holes per mounting foot.

** AA dimension is conduit fitting size.

F1 mounting shown; some frame sizes are F1/F2 convertible; refer to T Frame "Motor Specifications" table.
 (F2 mounting = conduit entrance on right side facing shaft.)

*** Frame sizes 143T(C) and 145T(C) have no lifting eyelet.

IronHorse® MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

Premium Efficiency TEFC T-Frame Three-Phase Motor C-Flange Kits – 1 to 300 hp

We stock Premium Efficiency NEMA cast iron T-frame motors from 1–300 hp, and TC-frame motors from 1–30 hp.

We also offer IronHorse cast iron C-flange kits which can be used for C-face mounting of our 1–300 hp IronHorse MTCP2 Premium Efficiency cast iron T-frame motors.

C-faces must be installed by an EASA motor shop in order to maintain the motor warranty.



MTCP2 Premium-Efficiency T-frame Three-Phase Motor C-Flange Kits					
Part Number ⁽¹⁾	Price	Fits Frame	Fits Motor Number	Motor HP	Product Weight (lb) ⁽²⁾
MTAP2-CFACE-140TC	\$17.00	143T & 145T	MTCP2-001-3BD12 MTCP2-001-3BD18 MTCP2-1P5-3BD18 MTCP2-1P5-3BD36 MTCP2-002-3BD18 MTCP2-002-3BD36	1 1 1-1/2 1-1/2 2 2	5.62
MTAP2-CFACE-180TC	\$24.00	182T & 184T	MTCP2-1P5-3BD12 MTCP2-002-3BD12 MTCP2-003-3BD18 MTCP2-003-3BD36 MTCP2-005-3BD18 MTCP2-005-3BD36	1-1/2 2 3 3 5 5	10.36
MTAP2-CFACE-210TC	\$33.00	213T & 215T	MTCP2-003-3BD12 MTCP2-005-3BD12 MTCP2-7P5-3BD18 MTCP2-7P5-3BD36 MTCP2-010-3BD18 MTCP2-010-3BD36	3 5 7-1/2 7-1/2 10 10	12.68
MTAP2-CFACE-250TC	\$56.00	254T & 256T	MTCP2-7P5-3BD12 MTCP2-010-3BD12 MTCP2-015-3BD18 MTCP2-015-3BD36 MTCP2-020-3BD18 MTCP2-020-3BD36	7-1/2 10 15 15 20 20	31.20
MTAP2-CFACE-280TC	\$71.00	284T & 286T	MTCP2-015-3BD12 MTCP2-020-3BD12 MTCP2-025-3BD18 MTCP2-030-3BD18	15 20 25 30	31.20
MTAP2-CFACE-320TC	\$99.00	324T & 326T	MTCP2-040-3BD18 MTCP2-050-3BD18	40 50	47.40
MTAP2-CFACE-360TC	\$141.00	364T & 365T	MTCP2-060-3BD18 MTCP2-075-3BD18	60 75	48.70
MTAP2-CFACE-400TC	\$216.00	405T	MTCP2-100-3BD18	100	132.17
MTAP2-CFACE-444TC	\$228.00	444T & 445T	MTCP2-125-3BD18 MTCP2-150-3BD18	125 150	137.44
MTAP2-CFACE-447TC	\$228.00	445/7T	MTCP2-200-3BD18	200	134.83
MTAP2-CFACE-449TC	\$493.00	449T	MTCP2-250-3D18 MTCP2-300-3D18	250 300	162.50

1) Please review the AutomationDirect Terms & Conditions for warranty and service on this product.

2) Certain heavy and oversized items can be shipped only via LTL. Check our web site for current shipping method constraints by part number.

IronHorse® MTCP2 Premium-Efficiency Cast-Iron Three-Phase AC Motors

Premium Efficiency TEFC Three-Phase Motor Replacement Parts – 1 to 300 hp

We stock MTCP2 Premium Efficiency NEMA cast iron T-frame motors from 1–300 hp, and TC-frame motors from 1–30 hp.

We also offer IronHorse junction boxes, TEFC fans, and TEFC fan shrouds as direct replacement parts for these MTCP2 motors.

These replacement parts are field installable. Instructions included.



MTCP2 Premium-Efficiency Three-Phase Motor Replacement Parts						
Part Number ⁽¹⁾	Price	Description ⁽²⁾⁽³⁾⁽⁴⁾	Fits Frame	Fits PE Motor Number ⁽¹⁾	Motor HP	Product Wt. (lb)
MTAP2-FAN-140	\$24.00	Replacement Fan	143 & 145	MTCP2-001-3BD12	1	0.029
MTAP2-SHROUD-140	\$20.00	Replacement Fan Shroud		MTCP2-001-3BD18(C)	1	
MTAP2-JBOX-140	\$20.00	Replacement Junction Box	145	MTCP2-1P5-3BD18(C)	1-1/2	1.04
MTAP2-FAN-180	\$24.00	Replacement Fan		MTCP2-1P5-3BD36	1-1/2	
MTAP2-SHROUD-180	\$28.00	Replacement Fan Shroud	182 & 184	MTCP2-002-3BD18(C)	2	2.54
MTAP2-JBOX-180	\$29.00	Replacement Junction Box		MTCP2-002-3BD36	2	
MTAP2-FAN-210-2	\$26.00	Replacement Fan (for 2-pole motors)	213 & 215	MTCP2-1P5-3BD12	1-1/2	0.053
MTAP2-FAN-210	\$25.00	Replacement Fan (4&6-pole)		MTCP2-002-3BD12	2	
MTAP2-SHROUD-210	\$29.00	Replacement Fan Shroud	215	MTCP2-003-3BD18(C)	3	2.23
MTAP2-JBOX-210	\$29.00	Replacement Junction Box		MTCP2-003-3BD36	3	
MTAP2-FAN-250-2	\$42.00	Replacement Fan (for 2-pole motors)	254 & 256	MTCP2-005-3BD18(C)	5	3.28
MTAP2-FAN-250	\$42.00	Replacement Fan (4&6-pole)		MTCP2-005-3BD36	5	
MTAP2-SHROUD-250	\$49.00	Replacement Fan Shroud	256	MTCP2-010-3BD18(C)	7-1/2	0.075
MTAP2-JBOX-250	\$49.00	Replacement Junction Box		MTCP2-010-3BD36	10	
MTAP2-FAN-280	\$58.00	Replacement Fan	284 & 286	MTCP2-003-3BD12	3	0.075
MTAP2-SHROUD-280	\$72.00	Replacement Fan Shroud		MTCP2-005-3BD12	5	
MTAP2-JBOX-280	\$87.00	Replacement Junction Box	286	MTCP2-005-3BD18(C)	7-1/2	4.98
MTAP2-FAN-320	\$80.00	Replacement Fan		MTCP2-010-3BD18(C)	10	
MTAP2-SHROUD-320	\$87.00	Replacement Fan Shroud	324 & 326	MTCP2-015-3BD18(C)	15	8.27
MTAP2-JBOX-320	\$87.00	Replacement Junction Box		MTCP2-015-3BD36	15	
MTAP2-FAN-360	\$131.00	Replacement Fan	364 & 365	MTCP2-020-3BD18(C)	20	8.16
MTAP2-SHROUD-360	\$135.00	Replacement Fan Shroud		MTCP2-020-3BD36	20	
MTAP2-JBOX-360	\$164.00	Replacement Junction Box	365	MTCP2-030-3BD18(C)	30	8.16
MTAP2-FAN-400	\$153.00	Replacement Fan		MTCP2-040-3BD18(C)	40	
MTAP2-SHROUD-400	\$164.00	Replacement Fan Shroud	405	MTCP2-050-3BD18(C)	50	23.59
MTAP2-JBOX-400	\$164.00	Replacement Junction Box		MTCP2-060-3BD18(C)	60	
MTAP2-FAN-440	\$168.00	Replacement Fan	444 & 445	MTCP2-075-3BD18(C)	75	0.126
MTAP2-SHROUD-440	\$183.00	Replacement Fan Shroud		MTCP2-075-3BD36	75	
MTAP2-JBOX-440	\$183.00	Replacement Junction Box	447	MTCP2-100-3BD18(C)	100	16.67
MTAP2-FAN-449	\$247.00	Replacement Fan		MTCP2-125-3BD18	125	
MTAP2-FAN-449-1	\$244.00	Replacement Fan	449	MTCP2-150-3BD18	150	17.97
MTAP2-JBOX-449	\$326.00	Replacement Junction Box		MTCP2-200-3BD18	200	
MTAP2-SHROUD-449	\$342.00	Replacement Fan Shroud	449	MTCP2-250-3D18	250	0.205
MTAP2-FAN-449	\$247.00	Replacement Fan		MTCP2-300-3D18	300	
MTAP2-FAN-449-1	\$244.00	Replacement Fan	449	MTCP2-250-3D18	250	22.27
MTAP2-JBOX-449	\$326.00	Replacement Junction Box		MTCP2-300-3D18	300	
MTAP2-SHROUD-449	\$342.00	Replacement Fan Shroud	449	MTCP2-250-3D18	250	36.49
MTAP2-FAN-449	\$247.00	Replacement Fan		MTCP2-300-3D18	300	

1) These MTAP2 replacement components fit only MTCP2 Premium Efficiency motors.

2) Replacement Fans include fan and snap ring.

3) Replacement Fan Shrouds include shroud, bolts w/washers, and rubber plug.

4) Replacement Junction Boxes include gasketed base & cover assembly, base gasket, and base bolts.

AC Motor Selection – IronHorse® General Purpose Motors

IronHorse® General Purpose Motor Selection					
Characteristics	1-Phase		3-Phase		
	56C/56HC Frame Rolled Steel***	T Frame Farm Duty	56C/56HC Frame Rolled Steel***	56C Frame Stainless Steel	Cast Iron T & TC Frames
Electrical Characteristics					
Horsepower range	1/3 – 2	2 – 5	1/3 – 3	1/3 – 3/4	PE: 1–200(T); 1–100(TC)
Base speed (# Poles)	1800 (4), 3600 (2)	1800 (4)	1800 (4), 3600 (2)		1200(6), 1800 (4), 3600(2)
Standard Voltage	115/208-230, 115/230	230	208-230/460		208-230/460
Phase / Base Frequency (Hz)	1 / 60		3 / 60		
Service Factor	1.15		1.15 (line) ; 1.0 (drive)		
Design Code (NEMA)	L, N	L	B		
Insulation Class	F				
Insulation System	dip & bake twice	VPI, then bake, then dip and bake	dip & bake	double dip & bake	EPAct: double dip & bake PE: VPI
Duty Cycle	continuous				
Thermal protection	none	yes	none		
Mechanical Characteristics					
Frame size (mounting)	56C or 56HC	182T – 184T	56C or 56HC		143T/TC – 445/7T
Enclosure	TEFC				
Frame material	rolled steel		304 stainless steel		cast iron
End bracket material	aluminum	cast iron	aluminum	304 stainless steel	cast iron
Junction box material	steel		304 stainless steel		cast iron
Fan guard material	steel	steel	steel	304 stainless steel	steel
Fan material	polypropylene plastic	plastic	plastic	heat-resistant polyethylene	plastic
Lead termination	junction box				
Standard mounting	C-Face with Removable Rigid Base	Rigid Base	C-Face with Removable Rigid Base	C-Face with Rigid Base C-Face with Round Body	Rigid Base C-Face with Rigid Base (1-100 hp)
Drive end shaft slinger	yes				
Paint	black	green	black	n/a	PE: polyurethane enamel
Bearings	ball			1-75 hp: ball 100-300 hp: roller	
Grease	Mobil Polyrex EM		Korschun lithium-based		Mobil Polyrex EM
Standard junction box assembly position	F1			F1 (some sizes reversible to F2)	
Performance Characteristics					
Constant Torque speed range	n/a	n/a	2:1 (MTR, MTSS); 4:1 (MTRP, MTR2)		4:1 (Premium Efficiency)
Variable Torque speed range	n/a	n/a	5:1 (MTR, MTSS); 10:1 (MTRP, MTR2)		10:1 (Premium Efficiency)
Constant Horsepower speed range	n/a	n/a	1.5:1		1.5:1
Temperature rise	F	B			
Encoder provisions	none				
Other Characteristics					
Warranty*	2 years		1 year		2 years
Agency Approvals **	CE, cCSA _{US}		cCSA _{US}		CE, cCSA _{US}

* See Terms and Conditions for motor warranty explanation.
1) For warranty on IronHorse motors below 50 hp, warranty service can be arranged through AutomationDirect.
2) For warranty on IronHorse motors 50 hp and above, motors must be inspected by a local EASA motor repair or service center; (see AutomationDirect Terms & Conditions).
** To obtain the most current agency approval information, see the Agency Approval Checklist on the specific part number's web page.
*** 56HC motors are capable of 56C C-face mounting, and are also compatible with 56, 143T, and 145T foot mounting dimensions.