

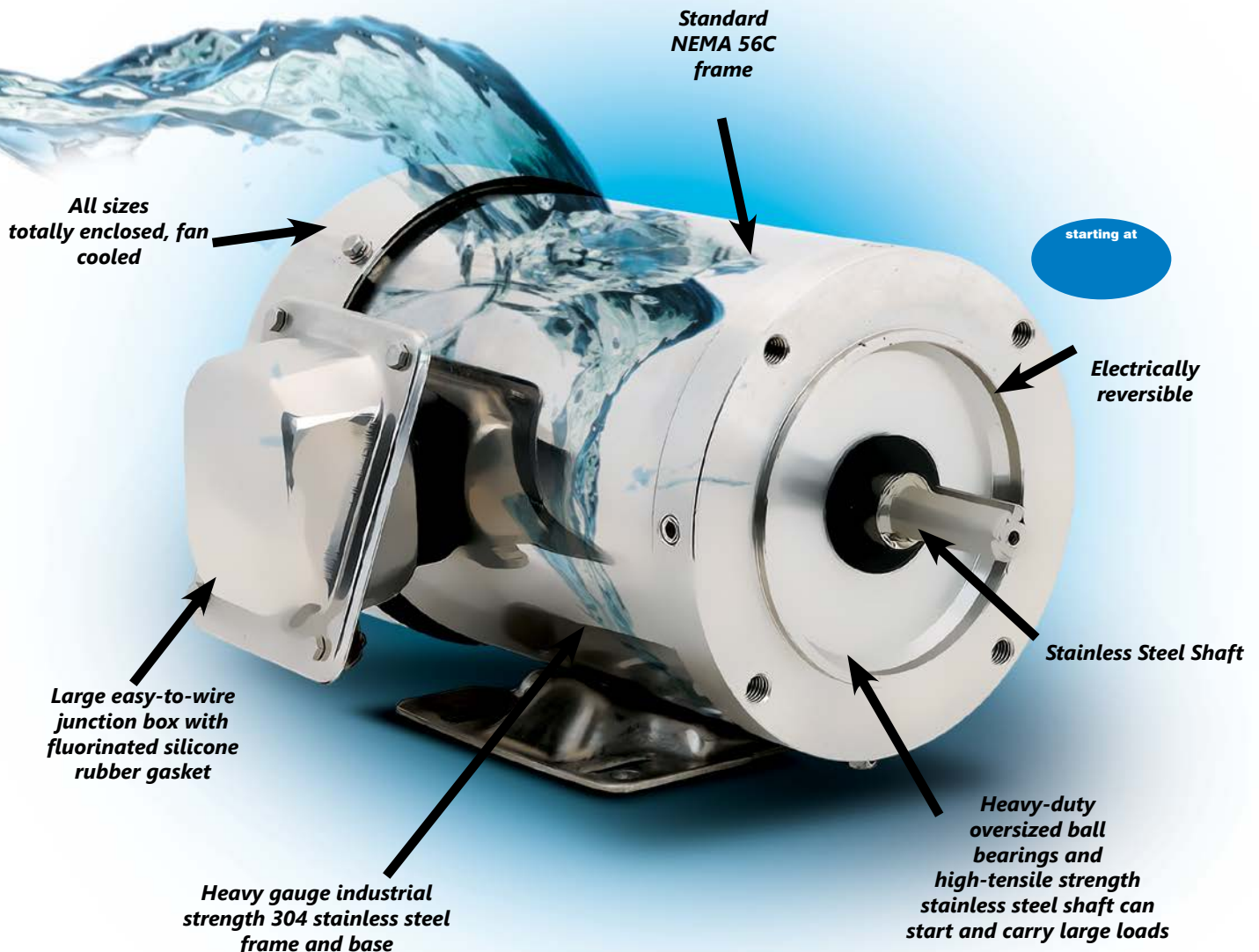
IronHorse is ready for washdowns and harsh environments!



IRONHORSE[®]
AUTOMATIONDIRECT

IP56 environmental rating

MTSS Stainless Steel 56C Frame Motors 0.33 to 0.75 hp



Three-phase - 208-230/460 Volt, 56C Frame - TEFC Enclosure, 1800 & 3600 RPM

- 0.33 to 0.75 hp
- Electrically reversible
- Round body motors (no base) also available
- Heavy gauge stainless steel shaft, frame

- and base
- Available with or without mounting feet
- Includes pre-installed IP66 cord grip

IronHorse[®] MTSS Stainless-Steel Three-Phase General-Purpose AC Motors

MTSS Stainless Steel TEFC Motors – Three Phase – 0.33 to 0.75 hp



MTSS-xxx-3BDxxR
3-Phase Stainless Steel 56C Frame without Feet

Features

- Totally Enclosed Fan Cooled (TEFC) enclosure
- NEMA 56C flange mount
- 304 stainless steel shell frame
- Stainless steel shaft
- Large easy-to-wire junction box with fluorinated silicone rubber gasket
- Nickel-plated brass cable gland included
- IP56 environmental rating
- Available with or without mounting feet
- Heavy-duty permanently-sealed oversized ball bearings
- Nameplate information with wiring diagram etched into frame
- Electrically reversible
- NEMA design B
- Class F winding insulation
- Service Factor: 1.15 across-the-line (1.0 with AC drive)
- One year warranty
- cCSA_{us} certified

Accessories & Spare Parts Available

- Nickel-plated brass cable gland (spare/replacement)



MTSS-xxx-3BDxx
3-Phase Stainless Steel 56C Frame with Feet

Applications

- Conveyors
- Fans
- Gear reducers
- Pumps
- Inverter capable
- Washdown environments



MTAS-CG-M22
Spare/Replacement Nickel-plated Brass Cable Gland

IronHorse® MTSS Stainless-Steel Three-Phase General-Purpose AC Motors

56C Frame Stainless Steel TEFC Motors – Three Phase – 0.33 to 0.75 hp

Motor Specifications – 3-phase 56C Frame Stainless Steel Motors – 1800 & 3600 RPM											
Part Number	Price	HP	Base RPM	Phase	Voltage	Housing	NEMA Frame	Service Factor	F.L. Amps @ 208-230V/460V	Approx Weight (lb)	
MTSS-P33-3BD18R		1/3	1800	3	208-230/460	TEFC	56C flange mount	1.15	1.5-1.4 / 0.7	27	
MTSS-P50-3BD18R		1/2				stainless steel frame with round body			1.55-1.5 / 0.75	27	
MTSS-P75-3BD18R		3/4				F1 conduit box location			2.6-2.4 / 1.2	29	
MTSS-P33-3BD18		1/3				TEFC			1.5-1.4 / 0.7	28	
MTSS-P50-3BD18		1/2				1800			stainless steel frame with rigid base	1.55-1.5 / 0.75	28
MTSS-P50-3BD36						3600			1.99-1.8 / 0.9	29	
MTSS-P75-3BD18		3/4				1800			F1 conduit box location	2.6-2.4 / 1.2	30
MTSS-P75-3BD36						3600			2.4-2.3 / 1.15	31	

Note: Please review the AutomationDirect Terms & Conditions for warranty and service on this product.

Motor Accessory (Optional) – 3-phase 56C Frame Stainless Steel Motors – 1800 & 3600 RPM			
Part Number	Price	Description	Approx Weight (lb)
MTAS-CG-M22		Cable gland; M22 x 1.5 mm thread; (1) silicone rubber gasket accommodates a cable diameter range of 0.393 to 0.512 in (10 to 13 mm); IP66 protection level; nickel-plated brass housing. <i>This is a SPARE part for IronHorse MTSS motors - one cable gland is pre-installed on each MTSS motor.</i>	0.2

Performance Data – 3-phase 56C Frame Stainless Steel Motors (460V data except as indicated) – 1800 & 3600 RPM																
Part Number	HP	NEMA Design	FL RPM	Minimum Speed (rpm)			Current @ 460V (Amps)		Torque (lb-ft)			Maximum Speed (rpm)		FL Efficiency (%)	FL Power Factor	Rotor Inertia (lb-ft ²)
				CT (2:1)	VT (5:1)	No Load	Locked Rotor	Full Load	Locked Rotor	Break-down	CHP*	Safe				
MTSS-P33-3BD18(R)	1/3	B	1725	900	360	0.29	4.2	1.0	2.9	3.9	2250	4500	82.5	0.71	0.078	
MTSS-P50-3BD18(R)	1/2		1725	900	360	0.30	4.6	1.5	3.8	5.2	2250		82.5	0.76	0.078	
MTSS-P50-3BD36				3460	1800	720	0.36	6.0	0.7	1.9	2.5	4500	77.0	0.88	0.077	
MTSS-P75-3BD18(R)	3/4		1725	900	360	0.44	7.3	2.2	5.0	7.0	2250	4500	82.5	0.78	0.081	
MTSS-P75-3BD36				3470	1800	720	0.43	7.6	1.1	2.7	3.3		4500	73.0	0.84	0.100

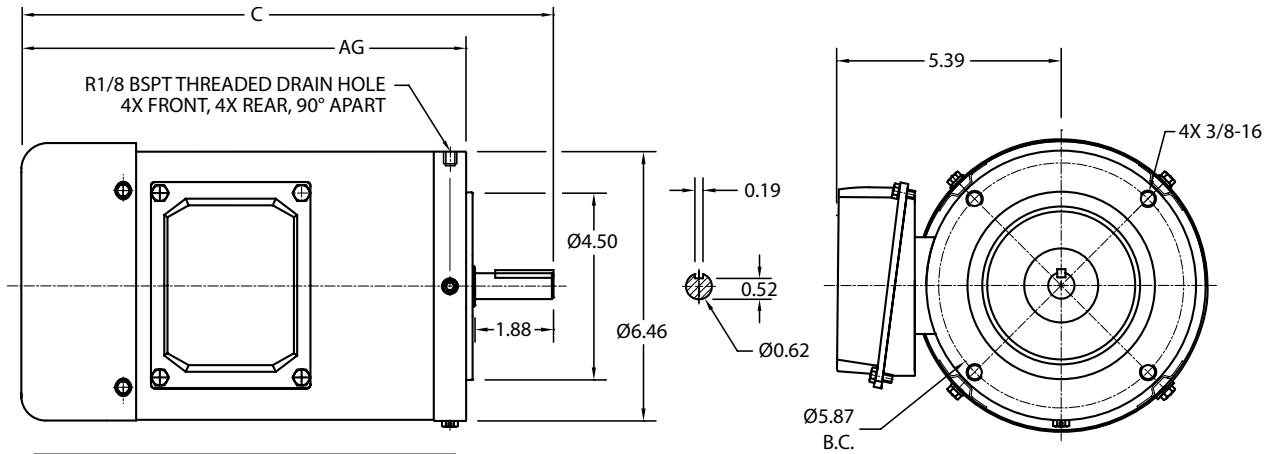
* Maximum Coupled HP speed is for direct-coupled loads.

IronHorse[®] MTSS Stainless-Steel Three-Phase General-Purpose AC Motors

56C Frame Stainless Steel TEFC Motors – Three-Phase – Dimensions

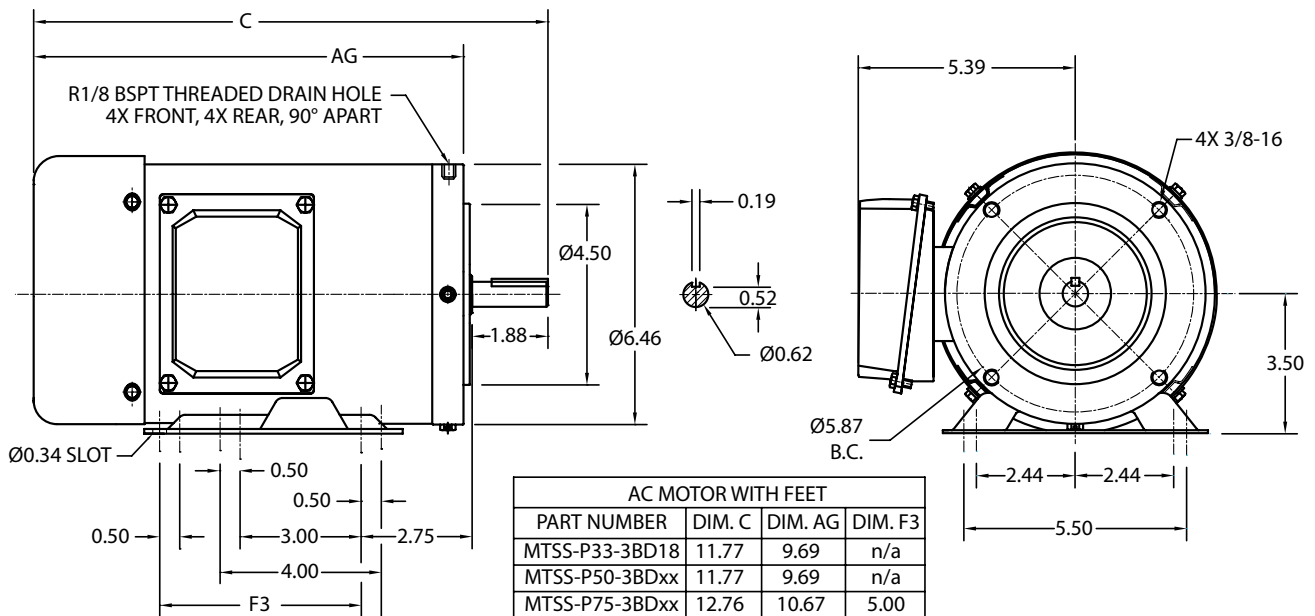
Dimensions = inches

MTSS-xxx-xxxxxR 3-Phase Stainless Steel 56C Frame Round-body Motors



AC MOTOR WITHOUT FEET		
PART NUMBER	DIM. C	DIM. AG
MTSS-P33-3BD18R	11.59	9.50
MTSS-P50-3BD18R	11.59	9.50
MTSS-P75-3BD18R	12.76	10.67

MTSS-xxx-xxxxx 3-Phase Stainless Steel 56C Frame Rigid-base Motors



AC MOTOR WITH FEET			
PART NUMBER	DIM. C	DIM. AG	DIM. F3
MTSS-P33-3BD18	11.77	9.69	n/a
MTSS-P50-3BDxx	11.77	9.69	n/a
MTSS-P75-3BDxx	12.76	10.67	5.00

AC Motor Selection – IronHorse® General Purpose Motors



IRONHORSE®
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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 and Rolled Steel T & TC Frames
Electrical Characteristics					
Horsepower range	1/3 – 2	2 - 10	1/3 – 3	1/3 – 3/4	1-300(T); 1-30(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	208-230	208-230/460		208-230/460, 460
Phase / Base Frequency (Hz)	1 / 60		3 / 60		
Service Factor	1.15		1.15 (line) ; 1.0 (drive)		1.25 (TEFC, Line); 1.15 (ODP, Line); 1.00 (drive)
Design Code (NEMA)	L, N	L	B		
Insulation Class	F				
Insulation System	dip & bake twice	Double VPI	dip & bake	double dip & bake	TEFC : VI (Vacuum Impregnation); ODP: Double VPI
Duty Cycle	continuous				
Thermal protection	none	yes	none		
Mechanical Characteristics					
Frame size (mounting)	56C or 56HC	182T – 215T	56C or 56HC		143T/TC - 449T
Enclosure	TEFC				TEFC / ODP (MTCP2 / MTDP)
Frame material	rolled steel			304 stainless steel	Cast Iron / Rolled Steel
End bracket material	aluminum	aluminum	aluminum	304 stainless steel	Cast Iron / Aluminum 143T-256T, Cast Iron 284T-326T (TEFC / ODP)
Junction box material	steel	Base: Aluminum, Cover: Steel	steel	304 stainless steel	Cast Iron / Steel
Fan guard material	steel	steel	steel	304 stainless steel	Steel / N/A for ODP
Fan material	polypropylene plastic	plastic	plastic	heat-resistant polyethylene	Plastic / N/A for ODP
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	no	yes		Yes / No 143T-256T, Yes 284T-326T
Paint	black	green	black	n/a	Grey / Blue
Bearings	ball				1-300HP - 2P, 1-75 HP - 4P & 6P: Ball; 100-300 HP - 4P & 6P: Roller
Grease	Mobil Polyrex EM	NS7 ENS	Mobil Polyrex EM	Korschun lithium-based	Mobil Polyrex EM / NS7 ENS (TEFC / ODP)
Standard junction box assembly position	F1				F1 (Some sizes reversible to F2)
Performance Characteristics					
Constant Torque speed range	n/a	n/a	2:1 (MTR2, MTSS); 4:1 (MTRP, MTR2)		10:1
Variable Torque speed range	n/a	n/a	5:1 (MTR, MTSS); 10:1 (MTRP, MTR2)		20:1
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}	CE, cUR _{US}	cCSA _{US}		CE, cCSA _{US} / CE, cUR _{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.