



Auto Transformers For Heavy Duty Motor Starting

Design Overview

MES Motor Starting Auto Transformer with fixed tapings are used in Auto Transformer type of starters to reduce the voltage across the motor terminals while starting. This reduced voltage limits the inrush current and lessens the strain on driven machinery while starting the motor. For the same value of line current drawn during the starting period motors with auto transformer type starters deliver the maximum starting torque when compared to other type of starters.

Iron core

- Uses high quality E.I laminated silicon steel processed from state of the art modern punching facilities.

Windings

- High quality enameled copper wires of 1 PEW and EIW grades withstand temperatures up to 155°C and 180°C respectively.
- High temperature tolerant fiberglass boards are used as bobbins to separate the core and windings.
- Sized, transposed and shaped to minimize Eddy current losses.
- Fully impregnated with class H varnish and oven dried.

Iron core

- Uses high quality polyester varnish for good bonding and high dielectric strength, which reduces, electrical leakage and noise.

Mounting Design



Type 1
(Wall Mount with connectors)



Type 2
(Wall Mount with terminal blocks)



Type 3
(Floor Stand with bolts and nuts)

Standards

In accordance with standards:

- IEC 60726 Dry Type Transformers
- Conforming to European Union standards, EN 61558

Rating

Low Tension Motor Starting Auto Transformer

- 3-Phase : 200V ~ 440V
- Capacity : 3.75kW up to 1000KW

Tapping

- Capacity : 3.75kW ~ 11.00 kW - Single Tapping @ 70%
- Capacity : 11.00kW ~ 45.00 kW - Three Tapping @ 50%, 60%, 75%
- Capacity : 56.00kW ~ 185kW - Three Tapping @ 50%, 65%, 80%

Duty Ratings

Maximum restart frequency 8 times per hour with even intervals.

Within 5 seconds to maximum of 15 seconds depend on application.

Insulation Class

- 1 PEW - 155°C polyester enameled copper wire.
- EIW - 180°C polyester enameled copper wire.

Protection

Normally closed contact thermostat embedded in the coil for over temperature sensing.

Cooling

Air Natural

Termination

- Capacity : 3.75kW ~ 11.00 kW - High quality fire retardant grade connectors
- Capacity : 11.00kW ~ 45.00 kW - High quality fire retardant polyamide terminal blocks
- Capacity : 56.00kW ~ 200kW - Chromed steel bolt & nuts

Technical Data

Power (KW)	Power (HP)	Thermostat	Tapping Percentage	Test Voltage	Amb Temp.
3.75kW	5HP	Optional	70%	2.5KV(AC)	40°C
5.5KW	7.5HP	Optional	70%		
7.5KW	10HP	Optional	70%		
11KW (S/T)	15HP	Optional	70%		
11KW (F/T)	15HP	1	50%, 60%, 75%		
15KW	20HP	1	50%, 60%, 75%		
22KW	30HP	1	50%, 60%, 75%		
30KW	40HP	1	50%, 60%, 75%		
37.5KW	50HP	1	50%, 60%, 75%		
45KW	60HP	1	50%, 60%, 75%		

Technical Data

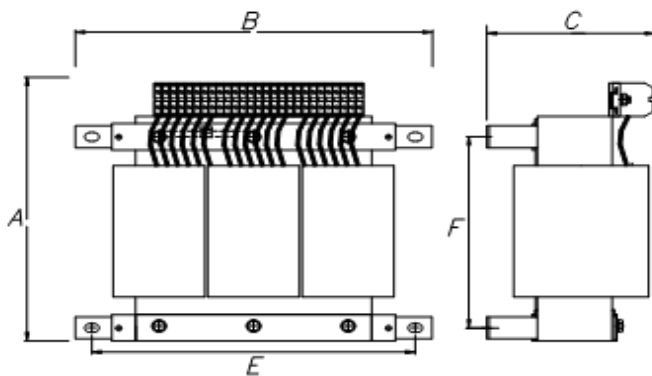
Power (KW)	Power (HP)	Thermostat	Tapping Percentage	Test Voltage	Amb Temp.
56KW	75HP	1	50%, 65%, 80%	2.5KV(AC)	40°C
66KW	88HP	1	50%, 65%, 80%		
75KW	100HP	1	50%, 65%, 80%		
80KW	107HP	1	50%, 65%, 80%		
94KW	125HP	1	50%, 65%, 80%		
112KW	150HP	1	50%, 65%, 80%		
135KW	175HP	1	50%, 65%, 80%		
150KW	200HP	1	50%, 65%, 80%		
185KW	250HP	1	50%, 65%, 80%		

Remark: Non-standard ratings available upon request

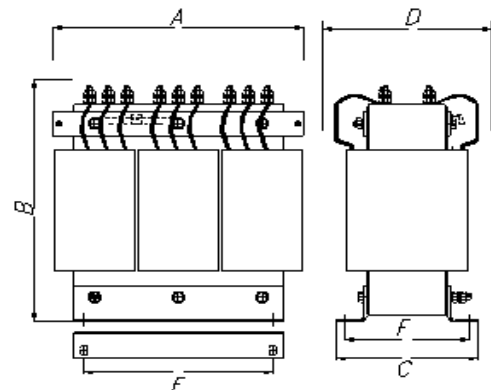
Dimensions and weights

Power (KW)	Power (HP)	A	B	C	D	E	F	Mounting	Terminal	Weight
3.75kW	5HP	195	210	90	-	182	120	WM	Connector	6
5.5KW	7.5HP	195	210	90	-	182	120	WM	Connector	7
7.5KW	10HP	195	210	95	-	182	120	WM	Connector	8
11KW (S/T)	15HP	220	235	95	-	205	140	WM	Connector	13
11KW (F/T)	15HP	225	235	130	-	205	140	WM	Terminal Block	13
15KW	20HP	225	235	135	-	205	140	WM	Terminal Block	14
22KW	30HP	250	255	145	-	228	158	WM	Terminal Block	16
30KW	40HP	250	255	150	-	228	158	WM	Terminal Block	18
37.5KW	50HP	250	255	155	-	228	158	WM	Terminal Block	20
45KW	60HP	270	280	165	-	247	178	WM	Terminal Block	24
56KW	75HP	270	280	180	-	247	178	WM	Terminal Block	37
66KW	88HP	330	380	210	-	247	178	WM	Terminal Block	42
75KW	100HP	330	380	210	-	283	211	WM	Terminal Block	45
80KW	107HP	330	380	220	-	283	211	WM	Terminal Block	50
94KW	125HP	330	380	220	-	283	211	WM	Terminal Block	52
112KW	150HP	330	380	230	-	283	211	WM	Terminal Block	60
135KW	175HP	340	340	215	250	270	160	FS	Bolts & Nuts	70
150KW	200HP	340	345	215	300	270	170	FS	Bolts & Nuts	87
185KW	250HP	370	395	205	275	310	170	FS	Bolts & Nuts	90

Remark: Non-standard ratings available upon request



WM - Wall Mounting



FS - Floor Standing