

MEDIUM PRESSURE CENTRIFUGAL BLOWERS & DRIVE CONTROLLERS

MMPCFB -Series

Introduction:

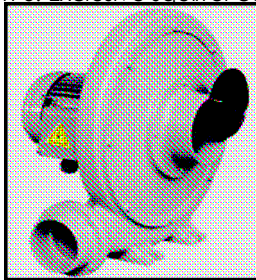
MMPCFB series of centrifugal blower & drive controllers are available in more than 100 different models (100 to 100.0 kilo watts), virtually offering solutions to control very reliably and are ideally suitable for public transport, paper, machine-tools, excavation, Printing Machines, Incinerators, Plastic Extruders,aminators, Film,Processing Machines, Uniform Temperature,Equipment ,household Machines, Dust Collectors, Textile Machines, Pollution Machines rubber, sugar, textiles, heavy electrical/mechanical industries, Hot Air Blowers, Dryers, • Pneumatic Transport, Machinery for the,Food & Beverage,Industries, Cooling Machinery, Woodworking,,Machines, Grain Elevatorsresearch and development organizations and many defense applications. Special machine design, updated design topology and material ensure better efficiency and enhanced flow/pressure characteristic. Company offers tailor made solution to / requirement.

Principle: Impellor is driven by variable torque motor, which generates flow rate which is related to prime mover rpm in some manner as under apart from fluid density, differential pressure, pipe line diameter. These motors normally operate in constant torque mode These motors are most suitable for high torque regulation applications. Its torque or speed can be stably controlled using an A.C./A.C. or A.C./D.C. controller operating in feedback. These motors are electrically impedance matched to deliver maximum output. ...

$$V = 0.2 \pi \rho D^2 \times (2/p)^{1/2} \times (P_{total} - P_{static})^{1/2}$$

V= cmsps, p=density, P_{total}=Line Pressure, P_{static}: no-load pressure, D=pipe line diameter

Benefit: 1. high levels of flow and pressure 2. Oil-Free and low maintenance 3.Heavy Duty cast aluminum housing and Cover 4.Integrated muffler/silencer reduces noise 5. Specially designed impeller maintains a constant and steady air flow stream 6. Exclusive squirrel cage motor and shaft are designed to requirement.



MMPCFB -0500010



MMPCFB -0030015

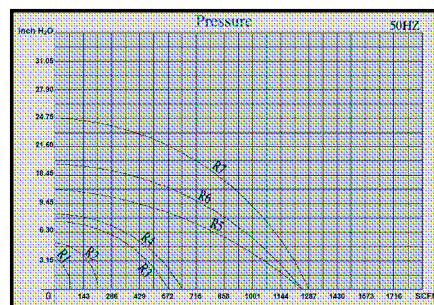


Mechanical Specifications of Portable Blower Fan:

Model	Power Watts	Torque n.m.	rpm x10 (max)	Flow rrate SCCM (4)	Flow rate m ³ /min (5)=(4)/35	Pressure m.m. waver	Outlet size	Noise May vary	Weight
MMPCFB -0008015	0.75	02.49	3000	500/643	As above	170/230	2	70/90	25
MMPCFB -0008015	1.5	04.99	3000	714/893	As above	250/300	3	80/100	30
MMPCFB -0010030	2.2	014.66	1500	1000/1250	As above	250/370	4	80/100	41
MMPCFB -0010015	3.7	029.6	1500	1500/1786	As above	400/500	5	80/100	57
MMPCFB -0030030	5.7	045.6	1500	1785/2320	As above	400/500	6	80/100	93
MMPCFB -0030015	7.5	059.9	1500	2143/2340	As above	400/500	6	80/100	100
MMPCFB -0050030	11	089.9	1500	1429/1893	As above	520/650	8	80/100	108
MMPCFB -0050030	15	122.5	960	2140/2600	As above	520/650	8	80/100	185
MMPCFB -0050030	20	163.3	960	2500/3214	As above	550/700	8	80/100	188

Electrical Specifications of Blower Controller:

Operating voltage	220/120 volts, 1/3 phase A.C.
Chopping frequency	50/400/1000 Hz
Pulse width	0.0-80 %
Excitation current	0.0- 500.0 amps(max)
Torque control	0.1 –1000.0 kg.m
RPM control range	1:100
Regulation	better than 0.5 % of set speed /torque
Accuracy	99.5% of set of speed/torque
Response time	0.05 –10.0 sec
Interface Signal	0.0-12.0 volts D.C./4-20 milli.amp
Control option	constant mode/synchronous mode
Display	RPM/Torque in 3½ & 4½ digit red glow LED/LCD display
Protection:	Over/under voltage & frequency with power on Indication



MMPCFB -0500030

A.C. SYNCHRONOUS MOTOR CONTROLLER:

MMPCFB -0005030	10X06X06	MMPCFB -0100010	16X14X14
MMPCFB -0008015	12X08X08	MMPCFB -0200010	18X16X16
MMPCFB -0010015	12X10X10	MMPCFB -0300010	20X18X18
MMPCFB -0050015	12X10X10	MMPCFB -2000006	20X18X18

Note: First five numeral after product code MMPCFB indicates wattsx10 and last numeral indicates R.P.M.x10.

MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, shakti nagar extension, DELHI-110052. Tel: 011-23648181/23655454
motoronenergy@hotmail.com

PORTABLE CENTRIFUGAL BLOWERS & DRIVE CONTROLLERS

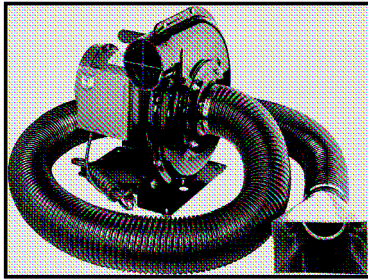
MMPCFB -Serie

Introduction:

MPPCFB series of centrifugal blower & drive controllers are available in more than 100 different models (100 to 100.0 kilo watts), virtually offering solutions to control very reliably and are ideally suitable for public transport, paper, machine-tools, excavation, Printing Machines ,Incinerators, Machines, Equipment ,household Machines, Dust Collectors, Textile Machines, Pollution Machines rubber, sugar, textiles, Hot Air Blowers, Dryers,, Cooling Machinery, Woodworking,,Machines, Grain development organizations and many defense applications. Special machine design, updated design topology and material ensure better efficiency and enhanced flow/pressure charetertic. Company offers tailor made solution to / requirement.

Principle: Primary element of these motors is special material rotor occupies least reluctance Rotary magnetic path, when stator is excited. These motors normally operate in constant torque mode These motors are most suitable for high torque regulation applications. Its torque or speed can be stably controlled using an A.C/A.C. controller operating in feedback. These motors are electrically impedance matched to deliever maximum output.

Benefit: 1. high levels of flow and pressure 2. Oil-Free and low maintenance 3.Heavy Duty cast aluminum housing and Cover 4.Integrated muffler/silencer reduces noise 5. Specially designed impeller maintains a constant and steady air flow stream



MMPCFB -0500010



MMPCFB -0030015



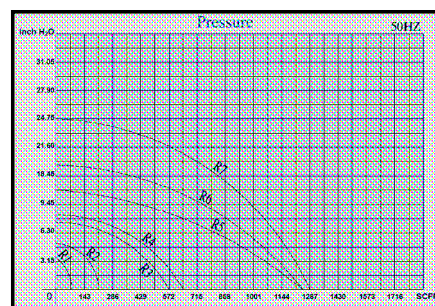
MMPCFB -0050030

Mechanical Specifications of Portable Blower Fan:

Model	Power Watts	Torque n.m.	rpm x10 (max)	Flow rrate CFM	Flow rate m³/min	Pressure m.m. waver	Outlet size m.m.	Noise May vary	Weight kg
MMPCFB -0008015	050	0.1	5000	250	7.3	n.a.	50	70/90	2.5
MMPCFB -0008015	100	0.2	5000	400	11.7	n.a.	50	80/100	3.0
MMPCFB -0010030	200	0.4	5000	550	16.0	n.a.	50	80/100	4.1
MMPCFB -0010015	350	0.7	5000	750	22.0	n.a.	50	80/100	5.7
MMPCFB -0030030	400	0.8	5000	890	26.0	n.a.	50	80/100	9.3
MMPCFB -0030015	600	1.2	5000	930	27.11	n.a.	62	80/100	10.0
MMPCFB -0050030	735	1.5	5000	1070	31.2	n.a.	75	80/100	10.8
MMPCFB -0050030	1050	2.0	5000	1250	36.5	n.a.	75	80/100	18.5

Electrical Specifications of Blower Controller:

Operating voltage 220/120 volts, 1/3 phase A.C.
 Chopping frequency 50/400/1000 Hz
 Pulse width 0.0-80 %
 Excitation current 0.0- 500.0 amps(max)
 Torque control 0.1 –1000.0 kg.m
 RPM control range 1:100
 Regulation better than 0.5 % of set speed /torque
 Accuracy 99.5% of set of speed/torque
 Response time 0.05 –10.0 sec
 Interface Signal 0.0-12.0 volts D.C./4-20 milli.amp
 Control option constant mode/synchronous mode
 Display RPM/Torque in 3½ & 4½ digit red glow LED/LCD display
 Protection: Over/under voltage & frequency with power on Indication



A.C.SYNCHRONOUS MOTOR CONTROLLER:

MMPCFB -0005030 10X06X06 MMPCFB -0100010 16X14X14
 MMPCFB -0008015 12X08X08 MMPCFB -0200010 18X16X16
 MMPCFB -0010015 12X10X10 MMPCFB -0300010 20X18X18
 MMPCFB -0050015 12X10X10 MMPCFB -2000006 20X18X18

MMPCFB -0500030

Note: First five numeral after product code MMPCFB indicates wattsx10 and last numeral indicates R.P.M.x10.

SLIP RECOVERY TYPE INDUCTION MOTOR DRIVES/SOFT STARTER

MSRD-Series

Introduction:

MSRD series of high power, energy efficient drives are available in (3.0 to 5000 h.p.), more than 50 different models working in constant power/torque mode virtually offering reliable solutions to speed/torque control applications in , generation traction, telecom, airlines, railways, electrical utilities, modern building automation, rural transportation, irrigation, blow/pumping, wind energy, tidal energy, petrochemical industry, organic/inorganic chemical, heavy electrical/mechanical industries, machine tools, non-conventional energy and many uncountable defense/nuclear applications. Updated design topology ensures better controllability and efficiency with additional integrated power/voltage and frequency control/protection. Company offers tailor made solution to custom requirement.

Operating Principle:

Slip recovery drives are force-commutated high frequency I.G.B.T./MOSFET controlled converters working in feedback cascade mode. slip energy is controlled by synchronous feedback PWM control technique and may be set to any voltage constrained by adjustable internal current limit, with consistent regulation over wide load range and without any hunting with fail proof protection against either over/under voltage. These compact slip recovery drives may be operated in parallel along with facility of parallel port/serial port to enable it to interface with computer to achieve any real time voltage /current profile.

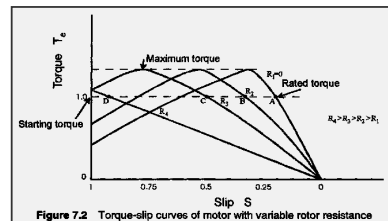
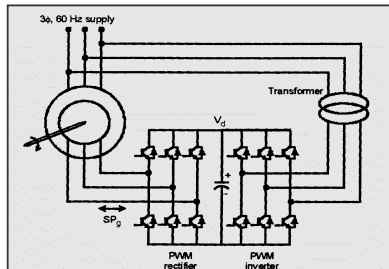
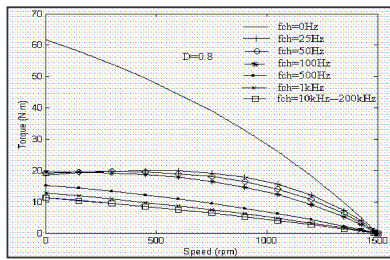


Figure 7.2 Torque-slip curves of motor with variable rotor resistance

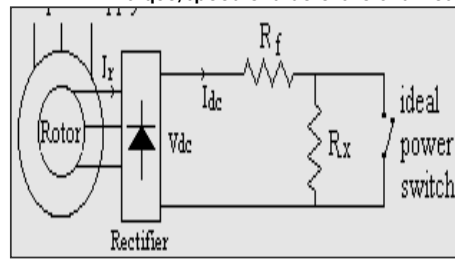
Torque/speed characteristic of drives



schematic of slip recovery drive



Torque speed charateristic at differ frequency



schematic of soft starte of slip ring motor

Electrical/mechanical specifications of High Frequency Slip recovery drives

Power < 1000,000 kilo watt.

Model	Watts	Volts 1/3 phase	current	Switchng frequency k.hz	cooling	Model	Watts	Volts	Current	Switching frequency k.hz	Cooling
MSRD-003050	03000	220	05.0	05-50	Air	MSRD-04800050	04800,000	11,000	050.0	05-50	Air
MSRD-006010	06000	220	010.0	05-50	Air	MSRD-01000100	01000,000	11,000	0100.0	05-50	Air
MSRD-012020	012000	220	020.0	05-50	Air	MSRD-02000200	02000,000	11,000	0200.0	05-50	Air
MSRD-024020	024000	220	040.0	05-50	Air	MSRD-05000400	05000,000	11,000	0400.0	05-50	Air
MSRD-060100	060000	220	0100.0	05-50	Air	MSRD-08000800	08000,000	11,000	0800.0	05-50	Air
MSRD-120200	0120000	220	0200.0	05-50	Air	MSRD-10000900	01000,000	11,000	0900.0	05-50	Air
MSRD-240280	0240000	440	0280.0	05-50	Air	MSRD-20001900	02000,000	11,000	01900.0	05-50	Air

High Frequency Slip recovery drives Specification:

Operating voltage 220 volt/1/3 phase 50Hz
 Output current/voltage 0-400 volts/1000 amps 0-50 hz (max) (slip voltage)
 Switching frequency of control: 5.0-200 K.Hz
 Voltage/current control accuracy 99.9% of set point
 Resolution 0.1 volts/amps D.C.
 Current/Voltage Ripple 10.0 volts/amps to 100 micro volts/amps
 Response time 0.5 -1.1 mill-seconds
 Interface Signal 0.0-12.0 volts D.C./4.0-20.0 mili amps
 Voltage control range 0.0-400 volts
 Power factor/harmonics 0.95(lagging)/ less than 3% of principal harmonics
 Control PWM based cascade feedback control With soft start and adjustable current limit.
 Display Voltage/current/RPM/kilowatt in 3 1/2 red glow LED display
 Protection over voltage/short ckt & inline surge protection.

Quasi resonant /Pulse mode A.C./D.C. slip recovery drives are also available.

High Frequency Slip recovery drives Specification:

MSRD-006050	08X06X06	MSRD-048150	14X12X12
MSRD-012050	10X06X06	MSRD-048200	16X14X14
MSRD-012100	12X08X08	MSRD-096025	18X16X16
MSRD-024025	12X10X10	MSRD-096050	20X18X18
MSRD-024050	12X10X10	MSRD-096100	20X18X18
MSRD-024100	12X10X10	MSRD-096150	20X18X18
MSRD-024200	08X06X06	MSRD-096200	14X12X12
MSRD-048050	10X06X06	MSRD-096400	16X14X14
MSRD-048100	18X16X14	MSRD-192100	18X16X16

Three numerals x 100 after MSRD indicates voltage of drive/starter

and last three-digit Indicates current.last numeral 01-drive/02-starter. All dimensions are in inches.

Company undertake design/installation slip recovery drives/soft starter of other specifications not covered under our regular model.



MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, shakti nagar extension, DELHI-110052. Tel: 011-23648181/23655454 fax: 011-23585424
 e.mail: motoronenergy@hotmail.com

SLIP RECOVERY TYPE INDUCTION MOTOR DRIVES/SOFT STARTER

Electrical/mechanical specifications of High Frequency Slip recovery soft starter

Power < 5000,000 kilo watt

Model	Watts	Volts 1/3 phase	current	Switchng frequency k.hz	Cooling	Model	Watts	Volts	Current	Switching frequency k.hz	Cooling
MSRD-003050	03000	220	05.0	05-50	Air	MSRD-04800050	04800,000	11,000	050.0	05-50	Air
MSRD-006010	06000	220	010.0	05-50	Air	MSRD-01000100	01000,000	11,000	0100.0	05-50	Air
MSRD-012020	012000	220	020.0	05-50	Air	MSRD-02000200	02000,000	11,000	0200.0	05-50	Air
MSRD-024020	024000	220	040.0	05-50	Air	MSRD-05000400	05000,000	11,000	0400.0	05-50	Air
MSRD-060100	060000	220	0100.0	05-50	Air	MSRD-08000800	08000,000	11,000	0800.0	05-50	Air
MSRD-120200	0120000	220	0200.0	05-50	Air	MSRD-10000900	01000,000	11,000	0900.0	05-50	Air
MSRD-240280	0240000	440	0280.0	05-50	Air	MSRD-20001900	02000,000	11,000	01900.0	05-50	Air

Three numerals x 100 after MSRD indicates voltage of drive/starter and last three-digit indicates current. All dimensions are in inches.

Last numeral 01-drive/02-starter. Company undertake design/installation slip recovery drives/soft starter of other specifications not covered under our regular model.

MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, Shakti nagar extension, DELHI-110052. Tel: 011-23648181/23655454 fax: 011-23585424
e.mail: motoronenergy@hotmail.com

HIGH POWER FACTOR TRANSIENT D.C.DRIVES

(Energy efficient)

Application: MDCD series of low time constant D.C.drives are available in more than 10 different models (10 to 10,000 kilo watts) including some tailor made models practically offering readymade drive for D.C. motors with very high power factor/lower harmonic distortion with transient response and improved protection features unlike S.C.R. drives. These drives have lower derating effect on supply transformer, thereby creating additional distribution margin. Better power factor lower harmonics has lower degenerating effects on utility distribution system with energy saving from 15-30 percent. Only due to these reasons these are first choice of paper/textile, rolling mill, polymers, and yarn sugar and heavy electrical engineering industry. These drives can operate in parallel mode in synchronization.

Operating Principle:

These drives can operate in both absorbing mode as well in sourcing mode (four/two/single quadrant) with smooth transition between each mode. While performing in regenerative mode, power is transferred into electricity main. With this type of controller an infinitely small variation in speed can be achieved at constant power/torque mode or profiled in specific manner. Power/Torque absorbed/delivered by load controller is given as under....

Power/Torque absorbed/delivered by D.C.drives is given as under....

$$w = K_1.V_a / I_f - K_2.T/I_f^2$$

w: speed, V_a, I_a : armature voltage/current, T: Torque,

Feedback controlled power supply ensure fine resolution in loading i.e. 0.1% of torque/power OR derived unite at any time, with a very high degree of stability and repeatability.

Technical specifications of Electronic load/source controller:

Operating Power supply 220 volts/50 Hz
 Armature current as in data sheet
 Real Power /Reactive power 0.9 and above
 Conversion frequency of chopper 50 Hz-50 kHz
 Control: cascade control (1.armature speed/current feedback)

Working in constant power/torque

Protection: over speed/ over load, FFR, single phasing etc
 Repeatability 100 percent
 Response time 0.5-1.1 mill-seconds
 Accuracy of loading: 100%

Interface Signal 0.0-12.0 volts D.C. (proportional to power)

Control range (torque/speed) 0.0-100%

Step down ratio 0-100%

Display : Voltage/current/power /RPM over load/short circuit

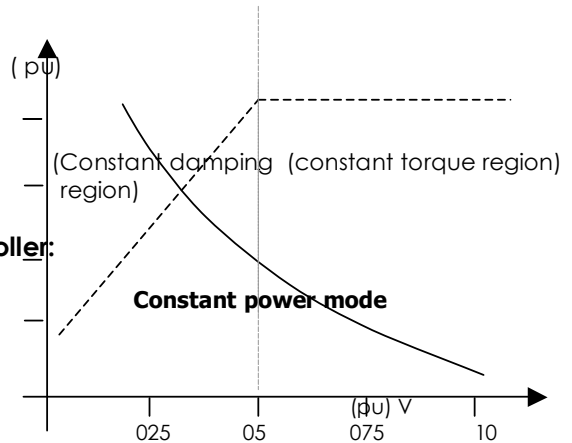
Interface: RS-232

Control unit of load controllers are equipped with cooling water and exhaust gas temperature, exhaust calorimeter electronic flow meter for monitoring fuel consumption air, tachometer, torque (load cell) and real shaft power sensors interface to Digital controller

HIGH FREQUENCY D.C.DRIVES dimension:

MDCD-000101	08X06X06	MDCD002004	14X12X12
MDCD000102	10X06X06	MDCD005004	16X14X14
MDCD000202	12X08X08	MDCD010008	18X16X16
MDCD000502	12X10X10	MDCD030008	20X18X18
MDCD001002	12X10X10	MDCD060008	20X18X18

Three numerals after MDCD indicates power x100 of drives and last three digit indicates K.VOLTS. All dimensions are in inches. Above models are in current range of production, however company **Undertake any tailor made specification power supply.**



MOTORON SEMICONDUCTORS CORPORATION

11, Shri Nagar Colony, Shakti Nagar Extension, Delhi-110052 Tel: 011-2365 5454/2364 8181
motoronenergy@hotmail.com

HIGH POWER FACTOR TRANSIENT D.C.DRIVES

(Energy efficient)



MDCD010008



MDCD030008

Technical specifications and selection chart (MDCD series) P<200.0 kilowatts

Model	Power (K.W.)	Rated volt AC/DC (for m/c)	Non excited load %	Ampere AC/DC	Cooling Water/ Air	Thermal rise °C (an hour)
MDCD150010	1500.0	1000	0.0	1500.0	Liquid	65
MDCD100010	1000.0	1000	0.0	1000.0	Liquid	65
MDCD075008	750.0	750.0	0.0	1000.0	Air	65
MDCD060008	600.0	400/800	0.0	1500.0/750.0	Air	65
MDCD030008	300.0	400/800	0.0	750.0/375.0	Air	65
MDCD010008	100.0	400/800	0.0	250.0/125.0	Air	65
MDCD005004	50.0	400	0.0	125.0	Air	65
MDCD002004	20.0	400	0.0	50.0	Air	65
MDCD001002	10.0	200	0.0	50.0	Air	65
MDCD000502	5.0	200	0.0	25.0	Air	65
MDCD000202	2.0	100/200	0.0	20.0/10.0	Air	65
MDCD000102	1.0	100/200	0.0	10.0/5.0	Air	65
MDCD000101	0.5	10/20/50	0.0	50/25/10	Air	65

Last two numeral after MDCD indicates volt.x100 an remaining numeral indicates power (kilo-watts).Company may develop electronic load tester on specific requirement.

MOTORON SEMICONDUCTORS CORPORATION

11, Shri Nagar Colony, Shakti Nagar Extension, Delhi-110052 Tel: 011-2365 5454/2364 8181
E.mail: motoronenergy@hotmail.com