AuburnGear

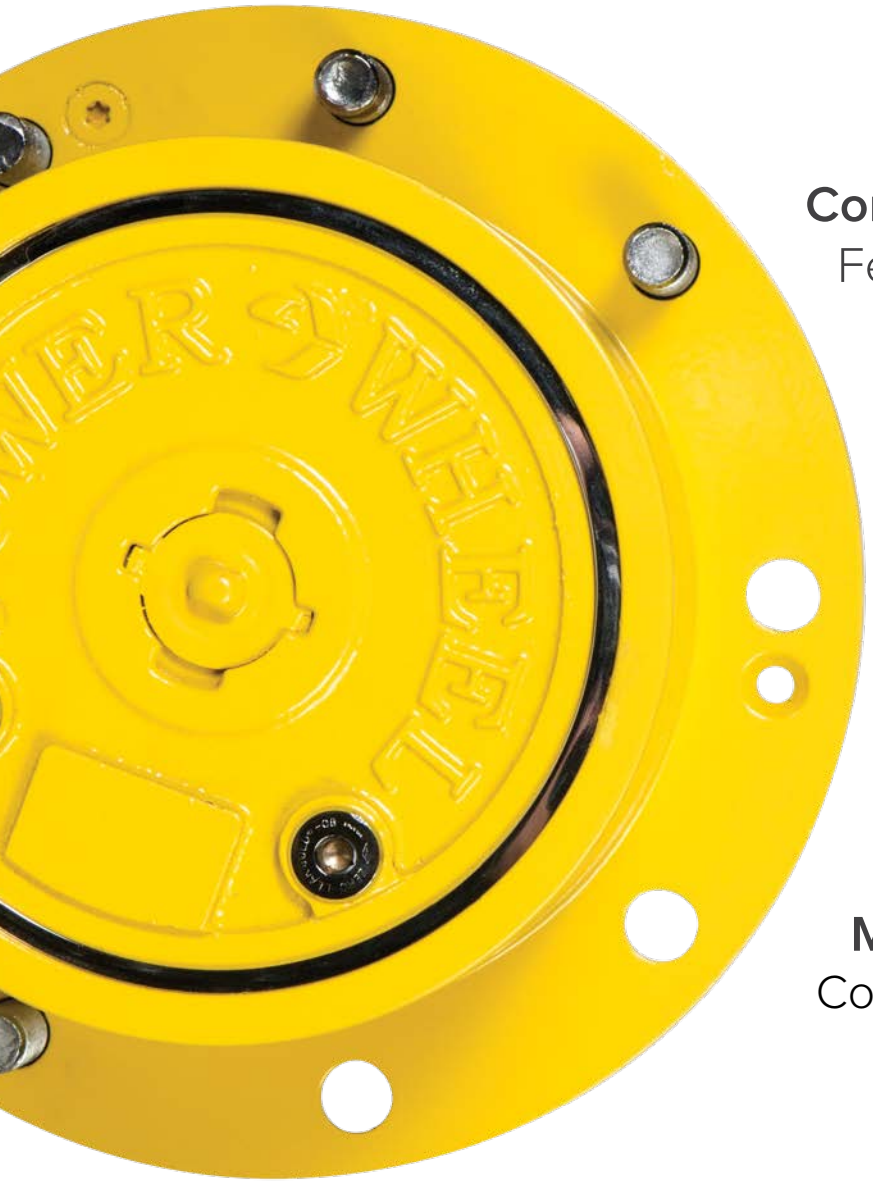
Engineered Drive Solutions

Power Wheel®

Model 70CD, 110CD, 145CD, and 160CD Drives

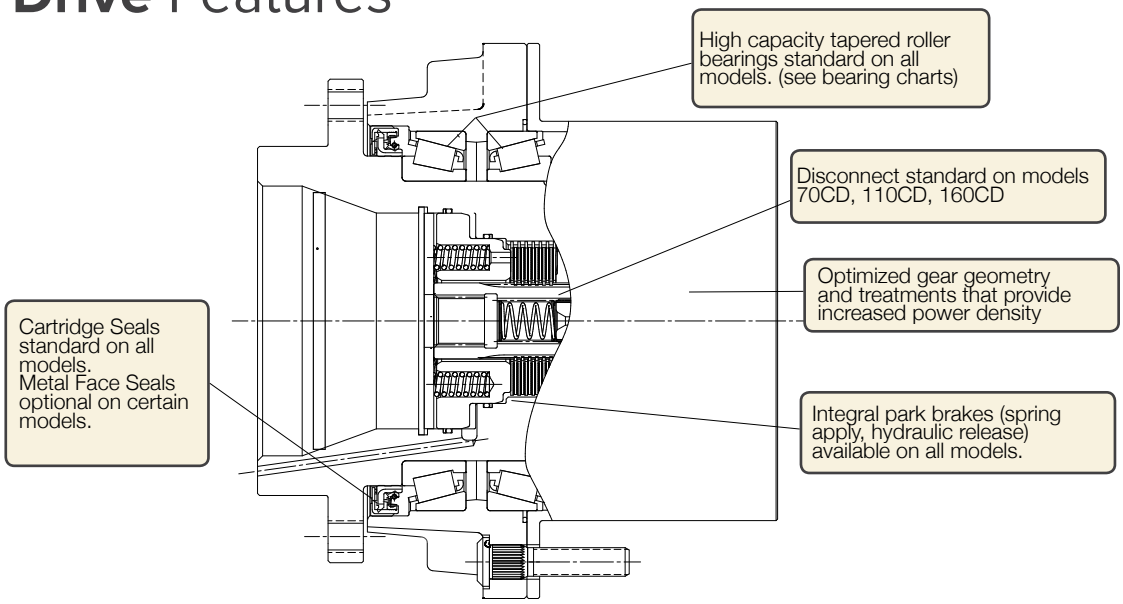
Compact Final Drives

260.925.3200 AuburnGear.com

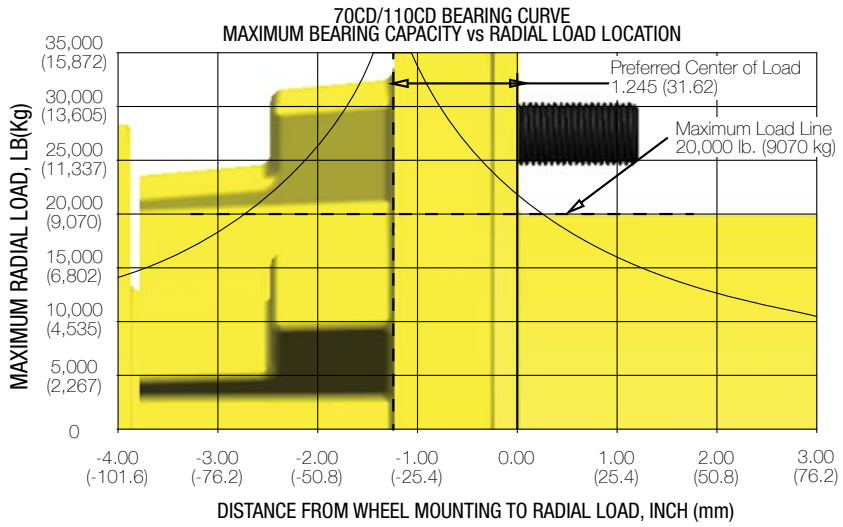


Compact Final Drive Features

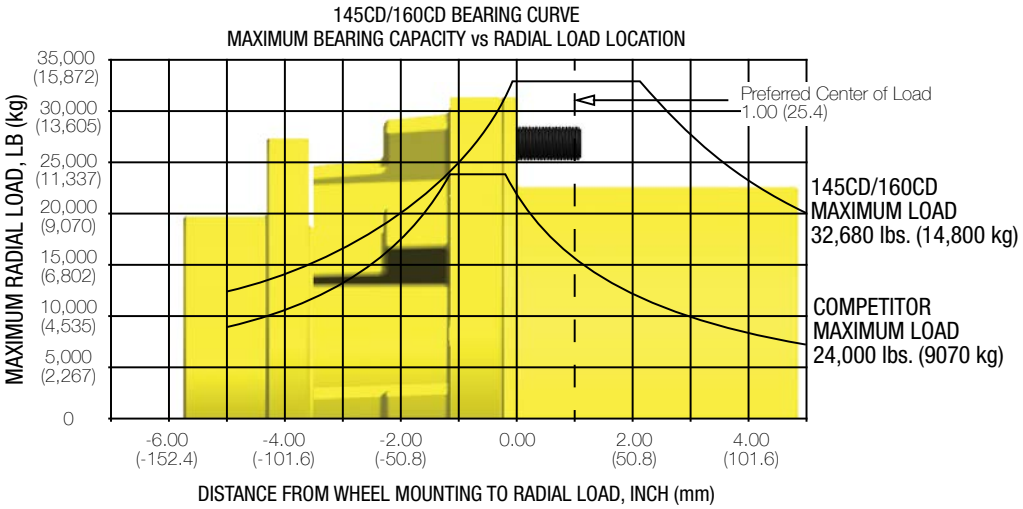
- One by-product of a plug-in style motor design is larger tapered roller bearings
- As part of the motor is buried into the spindle this forces the designer to use a larger bearing set
- Auburn Gear has taken this a step further by spreading these bearings out as well to provide more radial capacity over a larger area



Compact Final Drive Bearing Curves



Two Advantages of 145CD/160CD vs Competition:
1 – Increased radial load capacity by 27%
2– Increased max load range by 50%, and the max load range is in a load location customer will utilize



NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center. The curves were developed based on a B10 life of 3000 hours at 100 RPM.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

Power Wheel® Model 70CD Compact Final Drive

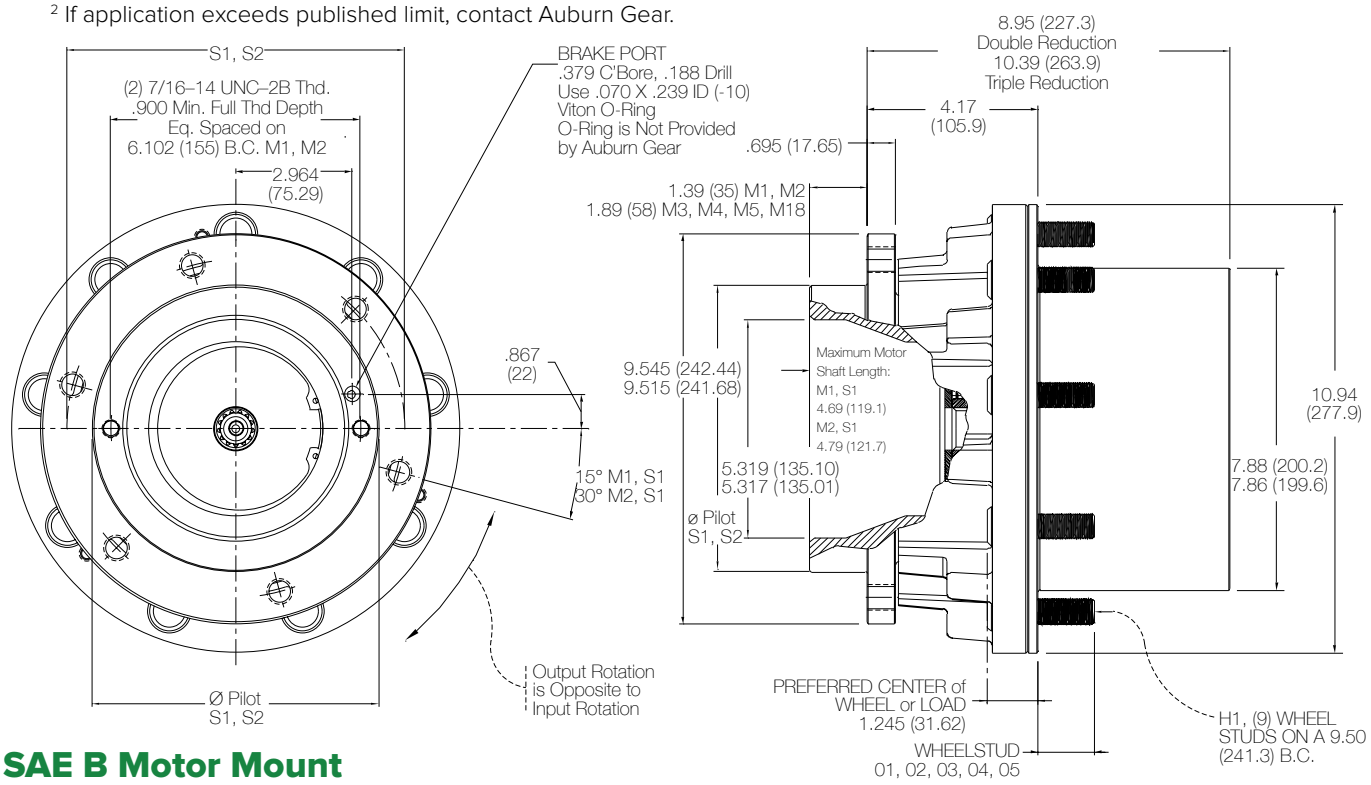
General Specifications

Double Reduction	
Max. intermittent output torque[1, 2]	70,000 lb-in (7,910 Nm)
Max. input speed [2] (w/o park brake)	5,000 RPM
Max. input speed [2] (w park brake)	3,600 RPM
Approximate Weight	110 lbs (50 kg)
Oil capacity	22 oz (650 cc)
Max. radial load: (@ pref. load center)	20,000 lbs (9100 kg)

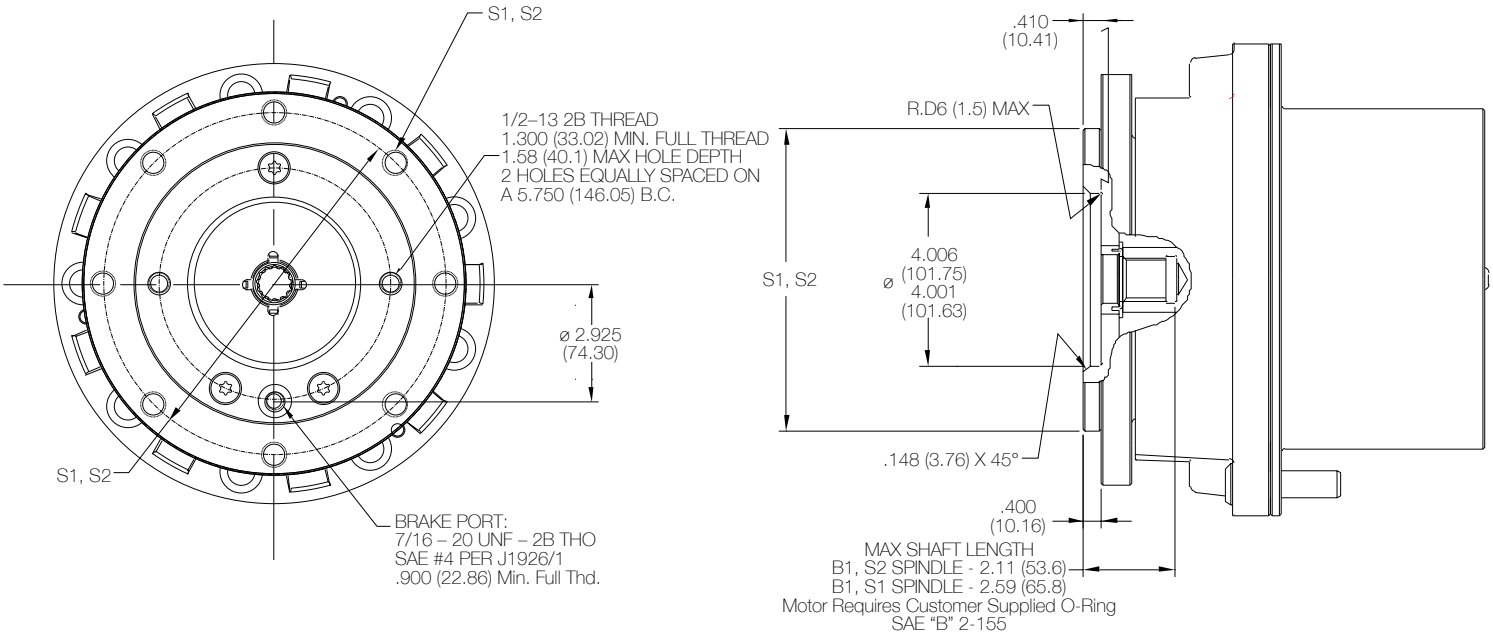
Triple Reduction	
Max. intermittent output torque[1, 2]	70,000 lb-in (7,910 Nm)
Max. input speed [2] (w/o park brake)	5,000 RPM
Max. input speed [2] (w park brake)	3,600 RPM
Approximate Weight	125 lbs (57 kg)
Oil capacity	35 oz (1035 cc)
Max. radial load: (@ pref. load center)	20,000 lbs (9100 kg)

[1]Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory Power Wheel® life. Customer testing and application analysis is strongly recommended.

[2] If application exceeds published limit, contact Auburn Gear.



SAE B Motor Mount



70CD
Model Formula

Ratios / **Triple Reductions**

014=	14.30:1	080=	80.70:1	220=	220.57:1
017=	17.94:1	087=	87.89:1	253=	253.91:1
022=	22.71:1	097=	97.04:1	276=	276.35:1
025=	25.15:1	100=	100.00:1	304=	304.90:1
028=	28.37:1	109=	109.03:1	342=	342.28:1
032=	32.79:1	125=	125.59:1	393=	393.35:1
037=	37.52:1	136=	136.72:1		
046=	46.74:1	150=	150.90:1		
058=	58.09:1	169=	169.47:1		
066=	66.98:1	195=	195.12:1		

Wheel Studs (Size x Stud length from hub face)
00= None, 0.681/0.678 (17.30/17.22) thru holes
01= 1/2–20 UNF-2A x 1.50 (38.1)
02= 5/8–18 UNF-2A x 1.38 (35.1)
03= 9/16–18 UNF-2A x 1.70 (43.2)
04= M16 x 1.5-6g x 50
05= M18 x 1.5-6g x 45

Brakes
N0= No Brake
N1 = 1,600 lb-in (180 Nm), 140 psi (9.6 Bar) release
N2= 2,400 lb-in (270 Nm), 180 psi (12.4 Bar) release
N3= 3,600 lb-in (405 Nm), 200 psi (13.8 Bar) release

Model 70CD
CW070

Hub Mount
H1—(9) Wheel Studs on 9.50 (241.3) B.C.
H2–(12) M14 x 2.0 threaded thru on 10.316 (262.0) B.C.

CW070 M1 H1 S1 014 01 N1 Z

Cartridge Motor Inputs
M1—Danfoss KC–15T Input
M2–Danfoss LC–13T Input
M3–Bosch A6VE (28cc)
M4–Bosch A2FE (28cc and 32cc)
M5—Parker F12–30
M18–Sunfab 025 & 034 14T, 2 Module

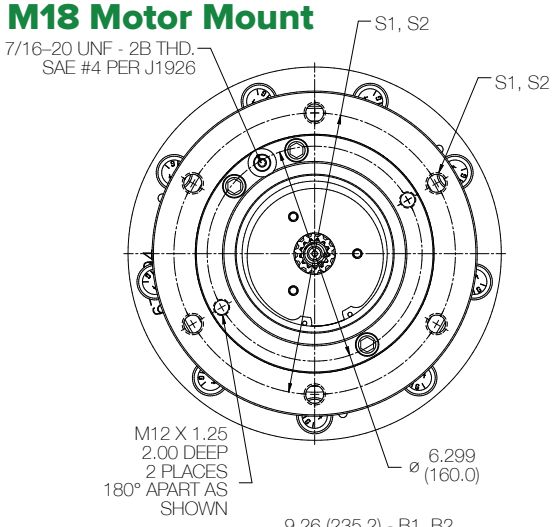
B1—SAE B Motor Mounting, 13T
B2–SAE B Motor Mounting, 15T

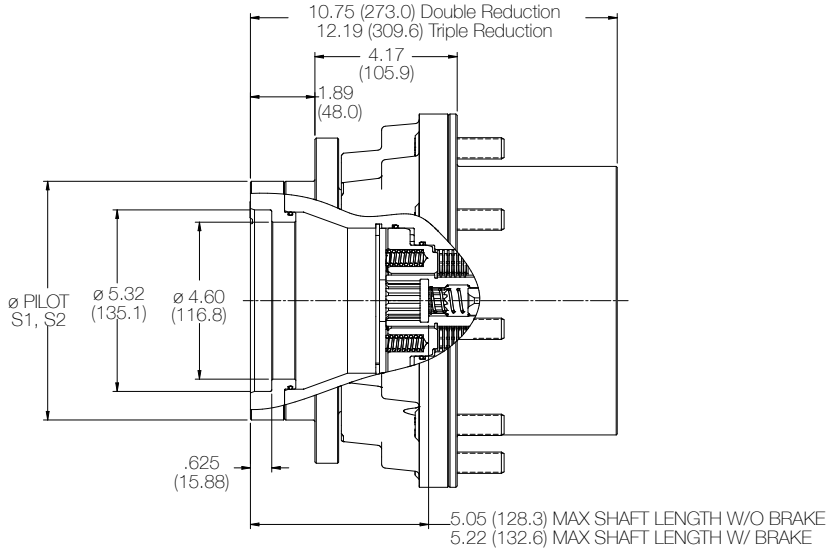
Spindle Frame Mount
S1—(6) 5/8–11 UNC-2B on 8.25 (209.6) B.C.
Pilot–7.000/6.995 (177.80/177.67)

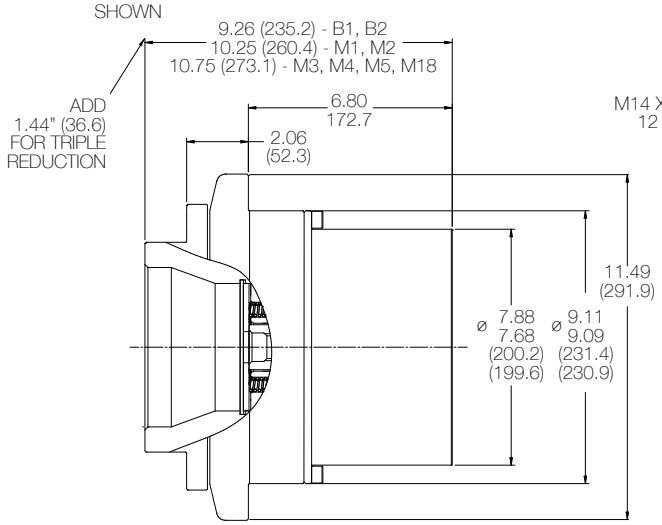
S2–(8) 5/8–11 UNC-2B on 8.50 (215.9) B.C.
Pilot–6.895/6.865 (175.13/174.37)

Special Options
0= None
Z= Boot Seal
DH= Disc Holes
D= Assembled Rotor

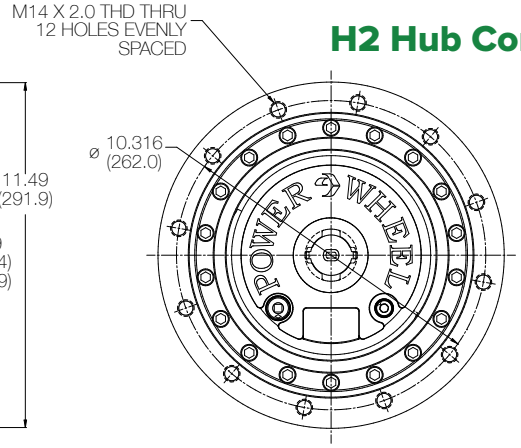
M18 Motor Mount







H2 Hub Configuration



Power Wheel® Model 110CD Compact Final Drive

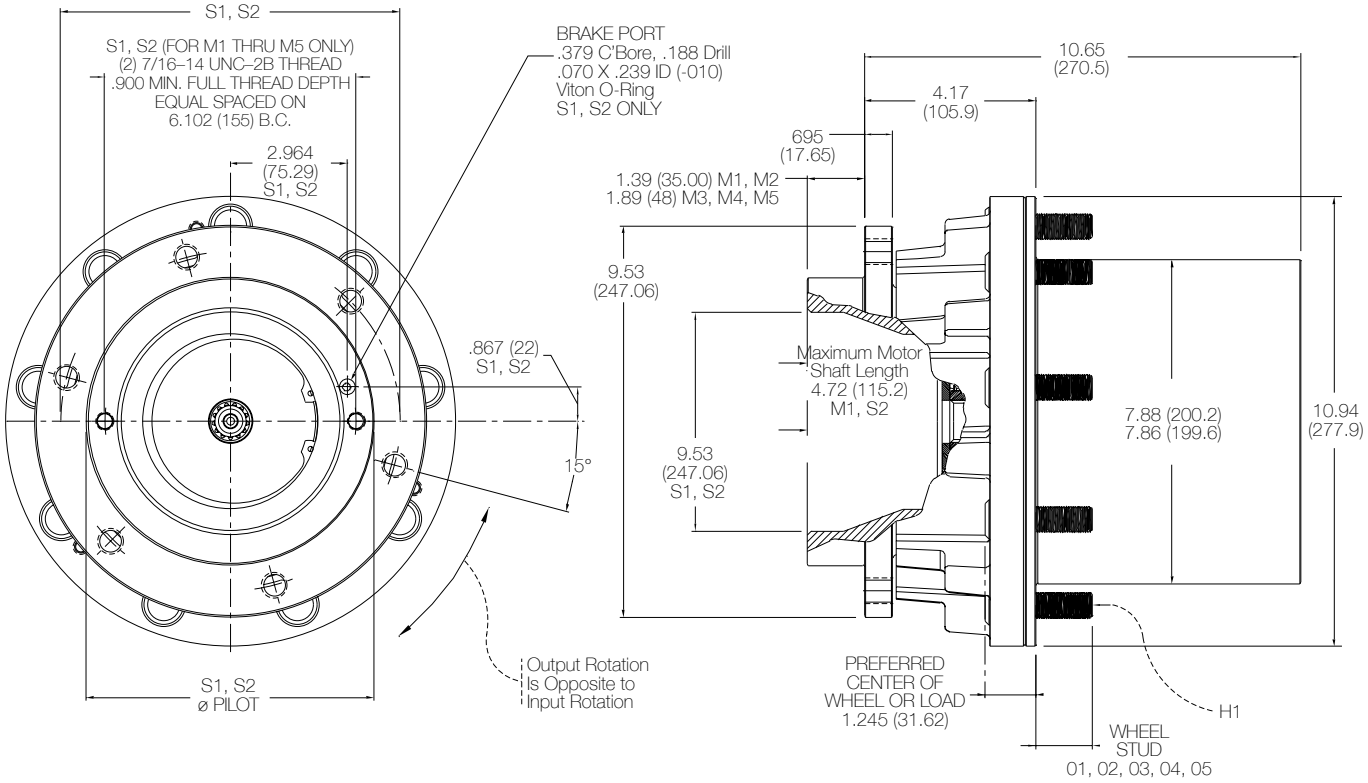
General Specifications

Max. intermittent output torque[1,2]	110,000 lb-in (12,430 Nm)
Max. input speed [2] (w/o park brake)	5,000 RPM
Max. input speed [2] (w park brake)	3,600 RPM
Approximate Weight	125 lbs (57 kg)
Oil capacity	35 oz (1035 cc)
Max. radial load: (@ pref. load center)	20,000 lbs (9100 kg)

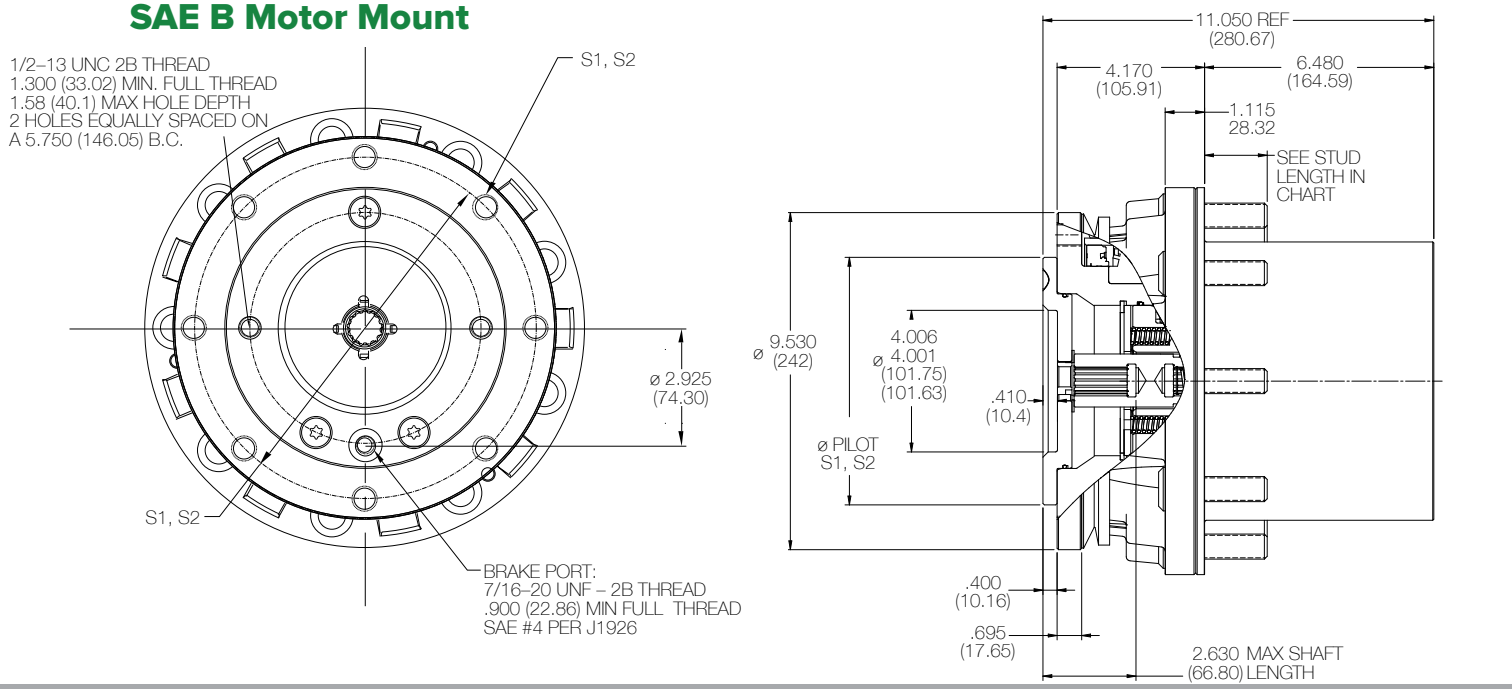
[1] Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory Power Wheel® life. Customer testing and application analysis is strongly recommended.

[2] If application exceeds published limit, contact Auburn Gear.

Small Cavity Motors - M1 thru M5



SAE B Motor Mount



110CD
Model Formula

Model 110CD
CW110

Hub Mount
H1—(9) Wheel Studs on 9.50 (241.3) B.C.
H3–(18) 5/8-11 UNC on 9.50 (241.3) B.C.

Ratios

014= 14.30:1	032= 32.79:1
017= 17.94:1	037= 37.52:1
022=22.71:1	046= 46.74:1
025= 25.15:1	058= 58.09:1
028= 28.37:1	066= 66.98:1

Wheel Studs
00= None, 0.681/0.678 (17.30/17.22) thru holes
01 = 1/2–20 UNF-2A x 1.50 (38.1)
02= 5/8–18 UNF-2A x 1.38 (35.1)
03= 9/16–18 UNF-2A x 1.7 (43.2)
04= M16 x 1.5-6g x 50
05= M18 x 1.5-6g x 45

Brakes
N0= No Brake
N1 = 1,600 lb-in (180 Nm), 140 psi (9.6 Bar) release
N2= 2,400 lb-in (270 Nm), 180 psi (12.4 Bar) release
N3= 3,600 lb-in (405 Nm), 200 psi (13.8 Bar) release

CW110 | M1 | H1 | S1 | 014 | 01 | N1 | Z

Cartridge Motor Inputs

*M1— Danfoss KC–15T Input	‡M9— Danfoss 90K55
*M2—Danfoss LC–13T Input	‡M10—Bosch A2FE45
*M3—Bosch A6VE (28cc)	‡M11— Bosch A2FE56
*M4—Bosch A2FE (28cc and 32cc)	‡M12—Bosch A2FE63
	‡M13—Bosch A6VE55
*M5—Parker F12–30	‡M14—Bosch A10VE63 (15T)
‡M6—Danfoss 51C060	‡M15—Parker/VOAC F12-40
‡M7—Danfoss H1B060	‡M16—Parker/VOAC F12-60
‡M8—Danfoss 90K42	‡M17—Parker/VOAC V12-60 (W30)

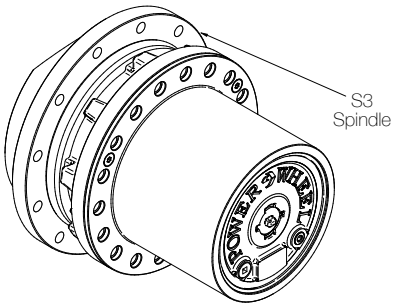
*B1—SAE B Motor Mounting, 13T
*B2—SAE B Motor Mounting, 15T

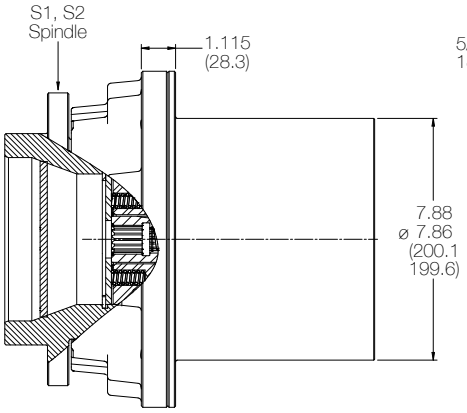
* Use S1 or S2 spindle
‡ Use S3 spindle

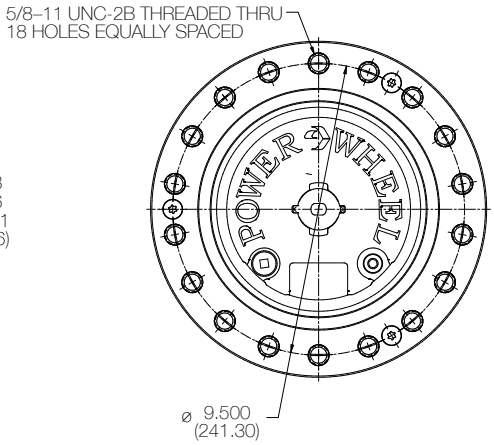
Special Options
0= None
D= Assembled Rotor
DH= Disc Holes
Z= Boot Seal
FS= Face Seal *
*Available with Motors M6–M17 only

Spindle Frame Mount
S1—(6) 5/8–11 UNC-2B on 8.25 (209.55) B.C.
Pilot–7.000/6.995 (177.78/177.67)
S2—(8) 5/8–11 UNC-2B on 8.50 (215.90) B.C.
Pilot–6.895/6.865 (175.13/174.37)
S3—(12) M16 x 2–6H on 10.827 (275.0) B.C.
Pilot–9.449/9.444 (240.00/239.88)

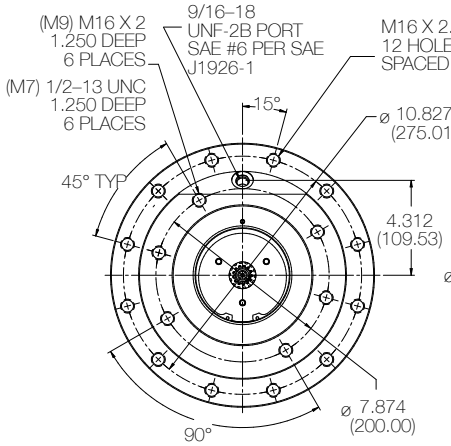
H3 Hub Configuration



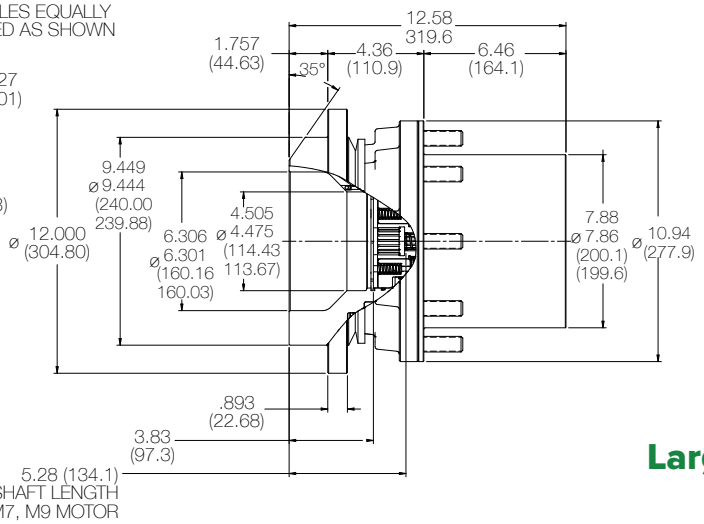


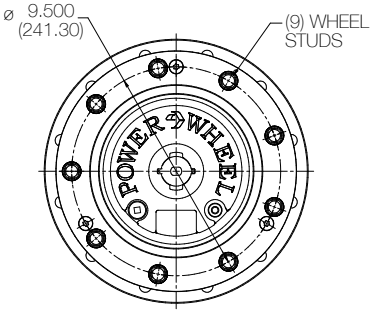


M7 Motor Mount



M9 SPINDLE SHOWN
M7 SPINDLE (MTG HOLES) 45° TYP
FROM HORIZONTAL CENTER LINE





Large Cavity Motors

Power Wheel® Model 145CD Compact Final Drive

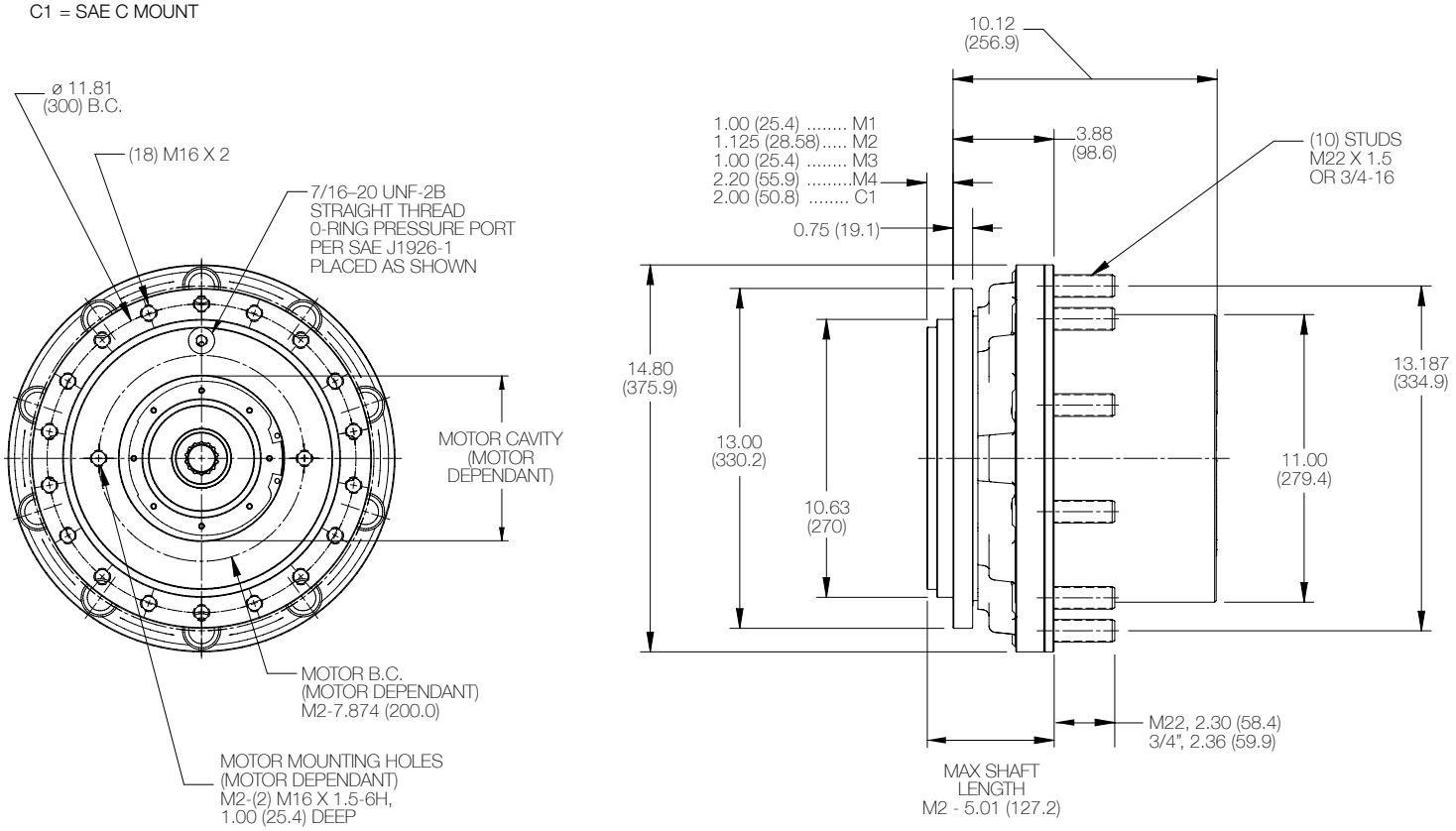
General Specifications

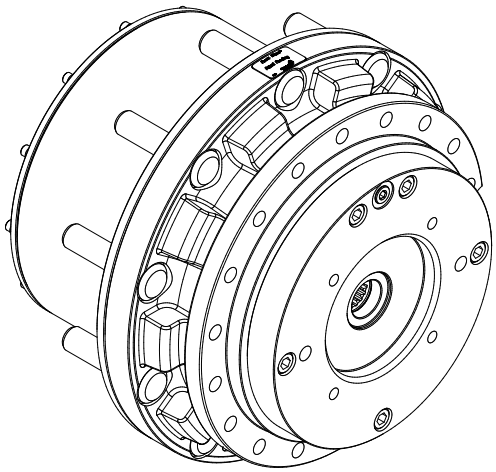
Max. intermittent output torque[1,2] ..... 145,000 lb-in (16,430 Nm)	Approximate Weight ..... 235 lbs (107 kg)
Max. input speed [2] (w/o park brake) ..... 5,000 RPM	Oil capacity ..... 70 oz (2100 cc)
Max. input speed [2] (w park brake) ..... 3,600 RPM	Max. radial load: (@ pref. load center) ..... 32,680 lbs (14,800 kg)

[1] Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory Power Wheel® life. Customer testing and application analysis is strongly recommended.

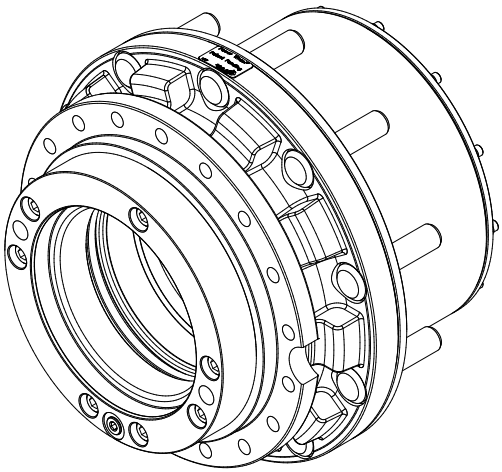
[2] If application exceeds published limit, contact Auburn Gear.

M1 = DANFOSS H1 060
M2 = DANFOSS H1 080
M3 = DANFOSS 90 SERIES 55cc, Hydro Leduc MSI50
M4 = BOSCH A6VE 80
C1 = SAE C MOUNT





SAE C Motor Mount



M4 Motor Mount

145CD
Model Formula

Ratios
014= 14.81:1 025= 25.44:1
017= 17.72:1 027= 27.12:1
022= 22.89:1 030= 30.20:1

Wheel Studs
00= None, 0.908/0.904 (23.06/22.96) thru holes
14= M22 x 80
11= 3/4-16 x 3.21”

Model 145CD
CW145

Hub Mount
H1—(10) Wheel Studs on 13.187” (335) B.C.

Park Brakes
N0= No Brake
N1 = 5,000 lb-in (565 Nm) 180 psi (12.4 Bar) release pressure

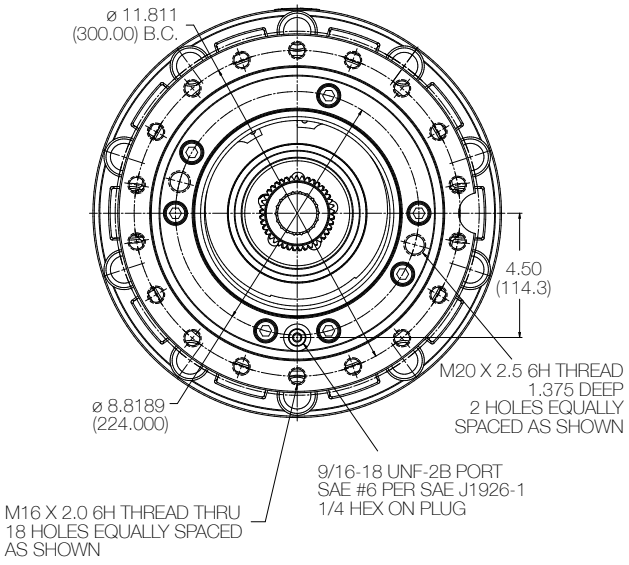
CW145 M1 H1 S1 014 14 N1 FS

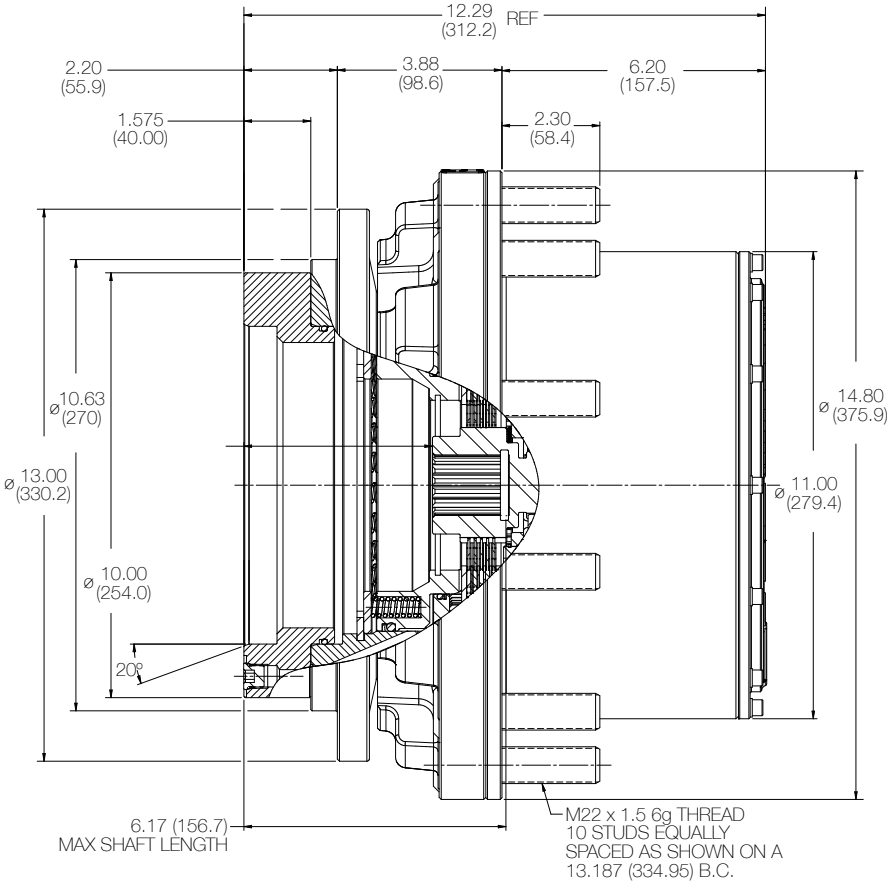
Cartridge Motor Inputs
M1—Danfoss H1 060 (W30)
M2–Danfoss H1 080 (W35)
M3–Danfoss 90 Series (55cc) (W30)
–Hydro Leduc MSI50 (W30)
M4–Bosch A6VE 80
C1—SAE C Mount, 14T Input

Spindle Frame Mount
S1—(18) M16 on a 11.81” (300) B.C.

Special Options
FS= Metal Face Seal

M4 Motor Mount





Power Wheel® Model 160CD Compact Final Drive

General Specifications

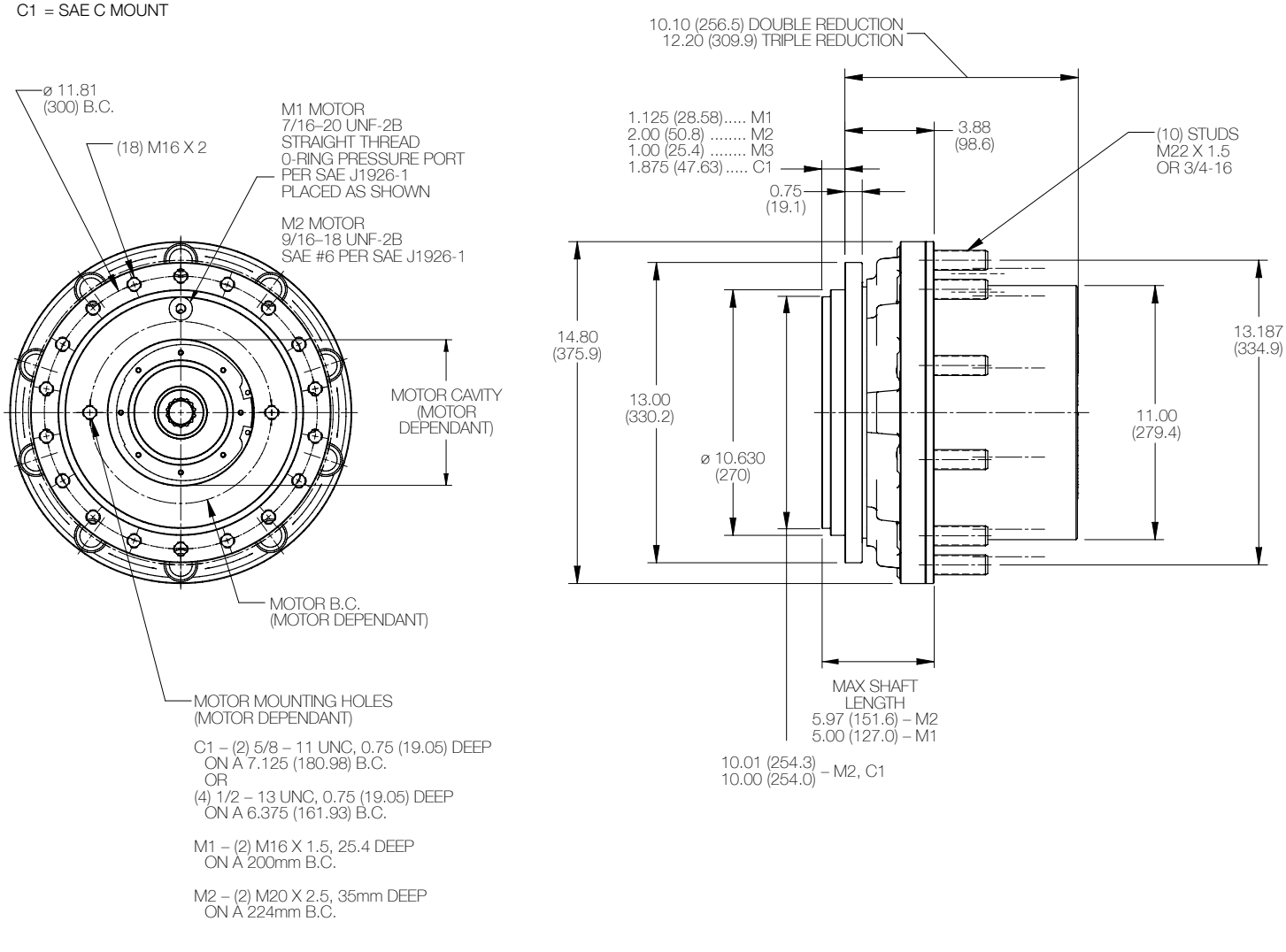
Double Reduction	
Max. intermittent output torque[1, 2]	160,000 lb-in (18,000 Nm)
Max. input speed [2] (w/o park brake)	5,000 RPM
Max. input speed [2] (w park brake)	3,600 RPM
Approximate Weight	235 lbs (107 kg)
Oil capacity	70 oz (2100 cc)
Max. radial load: (@ pref. load center)	32,680 lbs (14,800 kg)

Triple Reduction	
Max. intermittent output torque[1, 2]	160,000 lb-in (18,000 Nm)
Max. input speed [2] (w/o park break)	5,000 RPM
Max. input speed [2] (w park break)	3,600 RPM
Approximate Weight	365 lbs (165 kg)
Oil capacity	80 oz (2400 cc)
Max. radial load: (@ pref. load center)	32,680 lbs (14,800 kg)

[1] Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory Power Wheel® life. Customer testing and application analysis is strongly recommended.

[2] If application exceeds published limit, contact Auburn Gear.

M1 = DANFOSS H1 060
M2 = DANFOSS H1 080
M3 = DANFOSS 90 SERIES 55cc, Hydro Leduc MSI50
M4 = BOSCH A6VE 80
C1 = SAE C MOUNT



160CD
Model Formula

Ratios

025=	25.18:1	060=	60.95:1	112=	112.12:1
030=	30.20:1	072=	72.57:1	138=	138.35:1
033=	33.85:1	077=	77.32:1	199=	199.0:1
041=	41.88:1	086=	86.74:1	239=	239.70:1
051=	51.10:1	094=	94.16:1		

Wheel Studs
00= None, 0.908/0.904 (23.06/22.96) thru holes
14= M22 x 80
11= 3/4-16 x 3.21"

Park Brakes
N0= No Brake
N1 = 5,000 lb-in (565 Nm)
180 psi (12.4 Bar) release pressure
N2= 4,000 lb-in (450 Nm)
180 psi (12.4 Bar) release pressure

Model 160CD
CW160

Hub Mount
H1—(10) Wheel Studs
on 13.187" (335) B.C.
H2–(18) M16x2, 38.1 DEEP
on 12.99 (330) B.C.

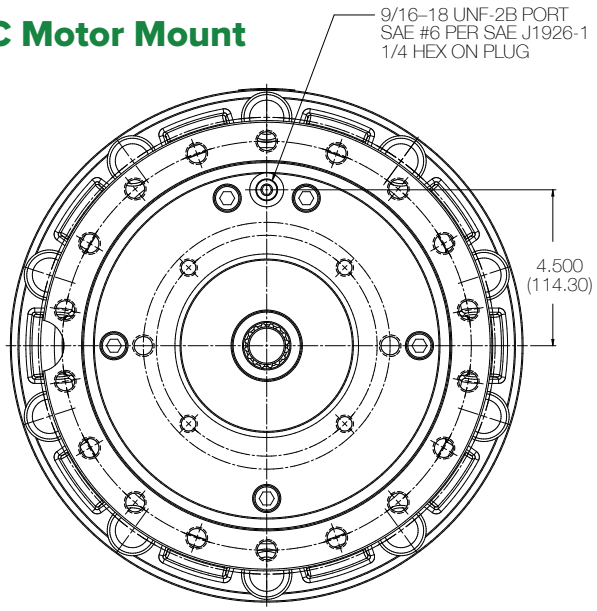
CW160 M1 H1 S1 041 14 N1 Q

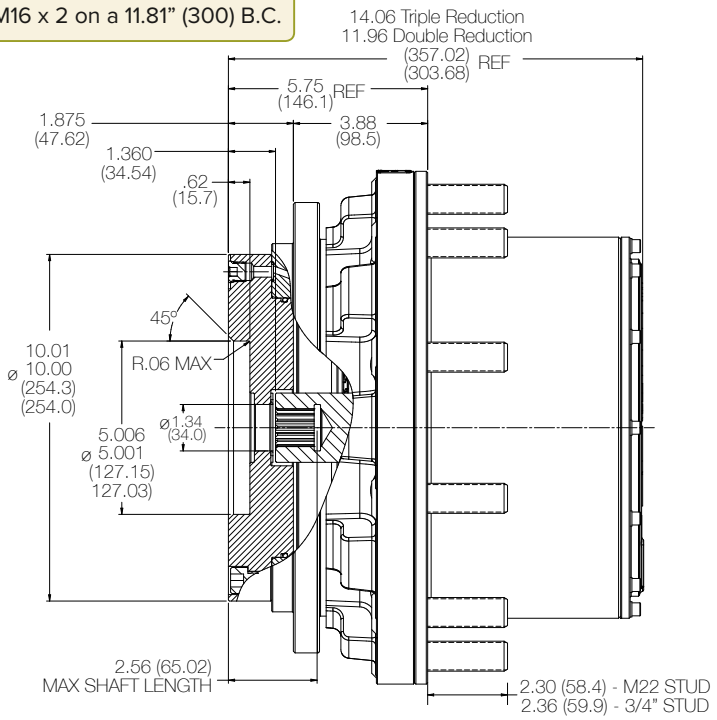
Cartridge Motor Inputs
M1—Danfoss H1 060 (W30)
M2–Danfoss H1 080 (W35)
M3–Danfoss 90 Series (55cc) (W30)
–Hydro Leduc MSI50 (W30)
M4–Bosch A6VE 80
C1—SAE C Mount, 2 or 4 bolt 14T Input

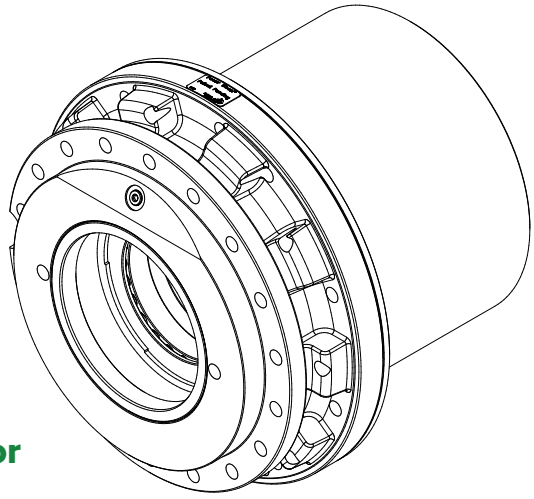
Special Options
FS= Metal Face Seal
Q= Quick Disconnect

Spindle Frame Mount
S1—(18) M16 x 2 on a 11.81" (300) B.C.

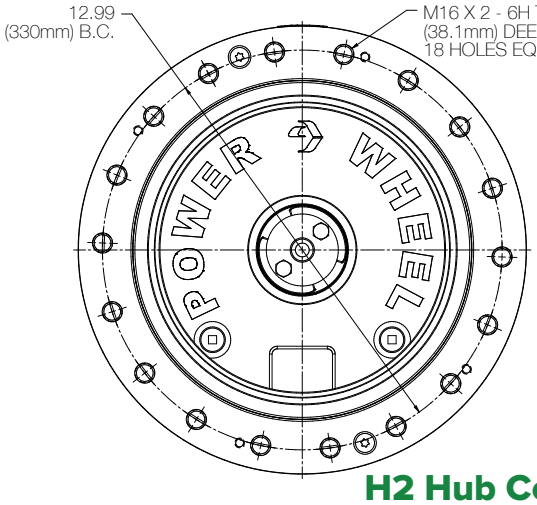
SAE C Motor Mount







M1 Motor Mount



H2 Hub Configuration

AuburnGear
Engineered Drive Solutions

AuburnGear
Engineered Drive Solutions
Phone 260.925.3200 • **Fax** 260.925.4725 • **Web** auburngear.com

PWCART-02/15-500