

SP. NO.

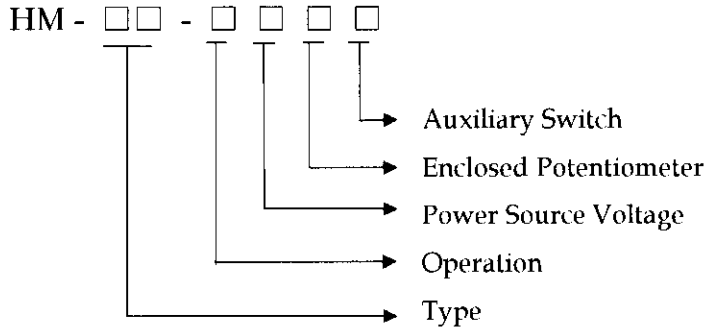
# Yamatake Corporation

## 製品仕様書 SPECIFICATIONS

### 1. GENERAL DESCRIPTION:

The HM Series High Torque Modutrol Motors are actuators used with electronic controller to perform ON-OFF or proportional control of damper, etc.

### 2. MODEL NUMBER IDENTIFICATION SYSTEM:



### 3. INDIVIDUAL SPECIFICATIONS:

Type	Max. Operating Torque	Manual Operation Handle	Stroke	Timing (at no load)		Power Consumption	Weight (Mass)
				50Hz	60Hz		
02	24 N·m	None	90°	30s	25s	24VA	5.5kg
04	40 N·m	None	90°	30s	25s	40VA	6.5kg
06	60 N·m	None	90°	30s	25s	40VA	7.5kg
10	100 N·m	With	90°	36s	30s	60VA	16kg
20	200 N·m	With	90°	36s	30s	70VA	21kg

Operation:	A	ON-OFF operation
	B	Proportional operation
Power Source Voltage:	1	AC100V/110V 50Hz/60Hz
	2	AC200V/220V 50Hz/60Hz
Enclosed Potentiometer:	0	None
	1	135Ω 1 unit
	2	135Ω 2 units
Auxiliary Switch	A	None
	B	With 2 SPDT switches

20 02  
19 02  
18 03  
17 02  
16 03  
15 02  
14 03  
13 02  
12 03  
11 02  
10 03  
9 02  
8 02  
7 02  
6 02  
5 02  
4 02  
3 02  
2 02  
頁 改番

作成 DR. Sakamoto	検図 CHK Yamaguchi	認可 APPD Iwakura	日付 DATE 8-19-'85	尺度 SCALE ~ 記入のない公差 TOL UNLESS NOTED ~
形番 MODEL HM-□□-□□□□				
名称 NAME High Torque Motor				
図番 NO. AD2727E				
改番 REV. 03	来歴 RECORD	日付 DATE	担当 検開 BY APPD. 1/20	


SP. NO.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

## 4. GENERAL SPECIFICATIONS:

Type of Motor:	Capacitor motor with brake - Class E insulation
Input:	Relay contact
Housing Material:	Aluminum alloy
Power Source Voltage:	AC100/110V, 50/60Hz AC200/220V, 50/60Hz
Allowable Power Supply Voltage Range:	90~121V for AC100/110V rating 180~242V for AC200/220V rating
Dielectric Strength:	The device shall be capable of withstanding a potential of AC1000V 50Hz for 1 minute applied between motor and housing.
Insulation Resistance:	20MΩ min. when measured between terminal and housing with a DC500V megger.
Allowable Ambient Temperature:	0~60°C
Storage Temperature:	-30~+70°C
Allowable Ambient Humidity:	60°C, 85%RH max.
Degree of Protection:	IP55 or equivalent
Vibration Resistance:	14.7m/s <sup>2</sup> max., at 60Hz
Shock Resistance:	147m/s <sup>2</sup> max.
Wiring Conduit:	2 - G $\frac{3}{4}$
Finish:	Munsell N5.0
Motor Mounting Orientation:	Any direction except vertical mounting with motor shaft upward.
Accessory:	Crank arm 1 pc HLE02 for Model No. HM02 HLE04 for Model No. HM04 HLE06 for Model No. HM06 HLE10 for Model No. HM10 HLE20 for Model No. HM20

作成 DR.		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
Sakamoto		~	~
検図 CHK	形番	HM-□□-□□□□	
Yamaguchi	MODEL		
認可 APPD	名称	High Torque Motor	
Iwakura	NAME		
日付 DATE	図番	AD2727E	改番 REV
8-19-'85	NO.		02
			2/20

頁

改番

改番  
REV.来歴  
RECORD

:

日付  
DATE

:

担当  
BY

:

検閱  
APPD.

:

日付 DATE

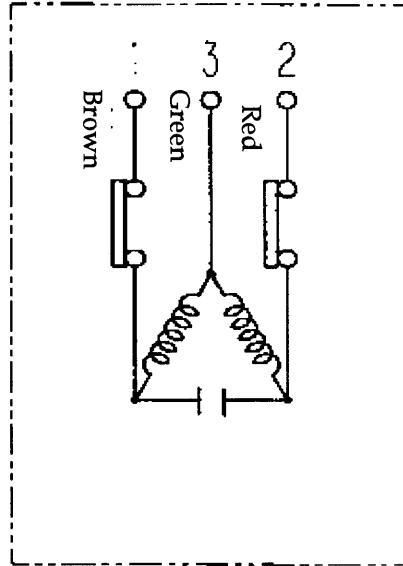
SP. NO.

**Yamatake Corporation**

**製品仕様書**  
**SPECIFICATIONS**

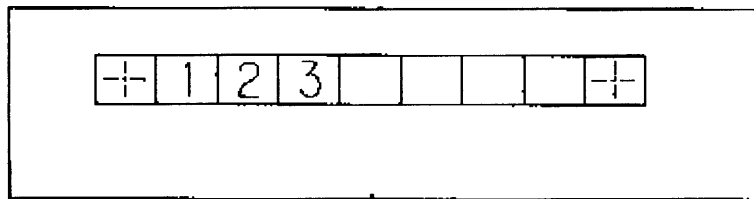
5. INTERNAL WIRING

5.1 HM-□□-A□0A



Between terminal 1 and 3: When power is supplied, counterclockwise rotation.

Between terminal 2 and 3: When power is supplied, clockwise rotation.



↓  
Wiring Conduits  
Terminal Arrangement

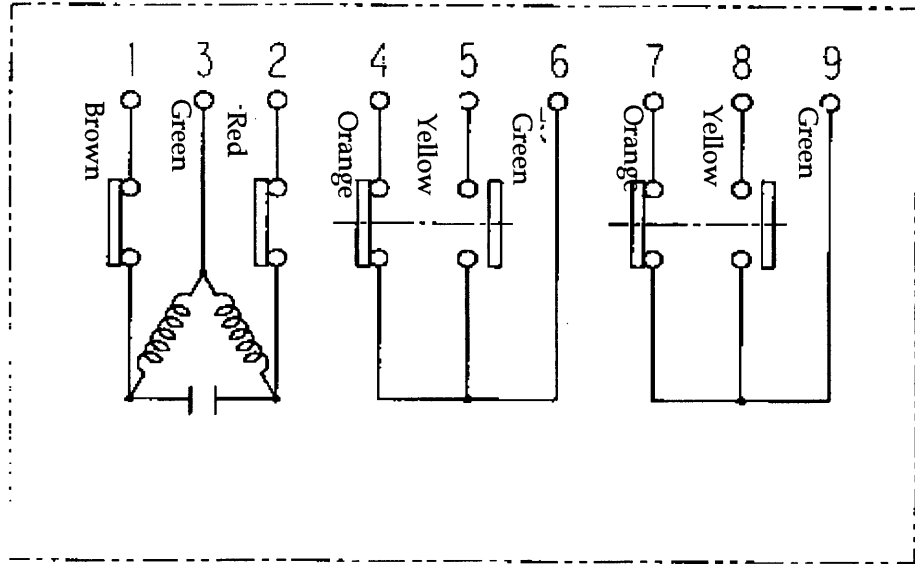
		作成 DR. Sakamoto		尺度 SCALE ~		記入のない公差 TOL. UNLESS NOTED ~	
		検図 CHK Yamaguchi		形番 MODEL HM-□□-□□□□			
		認可 APPD Harada Miura		名称 NAME High Torque Motor			
		02 JEO02-0299 6-5-'02		Iwakura		日付 DATE 8-19-'85	
		01 JEO02-0092 2-18-'02		Harada Miura		改番 REV 02	
頁	改番	改番	来歴	日付	担当	検閱	改番 REV 3/20
	REV.		RECORD	DATE	BY	APPD.	

SP. NO.

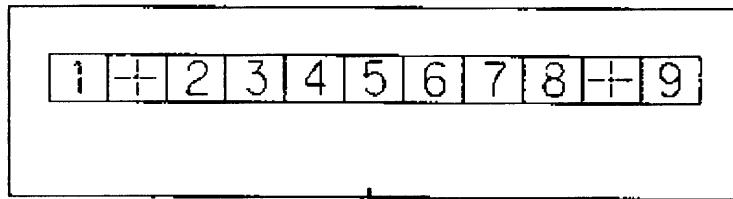
Yamatake Corporation

製品仕様書  
SPECIFICATIONS

5.2 HM-□□-A□□B



- Between terminal 1 and 3: When power is supplied, counterclockwise rotation.
- Between terminal 2 and 3: When power is supplied, clockwise rotation.
- Between terminal 5 and 6: Just before reaching full-open, contacts close.
- Between terminal 8 and 9: Just before reaching full-close, contacts close.



Wiring Conduits  
Terminal Arrangement

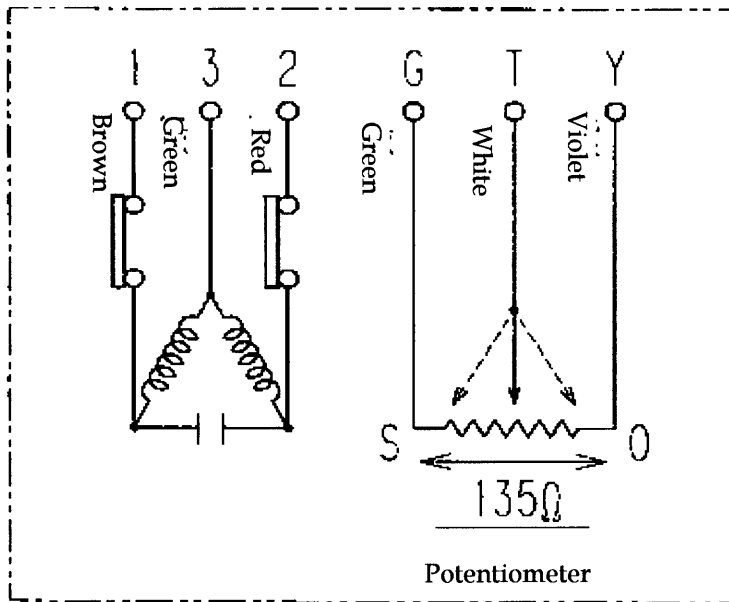
作成 DR.	Sakamoto		検図 CHK	Yamaguchi		承認 APPD	Iwakura		日付 DATE	8-19-'85	尺度 SCALE	~	記入のない公差 TOL. UNLESS NOTED	~					
形番	HM-□□-□□□□		MODEL			名称	High Torque Motor		図番	AD2727E	改番 REV	02	4	20					
改番	02	JEO02-0299	6-5-'02	Harada	Miura	改番	01	JEO02-0092	2-18-'02	Harada	Miura	来歴	RECORD	日付	DATE	担当	BY	検閱	APPD.

SP. NO.

Yamatake Corporation

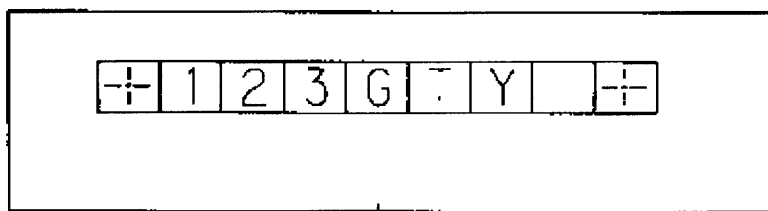
製品仕様書  
SPECIFICATIONS

5.3 HM-□□-B□1A



Between terminal 1 and 3: When power is supplied, counterclockwise rotation.

Between terminal 2 and 3: When power is supplied, clockwise rotation.

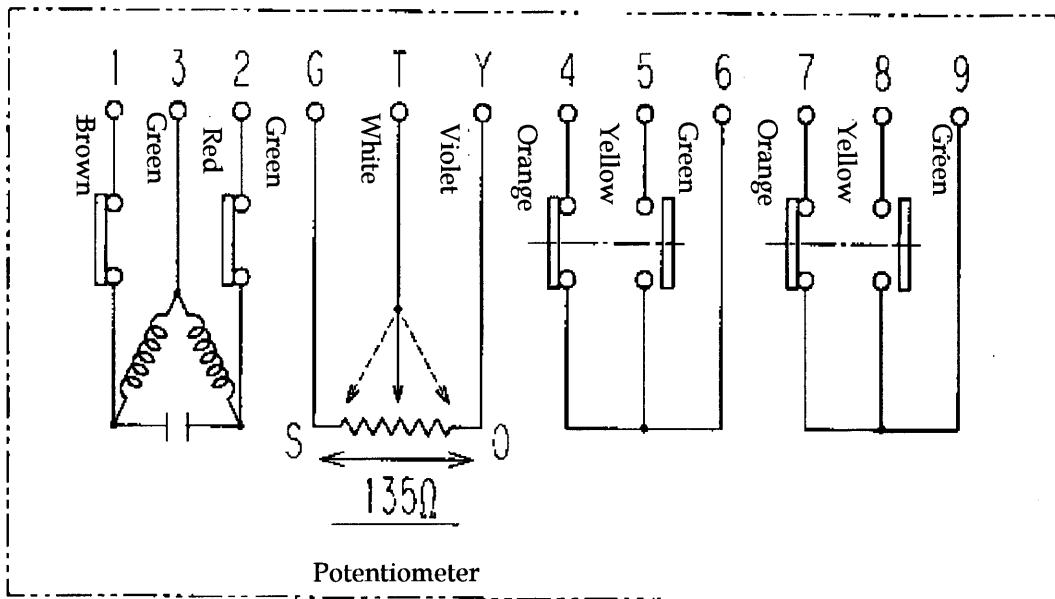


Wiring Conduits  
Terminal Arrangement

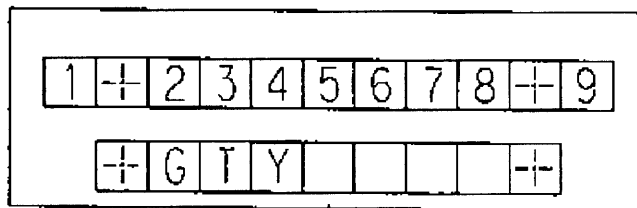
		作成 DR.		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
		Sakamoto		~	~
		検図 CHK	形番	HM-□□-□□□□	
		Yamaguchi	MODEL		
		認可 APPD	名称	High Torque Motor	
		Iwakura	NAME		
頁	改番	改番	来歴	日付	担当
REV.		REV.	RECORD	DATE	BY
		02	JEO02-0299	6-5-'02	Harada Miura
		01	JEO02-0092	2-18-'02	Harada Miura
				日付 DATE	検閱
				8-19-'85	APPD.
			図番	AD2727E	改番 REV
			NO.		02
					5/20

SP. NO.

5.4 HM-□□-B□1B



- Between terminal 1 and 3: When power is supplied, counterclockwise rotation.
- Between terminal 2 and 3: When power is supplied, clockwise rotation.
- Between terminal 5 and 6: Just before reaching full-open, contacts close.
- Between terminal 8 and 9: Just before reaching full-close, contacts close.

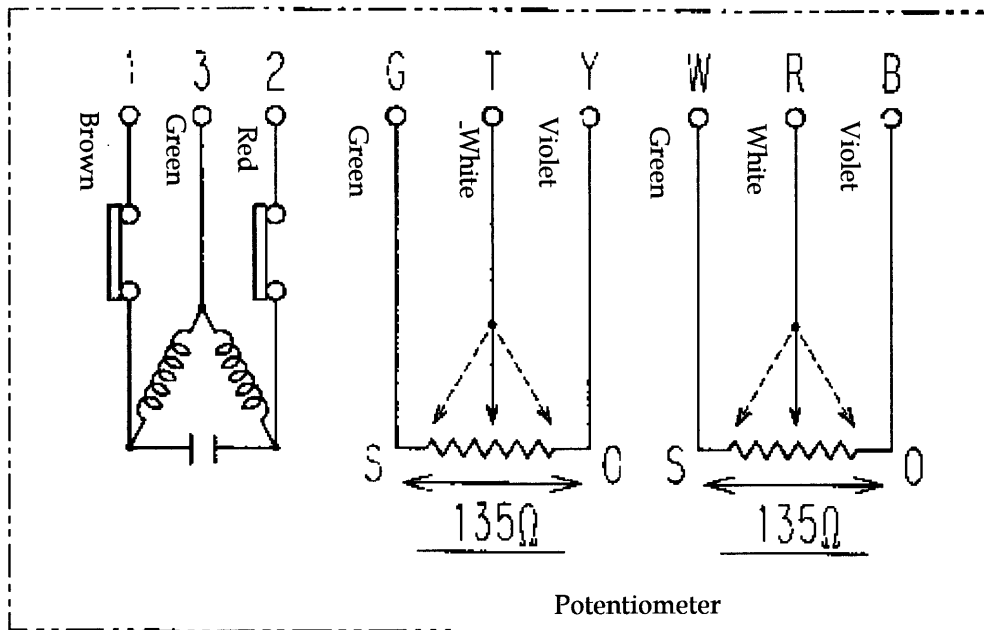


Wiring Conduits  
Terminal Arrangement

作成 DR.	Sakamoto		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
検図 CHK	Yamaguchi		形番	HM-□□-□□□□
認可 APPD	Iwakura		名称	High Torque Motor
日付 DATE	8-19-'85	担当 検閱	図番	AD2727E
改番 REV.	02	来歴 RECORD	改番 REV.	02
改番 REV.	01	日付 DATE	NO.	6/20

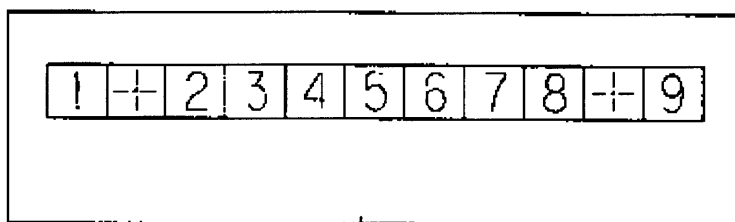
SP. NO.

5.5 HM-□□-B□2A



Between terminal 1 and 3: When power is supplied, counterclockwise rotation.

Between terminal 2 and 3: When power is supplied, clockwise rotation.



Wiring Conduits  
Terminal Arrangement

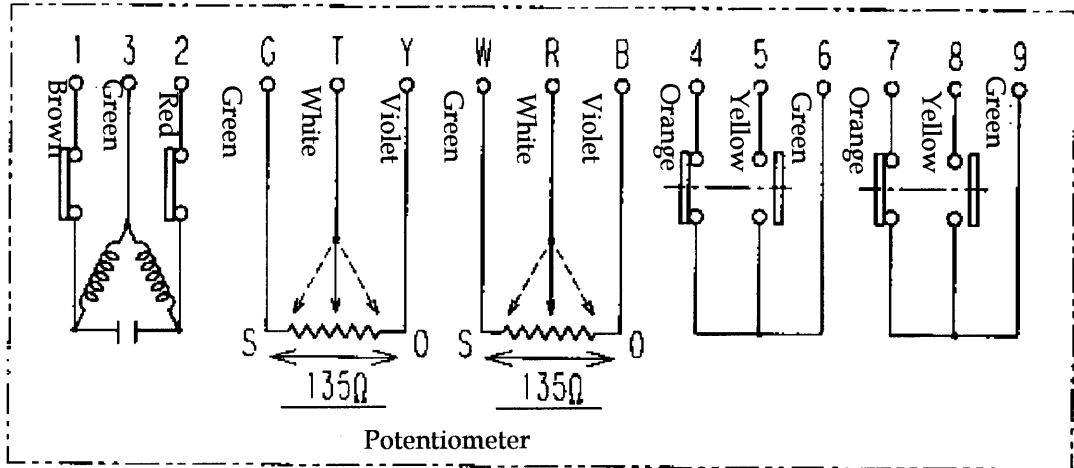
		作成 DR.		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
		Sakamoto		~	~
		検図 CHK	Yamaguchi	形番 MODEL	HM-□□-□□□□
		認可 APPD	Iwakura	名称 NAME	High Torque Motor
02	JEO02-0299	6-5-'02	Harada Miura	日付 DATE	改番 REV
01	JEO02-0092	2-18-'02	Harada Miura	8-19-'85	02
頁	改番	改番	来歴	日付	担当
REV.	RECORD	RECORD	DATE	DATE	BY
		検図	検閱	日付 DATE	改番 REV
		NO.	AD2727E	NO.	7/20

SP. NO.

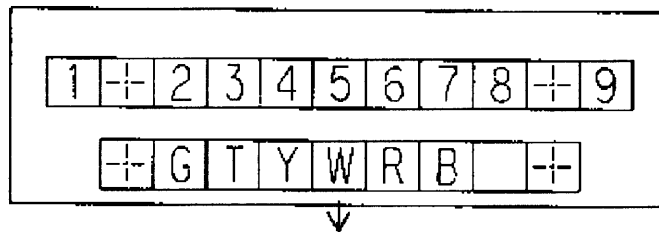
Yamatake Corporation

製品仕様書  
SPECIFICATIONS

5.6 HM-□□-B□2B



- Between terminal 1 and 3: When power is supplied, counterclockwise rotation.
- Between terminal 2 and 3: When power is supplied, clockwise rotation.
- Between terminal 5 and 6: Just before reaching full-open, contacts close.
- Between terminal 8 and 9: Just before reaching full-close, contacts close.



Wiring Conduits  
Terminal Arrangement

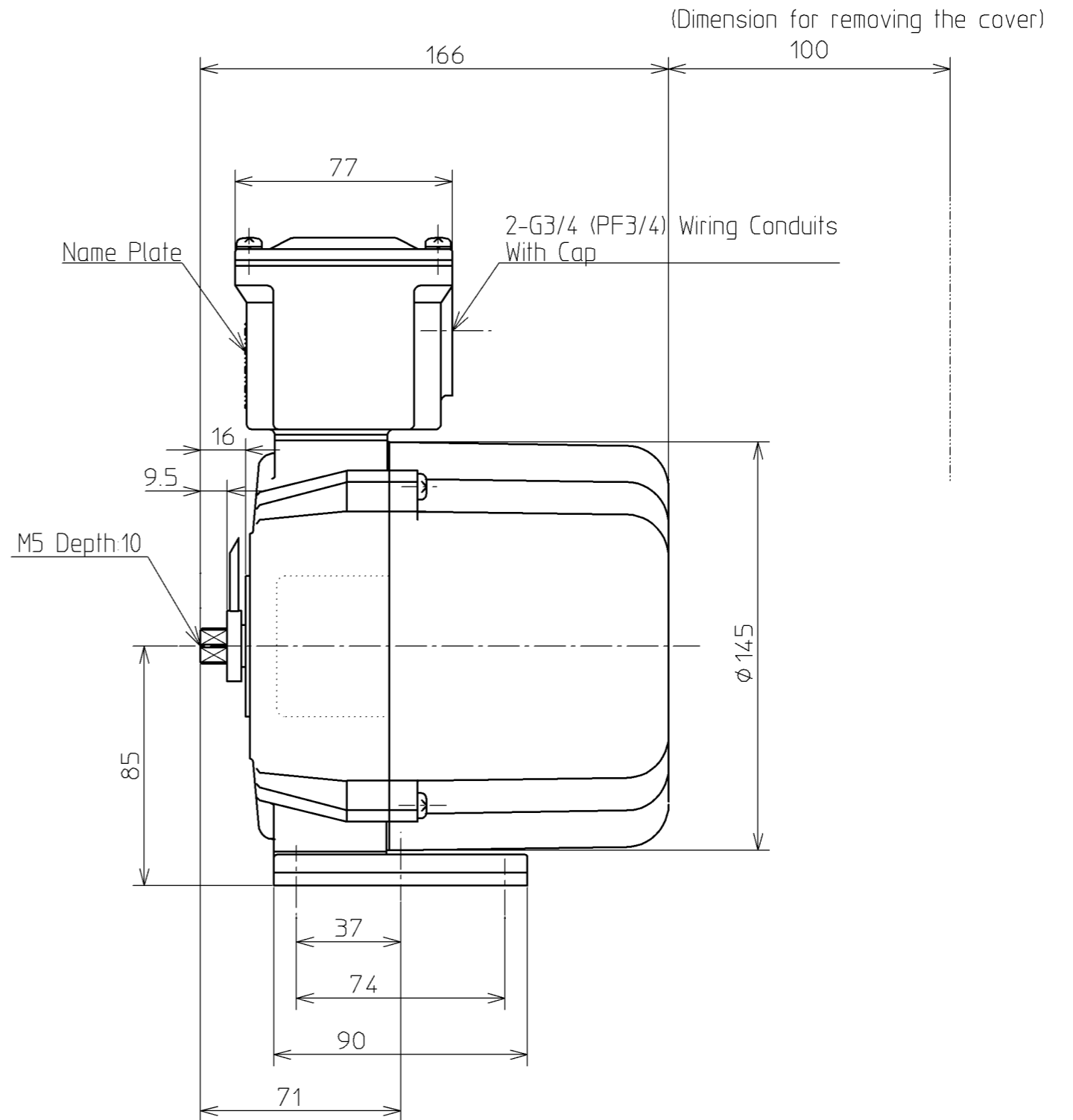
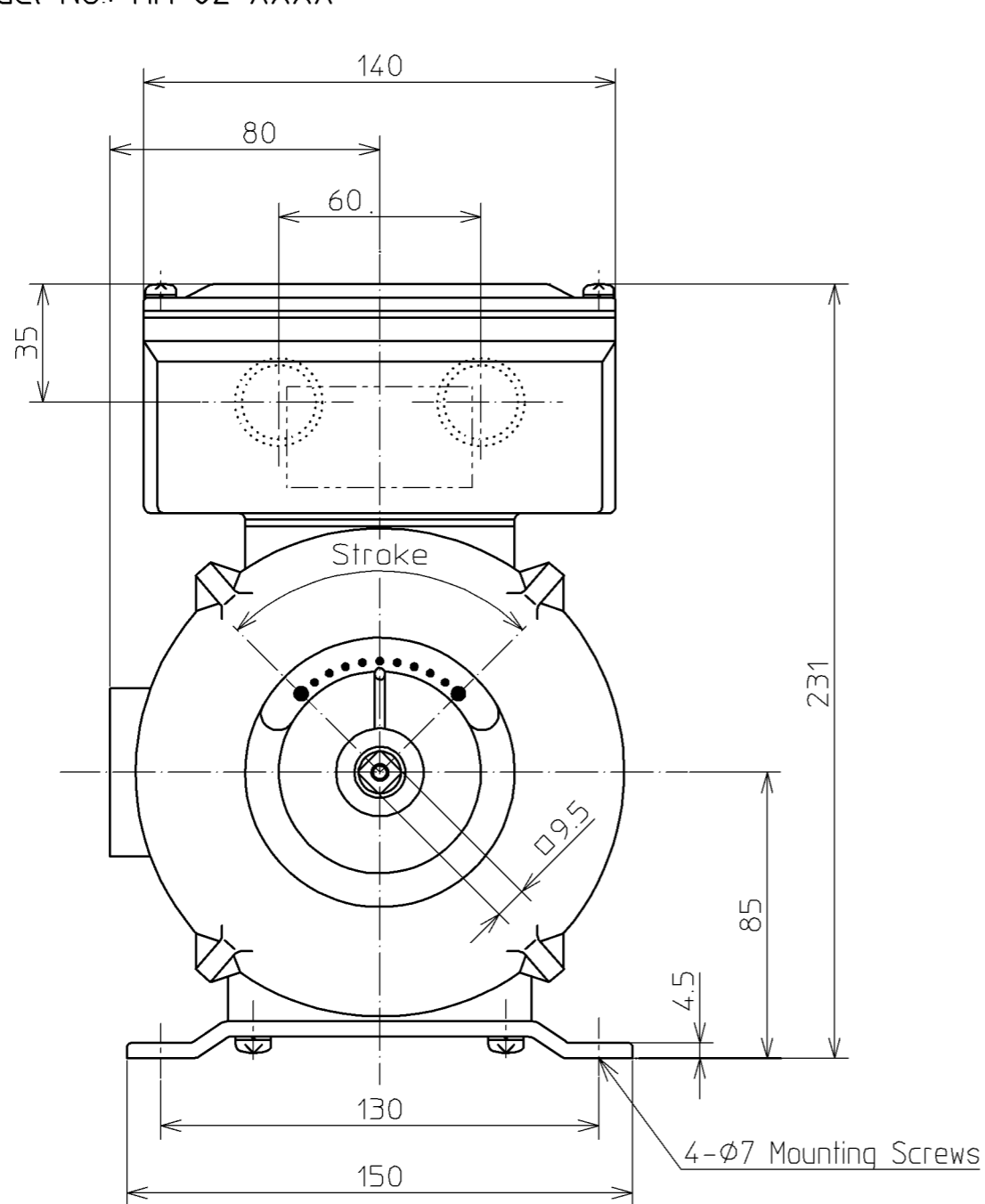
作成 DR.		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
Sakamoto		~	~
検図 CHK	Yamaguchi	形番 MODEL	HM-□□-□□□□
認可 APPD	Iwakura	名称 NAME	High Torque Motor
日付 DATE	8-19-'85	番 NO.	AD2727E
改番 REV.	02	改番 REV.	02
来歴 RECORD	日付 DATE	担当 BY	検閱 APPD.
02 JEO02-0299 6-5-'02 Harada Miura			
01 JEO02-0092 2-18-'02 Harada Miura			

S.P. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HM-02-XXXX



02	JE002-0299	6-5-'02	IHarada	S.Miura
01	JE002-0092	3-11-'02	IHarada	S.Miura
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.

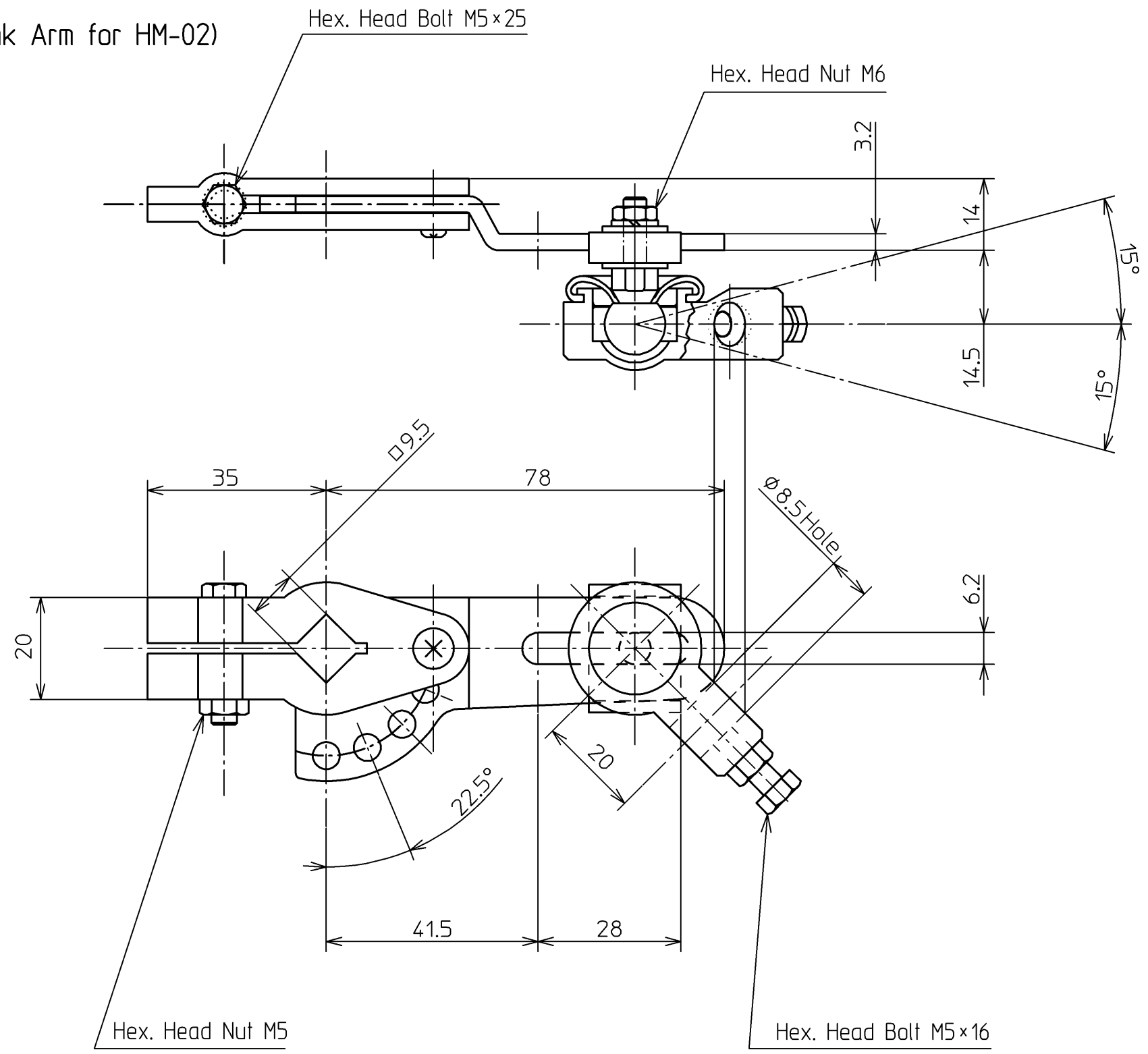
作成DR. IHarada 3-11-'02	検図CHK. S.Miura 3-11-'02	認可APPD. S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E			改番REV. 02	9/

SP. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HLE-02 (Crank Arm for HM-02)



03	JEO04-0339	5-12-'04	A.Touma	S.Miura
02	JEO02-0299	6-5-'02	I.Harada	S.Miura
01	JEO02-0092	3-11-'02	I.Harada	S.Miura
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

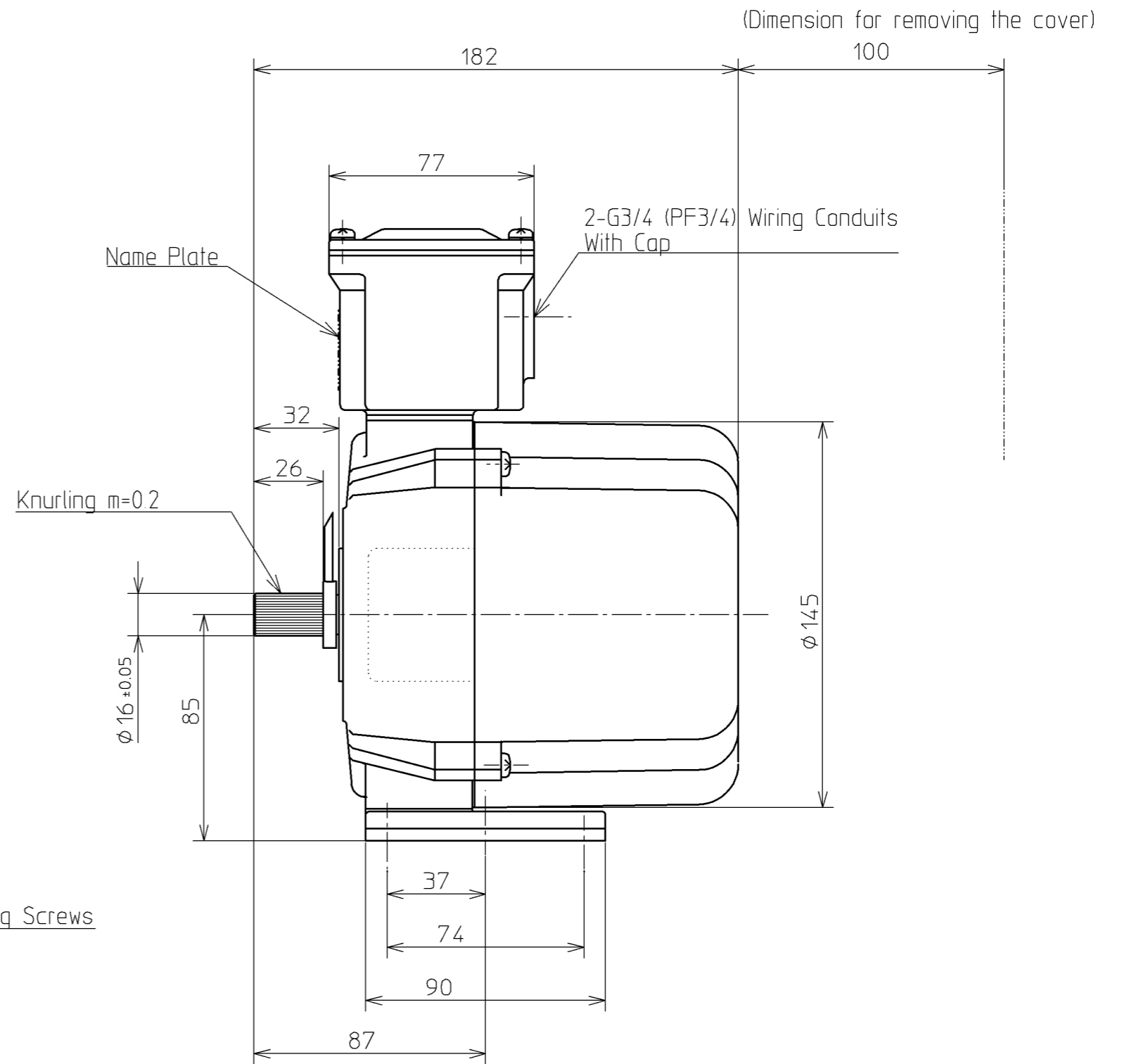
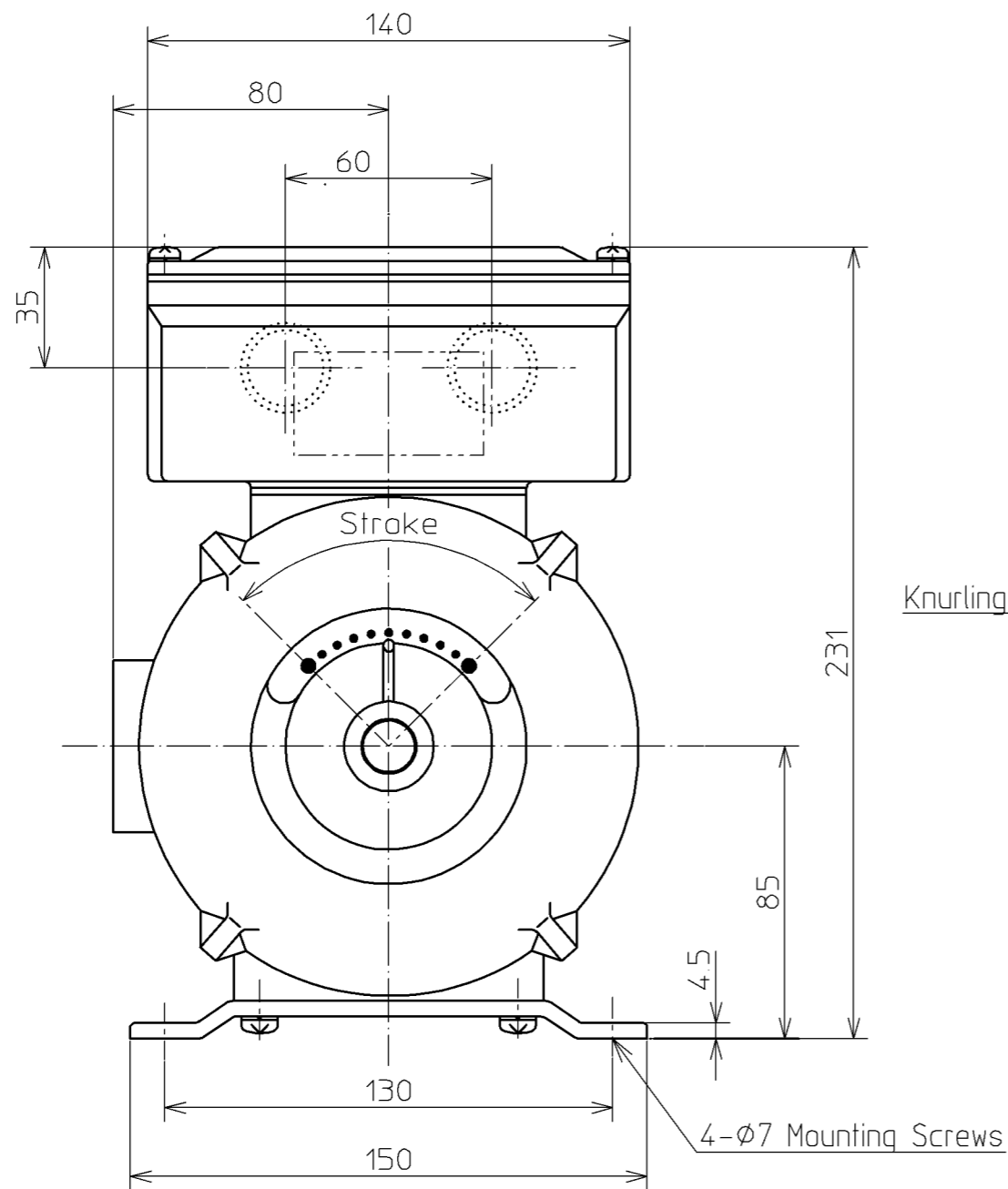
作成DR. I.Harada 3-11-'02	検図CHK. S.Miura 3-11-'02	認可APPD. S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E			改番REV.	10/03

S.P. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HM-04-XXXX



頁 改番  
PAGE REV.

02	JE002-0299	6-5-'02	IHarada	S.Miura
01	JE002-0092	3-11-'02	IHarada	S.Miura
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.

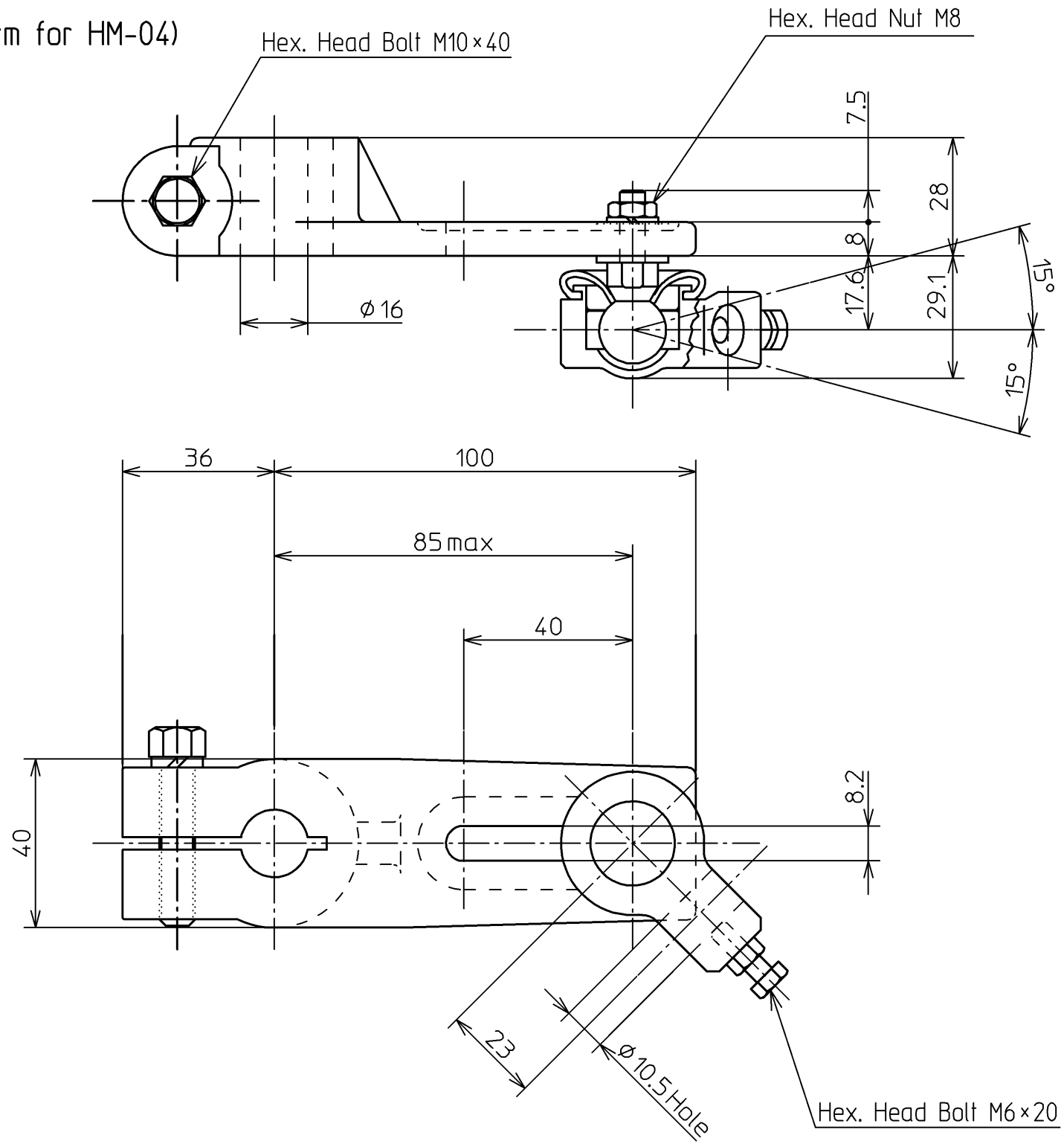
作成DR. IHarada 3-11-'02	検図CHK. S.Miura 3-11-'02	認可APPD. S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E			改番REV. 02	11/

SP. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HLE-04 (Crank Arm for HM-04)



03	JEO04-0339	5-12-'04	A.Touma	S.Miura
02	JEO02-0299	6-5-'02	I.Harada	S.Miura
01	JEO02-0092	3-11-'02	I.Harada	S.Miura
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

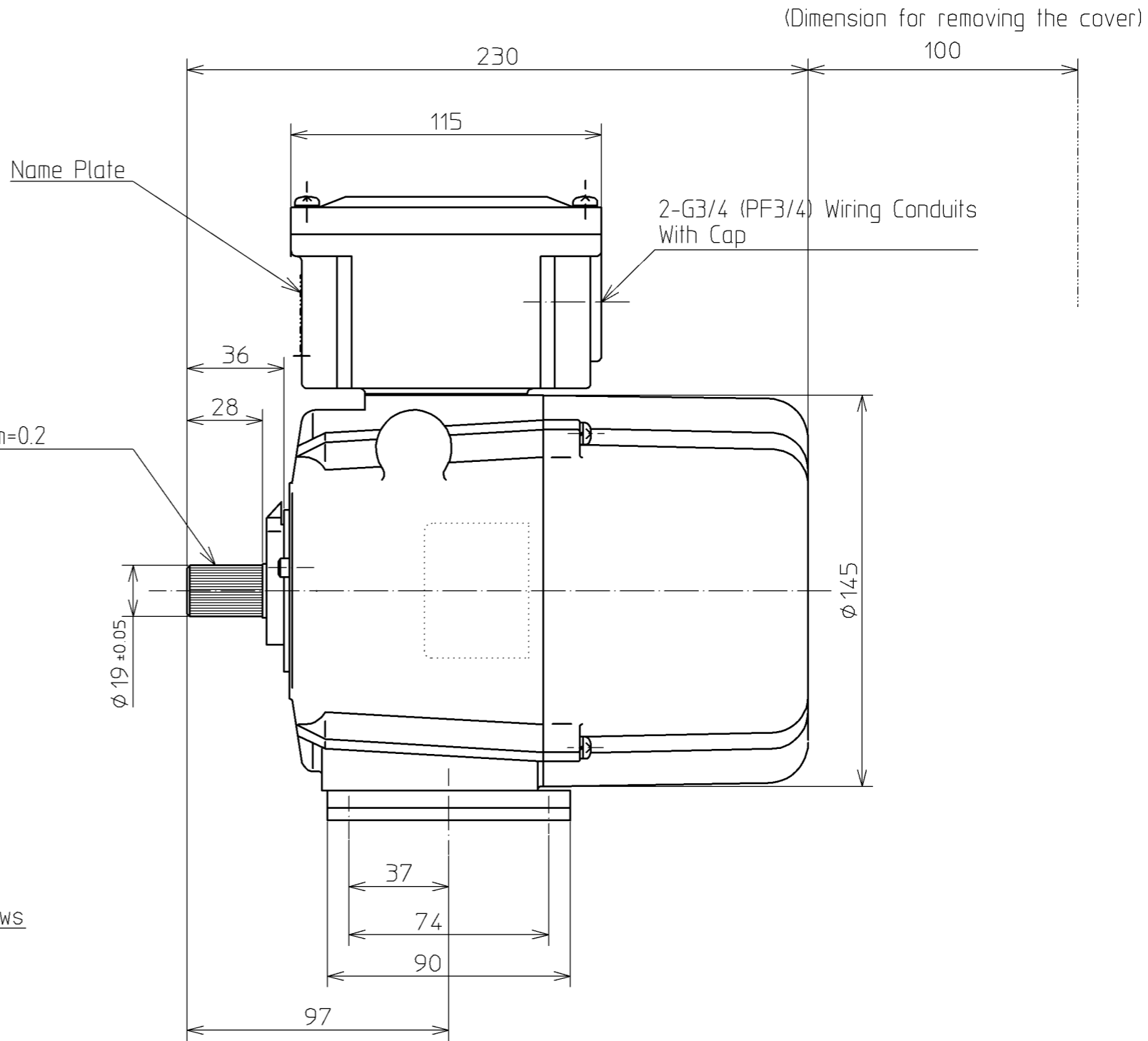
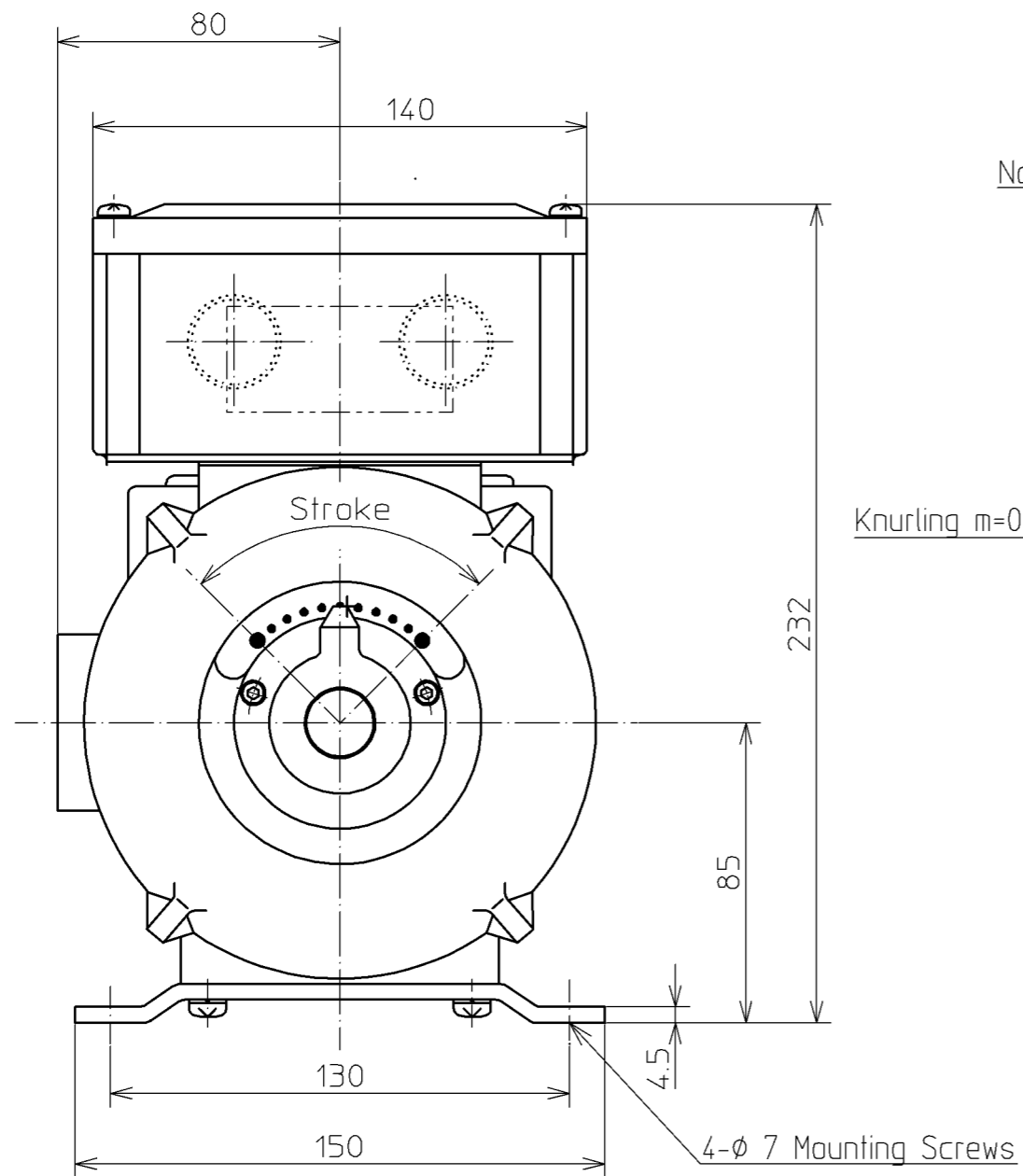
作成DR. I.Harada 3-11-'02	検図CHK. S.Miura 3-11-'02	認可APPD. S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E			改番REV. 03	12/

S.P. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HM-06-XXXX



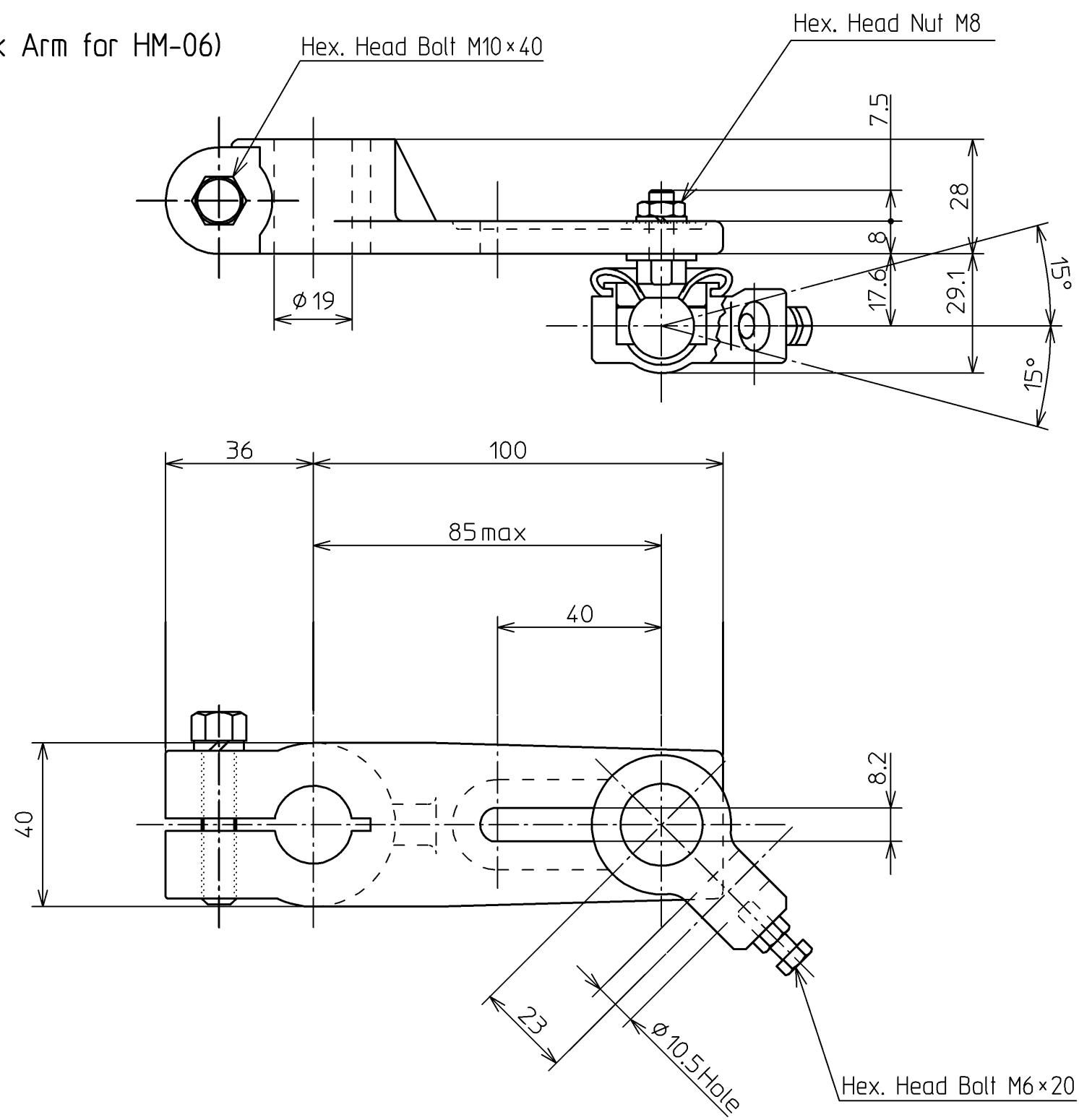
作成DR IHarada 3-11-'02	検図CHK S.Miura 3-11-'02	認可APPD S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
02	JE002-0299	6-5-'02	IHarada S.Miura	形番 MODEL	HM-□□-□□□□
01	JE002-0092	3-11-'02	IHarada S.Miura	名称 NAME	High Torque Motor
改番 REV	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD	図番 NO. AD2727E 改番REV 02/13

SP. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HLE-06 (Crank Arm for HM-06)



03	JEO04-0339	5-12-'04	A.Touma	S.Miura
02	JEO02-0299	6-5-'02	I.Harada	S.Miura
01	JEO02-0092	3-11-'02	I.Harada	S.Miura
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

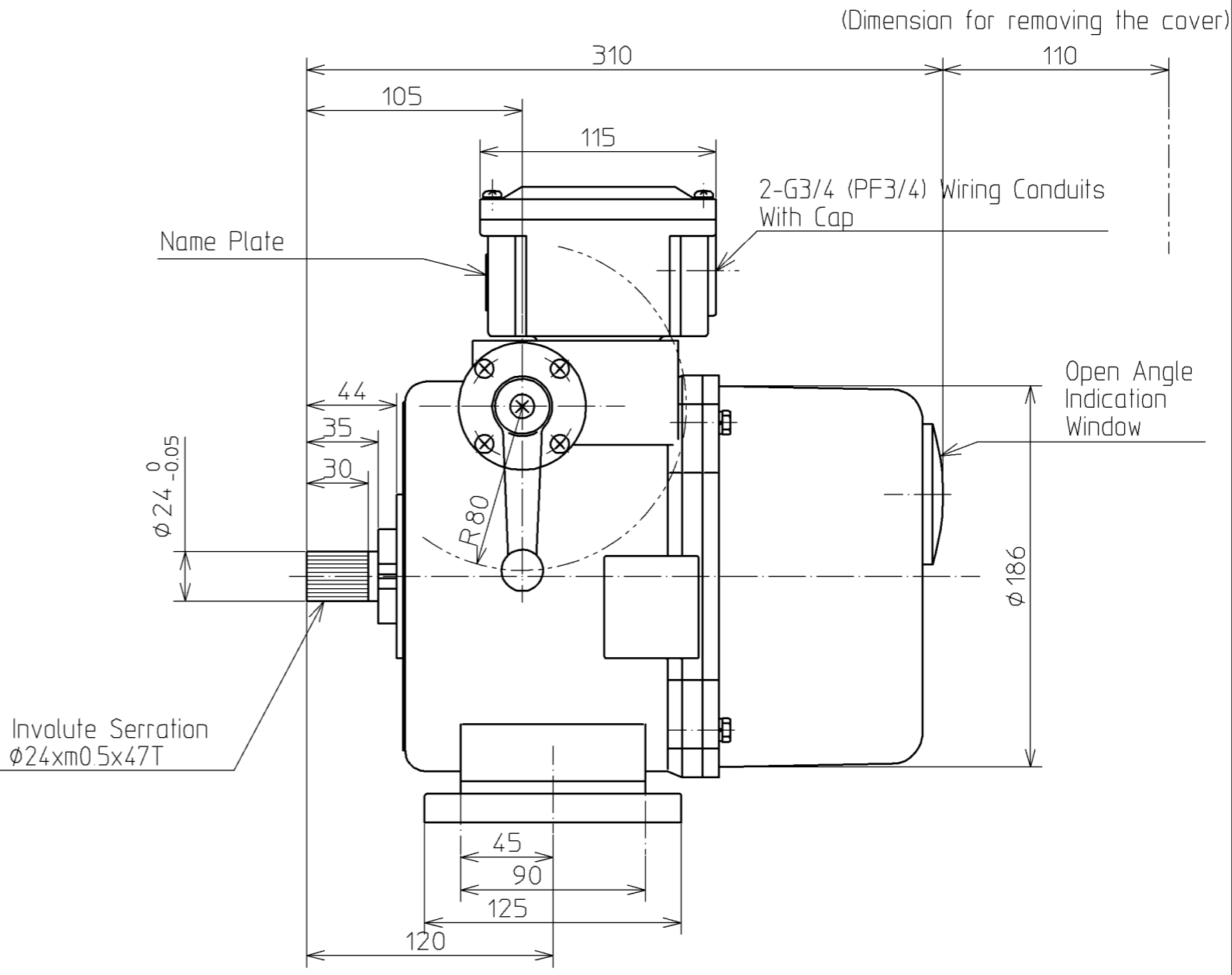
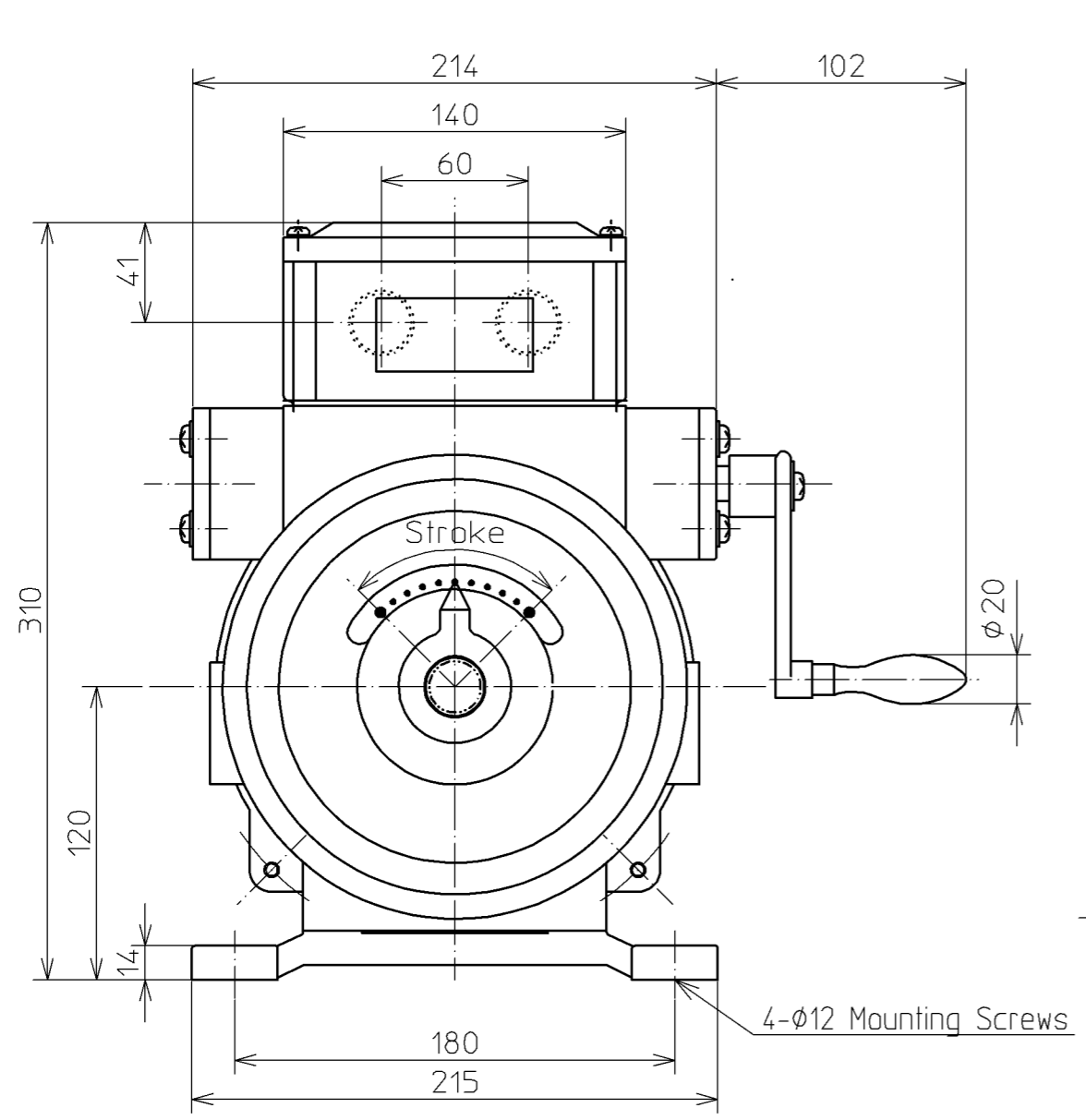
作成DR. I.Harada 3-11-'02	検図CHK. S.Miura 3-11-'02	認可APPD. S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E			改番REV.	14/03

S.P. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HM-10-XXXX



頁 改番  
PAGE REV

02	JE002-0299	6-5-'02	IHarada	S.Miura
01	JE002-0092	3-11-'02	IHarada	S.Miura
改番 REV	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.

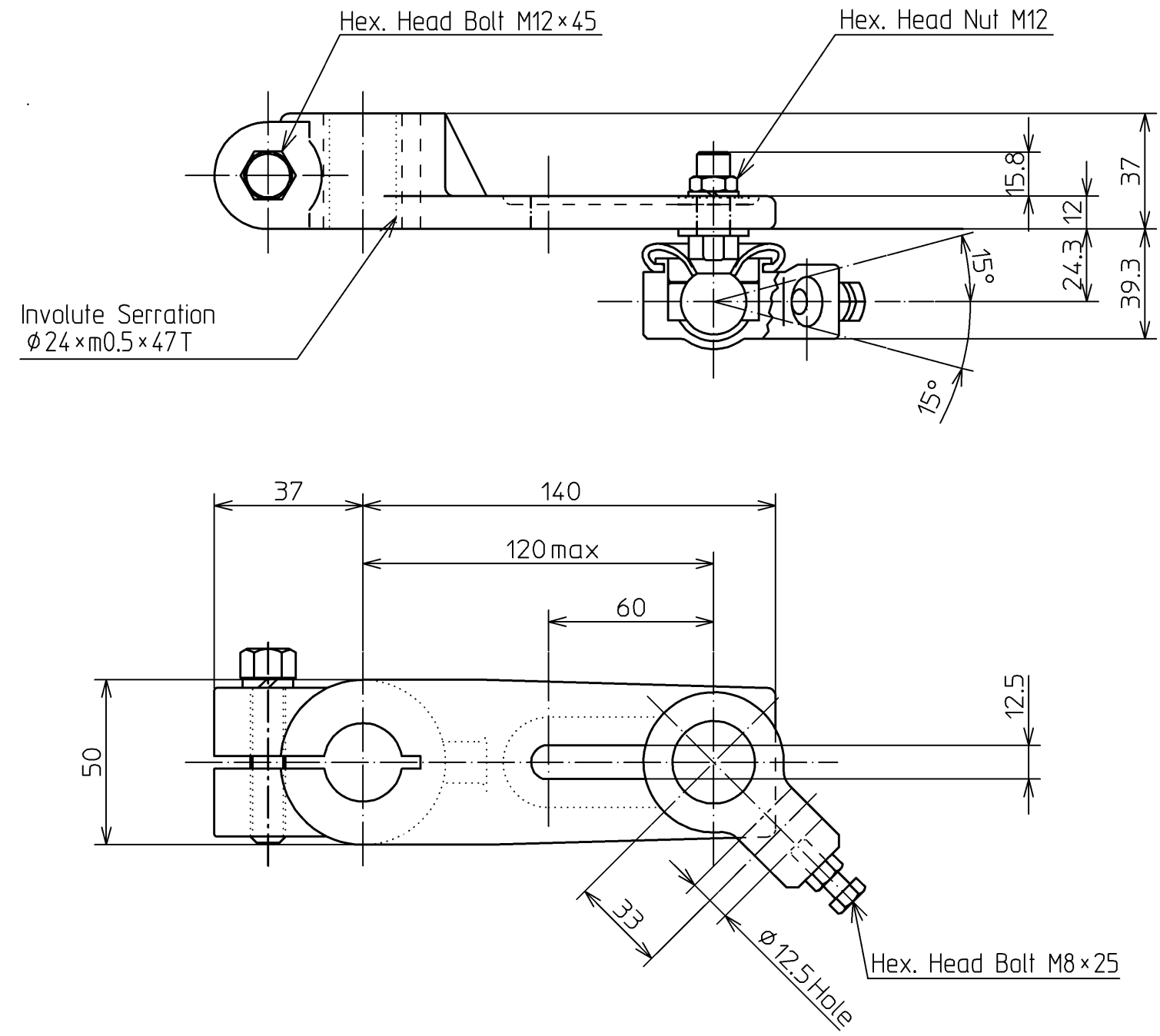
作成DR IHarada 3-11-'02	検図CHK S.Miura 3-11-'02	認可APPD S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E	改番REV	02	15	

SP. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HLE-10 (Crank Arm for HM-10)



03	JEO04-0339	5-12-'04	A.Touma	S.Miura
02	JEO02-0299	6-5-'02	I.Harada	S.Miura
01	JEO02-0092	3-11-'02	I.Harada	S.Miura
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

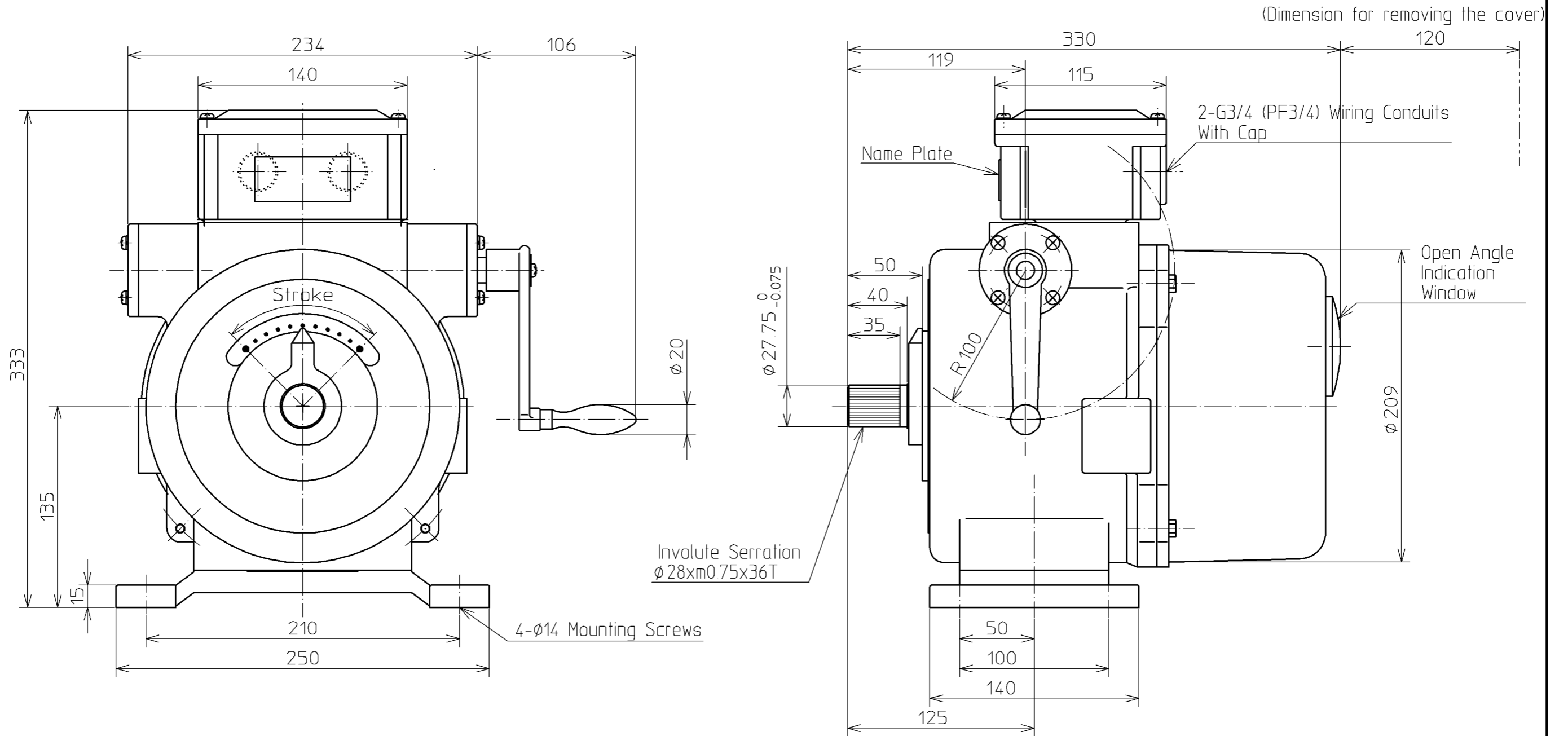
作成DR. I.Harada 3-11-'02	検図CHK. S.Miura 3-11-'02	認可APPD. S.Miura 3-11-'02	日付DATE 3-11-'02	形番 MODEL HM-□□-□□□□	名称 NAME High Torque Motor	図番 NO. AD2727E	改番REV. 03	16
尺度SCALE		記入のない公差 TOL. UNLESS NOTED						

S.P. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HM-20-XXXX



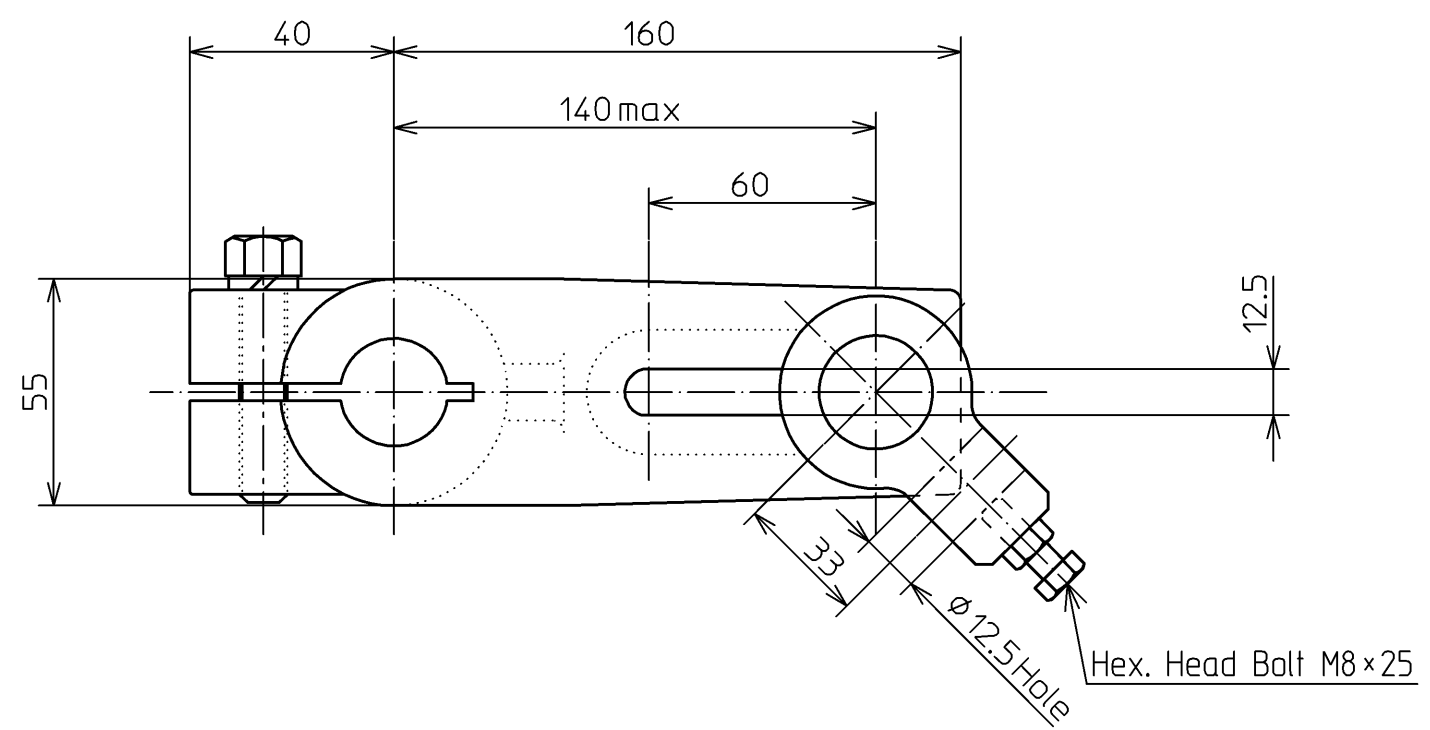
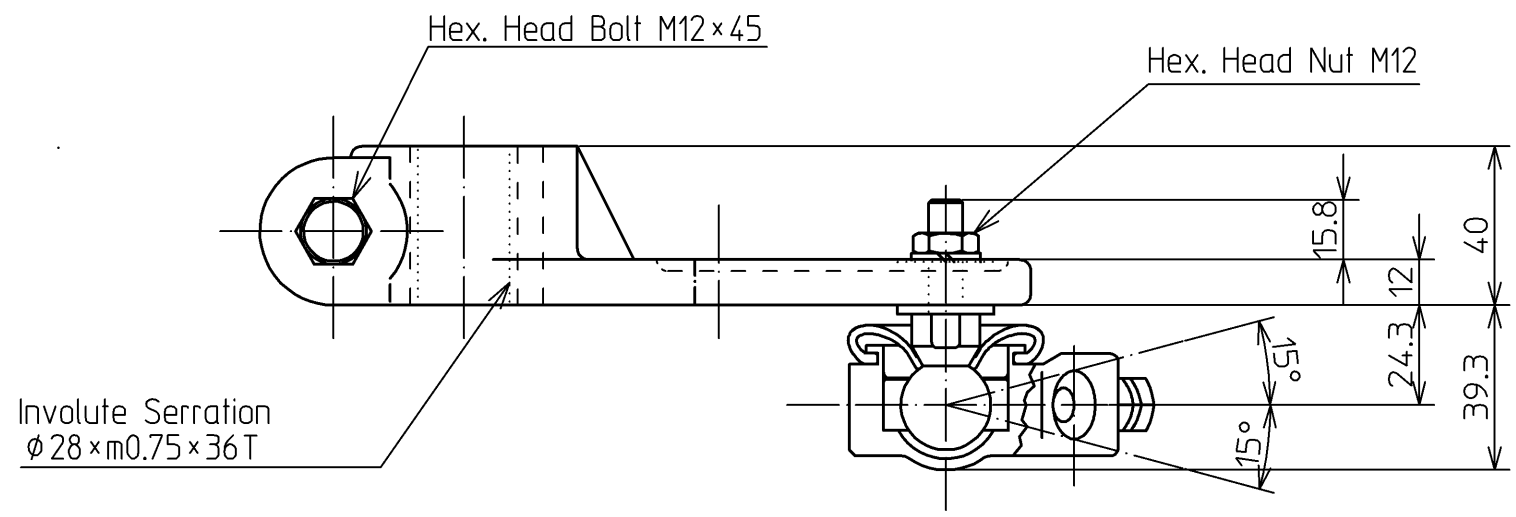
作成DR I.Harada 3-11-'02	検図CHK S.Miura 3-11-'02	認可APPD S.Miura 3-11-'02	日付DATE 3-11-'02	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
02	JE002-0299	6-5-'02	I.Harada	S.Miura				形番 MODEL	HM-□□-□□□□
01	JE002-0092	3-11-'02	I.Harada	S.Miura				名称 NAME	High Torque Motor
改番 REV								図番 NO.	AD2727E
								改番REV	02/17

SP. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

Model No.: HLE-20 (Crank Arm for HM-20)



03	JEO04-0339	5-12-'04	A.Touma	S.Miura
02	JEO02-0299	6-5-'02	I.Harada	S.Miura
01	JEO02-0092	3-11-'02	I.Harada	S.Miura
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

作成DR. I.Harada 3-11-'02	検図CHK. S.Miura 3-11-'02	認可APPD S.Miura 3-11-'02	日付DATE 3-11-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E			改番REV.	18/03

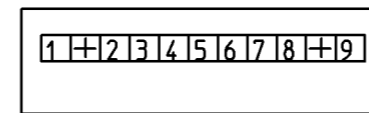
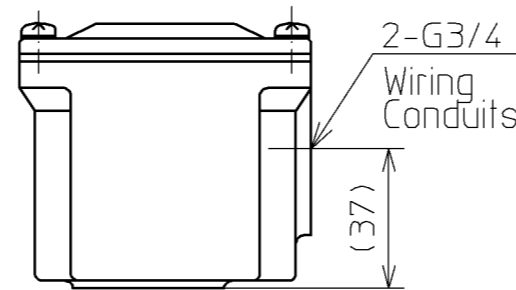
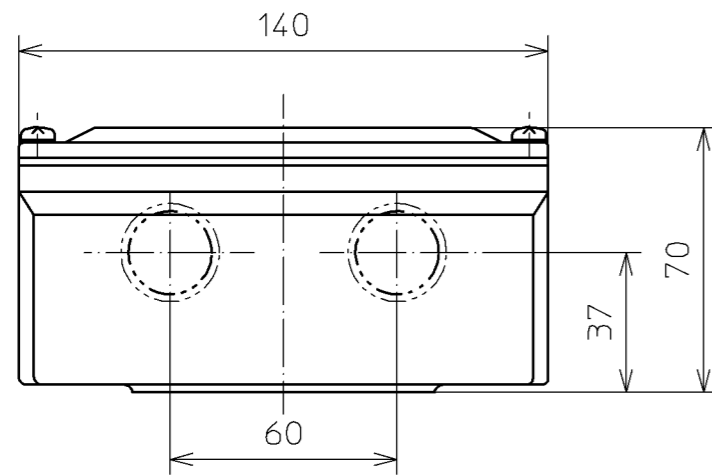
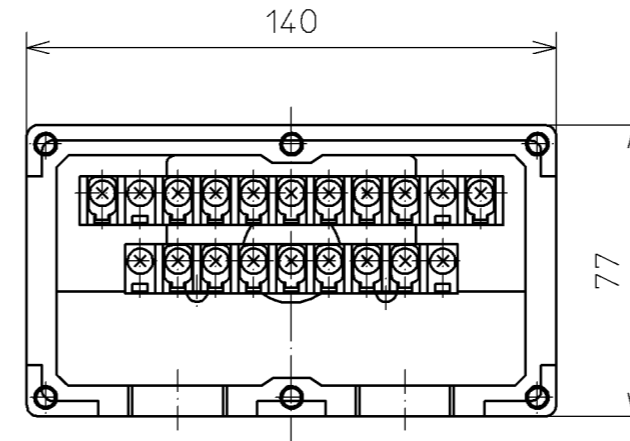
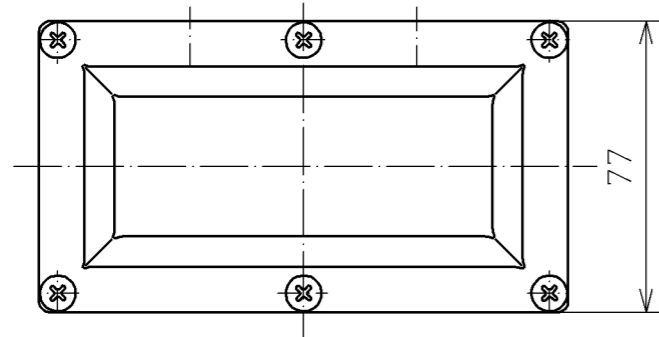
S.P. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

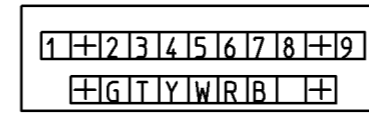
HM-02, 04 Terminal Arrangement

HM-02, 04 Terminal Box



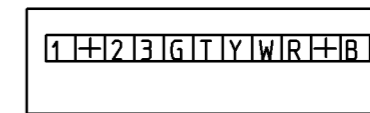
HM-\*\*-A10B  
(HM-\*\*-A20B)

Wiring Conduits  
Terminal Arrangement



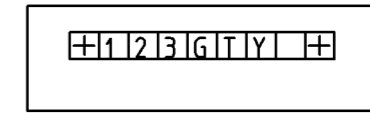
HM-\*\*-B12B  
(HM-\*\*-B22B)

Wiring Conduits  
Terminal Arrangement



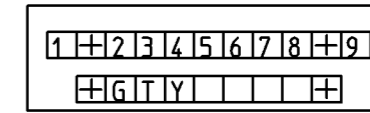
HM-\*\*-B12A  
(HM-\*\*-B22A)

Wiring Conduits  
Terminal Arrangement



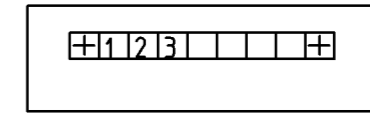
HM-\*\*-B11A  
(HM-\*\*-B21A)

Wiring Conduits  
Terminal Arrangement



HM-\*\*-B11B  
(HM-\*\*-B21B)

Wiring Conduits  
Terminal Arrangement



HM-\*\*-A10A  
(HM-\*\*-A20A)

Wiring Conduits  
Terminal Arrangement

02	JE002-0299	6-5-'02	IHarada	S.Miura
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.

作成DR. IHarada 6-5-'02	検図CHK. S.Miura 6-5-'02	認可APPD. S.Miura 6-5-'02	日付DATE 6-5-'02	尺度SCALE UN	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	HM-□□-□□□□				
名称 NAME	High Torque Motor				
図番 NO.	AD2727E	改番REV.	02	19	

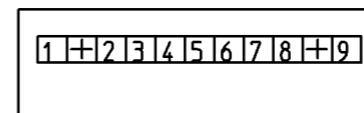
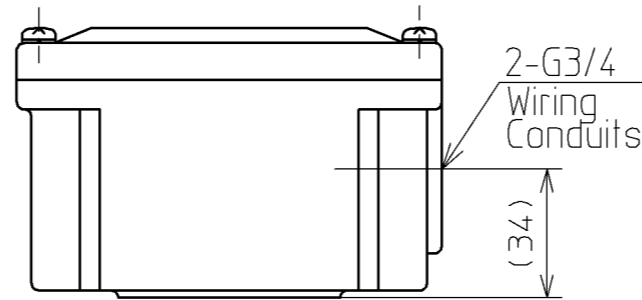
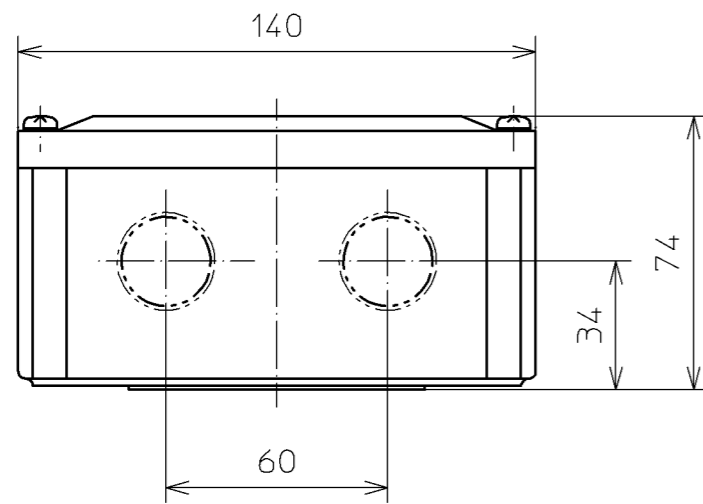
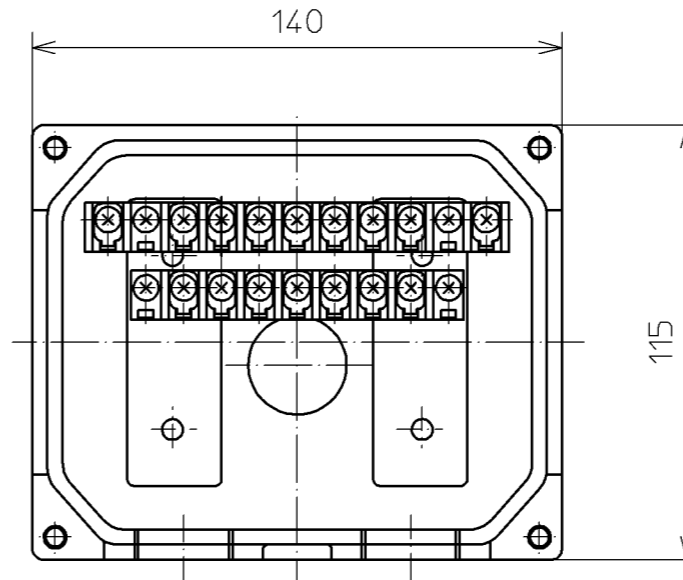
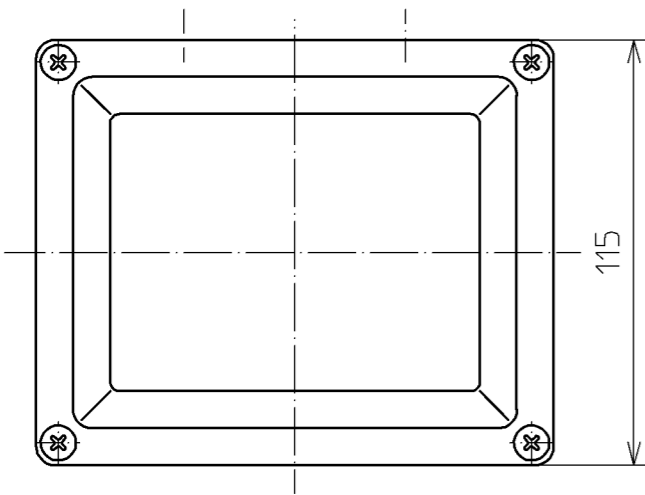
S.P. No.

Yamatake Corporation

製品仕様書  
SPECIFICATIONS

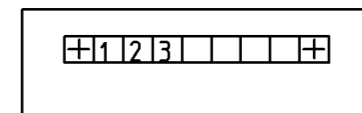
HM-06, 10, 20 Terminal Arrangement

HM-06, 10, 20 Terminal Box



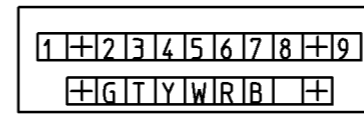
HM-\*\*-A10B  
(HM-\*\*-A20B)

Wiring Conduits  
Terminal Arrangement



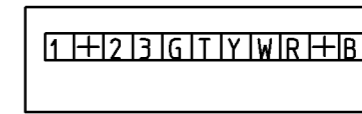
HM-\*\*-A10A  
(HM-\*\*-A20A)

Wiring Conduits  
Terminal Arrangement



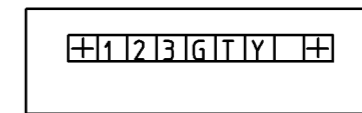
HM-\*\*-B12B  
(HM-\*\*-B22B)

Wiring Conduits  
Terminal Arrangement



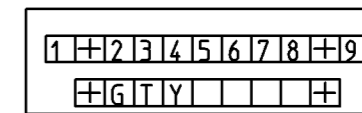
HM-\*\*-B12A  
(HM-\*\*-B22A)

Wiring Conduits  
Terminal Arrangement



HM-\*\*-B11A  
(HM-\*\*-B21A)

Wiring Conduits  
Terminal Arrangement



HM-\*\*-B11B  
(HM-\*\*-B21B)

Wiring Conduit  
Wiring Conduits

02	JE002-0299	6-5-'02	IHarada	S.Miura
改番 REV	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD

作成DR IHarada 6-5-'02	検図CHK S.Miura 6-5-'02	認可APPD S.Miura 6-5-'02	日付DATE 6-5-'02	形番 MODEL HM-□□-□□□□	名称 NAME High Torque Motor	図番 NO. AD2727E	改番REV 02	20
尺度SCALE			記入のない公差 TOL. UNLESS NOTED					

SP.NO.

**Yamatake Corporation**

製品仕様書  
**SPECIFICATIONS**

“RESTRICTIONS ON USE”

This product has been designed, developed and manufactured for general-purpose application in machinery and equipment.

Accordingly, when used in applications outlined below, special care should be taken to implement a fail-safe and/or redundant design concept as well as a periodic maintenance program.

- Safety devices for plant worker protection
- Start/stop control devices for transportation and material handling machines
- Aeronautical/aerospace machines
- Control devices for nuclear reactors

Never use this product in applications where human safety may be put at risk.

1	00	00	First issue	12-2-02	Harada	Miura
頁	改番	改番	来歴	日付	担当	検閲
	REV.	REV.	RECORD	DATE	BY	APPD.