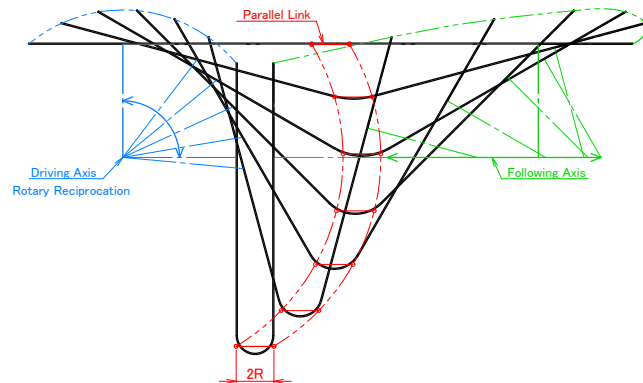
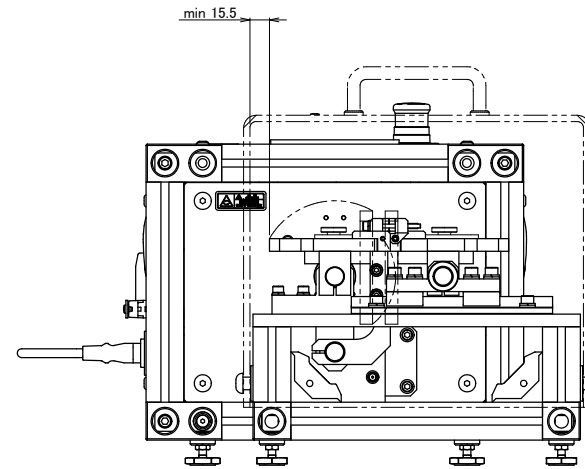
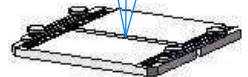
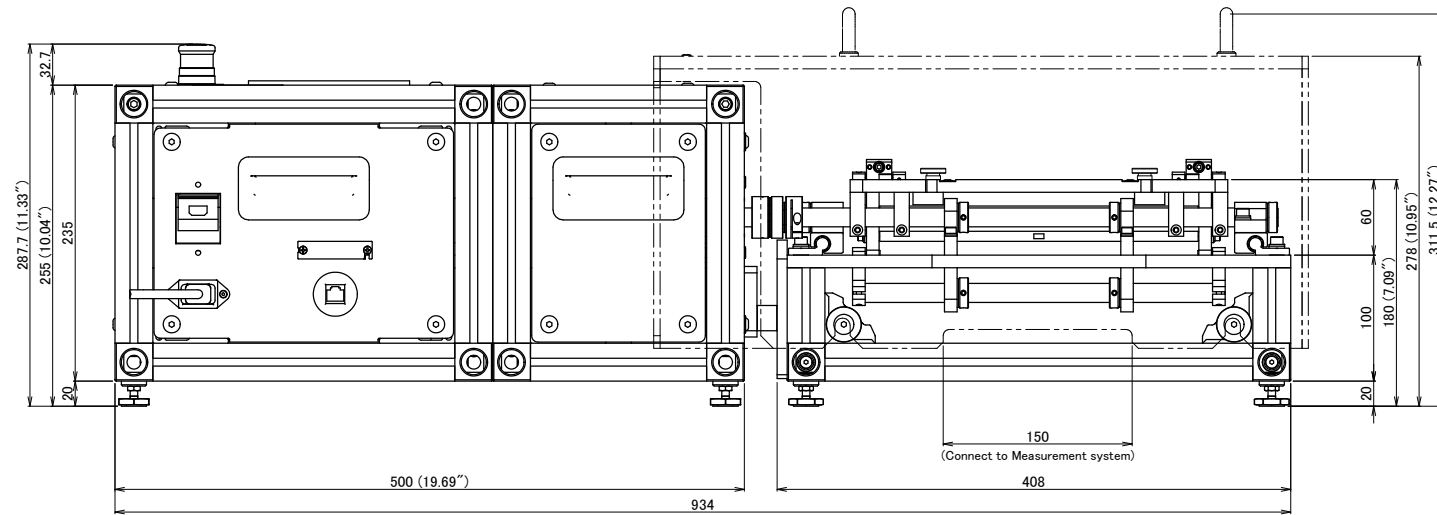
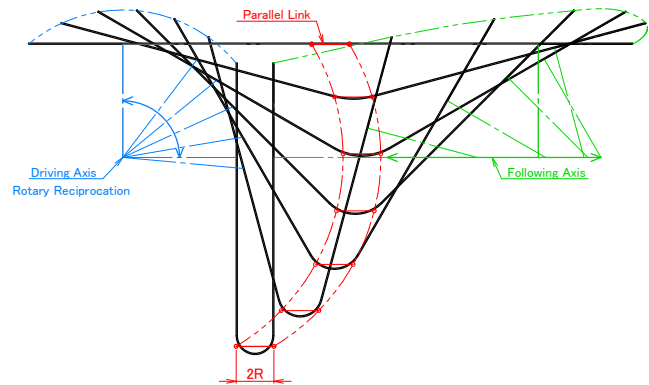
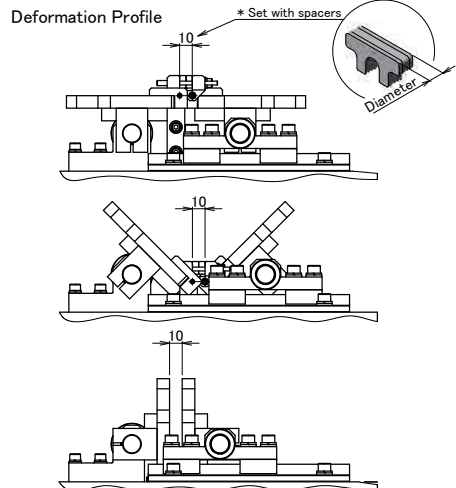
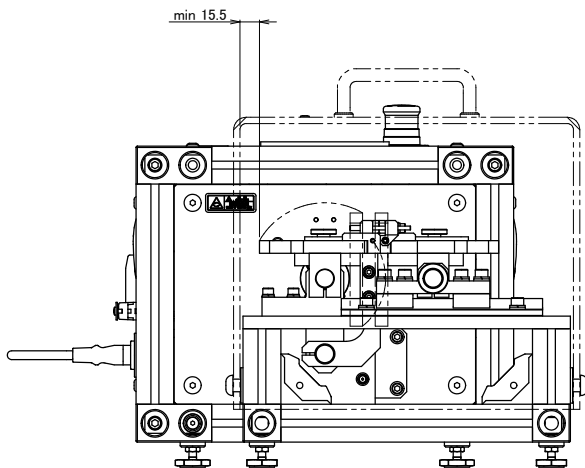
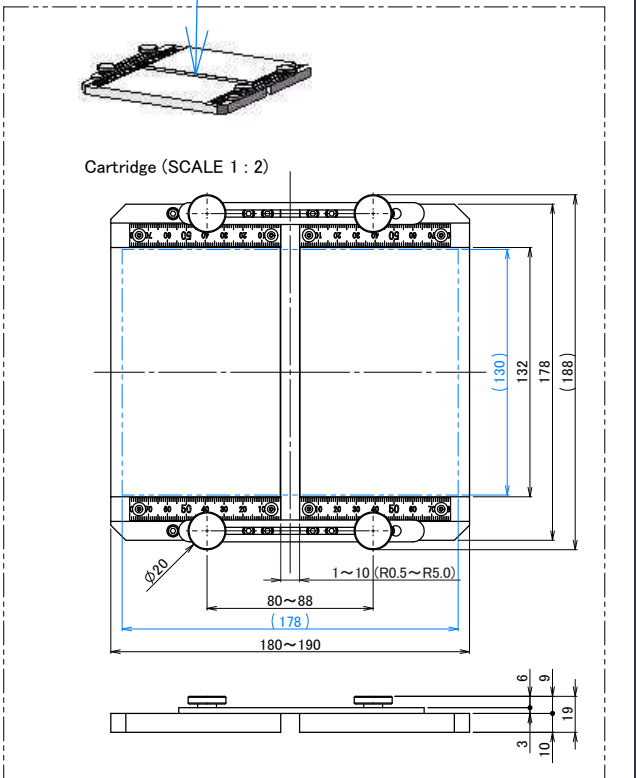
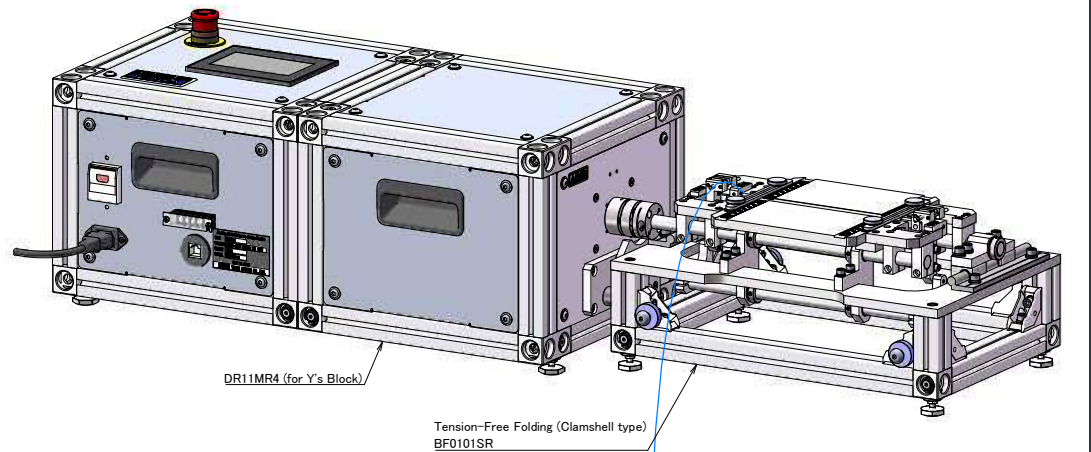
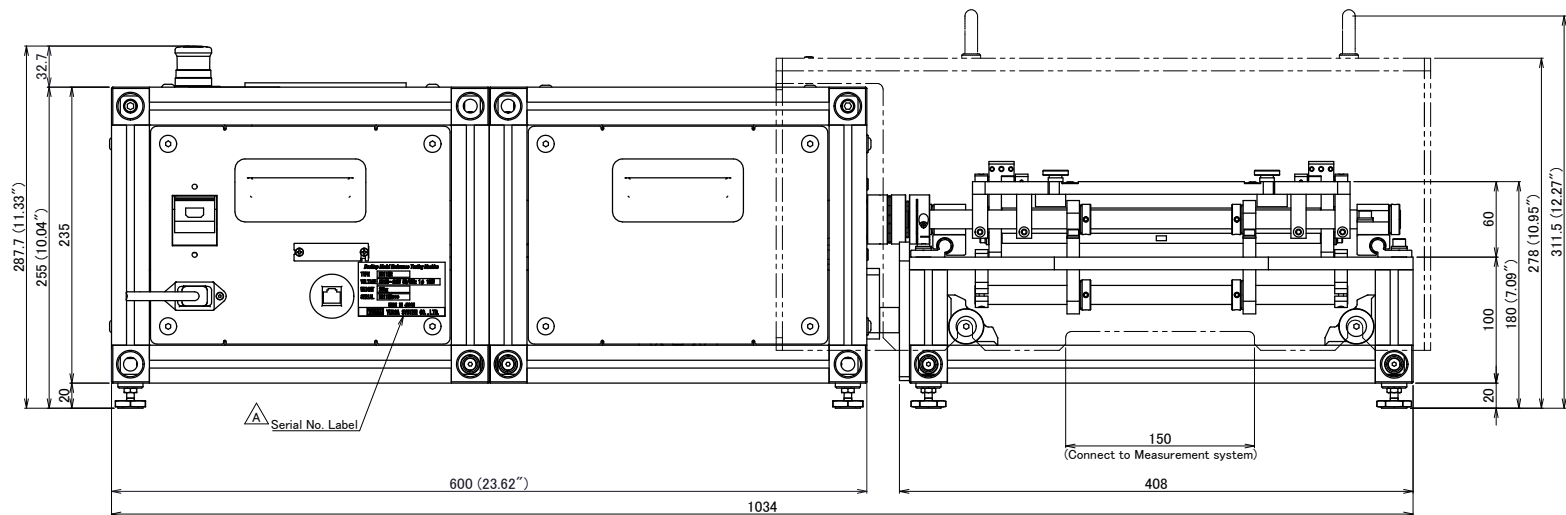
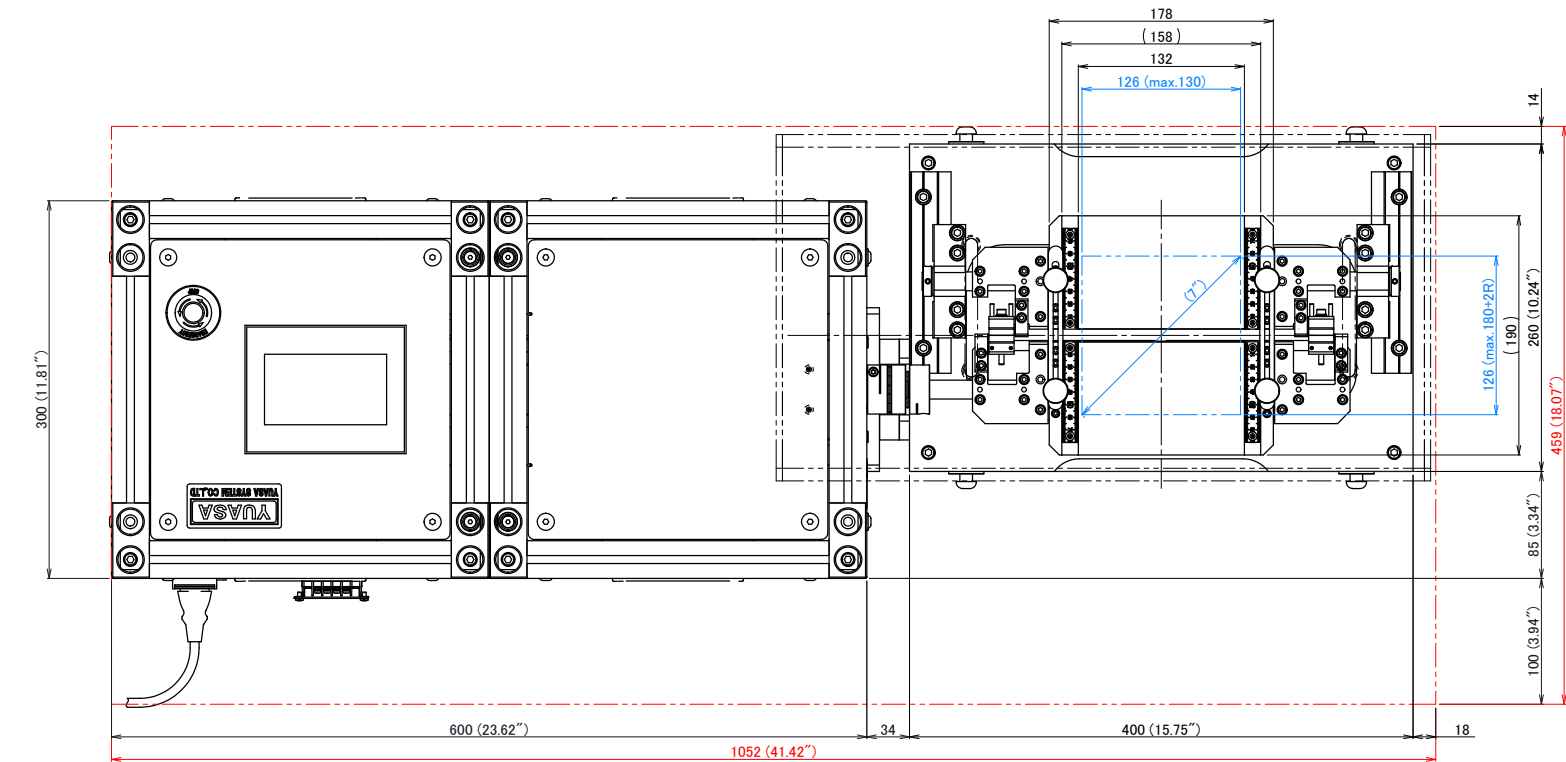




|                                 |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |                   |                                       |
|---------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------|---------------------------------------|
| OVER VIEW                       |               | <ul style="list-style-type: none"> <li>- Testing components folds samples with "Double Jointed Clamshell" structure.</li> <li>- It never place tensile stress nor compression stress on the sample, samples will change naturally.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |               |                   |                                       |
| SPECIFICATION OF TEST CONDITION |               | <ul style="list-style-type: none"> <li>- Target : Sheet or Linear samples</li> <li>- Sample thickness : max. 1 mm</li> <li>- Sample width : max. 130 mm</li> <li>- Sample length : min. (<math>\pi R</math>)+(Clamping space) mm (Be changed follow to conditions)</li> <li>- Bending angle : 180</li> <li>- Bending radius : 0.5~5.0 mm (+half of distance between a pair of plates)</li> <li>- Bending force : max. 0.7 N·m</li> <li>- Bending speed : 30~360 deg./sec. (About 5~60 reciprocation/min.)</li> <li>- Driving Unit : DR11MR (Permissible torque: 2.5 N·m)</li> <li>- Operating Angle : 90 deg.</li> </ul> |               |                   |                                       |
| INSTALLATION ENVIRONMENT        |               | Temp. : +5~+40° C (41~104° F)<br>Humi. : 15~ 85%Rh (No Condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |                   |                                       |
| MASS                            |               | <ul style="list-style-type: none"> <li>- Testing Machine : about 20.0 kg (44.1 lb)</li> <li>- Test Jig : about 9.0 kg (19.85 lb)</li> <li>- Cartridge (1set) : about 1.0 kg (2.2 lb)</li> <li>- Cover, test jig : about 3.0 kg (6.62 lb)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                      |               |                   |                                       |
| NOTE                            |               | - Accessory: Spacer to set the folding radius<br>(5.0 mm, 2.0 mm, 1.0 mm, 0.5 mm, 0.2 mm, 0.1 mm, 0.05 mm: 4 each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |                   |                                       |
| 材 質<br>MATERIAL<br>質 種<br>MASS  | On the margin | 第 3 角 法<br>THIRD ANGLE<br>PROJECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | R 径<br>SCALE  | 名 稱<br>特 徴<br>図 番 | TITLE                                 |
| 表面処理<br>SURFACE<br>PROCESSING   |               | 作 成 日 付<br>DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1:3           |                   | Tension-Free Folding (Clamshell-type) |
| 熱処理<br>HEAT TREATMENT           |               | 承認<br>APPROVED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Aug. 23, 2019 |                   |                                       |
|                                 |               | 検 査<br>CHECKED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Y. Moriya     |                   |                                       |
|                                 |               | 設 計<br>DESIGNED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A. Murakami   |                   |                                       |
|                                 |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | T. Shoji      |                   | DWG. No. BF0101SR-DR11MR-0            |
| YUASA SYSTEM Co.,Ltd., AI       |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |                   |                                       |

Specifications are subject to change without notice.

| 改訂<br>REV. | 修正<br>REVISION RECORD             | 担当<br>BY | 日付<br>DATE    |
|------------|-----------------------------------|----------|---------------|
| A          | Corrected error and Added notice. | T. Sheji | Jul. 28, 2020 |

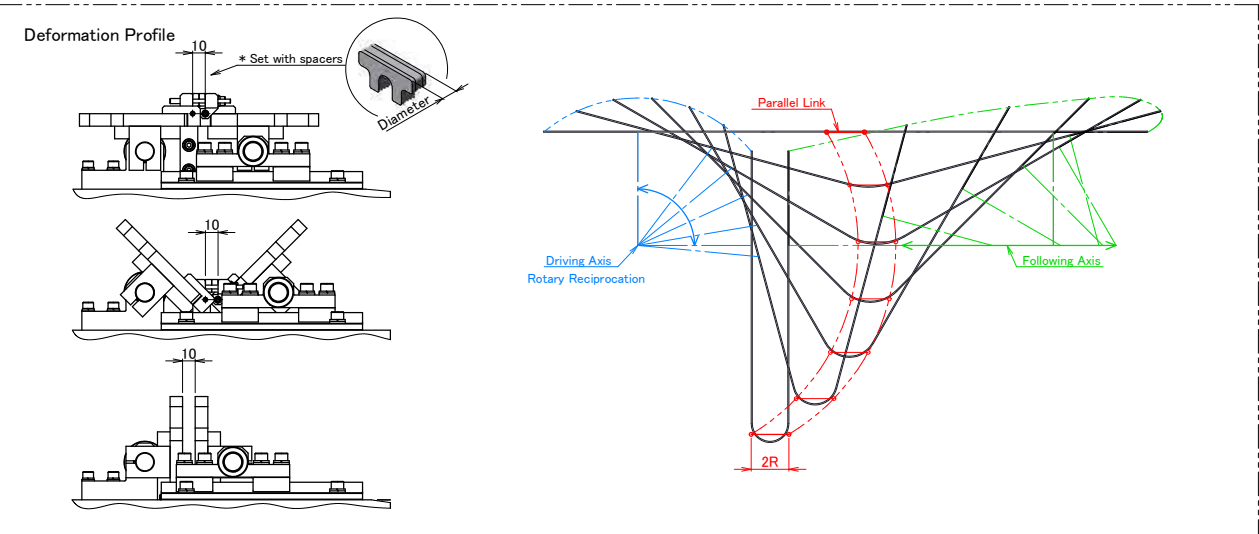
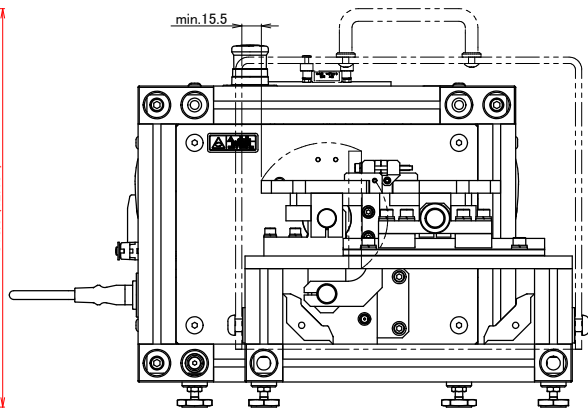
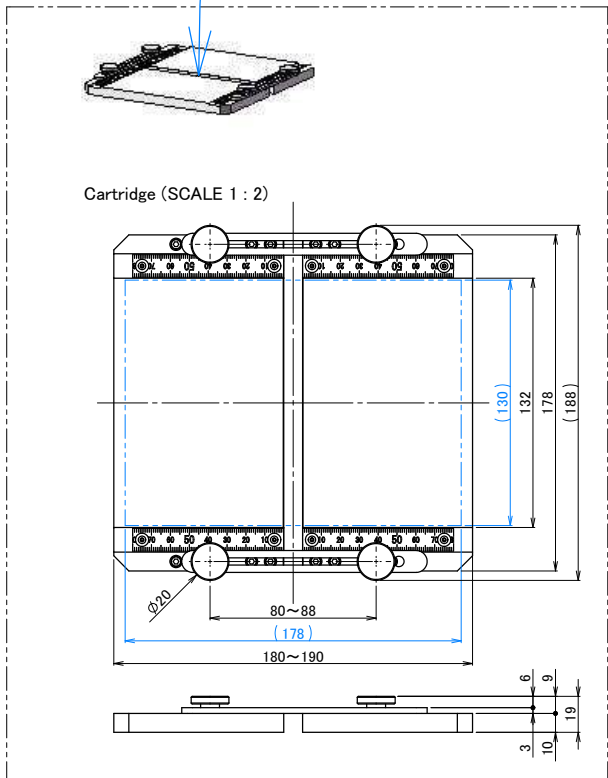
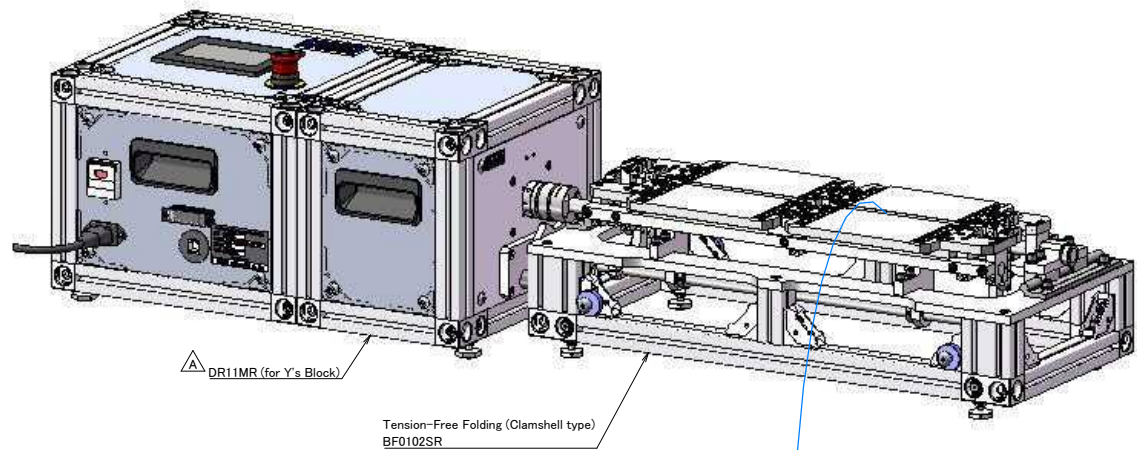
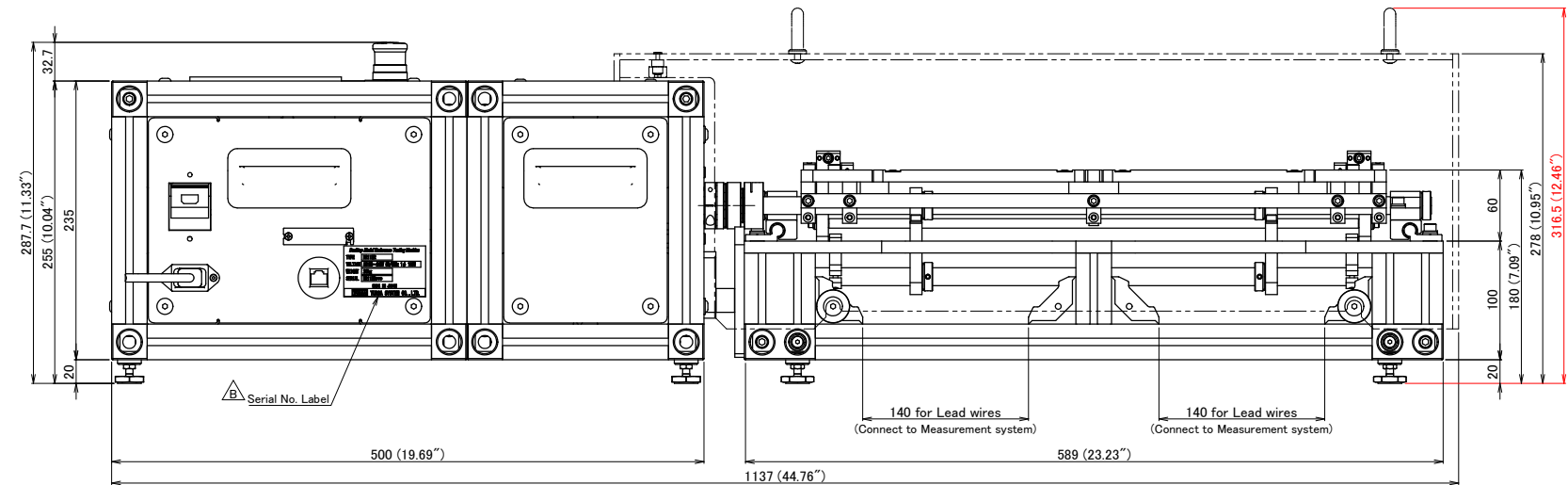
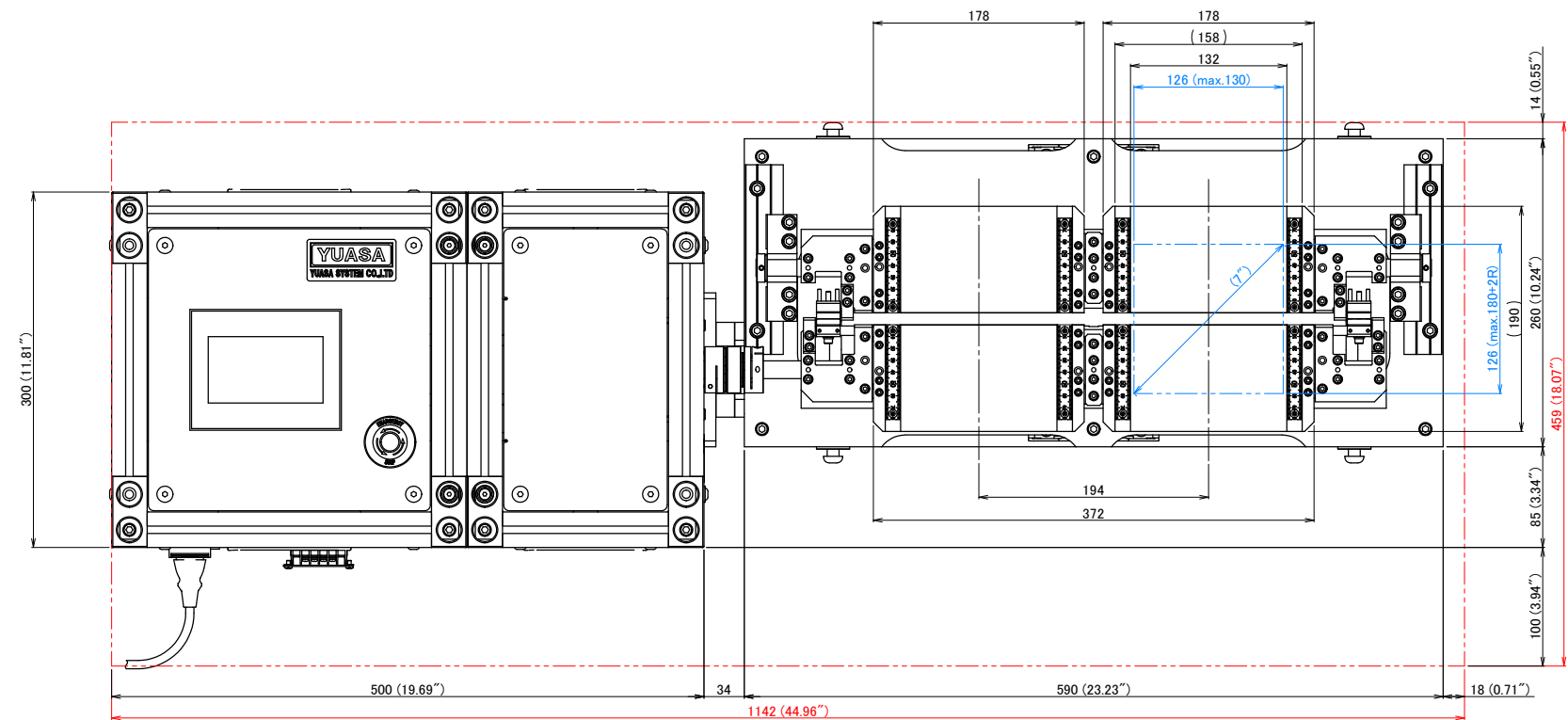


◇Components in this drawing  
•BF0101SR: Tension-Free Folding (Clamshell-type)  
•DR11MR4: Driving Unit  
•ET209009A0006: Joint Bracket

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| OVER VIEW                       | • Testing components folds samples with "Double Jointed Clamshell" structure.<br>• It never place tensile stress nor compression stress on the sample, samples will change naturally.                                                                                                                                                                                                                                                                                                                  |  |  |
| SPECIFICATION of TEST CONDITION | • Target : Sheet or Linear samples<br>• Sample thickness : max. 1 mm<br>• Sample width : max. 130 mm<br>• Sample length : min. (πR)+(Clamping space) mm (Be changed follow to conditions)<br>• Bending angle : 180°<br>• Bending radius : 0.5~5.0 mm (*half of distance between a pair of plates)<br>• Bending force : max. 0.7 N·m<br>• Bending speed : 30~360 deg./sec. (About 5~60 reciprocation/min.)<br><br>• Driving Unit : DR11MR4 (Permissible torque: 6.5 N·m)<br>• Operating Angle : 90 deg. |  |  |
| INSTALLATION ENVIRONMENT        | Temp. : +5~+40° C (41~104° F)<br>Humi. : 15~ 85%Rh (No Condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |
| MASS                            | • Testing Machine : about 23.0 kg (50.7 lb)<br>• Test Jig : about 9.0 kg (19.85 lb)<br>• Cartridge (1set) : about 1.0 kg (2.2 lb)<br>• Cover, Test jig : about 3.0 kg (6.62 lb)                                                                                                                                                                                                                                                                                                                        |  |  |
| NOTE                            | • Accessory: Spacer to set the folding radius<br>(5.0 mm, 2.0 mm, 1.0 mm, 0.5 mm, 0.2 mm, 0.1 mm, 0.05 mm: 4 each)                                                                                                                                                                                                                                                                                                                                                                                     |  |  |

| 材質<br>MATERIAL             | 質量<br>MASS    | 第3角法<br>THIRD ANGLE PROJECTION | 尺 度<br>SCALE  | 名 称<br>TITLE                                   |
|----------------------------|---------------|--------------------------------|---------------|------------------------------------------------|
| 表面処理<br>SURFACE PROCESSING | On the margin | 作成日付<br>DATE                   | 1:3           | Y's Block Endurance Test Machine<br>DR11MR4-CS |
| 熱処理<br>HEAT TREATMENT      |               | 承認<br>APPROVED                 | Jul. 20, 2020 | 称 号<br>Tension-Free Folding (Clamshell-type)   |
|                            |               | 検 査<br>CHECKED                 | A. Murakami   | 図 号<br>BF0101SR-DR11MR4 - A                    |
|                            |               | 設 計<br>DESIGNED                | N. Taniguchi  | 番 号                                            |

| 改訂<br>REV. | 注記<br>REVISION RECORD             | 担当<br>BY | 日付<br>DATE    |
|------------|-----------------------------------|----------|---------------|
| A          | Revision for applying Y's Block   | T. Shoji | Aug. 23, 2019 |
| B          | Corrected error and Added notice. | T. Shoji | Jul. 28, 2020 |

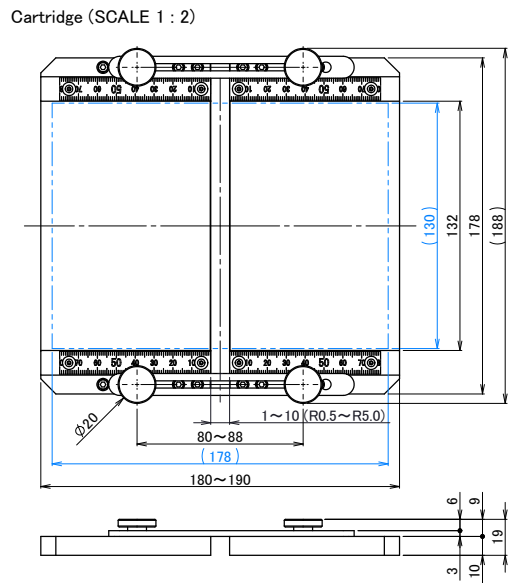
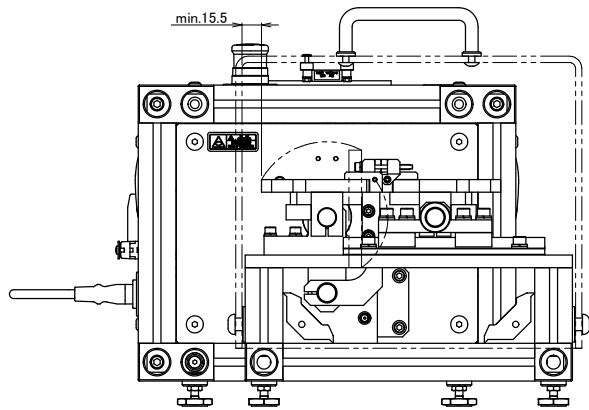
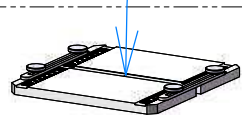
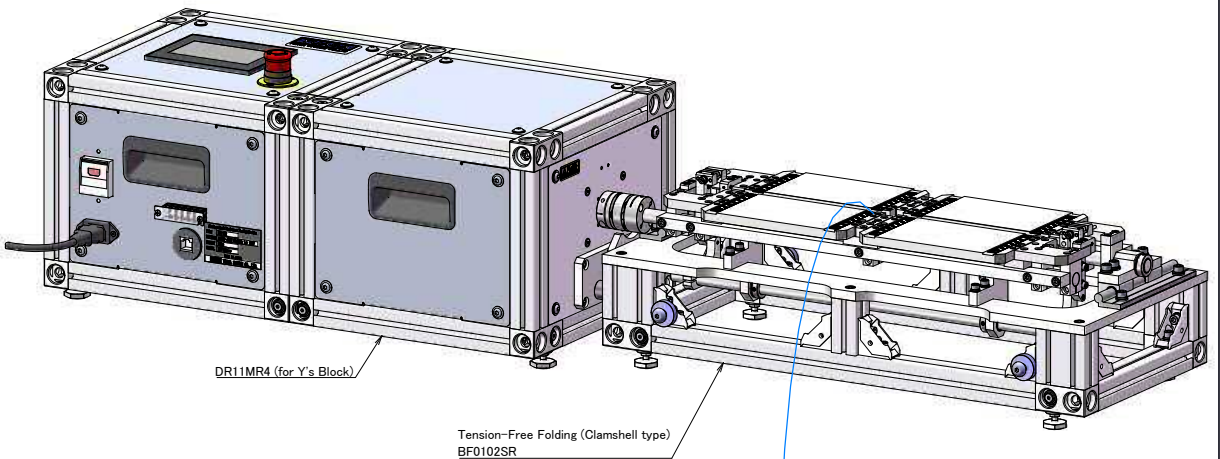
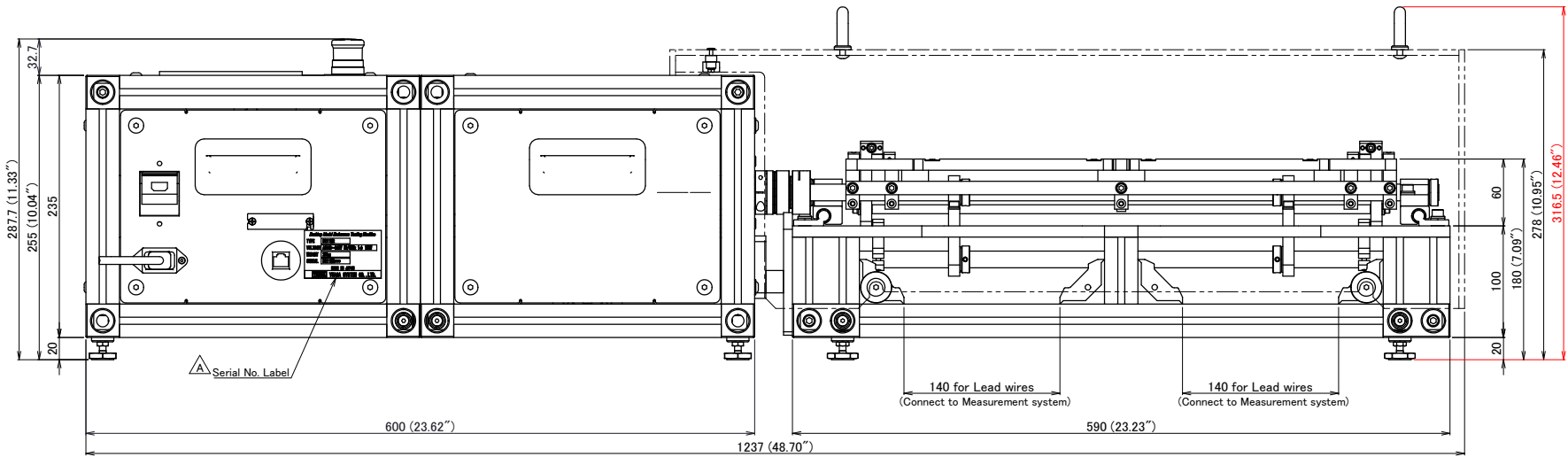
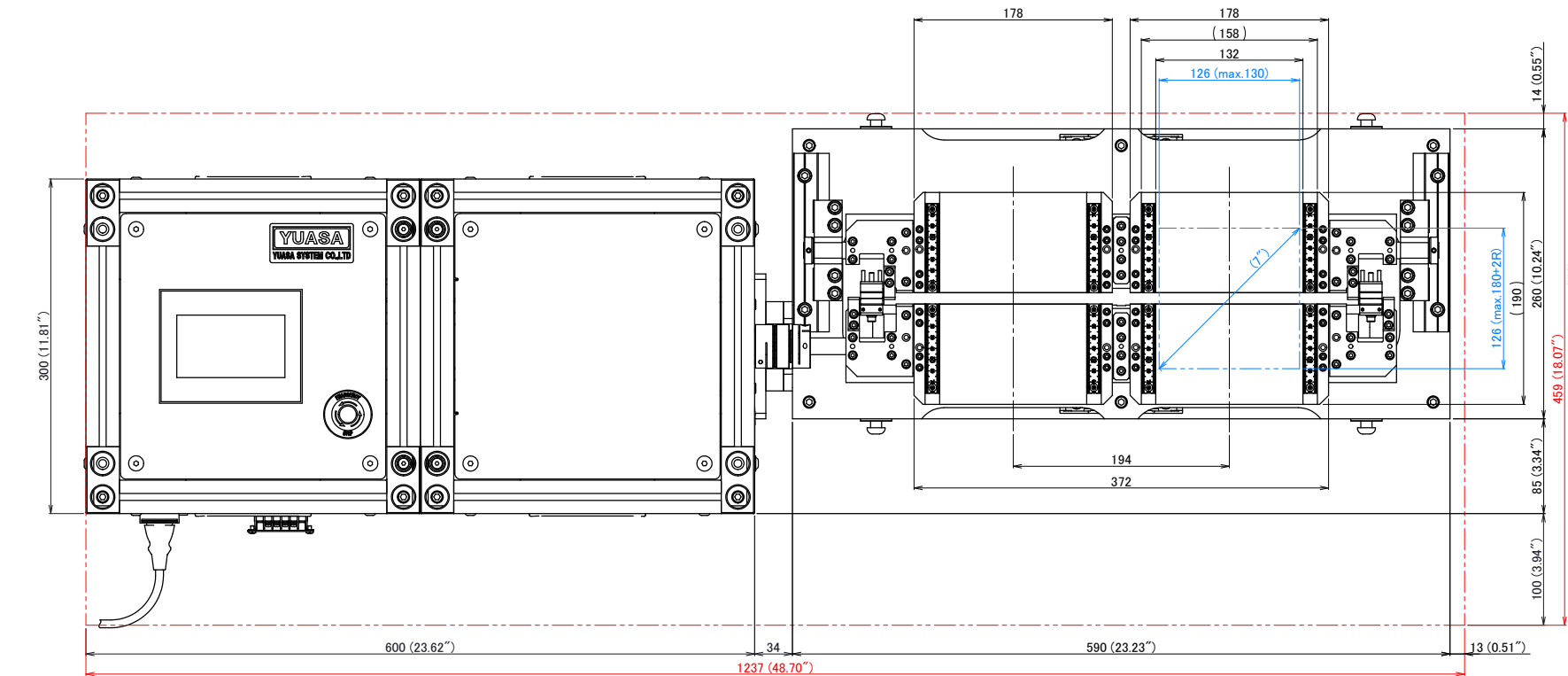


◇Components in this drawing  
•BF0102SR: Tension-Free Folding (Clamshell-type)  
•DR11MR: Driving Unit  
•ET209009A0001: Joint Bracket

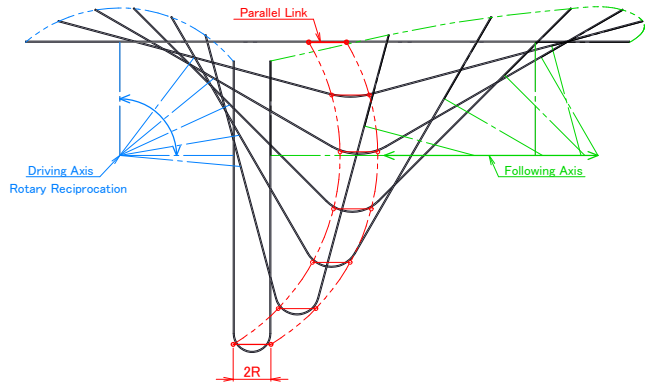
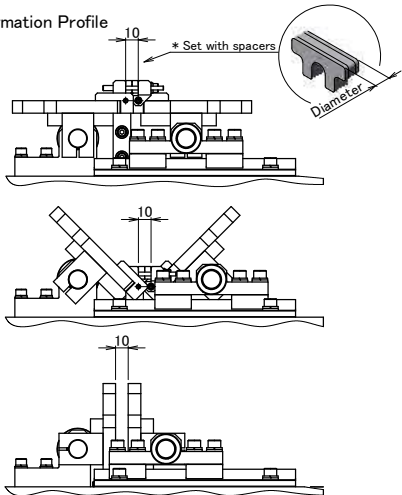
|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |                                                 |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| OVER VIEW                       | • Testing components folds samples with "Double Jointed Clamshell" structure.<br>• It never place tensile stress nor compression stress on the sample, samples will change naturally.                                                                                                                                                                                                                                                                                                                          |               |                                                 |
| SPECIFICATION of TEST CONDITION | • Target : Sheet or Linear samples<br>• Sample thickness : max. 1 mm<br>• Sample width : max. 130 mm × 2 sets<br>• Sample length : min. (πR)+(Clamping space) mm (Be changed follow to conditions)<br>• Bending angle : 180°<br>• Bending radius : 0.5~5.0 mm (*half of distance between a pair of plates)<br>• Bending force : max. 0.7 N·m<br>• Bending speed : 30~360 deg./sec. (About 5~60 reciprocation/min.)<br><br>• Driving Unit : DR11MR (Permissible torque: 2.5 N·m)<br>• Operating Angle : 90 deg. |               |                                                 |
| INSTALLATION ENVIRONMENT        | Temp. : +5~+40 °C (41~104 °F)<br>Humi. : 15~ 85%Rh (No Condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |                                                 |
| MASS                            | • Testing Machine : about 20.0 kg (44.1 lb)<br>• Test Jig : about 12.5 kg (27.6 lb)<br>• Cartridge (1set) : about 1.0 kg (2.2 lb)<br>• Cover, Test jig : about 3.5 kg (7.7 lb)                                                                                                                                                                                                                                                                                                                                 |               |                                                 |
| NOTE                            | • Accessory: Spacer to set the folding radius<br>(5.0 mm, 2.0 mm, 1.0 mm, 0.5 mm, 0.2 mm, 0.1 mm, 0.05 mm: 4 each)                                                                                                                                                                                                                                                                                                                                                                                             |               |                                                 |
| 材質<br>MATERIAL                  | 第3角法<br>THIRD ANGLE PROJECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 尺 度<br>SCALE  | 名 稱<br>TITLE                                    |
| 質量<br>MASS                      | On the margin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1:3           | Y's Block Endurance Test Machine<br>DR11MR-CS-t |
| 表面処理<br>SURFACE PROCESSING      | 作成日付<br>DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Feb. 25, 2019 | 称 號<br>Tension-Free Folding (Clamshell-type)    |
| 熱処理<br>HEAT TREATMENT           | 承認<br>APPROVED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Y. Moriya     | 図 號<br>DWG. No.                                 |
|                                 | 検 査<br>CHECKED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | S. Kaihara    | BF0102SR-DR11MR - B                             |
|                                 | 設 計<br>DESIGNED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | A. Murakami   | 番 號<br>YUASA SYSTEM Co.,Ltd.   A1               |



| 改訂<br>REV. | 修正<br>REVISION RECORD             | 担当<br>BY | 日付<br>DATE    |
|------------|-----------------------------------|----------|---------------|
| A          | Corrected error and Added notice. | T. Sheji | Jul. 28, 2020 |



Deformation Profile



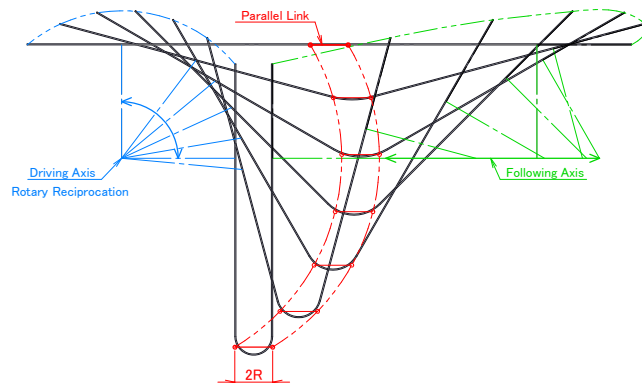
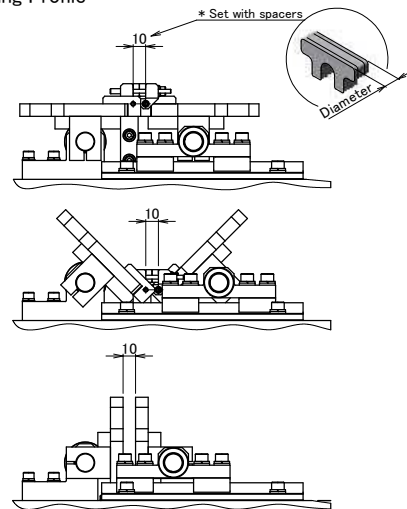
- ◇Components in this drawing
  - BF0102SR: Tension-Free Folding (Clamshell-type)
  - DR11MR4: Driving Unit
  - ET209009A0004: Joint Bracket

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| OVER VIEW                       | • Testing components folds samples with "Double Jointed Clamshell" structure.<br>• It never place tensile stress nor compression stress on the sample, samples will change naturally.                                                                                                                                                                                                                                                                                                                           |  |
| SPECIFICATION of TEST CONDITION | • Target : Sheet or Linear samples<br>• Sample thickness : max. 1 mm<br>• Sample width : max. 130 mm × 2 sets<br>• Sample length : min. (πR)+(Clamping space) mm (Be changed follow to conditions)<br>• Bending angle : 180°<br>• Bending radius : 0.5~5.0 mm (*half of distance between a pair of plates)<br>• Bending force : max. 0.7 N-m<br>• Bending speed : 30~360 deg./sec. (About 5~60 reciprocation/min.)<br><br>• Driving Unit : DR11MR4 (Permissible torque: 6.5 N-m)<br>• Operating Angle : 90 deg. |  |
| INSTALLATION ENVIRONMENT        | Temp. : +5~+40° C (41~104° F)<br>Humi. : 15~ 85%Rh (No Condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| MASS                            | • Testing Machine : about 23.0 kg (50.7 lb)<br>• Test Jig : about 12.5 kg (27.6 lb)<br>• Cartridge (1set) : about 1.0 kg (2.2 lb)<br>• Cover, Test jig : about 3.5 kg (7.7 lb)                                                                                                                                                                                                                                                                                                                                  |  |
| NOTE                            | • Accessory: Spacer to set the folding radius<br>(5.0 mm, 2.0 mm, 1.0 mm, 0.5 mm, 0.2 mm, 0.1 mm, 0.05 mm: 4 each)                                                                                                                                                                                                                                                                                                                                                                                              |  |

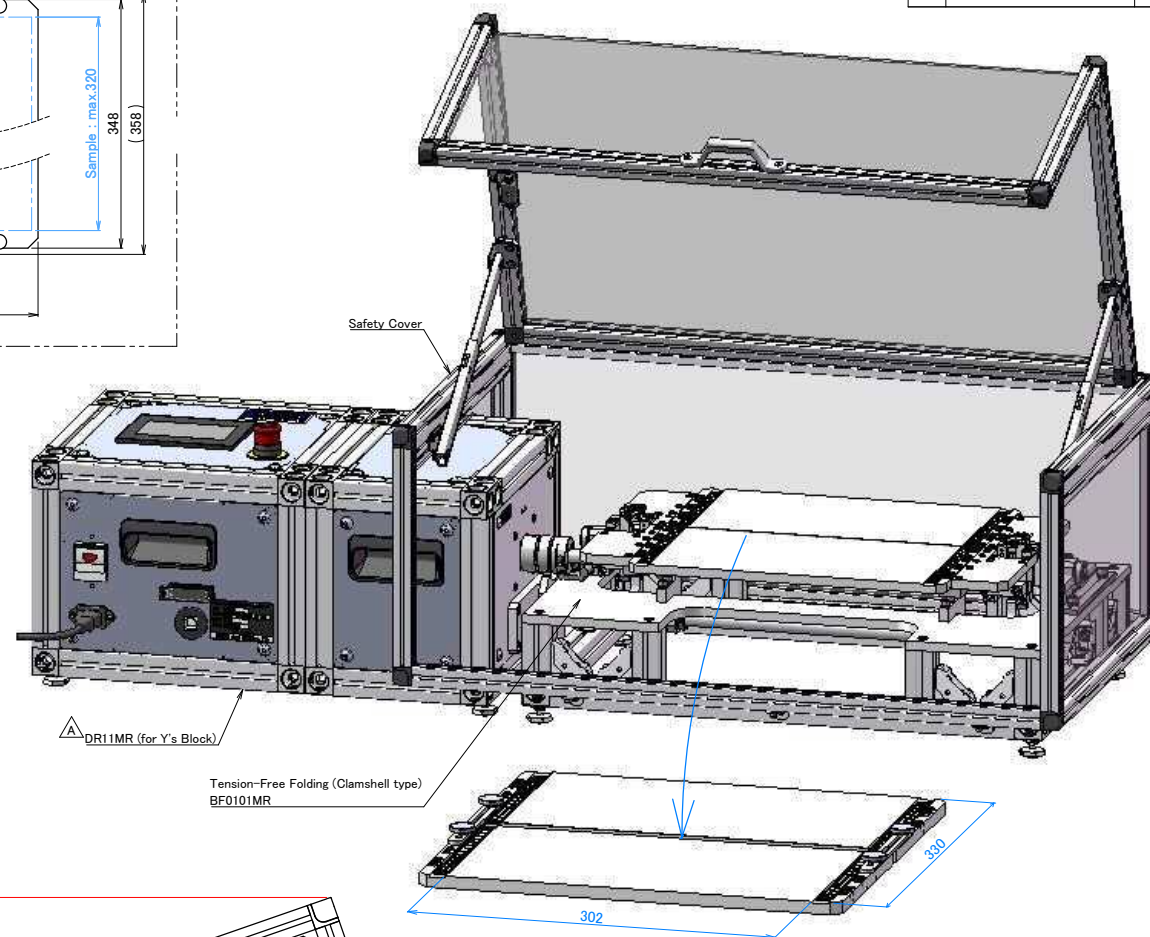
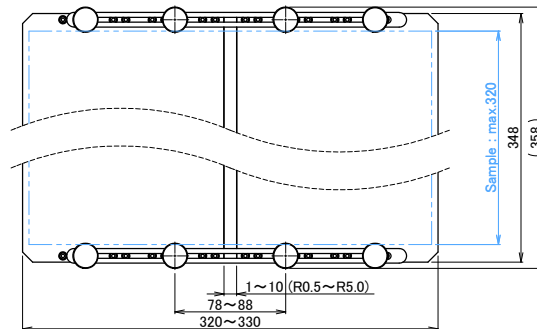
| 材質<br>MATERIAL             | 質量<br>MASS    | 第3角法<br>THIRD ANGLE PROJECTION | 尺 寸<br>SCALE | 名 称<br>TITLE                                     |
|----------------------------|---------------|--------------------------------|--------------|--------------------------------------------------|
| 表面処理<br>SURFACE PROCESSING | On the margin | 作成日付<br>DATE                   | 1:3          | Y's Block Endurance Test Machine<br>DR11MR4-CS-t |
| 熱処理<br>HEAT TREATMENT      |               | 承認<br>APPROVED                 | Y. Moriya    | 称<br>Tension-Free Folding (Clamshell-type)       |
|                            |               | 検 査<br>CHECKED                 | A. Murakami  | 図<br>DWG. No.                                    |
|                            |               | 設 計<br>DESIGNED                | N. Taniguchi | 番<br>BF0102SR-DR11MR4 - A                        |

Specifications are subject to change without notice.

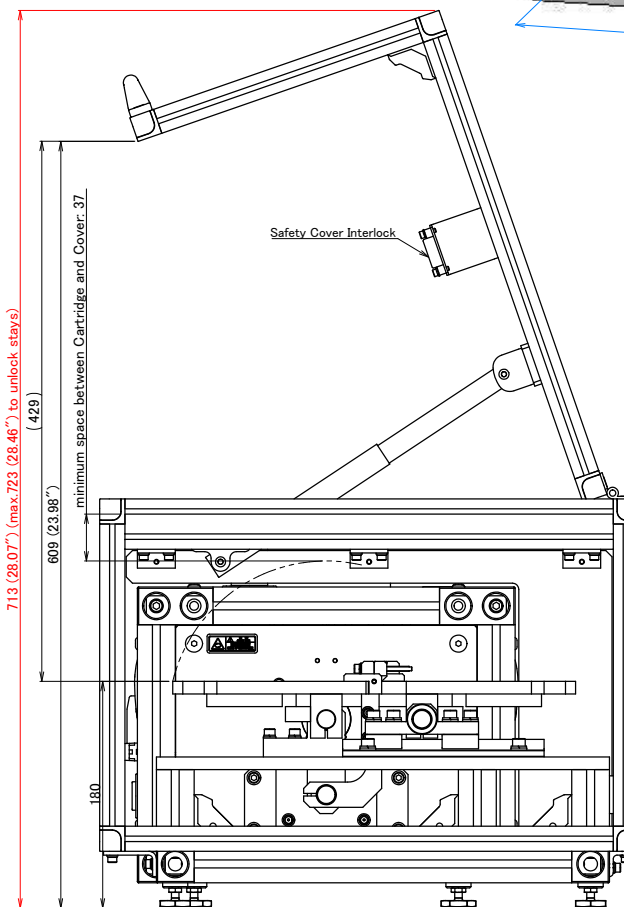
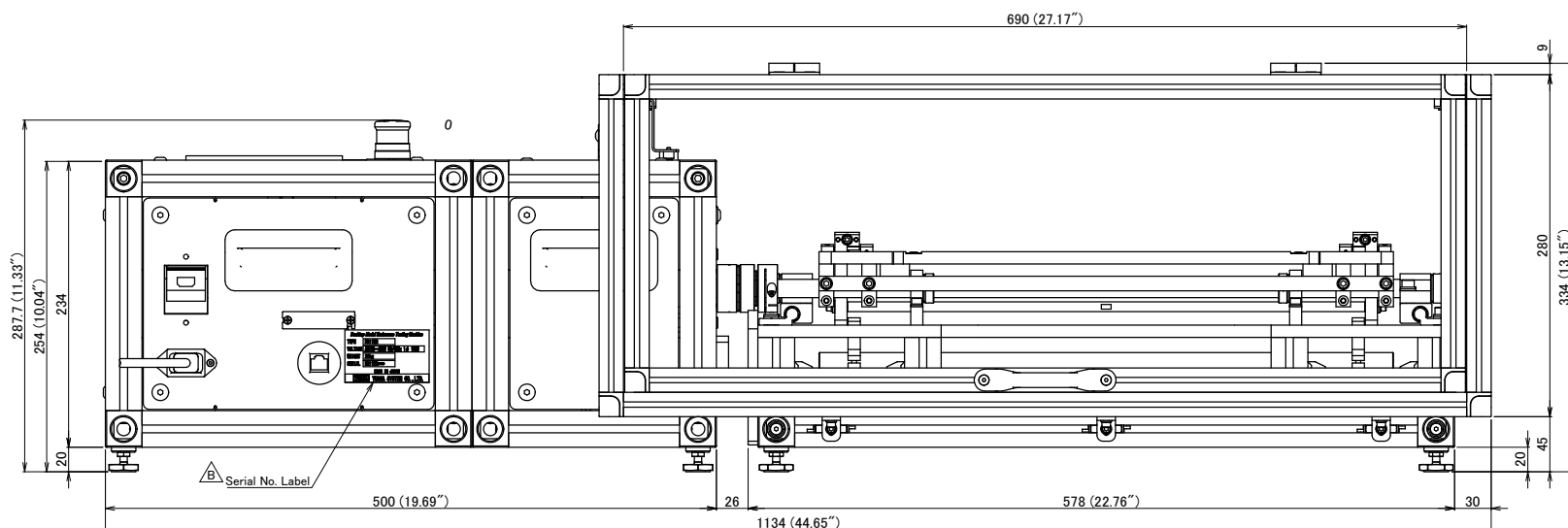
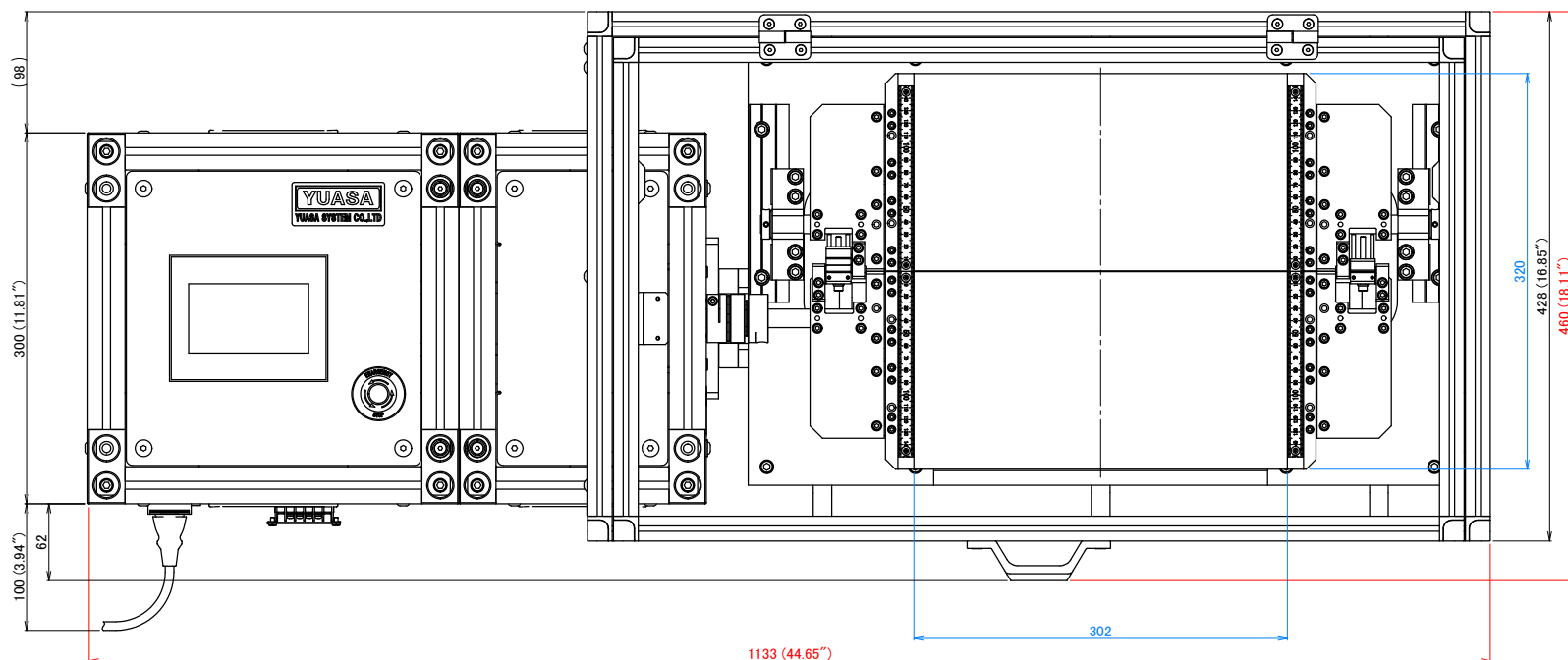
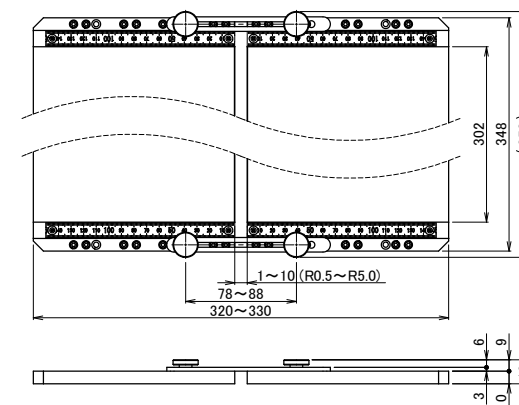
Deforming Profile



Optional Cartridge (SCALE 1 : 3)



Cartridge (SCALE 1 : 3)



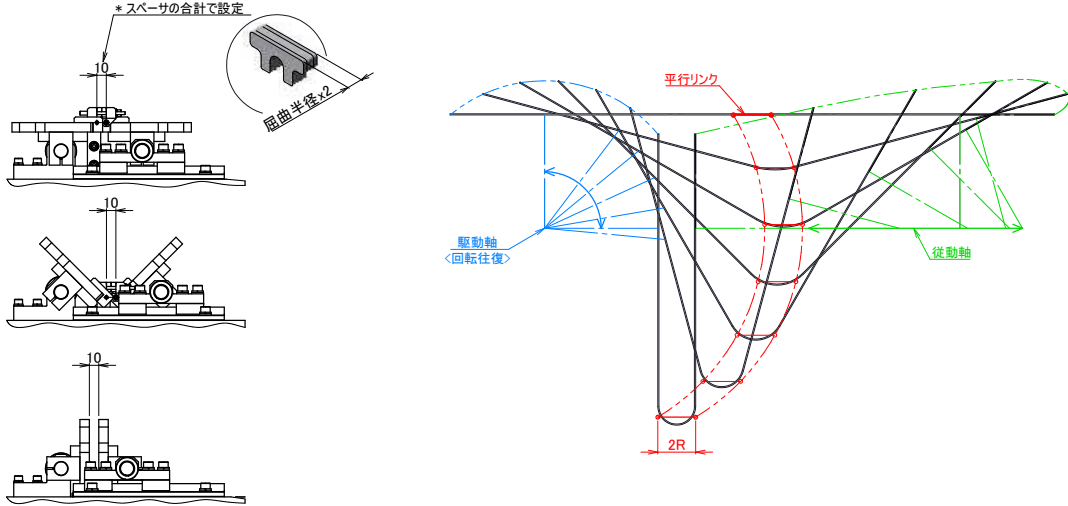
◇Components in this drawing  
•BF0101MR: Tension-Free Folding (Clamshell-type)  
•DR11MR: Driving Unit  
•ET501009A0004: Safety Cover

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                         |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------|
| OVER VIEW                       | • Testing components folds samples with "Double Jointed Clamshell" structure. It will not place tensile stress on the sample, samples will change naturally.                                                                                                                                                                                                                                                                                                                                          |             |                                         |
| SPECIFICATION of TEST CONDITION | • Target : Sheet or Linear samples<br>• Sample thickness : max. 1 mm<br>• Sample width : max. 300 mm<br>• Sample length : min. (πR)+(Clamping space) mm (Be changed follow to conditions)<br>• Bending angle : 180°<br>• Bending radius : 0.5~5.0 mm (*half of distance between a pair of plates)<br>• Bending force : max. 0.7 N·m<br>• Bending speed : 30~360 deg./sec. (About 5~60 reciprocation/min.)<br><br>• Driving Unit : DR11MR (Permissible torque: 8.0 N·m)<br>• Operating Angle : 90 deg. |             |                                         |
| INSTALLATION ENVIRONMENT        | Temp. : +5~+40° C (41~104° F)<br>Humi. : 15~ 85%Rh (No Condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                         |
| MASS                            | • Testing Machine : about 20.0 kg (44.1 lb)<br>• Test Jig : about 22.0 kg (48.5 lb) *Included the safety cover<br>• Cartridge : about 3.0 kg (6.6 lb)<br>• Safety Cover : about 3.3 kg (7.3 lb) *Only door                                                                                                                                                                                                                                                                                            |             |                                         |
| NOTE                            | • Accessory: Spacer to set the folding radius (5.0 mm, 2.0 mm, 1.0 mm, 0.5 mm, 0.2 mm, 0.1 mm, 0.05 mm: 4 each)                                                                                                                                                                                                                                                                                                                                                                                       |             |                                         |
| 材質 MATERIAL                     | 第3角法 THIRD ANGLE PROJECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 尺 度 SCALE   | TITLE                                   |
| 質量 MASS                         | On the margin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1:3         | Y's Block Endurance Test Machine        |
| 表面処理 SURFACE PROCESSING         | 作成日付 DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 承認 APPROVED | DR11MR-CS-m                             |
| 熱処理 HEAT TREATMENT              | 検 査 CHECKED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 設計 DESIGNED | 称 Tension-Free Folding (Clamshell-type) |
|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             | 図 DWG. No.                              |
|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             | BF0101MR-DR11MR - B                     |
|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             | 番 YUASA SYSTEM Co.,Ltd.   A1            |

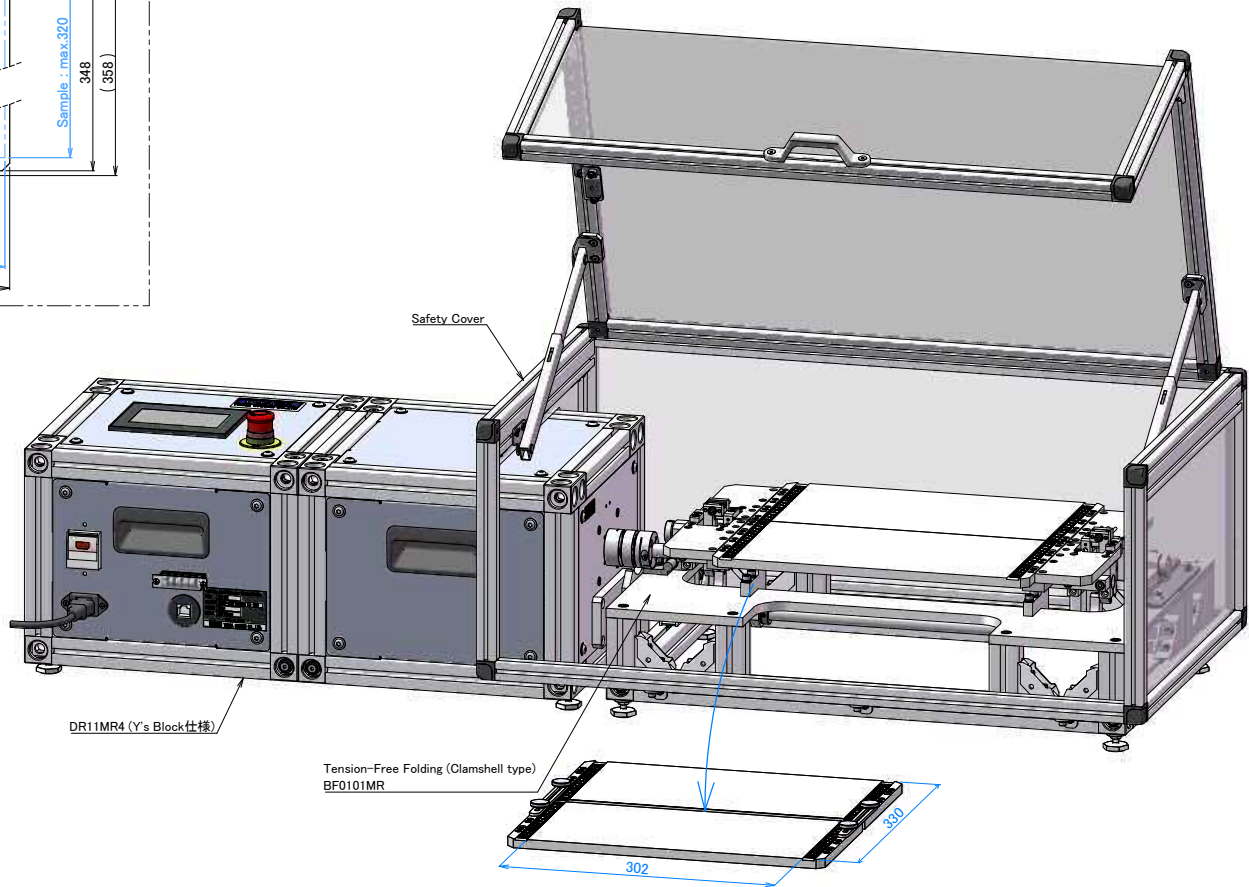
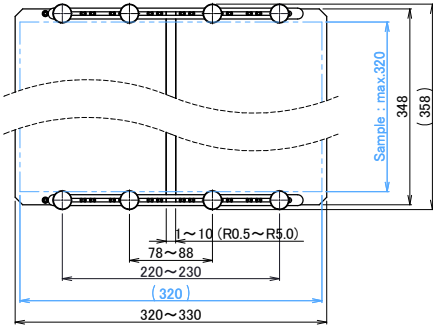


当仕様図は改良のため予告無く変更する場合がありますのでご了承ください。

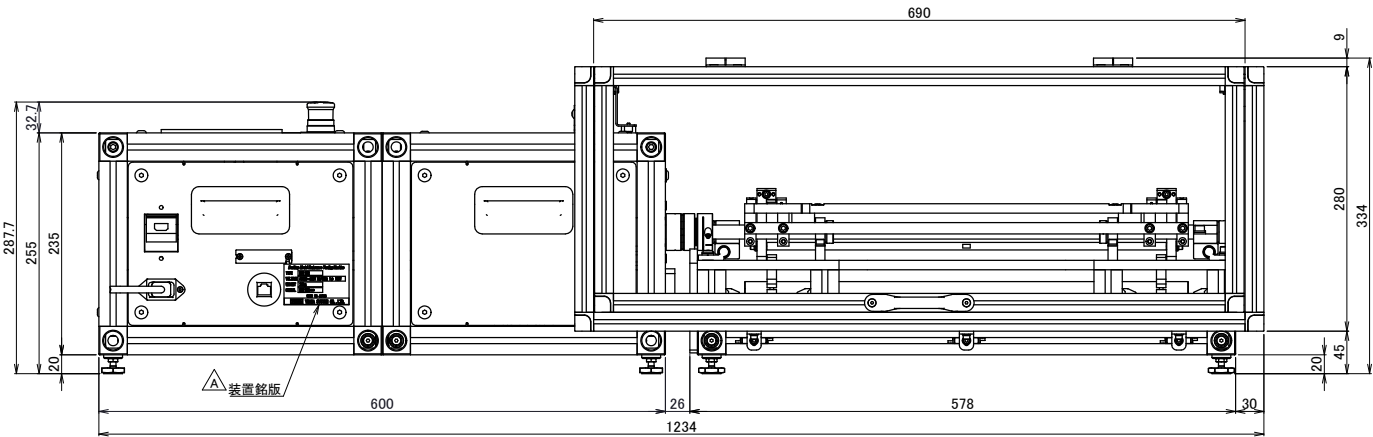
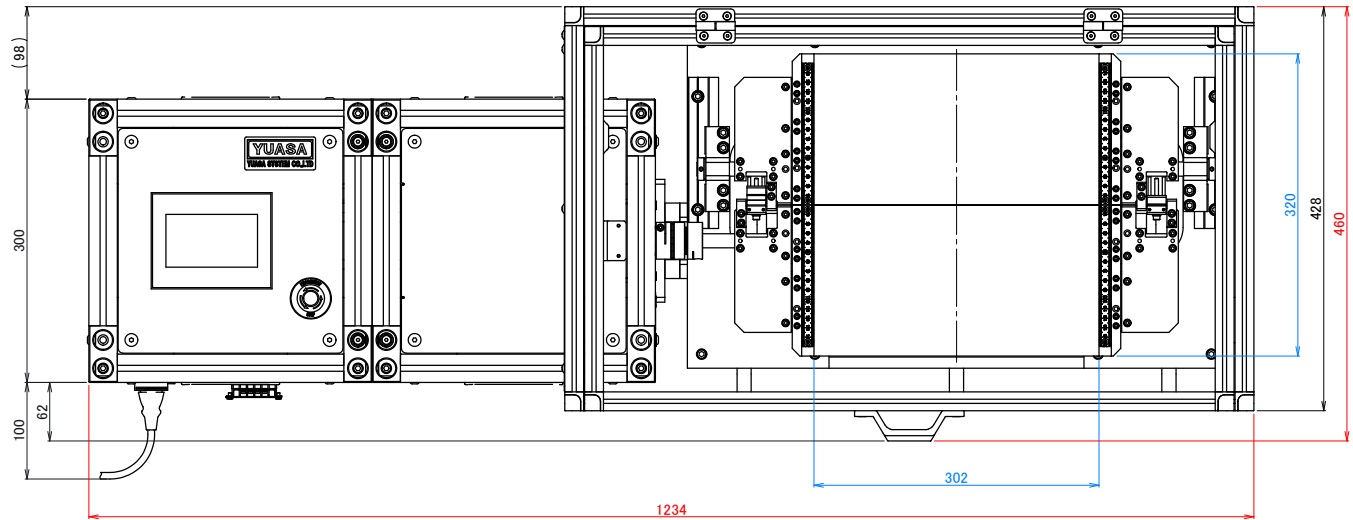
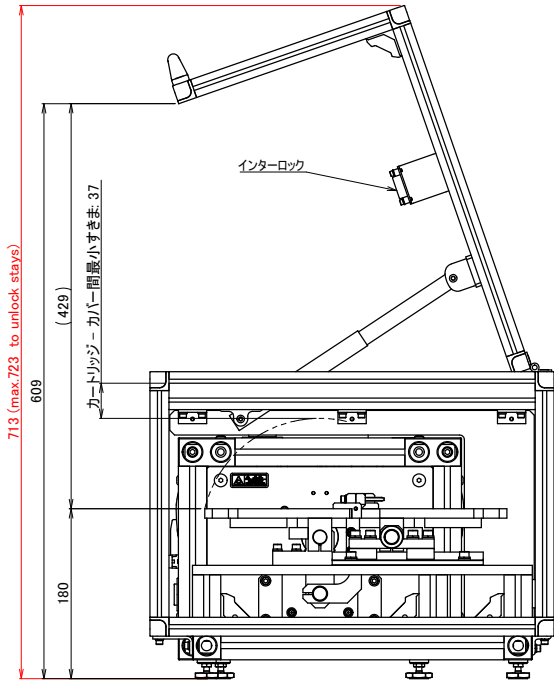
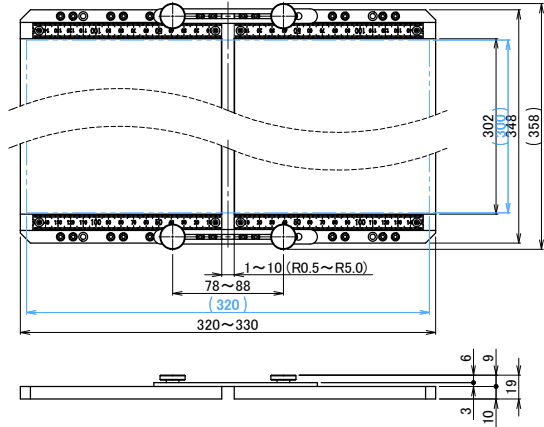
変形プロセス



Optional Cartridge (SCALE 1 : 3)



Cartridge (SCALE 1 : 3)



|                        |         |                                                                       |  |                                       |  |
|------------------------|---------|-----------------------------------------------------------------------|--|---------------------------------------|--|
| 治具概要                   |         | ・『ダブルジョイントクラムシェル構造』で開閉するサンプル保持部によって、サンプルは試験治具から張力を負荷されことなく自然に変形します。   |  |                                       |  |
| 試験仕様                   | 対象サンプル  | ：面状または線状のサンプル                                                         |  |                                       |  |
|                        | サンプル厚   | ：max. 1 mm                                                            |  |                                       |  |
|                        | サンプル幅   | ：max.300 mm                                                           |  |                                       |  |
|                        | サンプル長   | ：min.( $\pi R$ )(把持代) mm (試験条件によって変化します)                              |  |                                       |  |
| 試験仕様                   | 屈曲角度    | ：180°                                                                 |  |                                       |  |
|                        | 屈曲半径    | ：0.5~5.0 mm (*サンプル保持部の面間距離の半分の値)                                      |  |                                       |  |
|                        | 許容トルク   | ：max. 0.7 N・m                                                         |  |                                       |  |
|                        | 屈曲速度    | ：30~360 deg./sec. (約 5~60 reciprocation/min.)                         |  |                                       |  |
| 試験環境                   | 耐久試験機   | ：DR11MR4                                                              |  |                                       |  |
|                        | 動作角度    | ：90 deg.                                                              |  |                                       |  |
| 試験環境                   | 温度      | ：+5~+40℃                                                              |  |                                       |  |
|                        | 湿度      | ：15~ 85%Rh (結露なきこと)                                                   |  |                                       |  |
| 重量                     | 耐久試験機本体 | ：約 23.0 kg                                                            |  |                                       |  |
|                        | 試験治具    | ：約 22.0 kg                                                            |  |                                       |  |
| 重量                     | カートリッジ  | ：約 3.0 kg                                                             |  |                                       |  |
|                        | 安全カバー   | ：約 3.3 kg                                                             |  |                                       |  |
| 備考                     | 付属部品    | ：曲げ半径設定用スペーサ (5.0 mm,2.0 mm,1.0 mm,0.5 mm,0.2 mm,0.1 mm,0.05 mm: 各4枚) |  |                                       |  |
|                        | 材質      | ：第3角法                                                                 |  |                                       |  |
| 質量                     | 質量      | ：On the margin                                                        |  |                                       |  |
|                        | 表面処理    | ：表面処理                                                                 |  |                                       |  |
| 熱処理                    | 熱処理     | ：熱処理                                                                  |  |                                       |  |
|                        | 設計      | ：設計                                                                   |  |                                       |  |
| 第3角法                   |         | 尺 度                                                                   |  | 名 称                                   |  |
| THIRD ANGLE PROJECTION |         | SCALE                                                                 |  | Y's Block Endurance Test Machine      |  |
| 作成日付                   |         | 1:4                                                                   |  | DR11MR4-CS-m                          |  |
| DATE                   |         | Jul. 16, 2020                                                         |  | Tension-Free Folding (Clamshell-type) |  |
| 承認                     |         | Y. Moriya                                                             |  | DWG. No.                              |  |
| A. Murakami            |         | N. Taniguchi                                                          |  | BFO101MR-DR11MR4-A                    |  |
| 図 番                    |         | YUASA SYSTEM Co.,Ltd.   A1                                            |  |                                       |  |

◇標準仕様の構成  
・BFO101MR: Tension-Free Folding (Clamshell-type)  
・DR11MR4 : Driving Unit  
・ET501009A0004: Safety Cover