



Magnetic Particle Clutches

Instruction Manual

24 VDC & 90 VDC Models: PSC2, PSC15, PSC70, PSC120

CAUTION: This product contains rotating parts which could cause injury. At time of installation, appropriate protective guards should be installed by the user according to his use of this product.

All of the information herein is the exclusive proprietary property of Maxcess International, and is disclosed with the understanding that it will be retained in confidence and will neither be duplicated nor copied in whole or in part nor be used for any purpose other than for which disclosed.

Copyright 2004, all rights reserved.

Periodically there will be updates to this manual. The latest version is available on our website or by calling your regional office listed on the back page of this publication.

Theory of Operation

The clutch construction consists of two stators, a clutch rotor, output shaft assembly, a coil assembly, magnetic powder, and four bearings. The bearings support and align the shafts and rotor with the stators, and allow them to rotate within the clutch assembly. The magnetic powder occupies the space between the output shaft disk and the rotor, and represents the key element in the operation of the clutch.

The stators are connected to the machine frame and remain stationary. The rotor is connected to a motor or prime mover while the output shaft is connected to a rotating machine shaft. The magnetic powder functions as the variable bond or link between the disk and the rotor. It is the medium for the transmission of torque.

An electric current in the coil creates a magnetic field (flux), which passes through the stators, rotor magnetic powder, and the output shaft disc. The flux aligns the powder particles, forming a bond or link between the disk and the rotor. The strength of the bonding action is proportional to the amount of current in the coil.

Mechanical Installation

1. Prior to installation, manually check the rotation of the rotor, and observe that it is smooth and free of binding or scraping.
2. Mount the clutch to the machine. The optional brackets may be used to provide mounting feet.
3. For indirect mounting, install sheave or sprocket on shaft(s). For direct inline mounting, use flexible couplings to connect clutch shaft(s) with machine shafts.
4. For applications where clutch shafts are vertical, install unit with the input shaft facing downward. (See label on clutch)

NOTE: PSC2 can be mounted in either direction.

Electrical Installation

For 24 VDC devices, connect the two wires to the 24 VDC power source.
For 90 VDC devices, connect the two wires to the 90 VDC power source.

	PSC2		PSC15		PSC70		PSC120	
Coil Voltage (VDC)	0-24	0-90	0-24	0-90	0-24	0-90	0-24	0-90
Maximum Current (ADC)	.37	.08	.54	.12	.50	.12	.85	.22

Environmental Specifications

Temperature Range:

Operating 0°C to 40°C
Storage -30°C to +80°C

Relative Humidity: 5% to 85%
Pollution Degree: 2 (IEC664-1)
Altitude: 0 to 2000 m

Maintenance

These units require no scheduled maintenance.

The following units can be rebuilt at the factory: PSC70 and PSC120
Unit rebuilt includes replacement of bearings, seals and magnetic powder.

The following units cannot be economically repaired: PSC2 and PSC15.

To request service or to get replacement parts, contact one of the following addresses or your regional office.

Fife

222 West Memorial Rd.
Oklahoma City, OK, 73114
USA
Phone: 1.405.755.1600
Fax: 1.405.755.8425
Web: www.maxcessintl.com

Fife-Tidland GmbH

Max-Planck-Strasse 8
65779 Kelkheim
Deutschland
Telefon: +49.6195.7002.0
Fax: +49.6195.7002.933
Web: www.maxcess.eu



AMERICAS
Tel +1.405.755.1600
Fax +1.405.755.8425
sales@maxcessintl.com
www.maxcessintl.com

EUROPE, MIDDLE EAST
AND AFRICA
Tel +49.6195.7002.0
Fax +49.6195.7002.933
sales@maxcess.eu
www.maxcess.eu

CHINA
Tel +86.756.881.9398
Fax +86.756.881.9393
info@maxcessintl.com.cn
www.maxcessintl.com.cn

INDIA
Tel +91.22.27602633
Fax +91.22.27602634
india@maxcessintl.com
www.maxcess.in

JAPAN
Tel +81.43.421.1622
Fax +81.43.421.2895
japan@maxcessintl.com
www.maxcess.jp

KOREA, TAIWAN,
AND SE ASIA
asia@maxcessintl.com
www.maxcess.asia