

**Fractional HP Adjusto-Speed® Drives
.25 through 1.5 HP**

**MODELS FD-2541 THROUGH FD-9523 DRIVES
Ordering Information**



Description:

Fractional horsepower Adjusto-Speed® Drives are a combination of an air-cooled, adjustable speed clutch and an integrally mounted NEMA B, AC induction motor in a common housing. The Adjusto-Speed® Drive transmits constant torque at variable speeds. There is no physical contact between input and output members. This results in smooth response, thereby eliminating shock loading and extending equipment life. All drives have an internal tachometer generator

mounted around the output shaft to provide a feedback signal to the drive's controller. The feedback signal from the tachometer generator is compared against a reference signal within the controller to maintain accurate speed regulation. It can also be used for speed indication with an optional tachometer. The controllers for the drives are described in the Product Catalog.

Features	Customer Benefits
The mechanical unit is self-contained and requires no special hookup.	Easy installation.
Torque is transmitted by a magnetic field without friction or wear providing longer life.	Less downtime.
Tachometer feedback maintains the output speed within 2% for load changes from 0-75%.	Controls speed accurately.
200% rated torque capability is standard for starting and high peak loads.	Meets demanding overload requirements.
Rugged AC motor is the main drive member. Permanently lubricated bearings.	Minimal mechanical maintenance.
Available in single or three phase.	Compatible with existing machinery wiring and plant power.
Double output shaft and double 56C-Face allow brakes and gears to be easily added.	Flexible modifications after drive is in service. Brake mounting on drive rather than on driven machine.
Three-year warranty on FAS mechanical drives.	FAS Drives are built to give long, reliable, low cost life in diverse applications.

**Fractional HP Adjusto-Spede® Drives
.25 through 1.5 HP**

Specifications for FD-2541 Through FD-9523 Drives

Motor	HP and RPM Open Drip-proof (ODP) NEMA Design B Class F insulation, Class B Rise 1.15 Service Factor Frame Type Input Power Controller transformer winding, 80 VAC Three-year warranty	See selection table Standard Standard Standard Standard 56C 115/230V, 1 Phase, 60 Hz - Standard 230/460V, 3 Phase, 60 Hz - Standard Standard Standard
Clutch	Coil voltages Rated for constant torque Starting torque Intermittent torque AC tachometer generator Cooling Three-year warranty	40 VDC - Standard; 90 VDC - Optional Standard Approximately 200% Approximately 200% Standard 100% self-ventilated Standard
Controller	Model 15-47 integral (Solid State) Model 15-80 wall mounted (Solid State) Closed loop speed control Speed regulation Regulated speed range Input power Wall mounted enclosure Output voltage, current to clutch coil One-year warranty	Standard Optional Standard 2% Standard 34 to 1 available Motor transformer winding - Standard (40 V controller only) Optional 40 VDC, 1.25 Amp Standard
Status Indication	Speed indicating signal	0-40 VAC from tachometer generator for optional meter
Environmental Ratings	Storage temperature Operating temperature Maximum operating temperature Altitude	-20° to 65° C (-4° to 149° F) Standard 0° to 40° C (32° to 104° F) Standard 65° C – Optional 1000m (3300 Ft.) Standard
Codes and Standards	Mechanical NEMA, as applicable Mechanical CSA Controllers CSA	Standard Approved Approved
Reliability Testing	Mechanical 100% dynamometer tested Controllers Pre-tested components Printed circuit thermal stress cycle Computer test and pre-calibrated PCB's	Standard Standard Standard Standard

**Fractional HP Ajusto-Spede® Drives
.25 through 1.5 HP**

Product Information

The Ajusto-Spede® Fractional Drive includes an AC motor, with 115/230 VAC, 1 phase, 60 Hz. (115/230 VAC, 1 phase, 50 Hz. also available), or 230/460 VAC, 3 phase, 60 Hz. (220/380, 3 phase, 50 Hz. also available), open drip-proof, 1.15 SF, NEMA design B, Class F insulation, integrally mounted to an adjustable speed clutch with 100% rated motor torque continuously available over the speed range shown. The frame size for all fractional drives is 56C. An internal transformer winding for controller voltage is included. The standard 15-47 integrally mounted, 40-volt, 1.25 Amp controller is included. Descriptions of other controllers and operator stations can be found in the Product Catalog. ****Consult factory for non-standard units.**

Selection Table - 1 Phase - 60 Hz

HP	Speed Range (RPM)	Model Number	1 Phase
.25	1650-50	FD-2541-4001	115/230
.50	3300-65	FD-5021-4001	115/230
	1600-50	FD-5041-4001	115/230
.75	3300-65	FD-7521-4001	115/230
	1600-50	FD-7541-4001	115/230
1	1600-50	FD-9941-4001	115/230

Selection Table - 1 Phase - 50 Hz

HP	Speed Range RPM	Model Number	1 Phase
.25	1350-50	FD-2541-4002	115/230
.50	2700-65	FD-5021-4002	115/230
	1290-50	FD-5041-4002	115/230
.75	2700-65	FD-7521-4002	115/230
	1270-50	FD-7541-4002	115/230

Selection Table - 3 Phase - 60 Hz

HP	Speed Range (RPM)	Model Number	3 Phase
.25	1650-50	FD-2543-4001	230/460
.50	3300-65	FD-5023-4001	230/460
	1600-50	FD-5043-4001	230/460
.75	3300-65	FD-7523-4001	230/460
	1600-50	FD-7543-4001	230/460
1	3300-65	FD-9923-4001	230/460
	1600-50	FD-9943-4001	230/460
1.5	3300-65	FD-9523-4001	230/460

Selection Table - 3 Phase - 50 Hz

HP	Speed Range RPM	Model Number	3 Phase
.25	1350-50	FD-2543-4002	220/380
.50	2700-65	FD-5023-4002	220/380
	1290-50	FD-5043-4002	220/380
.75	2700-65	FD-7523-4002	220/380
	1270-50	FD-7543-4002	220/380
1	2600-65	FD-9923-4002	220/380
	1300-380	FD-9943-4002	220/380
1.5	2700-490	FD-9523-4002	220/380

****Consult factory for any additional accessories and/or modifications you may require that are not listed on the next page.**

**Fractional HP Adjusto-Spede® Drives
.25 through 1.5 HP**

Modifications

Bases - For drives with a spring-set or friction brake, standard base part number 152667-0100 is included. For drives with an eddy-current adjustable torque brake, optional base number 152456-0100 or 151327-0100 is required.

Part Number - 152456-0100

Part Number - 151327-0100

Brake, Adjustable - An eddy-current adjustable torque brake is mounted to the drive for stopping purposes. The adjustable brake does not provide a holding function. Brakes require an adjustable brake circuit in the controller. Factory Mounted on Clutch end (std.).

Part Number - 160730-1040

Brake, Friction - An electromagnetic friction brake is mounted to the drive for stopping or holding purposes. Brakes require a brake circuit in the controller. Factory Mounted on Clutch end (std.).

Part Number - 304195-0028

Brake, Spring Set - A spring-set brake is employed to provide spring actuated (electrically released) stopping and holding functions. A 115/230 VAC brake coil is furnished on single phase drives; a 230/460 VAC brake coil is furnished on three phase drives for normal 230-volt operation. The brake cannot be operated on 460 volts using the standard control station. A separate customer supplied relay is required for interfacing. If a different voltage coil is required, consult the factory. The brake may also be operated from a customer furnished AC source. This modification is used for most holding brake applications. A controller brake circuit is required. Factory Mounted on Clutch end (std.).

Part Number - 87869-1900 (115/230)

87869-0300 (230/460)

Capacitor - A capacitor is mounted on the top of single-phase drives and is included. A ship loose capacitor kit assembly is also available. The kit assembly includes capacitor, capacitor case and misc. hardware.

Part Number - 000-161000-0100 - Loose (Kit)

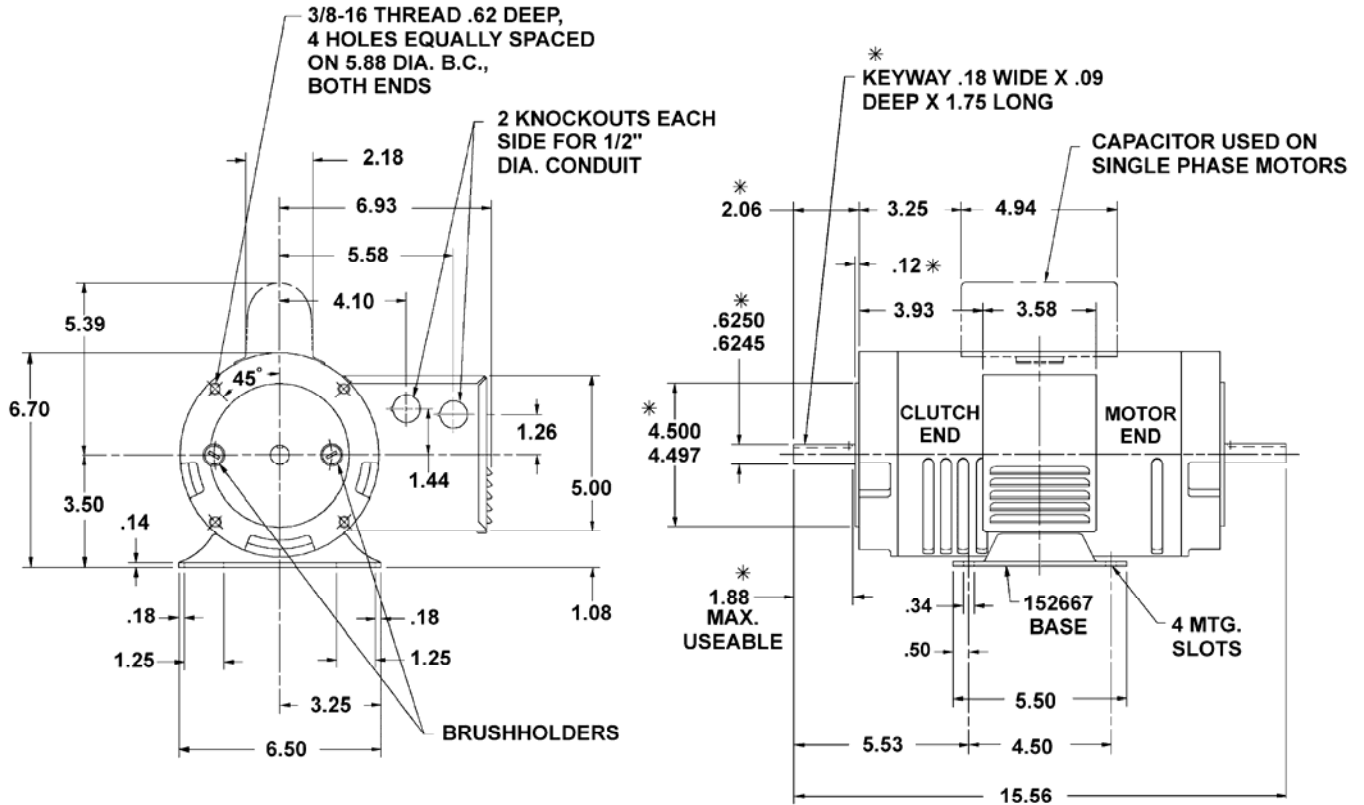
Torque Control - Provides constant voltage to the clutch coil. Since clutch torque is a function of this current or voltage, the magnitude of clutch torque is then dependent on the operator's setting of the Torque potentiometer. Speed Control is entirely absent with this modification. A special operator's station is required. Includes the modification and operator's station.

Part Number - 28-000352-0001

Fractional HP Ajusto-Spede® Drives
.25 through 1.5 HP

Outline Drawings

Fractional Horsepower Ajusto-Spede Drive with Base



* THESE DIMENSIONS TYPICAL BOTH ENDS

C-160182

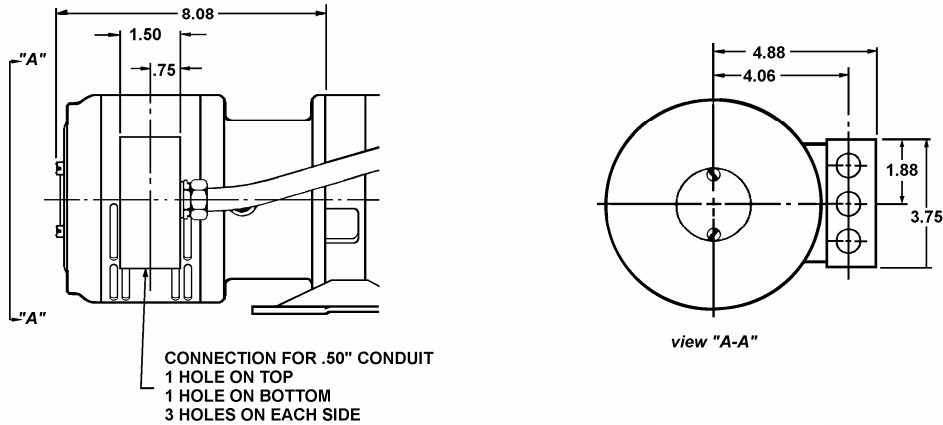
Approximate Net Weight: 51 lbs.

DIMENSIONS ARE IN INCHES

Fractional HP Ajusto-Spede® Drives
 .25 through 1.5 HP

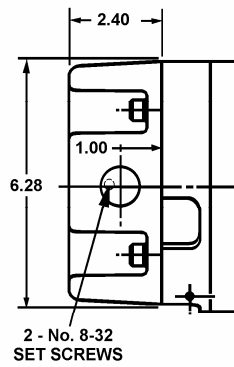
Modification Drawings

ADJUSTABLE TORQUE BRAKE



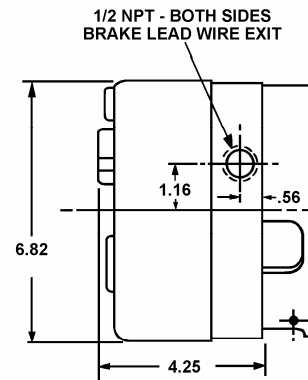
C-160511

FRICTION BRAKE



C-160193

SPRING SET BRAKE



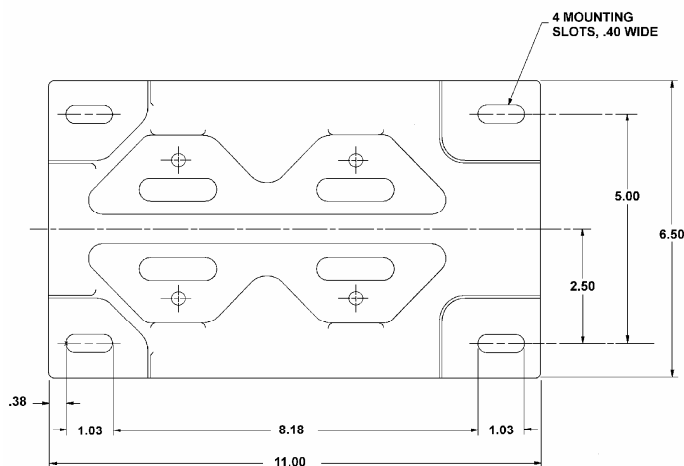
C-160187

Approximate Net Weight (includes drive):
 Adjustable Torque Brake: 63 lbs.
 Friction Brake: 59 lbs.
 Spring Set Brake: 59 lbs.

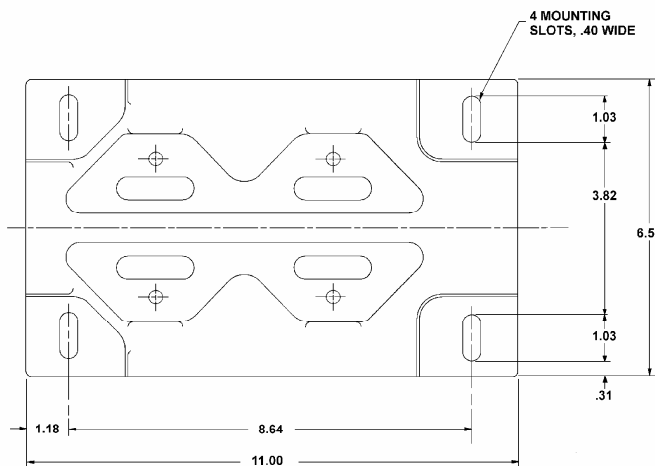
DIMENSIONS ARE IN INCHES

**Fractional HP Ajusto-Spede® Drives
.25 through 1.5 HP**

Fractional Drive Bases



Base No. C-152456-0100



Base No. C-151327-0100

Which Base To Use

Ajusto-Spede Drive Configuration	Base To Be Used
Standard drive	152667 (Standard - not shown)
...with friction brake	152667 (Standard - not shown)
...with spring-set brake	152667 (Standard - not shown)
...with adjustable torque brake	152456 OR 151327

DIMENSIONS ARE IN INCHES