

**Messrs** : Evonik Degussa Corporation

Aug. 10 2015

Model : **B** F62-317C4BL-0204T181V-AV

Qty : 1

Sign For Receipt  
(For customer)

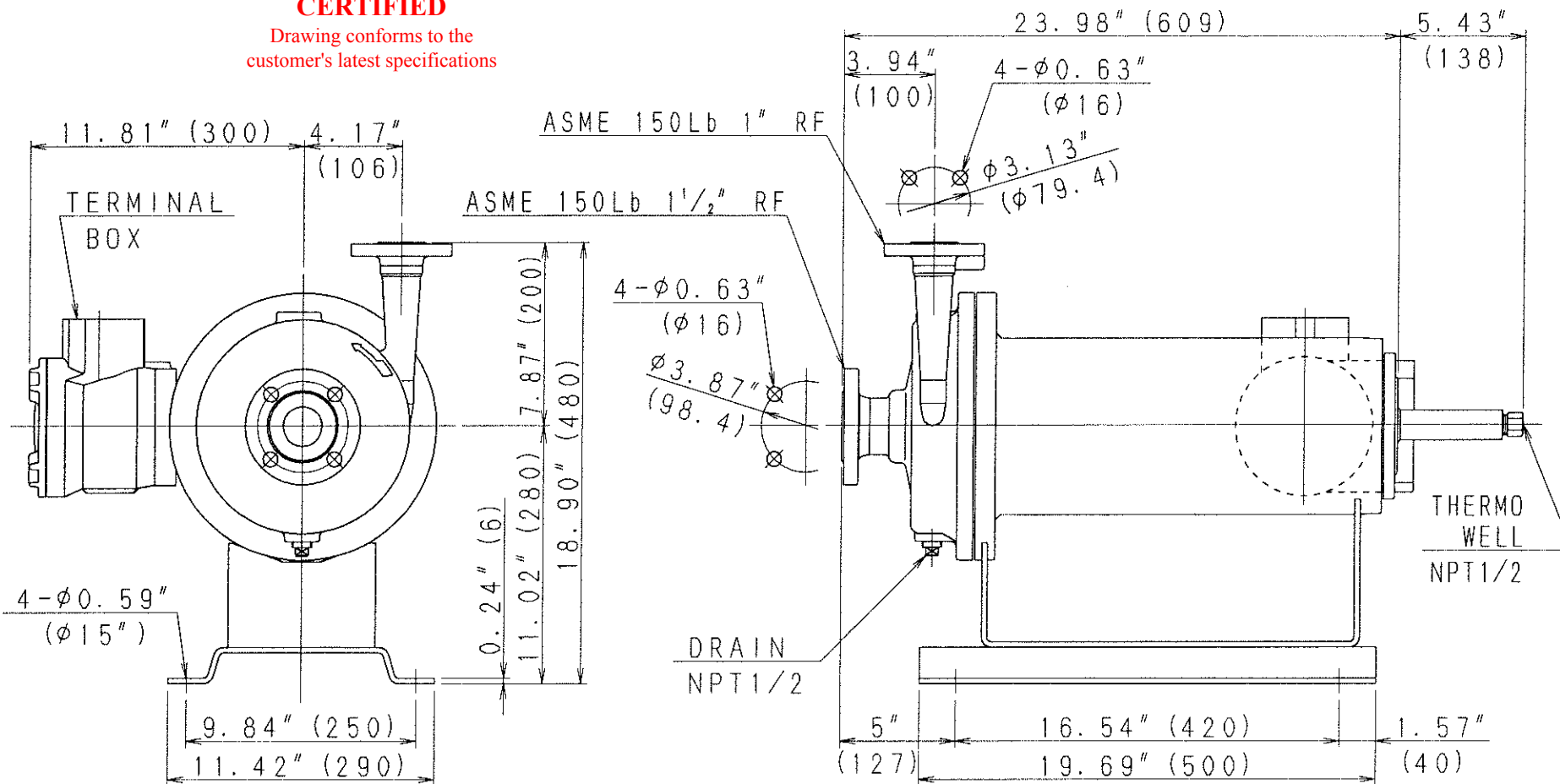
R. Takeuchi | R. Matsumura | M. Morii

**CERTIFIED**  
Drawing conforms to the  
customer's latest specifications

|             |              |             |
|-------------|--------------|-------------|
| Approved by | Checked by   | Designed by |
| R. Takeuchi | R. Matsumura | M. Morii    |

| Operating Conditions                                                                                                                                                                                                                            |                                               |                               |            |                                                                                                                                                                                                                                                         | Materials                       |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--|
| Total Head (m) : 85.4                                                                                                                                                                                                                           |                                               | Capacity (L/min) : 100        |            | Casing                                                                                                                                                                                                                                                  | SCS14(CF-8M 316 SS)             |  |
|                                                                                                                                                                                                                                                 |                                               | (m3/h) : 6                    |            | Impeller                                                                                                                                                                                                                                                | SCS14(CF-8M 316 SS)             |  |
| Suction Press. (barA) : 0.72~4.44                                                                                                                                                                                                               |                                               | Discharge Press. (barA) : --- |            | FBH                                                                                                                                                                                                                                                     | SUS316(316 SS)                  |  |
| NPSHava. (m) : 6                                                                                                                                                                                                                                |                                               | NPSHreq. (m) : 1.8            |            | RBH                                                                                                                                                                                                                                                     | SUS316(316 SS)                  |  |
| Liquid : Acetic Acid                                                                                                                                                                                                                            |                                               |                               |            | Motor Flange                                                                                                                                                                                                                                            | SUS316L(316L SS)                |  |
| Temperature (Des./Nor.) (°C) : 25 / ---                                                                                                                                                                                                         |                                               |                               |            | Stator Can                                                                                                                                                                                                                                              | SUS316L(316L SS)                |  |
| Specific gravity (Des./Nor.) : 1.07 / ---                                                                                                                                                                                                       |                                               |                               |            | Shaft                                                                                                                                                                                                                                                   | SUS316(316 SS)                  |  |
| Viscosity (Des./Nor.) (mPa·s) : 1.1 / ---                                                                                                                                                                                                       |                                               |                               |            | Rotor Can                                                                                                                                                                                                                                               | SUS316L(316L SS)                |  |
| Mechanical Design Temperature (°C) : ---                                                                                                                                                                                                        |                                               |                               |            | Bearing                                                                                                                                                                                                                                                 | Carbon Graphite                 |  |
| Specific Heat (kJ/(kg·K)) : ---                                                                                                                                                                                                                 |                                               | Melting Temp. (°C) : ---      |            | Shaft Sleeve                                                                                                                                                                                                                                            |                                 |  |
| Vapor Press. (BarA) : 0.02                                                                                                                                                                                                                      |                                               |                               |            | + Thrust Collar                                                                                                                                                                                                                                         | SUS316(316 SS)+Stellite         |  |
| Solids Name : ---                                                                                                                                                                                                                               |                                               |                               |            | Pump Gasket                                                                                                                                                                                                                                             | SUS316(316 SS)+Grafoil          |  |
| Concentration (wt%) : ---                                                                                                                                                                                                                       |                                               | Particle Size (μm) : ---      |            | Motor Gasket                                                                                                                                                                                                                                            | SUS316(316 SS)+Grafoil          |  |
| Flushing or Barrier Fluid : ---                                                                                                                                                                                                                 |                                               |                               |            | Other Gasket                                                                                                                                                                                                                                            | ---                             |  |
| Liquid/S.Gr. (mPa·s) : --- /                                                                                                                                                                                                                    |                                               |                               |            | Mechanical Seal                                                                                                                                                                                                                                         | ---                             |  |
| Press. (MPaG) : S.P.+ --- ± ---                                                                                                                                                                                                                 |                                               | Flow (m3/h) : ---             |            |                                                                                                                                                                                                                                                         |                                 |  |
| Pump Design & Construction                                                                                                                                                                                                                      |                                               |                               |            |                                                                                                                                                                                                                                                         | Performance                     |  |
| Design Press (bar) : 14.62                                                                                                                                                                                                                      |                                               | Temp. (°C) : 25               |            | Impeller Type                                                                                                                                                                                                                                           | CLOSE                           |  |
| Code Applied : None                                                                                                                                                                                                                             |                                               | Nameplate : English           |            | No. of Stage                                                                                                                                                                                                                                            | 1                               |  |
| Nozzle Connection : ASME                                                                                                                                                                                                                        |                                               | Finish : SMOOTH FINISH        |            |                                                                                                                                                                                                                                                         |                                 |  |
| Nozzle                                                                                                                                                                                                                                          | Rating                                        | Size                          | Facing     | Position                                                                                                                                                                                                                                                |                                 |  |
| Suction                                                                                                                                                                                                                                         | 150LB                                         | 1-1/2"                        | RF         | END                                                                                                                                                                                                                                                     | Min. Flow (L/min) : ---         |  |
| Discharge                                                                                                                                                                                                                                       | 150LB                                         | 1"                            | RF         | TOP                                                                                                                                                                                                                                                     | Min. Flow (m3/h) : ---          |  |
| Drain                                                                                                                                                                                                                                           | ---                                           | ---                           | ---        | ---                                                                                                                                                                                                                                                     |                                 |  |
| Reverse                                                                                                                                                                                                                                         | ---                                           | ---                           | ---        | ---                                                                                                                                                                                                                                                     |                                 |  |
| Jacket Design Press. (MPa) : ---                                                                                                                                                                                                                |                                               |                               |            |                                                                                                                                                                                                                                                         | Spare Parts                     |  |
| Utilities Required                                                                                                                                                                                                                              | Media                                         | Condition(Max)                | Flow(Min.) | Connection                                                                                                                                                                                                                                              |                                 |  |
| Casing                                                                                                                                                                                                                                          | NONE                                          | ---                           | ---        | ---                                                                                                                                                                                                                                                     |                                 |  |
| Motor                                                                                                                                                                                                                                           | NONE                                          | ---                           | ---        | ---                                                                                                                                                                                                                                                     |                                 |  |
| Heat Ex./Est. Circ.                                                                                                                                                                                                                             | NONE                                          | ---                           | ---        | ---                                                                                                                                                                                                                                                     |                                 |  |
| Motor(Stop)                                                                                                                                                                                                                                     | ---                                           | ---                           | ---        | ---                                                                                                                                                                                                                                                     |                                 |  |
| <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Customer : Evonik Corporation<br/> PO# : 4701013179<br/> Project : ACA G600<br/> Project# : 4142.00940<br/> Evonik's Pump# : P-3321<br/> Requisition# : C0078-010 </div> |                                               |                               |            |                                                                                                                                                                                                                                                         | Accessories                     |  |
|                                                                                                                                                                                                                                                 |                                               |                               |            |                                                                                                                                                                                                                                                         | Foundation Bolt : 1 Set         |  |
| Power Supply & Drive Motor                                                                                                                                                                                                                      |                                               |                               |            |                                                                                                                                                                                                                                                         | Vendor Drawings and Data        |  |
| Frame No. : 317                                                                                                                                                                                                                                 | Duty : Cont                                   |                               |            |                                                                                                                                                                                                                                                         |                                 |  |
| Voltage(V) : 460                                                                                                                                                                                                                                | Frequency(Hz) : 60                            | Phase : 3                     | Pole : 2   | Dimensional Dwg. : 6E-8788                                                                                                                                                                                                                              | Allowable Piping                |  |
| Output (kW/hp) : 9.2/12.34                                                                                                                                                                                                                      | Rated Amp. (A) : 19                           | Start Amp. (A) : 61           |            | Terminal Box : 4N-8988-01                                                                                                                                                                                                                               | Forces and Moments : 4N-6993-01 |  |
| Thermal Class : 220                                                                                                                                                                                                                             | Start Method : DIRECT                         |                               |            | Sectional View Dwg. : 6E-8789                                                                                                                                                                                                                           | Thermowell : 4N-7445            |  |
| R.P.M. (rpm) : 3600                                                                                                                                                                                                                             | Direction : C.C.W. (Viewed from Pump Suction) |                               |            | Material List : P-32929                                                                                                                                                                                                                                 |                                 |  |
| Voltage for protection(V) : 120                                                                                                                                                                                                                 | Protection Device : Thermostat b              |                               |            | Est. Performance Curve : SFH-1382A                                                                                                                                                                                                                      |                                 |  |
| Dry Run Protection Relay : ---                                                                                                                                                                                                                  |                                               |                               |            | Connection Diagram : 4N-8389                                                                                                                                                                                                                            |                                 |  |
| Terminal Box : Stud/Thread/ 1                                                                                                                                                                                                                   |                                               |                               |            | Recommended Spare                                                                                                                                                                                                                                       |                                 |  |
| Power Cable Conduit : NPT1                                                                                                                                                                                                                      | Cable O.D. (Main) (mm) : ---                  |                               |            | Spare Parts List : SB-8710                                                                                                                                                                                                                              |                                 |  |
| Instrument Cable Conduit : NPT3/4                                                                                                                                                                                                               | Cable O.D. (Sub) (mm) : ---                   |                               |            |                                                                                                                                                                                                                                                         |                                 |  |
| ATEX Marking : ---                                                                                                                                                                                                                              |                                               |                               |            | Other                                                                                                                                                                                                                                                   |                                 |  |
|                                                                                                                                                                                                                                                 |                                               |                               |            | Special Treatment : None                                                                                                                                                                                                                                |                                 |  |
|                                                                                                                                                                                                                                                 |                                               |                               |            | Painting Color : Light Gray                                                                                                                                                                                                                             |                                 |  |
|                                                                                                                                                                                                                                                 |                                               |                               |            | Rotating Direction                                                                                                                                                                                                                                      |                                 |  |
|                                                                                                                                                                                                                                                 |                                               |                               |            | Monitoring : None                                                                                                                                                                                                                                       |                                 |  |
|                                                                                                                                                                                                                                                 |                                               |                               |            | Bearing Wear Monitor : Radial / Local                                                                                                                                                                                                                   |                                 |  |
| Remarks :                                                                                                                                                                                                                                       |                                               |                               |            | <div style="border: 1px solid black; padding: 5px;"> REVISIONS<br/> B: Revised 11 points, Added 2 points, Deleted 7 points<br/> (2015.10.29) M. Morii<br/> C: Revised 1 point (2015.11.18) M. Morii<br/> D: Revised 1 point (2015.12.2) M. Morii </div> |                                 |  |
| - T-USA#385330<br>- Hazardous Area Classification : Class.1, Div.2. Gr. C&D T2<br>- Mechanical Design Temperature : 175°C (Pumps do not run at this temperature. Pumps are not expected to function post experience of this temperature.)       |                                               |                               |            |                                                                                                                                                                                                                                                         |                                 |  |

6E-8788

**CERTIFIED**Drawing conforms to the  
customer's latest specifications

FH1381A

WEIGHT: 265Lb (120kg)

Customer : Evonik Corporation  
PO# : 4701013179  
Project : ACA G600  
Project# : 4142.00940  
Evonik's Pump# : P-3321  
Requisition# : C0078-010

APPROVED

*T. Takahashi*

CHECKED

*M. Fujikawa*

DRAWN

M. Morii  
Oct-28-'15

SCALE

FREE

DWG. TITLE 外形図

DIMENSIONAL DRAWING

TYPE: F-310-0204TBI-V

DWG. NO.

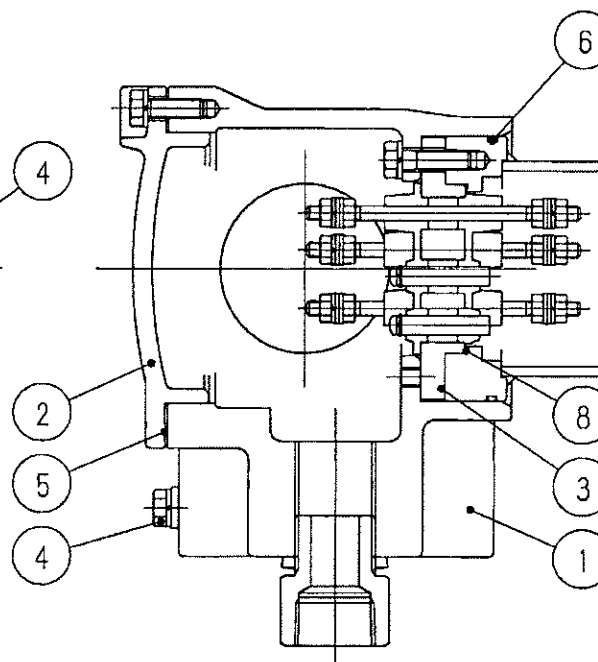
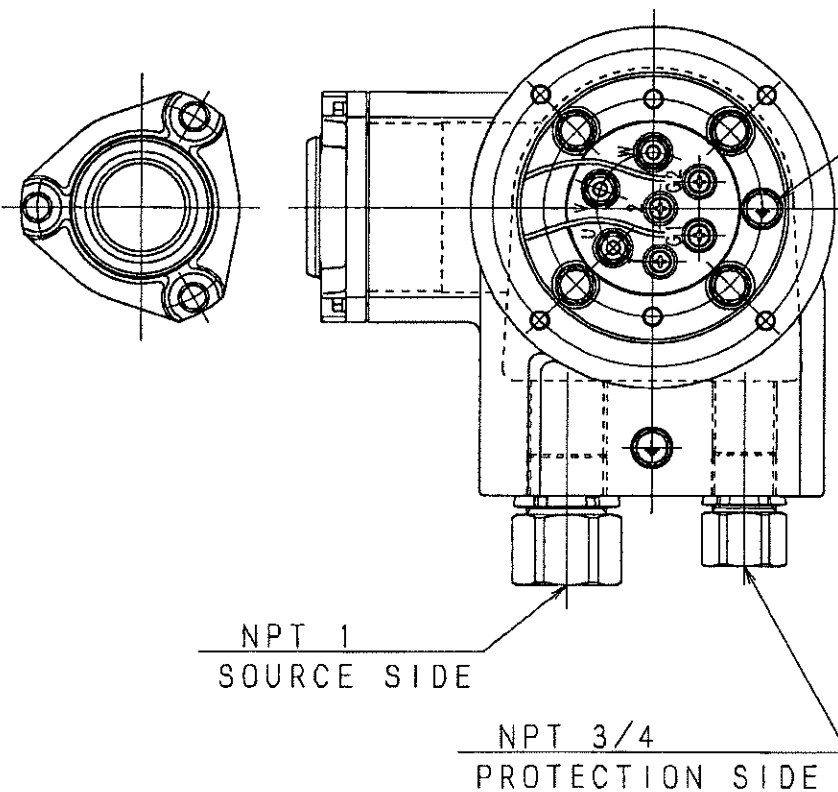
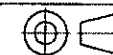


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TEIKOKU ELECTRIC MFG. CO., LTD.

**6E-8788**

4N-8988-01



| No. | NAME           |
|-----|----------------|
| 1   | TERMINAL BOX   |
| 2   | TERMINAL COVER |
| 3   | TERMINAL PLATE |
| 4   | EARTH TERMINAL |
| 5   | GASKET         |
| 6   | O-RING         |
| 7   | TRG METER      |
| 8   | O-RING         |

# TERMINAL MARK

U · V · W ---- SOURCE (M6)

1 · 2 ----- THERMOSTAT (M4)

G1 · G2 ---- TRG METER (M4)

FG2021A

REVISIONS

Customer : Evonik Corporation  
 PO# : 4701013179  
 Project : ACA G600  
 Project# : 4142. 00940  
 Evonik's Pump# : P-3321  
 Requisition# : C0078-010

APPROVED

T. Takeuchi

CHECKED

R. Okamoto

DRAWN

K. Nakazumi

SCALE

FREE

DWG. TITLE

TERMINAL BOX

SIZE : S

Hermetic (Special)

DWG. NO.

4N-8988-01



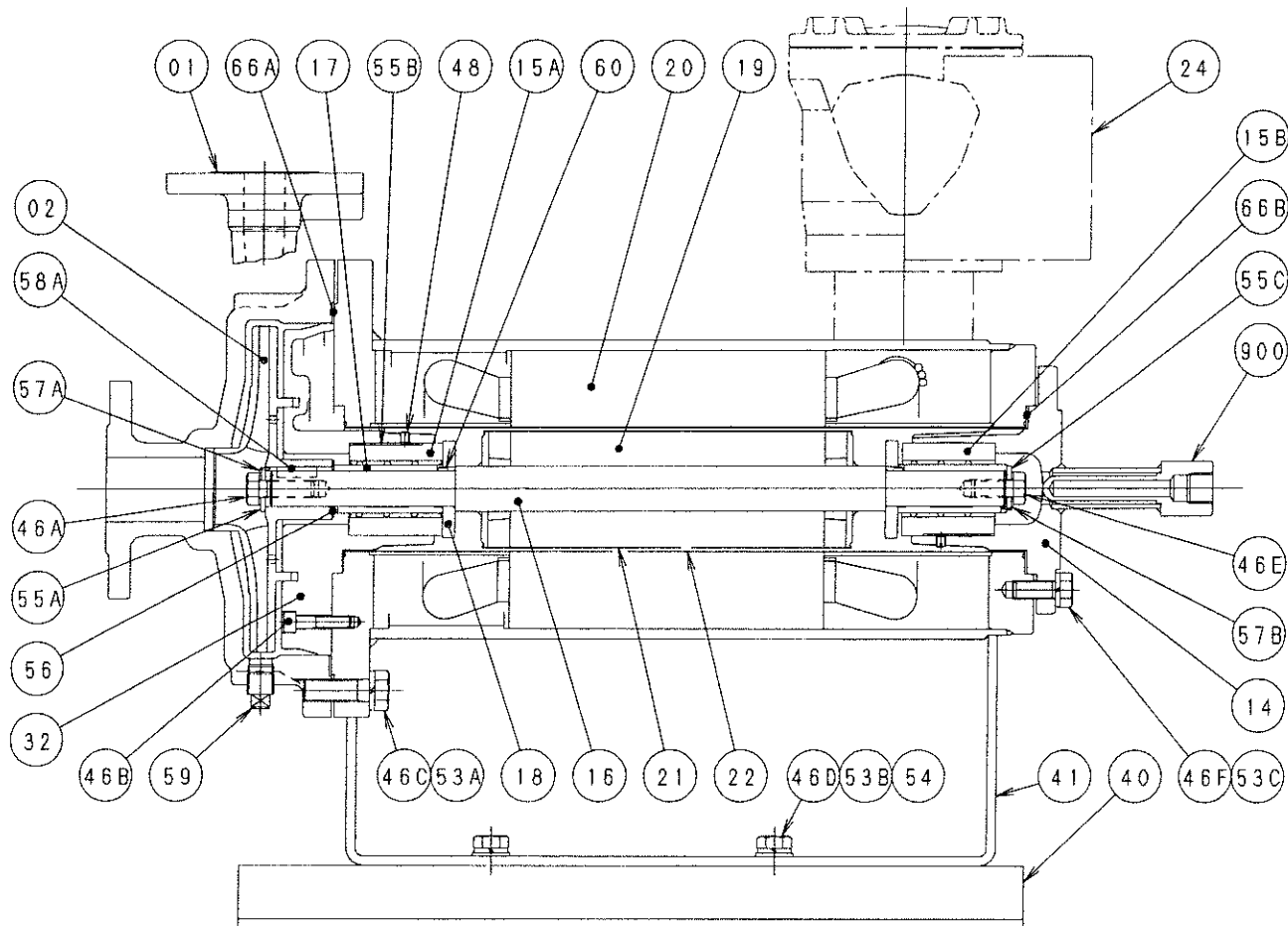
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6E-8789

NOTE

Bearing A...with spiral &amp; straight grooves



| NO. | NAME OF PARTS     | NO. | NAME OF PARTS    |
|-----|-------------------|-----|------------------|
| 01  | CASING            | 48  | SET SCREW        |
| 02  | IMPELLER          |     |                  |
| 14  | R. B. HOUSING     | 53A | SPRING WASHER    |
| 15A | BEARING A         | 53B | SPRING WASHER    |
| 15B | BEARING A         | 53C | SPRING WASHER    |
| 16  | SHAFT             | 54  | PLAIN WASHER     |
| 17  | SHAFT SLEEVE      | 55A | WASHER           |
| 18  | THRUST COLLAR     | 55B | WASHER           |
| 19  | ROTOR ASSY        | 55C | WASHER           |
| 20  | STATOR ASSY       | 56  | ADJUSTING WASHER |
| 21  | ROTOR CAN         | 57A | LOCK WASHER      |
| 22  | STATOR CAN        | 57B | LOCK WASHER      |
| 24  | TERMINAL BOX ASSY | 58A | KEY              |
|     |                   |     |                  |
| 32  | F. B. HOUSING     | 59  | PLUG             |
|     |                   |     |                  |
| 40  | BASE              | 60  | PIN              |
| 41  | HOLDER            |     |                  |
| 46A | BOLT              | 66A | GASKET           |
| 46B | BOLT              | 66B | GASKET           |
| 46C | BOLT              |     |                  |
| 46D | BOLT              | 900 | THERMOWELL       |
| 46E | BOLT              |     |                  |
| 46F | BOLT              |     |                  |

FH1381A

Customer : Evonik Corporation  
PO# : 4701013179  
Project : ACA G600  
Project# : 4142. 00940  
Evonik's Pump# : P-3321  
Requisition# : C0078-010

APPROVED

CHECKED

DRAWN

SCALE

DWG. TITLE 構造断面図

M. Morii  
Oct. 28 '15

FREE

SECTIONAL VIEW DRAWING

TYPE: F-B

DWG. NO.



株式会社 帝国電機製作所

TEIKOKU ELECTRIC MFG. CO., LTD.

6E-8789

(1/1)

FH1375A



# ESTIMATED PERFORMANCE CURVE

Date : Aug. 06. 2015  
No : E18H0028-00  
Dwg. No. : SFH-1382A

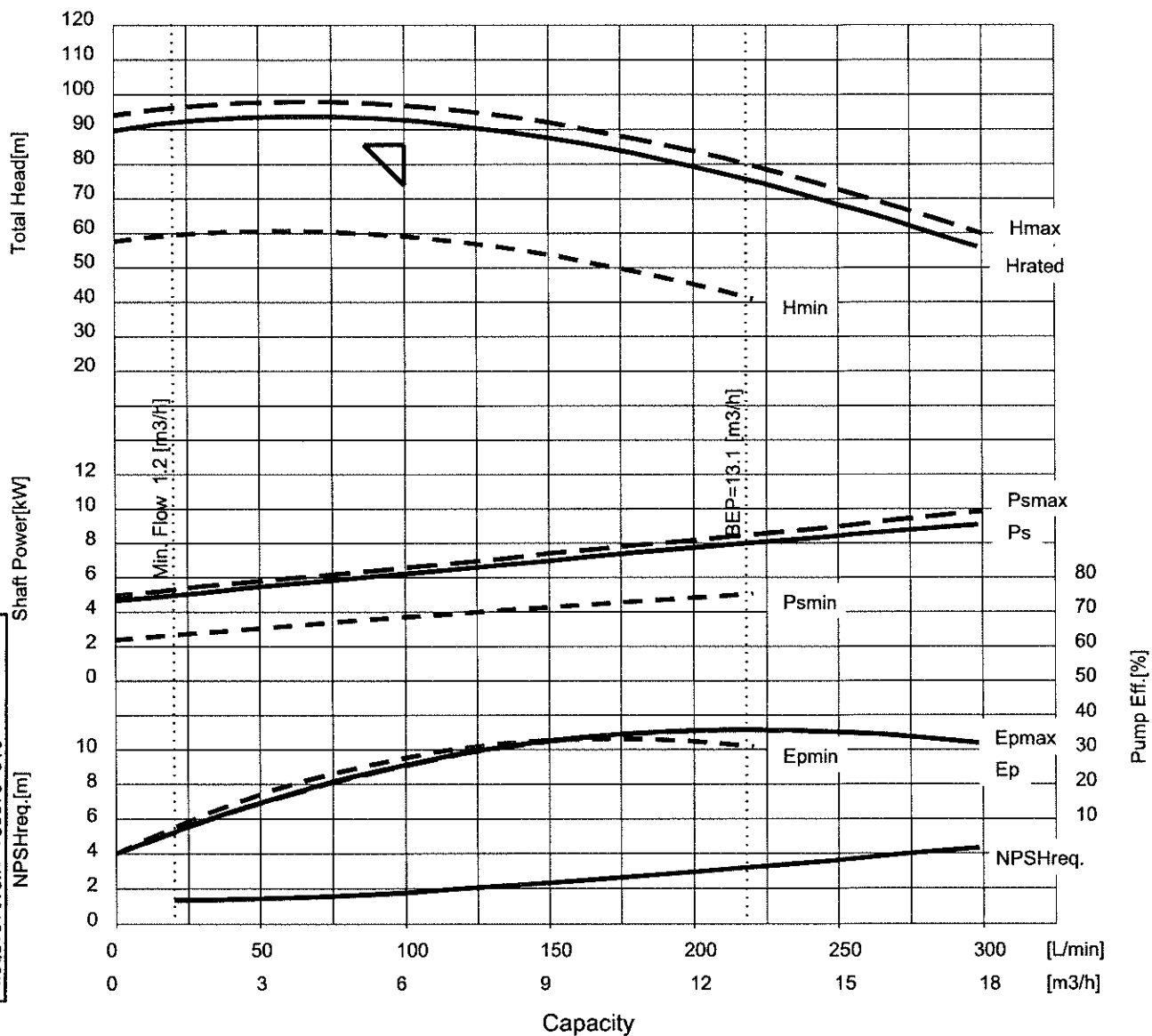
Item No. P-3321

Item Name \*\*\*\*\*

Model **F62-317C4BL-0204T1B1V-AV**

Frequency 60 Hz  
Voltage 460 V  
Phase 3  
Pole 2  
Output 9.2 kW  
Current 19 A

Total Head 85.4 m  
Capacity 100 L/min 6 m<sup>3</sup>/h  
Min.Flow 20 L/min 1.2 m<sup>3</sup>/h  
Liquid Acetic Acid  
Temp. 25 degC  
S.G. 1.07  
NPSHavail. 6 m  
Vis. 1.1 mPas  
NPSHreq. 1.8 m



## Remarks :

- Shut-off head : 89.6m
- 92.5m, 25.9%, 6.23kW, 3454rpm @ rated flow
- 17.91m<sup>3</sup>/hr, 9.1kW @ EOC
- 9.868kW @ EOC (max. dia.)
- Ns : 7.659, SSS : 5249
- Impeller Dia(mm):208(Max)/203(Rated)/166(Min)
- Output:12.34(hp)

|      |            |                          |
|------|------------|--------------------------|
| B    | 2015.10.29 | Revised 1 Point. M.Morii |
| REV. | Date       | Description              |

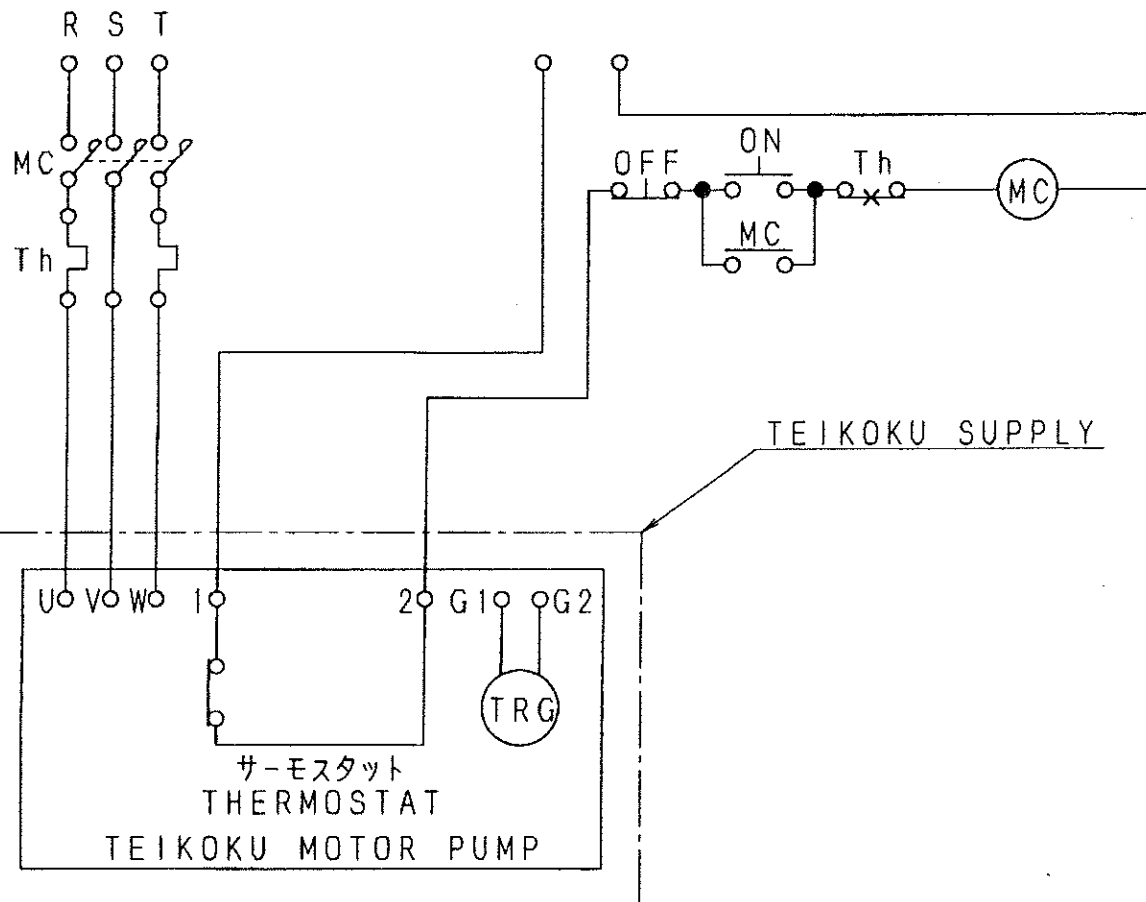
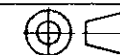
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|-------------|-------------|----------|
| APPROVED BY | CHECKED BY  | DRAWN BY |
| R.Takeuchi  | R.Matsumura | M.Morii  |

TEIKOKU ELECTRIC MFG. CO., LTD.

UNIS Version 3.0.2

NDTS11\_15

4N-8389



| THERMOSTAT                 |                                          |
|----------------------------|------------------------------------------|
| Canned Motor THERMAL CLASS | 220                                      |
| RATING                     | 374°F-CUT OFF                            |
| b-CONTACTOR                | AC250V-2.5A<br>AC110V-3.0A<br>DC24V-3.0A |

| SYMBOLS | NAME                    |
|---------|-------------------------|
| R S T   | POWER TERMINAL          |
| U V W   | TMP TERMINAL            |
| MC      | MAGNETIC CONTACTOR      |
| ON·OFF  | PUSH BUTTON SWITCH      |
| Th      | THERMAL RELAY           |
| TRG     | TEIKOKU ROTARY GUARDIAN |

FE1968A

Customer :Evonik Corporation  
PO# :4701013179  
Project :ACA G600  
Project# :4142.00940  
Evonik's Pump# :P-3321  
Requisition# :C0078-010

APPROVED

*T. Tabuchi*

CHECKED

*R. Matsumura*

DRAWN

N. Kaiami  
Feb. 21 '13

SCALE

FREE

DWG. TITLE

結線図

CONNECTION DIAGRAM  
S (374°F)

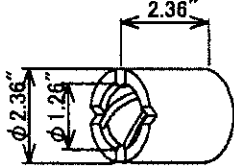
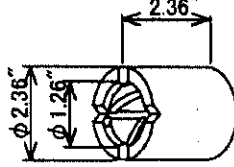
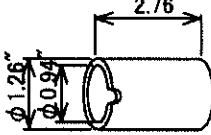
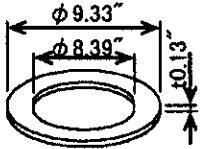
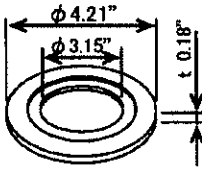
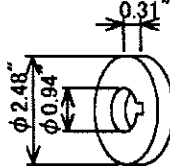
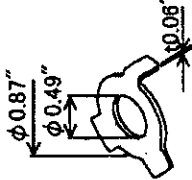
DWG. NO.

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4N-8389

FH1382A

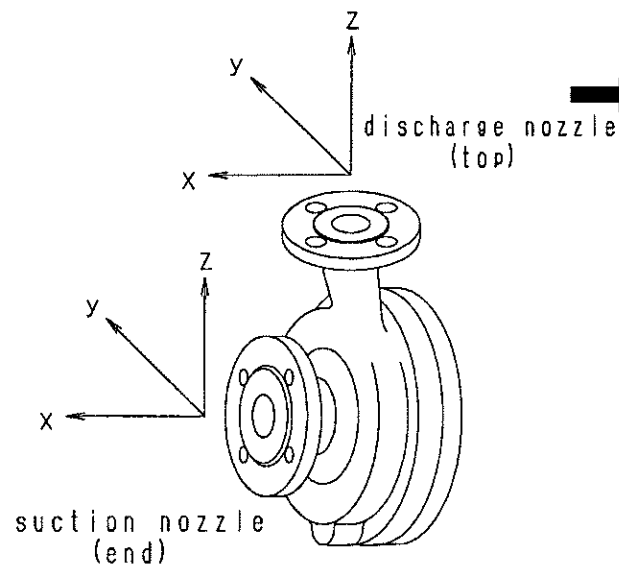
## RECOMMENDED SPARE PARTS LIST

| TYPE        |                                                                                                                                            |                                                                                     |                                     | SB-8710          |                                                                | 1<br>1 |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------|------------------|----------------------------------------------------------------|--------|
| R,F-V 310-T |                                                                                                                                            |                                                                                     |                                     |                  |                                                                |        |
| No.         | PARTS NAME                                                                                                                                 | DIMENSION                                                                           | MATERIAL                            | FOR 1SETS        | REMARKS                                                        |        |
| 1           | BEARING B                                                                                                                                  |    | Carbon Graphite                     | 1                | #15A<br>60 x 32 x 60 (mm)<br>ID No.<br>4D1793-01-6430-K        |        |
| 2           | BEARING A<br>(with spiral & straight grooves)                                                                                              |    | Carbon Graphite                     | 1                | #15B<br>60 x 32 x 60 (mm)<br>ID No.<br>4D1798-01-6430-K        |        |
| 3           | SHAFT SLEEVE                                                                                                                               |    | 316 SS<br>(SUS316)<br>+<br>Stellite | 2                | #17<br>32 x 24 x 70 (mm)<br>ID No.<br>4C1078-01-6200           |        |
| 4           | GASKET                                                                                                                                     |   | 316 SS<br>(SUS316)<br>+<br>Grafoil  | 1                | #66A<br>237 x 213 x 3.2 (mm)<br>ID No.<br>4H1627-04-9850       |        |
| 5           | GASKET                                                                                                                                     |  | 316 SS<br>(SUS316)<br>+<br>Grafoil  | 1                | #66B<br>107 x 80 x 4.5 (mm)<br>ID No.<br>4H1670-02-9860        |        |
| 6           | THRUST COLLAR                                                                                                                              |  | 316 SS<br>(SUS316)<br>+<br>Stellite | 2                | #18<br>63 x 24 x 8 (mm)<br>ID No.<br>4C1075-01-6200            |        |
| 7           | LOCK WASHER                                                                                                                                |  | 316L SS<br>(SUS316L)                | 2                | #57A, #57B<br>22 x 12.5 x 1.5 (mm)<br>ID No.<br>4Q5177-01-0430 |        |
| REV.        |  株式会社 帝国電機製作所<br><b>TEIKOKU</b> ELECTRIC MFG. CO., LTD. |                                                                                     | APPROVED                            | CHECKED          | DRAWN                                                          |        |
|             |                                                                                                                                            |                                                                                     | <i>R. dds</i>                       | <i>R. Takami</i> | A. Kambayashi<br>Mar. 11, '10                                  |        |

F81219

|                |                      |
|----------------|----------------------|
| Customer       | : Evonik Corporation |
| PO#            | : 4701013179         |
| Project        | : ACA G600           |
| Project#       | : 4142. 00940        |
| Evonik's Pump# | : P-3321             |
| Requisition#   | : C0078-010          |

4N-6993-01

CASING

| #No | PUMP TYPE | Fsx  | Fsy  | Fsz  | Fdx  | Fdy  | Fdz  | Msx  | Msy  | MsZ  | Mdx  | Mdy  | Mdz  |
|-----|-----------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1   | 0204      | 670  | 530  | 430  | 360  | 290  | 450  | 350  | 170  | 260  | 230  | 120  | 180  |
| 2   | 0405      | 890  | 710  | 580  | 530  | 430  | 670  | 460  | 230  | 350  | 350  | 170  | 260  |
| 3   | 0506      | 1110 | 890  | 730  | 710  | 580  | 890  | 710  | 350  | 540  | 460  | 230  | 350  |
| 4   | 0608      | 1330 | 1070 | 890  | 890  | 730  | 1110 | 950  | 470  | 720  | 710  | 350  | 540  |
| 5   | 0810      | 1780 | 1420 | 1160 | 1070 | 890  | 1330 | 1330 | 680  | 1000 | 950  | 470  | 720  |
| 6   | 1012      | 2450 | 1960 | 1600 | 1420 | 1160 | 1780 | 1820 | 930  | 1380 | 1330 | 680  | 1000 |
| 7   | 1215      | 3110 | 2490 | 2050 | 1960 | 1600 | 2450 | 2300 | 1180 | 1760 | 1820 | 930  | 1380 |
| 8   | 1520      | 4890 | 3780 | 3110 | 2490 | 2050 | 3110 | 3530 | 1760 | 2580 | 2300 | 1180 | 1760 |
| 9   | 2025      | 6670 | 5340 | 4450 | 3780 | 3110 | 4890 | 5020 | 2440 | 3800 | 3530 | 1760 | 2580 |
| 10  | 1015      | 3110 | 2490 | 2050 | 1420 | 1160 | 1780 | 2300 | 1180 | 1760 | 1330 | 680  | 1000 |
| 11  | 0408      | 1330 | 1070 | 890  | 530  | 430  | 670  | 950  | 470  | 720  | 350  | 170  | 260  |
| 12  | 0508      | 1330 | 1070 | 890  | 710  | 580  | 890  | 950  | 470  | 720  | 460  | 230  | 350  |
| 13  | 1515      | 3110 | 2490 | 2050 | 2490 | 2050 | 3110 | 2300 | 1180 | 1760 | 2300 | 1180 | 1760 |
| 14  | 1010      | 1780 | 1420 | 1160 | 1420 | 1160 | 1780 | 1330 | 680  | 1000 | 1330 | 680  | 1000 |
| 15  | 1212      | 2450 | 1960 | 1600 | 1960 | 1600 | 2450 | 1820 | 930  | 1380 | 1820 | 930  | 1380 |

Customer :Evonik Corporation  
PO# :4701013179  
Project :ACA G600  
Project# :4142.00940  
Evonik's Pump# :P-3321  
Requisition# :C0078-010

NOTE : F = force (N) M = moment (N-m)

S = suction nozzle

d = discharge nozzle

See the figure for orientation of nozzle loads (x, y, z)

DQ1377

REVISIONS

B

Rewritten  
Aug. 7'08  
K. Nakazumi

C

Revised  
API610 8th  
Edition to API610  
10th Edition.  
Sep. 3'08  
Y. Shimizu

D

#11~#13  
Added  
Sep. 2'13  
K. Nakazumi

E

#14, #15 Added  
Mar. 20'15  
K. Nakazumi

APPROVED

CHECKED

DRAWN

SCALE

T. Takeuchi

S. Kimura

Y. Shimizu  
Apr. 11'08

FREE

DWG. TITLE

許容配管荷重

ALLOWABLE PIPING FORCES AND MOMENTS

SI Units

API610 (10th)

DWG. NO.



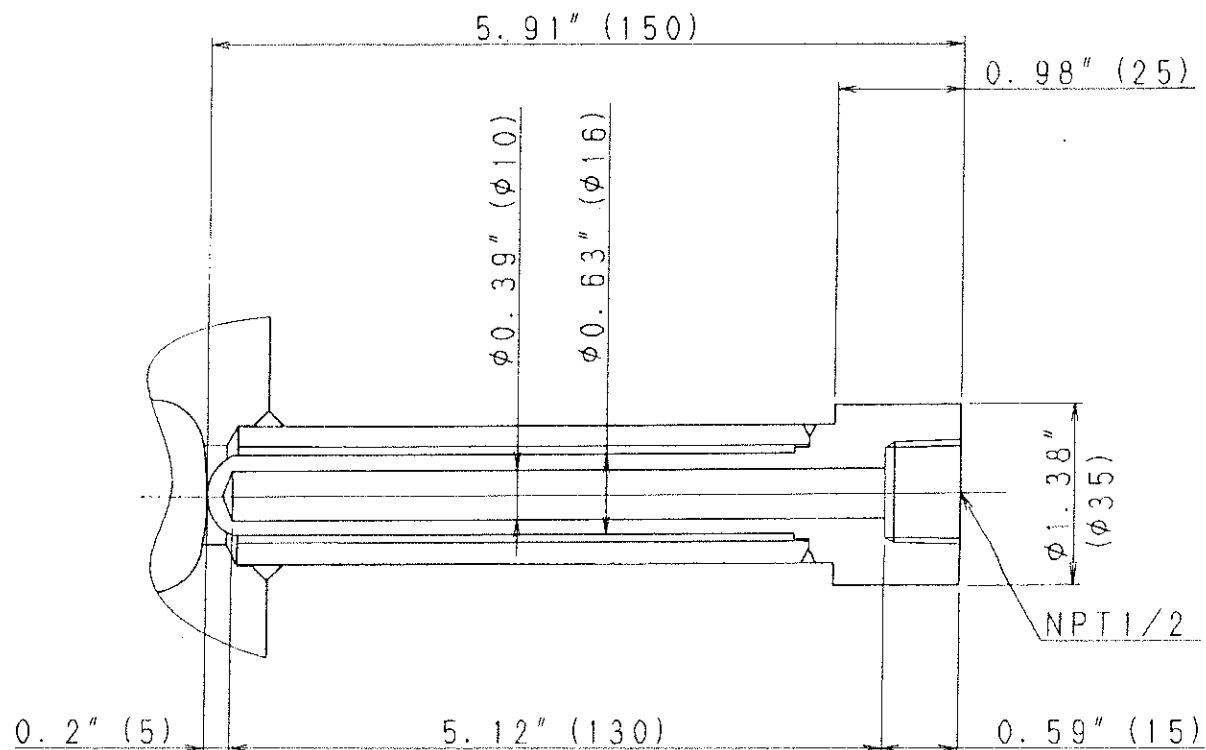
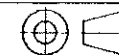
株式会社 帝国電機製作所

TEIKOKU ELECTRIC MFG. CO., LTD.

4N-6993-01

E

4N-7445



FB1809A  
FB1810A

REVISIONS

Customer :Evonik Corporation  
PO# :4701013179  
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Project# :4142.00940  
Evonik's Pump# :P-3321  
Requisition# :C0078-010

APPROVED

CHECKED

DRAWN

SCALE

DWG. TITLE

*S. Takahata* *S. Takahata*

K. Yamamoto  
Apr. 22 '10

FREE

THERMOWELL



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DWG. NO.

4N-7445