MTF2 Series Farm-Duty AC Motors – 1-Phase

T-Frame TEFC Motors – 1-phase 2 to 10 hp

Features

- 208-230VAC 1-phase
- Totally Enclosed Fan Cooled (TEFC) enclosure
- IP55 environmental rating
- NEMA T-frame
- Rolled-steel housing
- Rigid mounting base
- Can be mounted in horizontal or vertical orientation
- Steel fan cover
- Class-10 manual-reset locked-rotor thermal protector (motor thermal overload must be provided separately)
- Large easy-to-wire junction box with rubber gasket
- Heavy duty oversized ball bearings
- High tensile strength steel shaft
- Mylar nameplate with easy-to-read wiring diagram
- Electrically reversible
- NEMA design L
- Class F winding insulation
- VPI (Vacuum and Pressure Impregnation) insulation process
- Service Factor: 1.15 @ 230VAC; 1.0 @ 208VAC
- Two year warranty
- $_{C}$UR $_{US}$ certified, CE

Accessories Available

- Start capacitors (replacement/spare)
- Run capacitors (replacement/spare)
- Centrifugal switches (replacement/spare)
- Stationary switches (replacement/spare)
- Locked rotor thermal overload switches (replacement/spare)
- Junction boxes (replacement/spare)
- Fans (replacement/spare)
- Fan shrouds (replacement/spare)
- C-face kits

Applications

- Conveyors
- Fans
- Pumps
- Air compressors
- Other farm equipment



Motor Specifications – 1-phase Farm-Duty Motors

Part Number	Price	HP	Base RPM	Voltage	Housing	NEMA Frame	Service Factor	F.L. Amps @ 208/230VAC	Approx Weight (lb)	Drawing Link
MTF2-002-1B18-182		2	1800	208–230 VAC	TEFC IP55	182T	1.15 @ 230 VAC, 1.0 @ 208 VAC	9.3 / 8.5	67	PDF
MTF2-7P5-1B18-215		7 1/2				215T		31.5 / 28.7	134	PDF

Notes:
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.
3) Operate on 230VAC +/- 10% (1.15 @ 230VAC; 1.0 S.F. @ 208V), 1-phase power only.

Performance Data – 1-phase Farm-Duty Motors

Part Number	HP	NEMA Design	FL RPM	Current @ 230V (Amps)			Torque (lb·ft)			FL Efficiency (%)	FL Power Factor	Rotor Inertia (lb·ft2)
				230V No Load	Full Load	Locked Rotor	Full Load	Locked Rotor	Break -down			
MTF2-002-1B18-182	2	215T	1764	3.0	8.5	78.6	6.01	21.8	22.1	84.0	0.92	0.27
MTF2-7P5-1B18-215	7 1/2		1767	8.2	28.7	238.5	21.91	82.8	82.2	86.6	0.96	0.74

IRONHORSE®

Farm-Duty AC Motor Accessories

T-Frame TEFC Motors – 1-phase 2 to 10 hp

Start Capacitors
1-phase motors use capacitors to provide starting torque when power is first applied to the motor. AutomationDirect offers *spare/replacement* starting capacitors for our 1-phase IronHorse motors.

Run Capacitors
In addition to the start capacitors and centrifugal switches, IronHorse 1-phase farm-duty motors also have run capacitors which allow the motors to develop higher running torque, greater efficiency, and improved power factor. We offer *spare/replacement* run capacitors for 1-phase IronHorse motors.

Centrifugal Switches
The start capacitors are no longer needed once the motors begin turning, so they are then taken out of the circuit by a centrifugal switch. We also offer *spare/replacement* switches for our motors.



Centrifugal Switch MTAF2-CSW-05

Locked Rotor Overload Switches
IronHorse Farm Duty motors have a built-in manual overload switch to disable the motor if the load stops the motor (locked rotor). The overload is located in the motor's junction box, and has a manual reset switch. This switch is for locked rotor only. A separate motor thermal overload must be provided.

Manual Overload Switch MTAF2-MOL-1





Start Capacitor MTAF2-CAP-16



Run Capacitor MTAF2-CAP-19



Stationary Switch MTAF2-SSW-05

MTF Farm-Duty 1-phase Motor Spare/Replacement Parts *

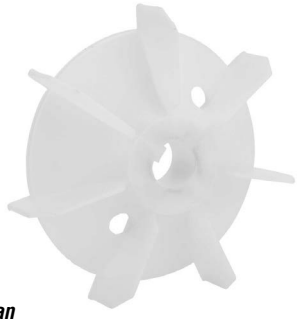
Part Number	Price	Accessory Type	Capacitance (µF)	Rated Voltage	Dimension Height x Ø (in [mm])	Applicable Motor Number	Motor HP
MTAF2-CAP-16		start capacitor	250	300	3.39 x 1.81 [86.1 x 46.0]	MTF2-002-1B18-182,	2, 3
MTAF2-CAP-17			550		3.39 x 1.81 [86.1 x 46.0]	–	5
MTAF2-CAP-18			400	330	4.33 x 1.97 [110.0 x 50.0]	MTF2-7P5-1B18-215	7.5
MTAF2-CAP-19			550	330	3.96 x 1.77 [100.6 x 45.0]	–	10
MTAF2-CAP-20		run capacitor	25	450	3.96 x 1.97 [100.6 x 50.0]	MTF2-002-1B18-182	2
MTAF2-CAP-21			30	450	4.17 x 1.97 [106.0 x 50.0]	–	3
MTAF2-CAP-22			50	450	3.54 x 2.01 [90.0 x 51.0]	–	5
MTAF2-CAP-23			45	500	4.13 x 2.13 [105.0 x 54.0]	MTF2-7P5-1B18-215	7.5
MTAF2-CAP-24			60	500	4.72 x 1.97 [120.0 x 50.0]	–	10
MTAF2-CSW-05		centrifugal switch	n/a	n/a	n/a	MTF2-002-1B18-182	2, 3, 5
MTAF2-CSW-06				250		MTF2-7P5-1B18-215	7.5, 10
MTAF2-SSW-05		stationary switch		n/a		MTF2-002-1B18-182	2,3, 5
MTAF2-SSW-06						MTF2-7P5-1B18-215	7.5, 10
MTAF2-MOL-1		manual overload switch				MTF2-002-1B18-182	2
MTAF2-MOL-2						–	3
MTAF2-MOL-3						–	5
MTAF2-MOL-4						MTF2-7P5-1B18-215	7.5
MTAF2-MOL-5						–	10

*** These accessories are spare/replacement components only for IronHorse MTF2 series 1-phase farm-duty motors.**

Farm-Duty AC Motor Accessories

T-Frame TEFC Motors – 1-phase 2 to 10 hp

Fans



Fan
MTAF2-FAN-180

Fan Shrouds



Fan Shroud
MTAF2-SHROUD-180

Junction Boxes



Junction Box
MTAF2-JBOX-180

C-face Flanges



C-face Flange
MTAF2-CFACE-180TC

MTF2 Farm-Duty 1-phase Motor Spare/Replacement Parts *					
Part Number	*Price*	*Accessory Type*	*Dimension Height x Ø (in [mm])*	*Applicable Motor Number*	*Motor HP*
MTAF2-CFACE-180TC		c-face kit	n/a	MTF2-002-1B18-182	2, 3, 5
MTAF2-CFACE-210TC				MTF2-7P5-1B18-215	7.5, 10
MTAF2-JBOX-180		junction box		MTF2-002-1B18-182	2, 3, 5
MTAF2-JBOX-210				MTF2-7P5-1B18-215	7.5, 10
MTAF2-FAN-180		fan		MTF2-002-1B18-182	2, 3, 5
MTAF2-FAN-210				MTF2-7P5-1B18-215	7.5, 10
MTAF2-SHROUD-180		fan shroud		MTF2-002-1B18-182	2, 3, 5
MTAF2-SHROUD-210				MTF2-7P5-1B18-215	7.5, 10

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IRONHORSE®
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AC Motor Selection – IronHorse® General Purpose Motors

IronHorse® 1-Phase Motor Selection			
Motor Series	***MTR2***	***MTRJ***	***MTF2***
Paint Color	***Black***	***Black***	***Green***
Main Characteristics	***General Purpose Rolled Steel***	***Jet Pump***	***Farm Duty Rolled Steel***
Electrical Characteristics			
Horsepower range	1/3 - 2	1/3 - 2	2 | 7 1/2
Base speed	1800; 3600	3600	1800
Standard Voltage	115/208–230 VAC; 115/230 VAC	115/230 VAC	208–230 VAC
Phase / Base Frequency	1-phase / 60 Hz		
Service Factor	1.15		
Design Code (NEMA)	L or N (by model)	L or N (by model)	L
Insulation Class	Class F		
Insulation System	Dip and Bake Twice		Double VPI
Duty Cycle	Continuous		
Thermal protection	None	Automatic	Manual
Hazard Classification	None		
Mechanical Characteristics			
Frame size	56C or HC	56J	182T - 215T
Enclosure	TEFC	TEFC	TEFC
Enclosure Rating	IP43		IP55
Frame material	Rolled Steel		
End bracket material	Aluminum		
Junction box material	Steel		
Fan guard material	Steel		
Fan material	Polypropylene Plastic	Plastic	
Lead termination	Junction Box		
Standard mounting	C-Face with Removable Rigid Base		Rigid Base
Drive end shaft slinger	Yes		V-ring seal
Bearings	Ball		
Grease	Mobil Polyrex EM		NS7 ENS
Standard junction box assembly position	F1		
Performance Characteristics			
Constant Torque speed range	N/A		
Variable Torque speed range	N/A		
Constant Horsepower speed range	N/A		
Temperature rise	B		
Encoder provisions	None		
Other Characteristics			
Warranty*	2 Years		
Agency Approvals **	CSA, CE		CE, UR

*** See Terms and Conditions for motor warranty explanation.**
1) For warranty on IronHorse motors below 50hp, warranty service can be arranged through AutomationDirect.
2) For warranty on IronHorse motors 50hp 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.**