

| REVISION |          |   |            |             |
|----------|----------|---|------------|-------------|
| REV. NO. | DATE     | REVISED DESCRIPTION   | REVISED    | APPD.       |
| △        | 9.28.12  | Material of PLUG, PANEL NUT, and SET SCREW is written together. | M.Matsuoka | Y.Shimomura |
| △        | 12.26.12 | Full review.  | M.Matsuoka | M.Segawa    |

| REMARK   |                           |                                |      |              |
|----------|---------------------------|--------------------------------|------|--------------|
| PART.NO. | NAME OF PARTS             | MATERIAL                       | Q'TY | REMARK       |
| 20       | SET SCREW                 | S17400 or SUS630               | 1    |              |
| 19       | HANDLE                    | PHENOLIC RESIN + C3604B        | 1    |              |
| 18       | STOP PIN                  | SUS304                         | 2    | EQUIVALENT   |
| 17       | PANEL NUT                 | ASTM A276 304 or ASTM A276 316 | 1    |              |
| 16       | END SCREWS                | ASTM A479 316                  | 2    |              |
| 15       | END SCREW SEALS           | PTFE                           | 2    |              |
| 14       | SEAT CARRIER O-RINGS      | FKM                            | 2    |              |
| 13       | SEAT CARRIER BACKUP RINGS | C-PTFE                         | 4    |              |
| 12       | SEAT CARRIER GUIDES       | ASTM A276 316                  | 2    |              |
| 11       | DISC SPRINGS              | ALLOY X-750                    | 12   |              |
| 10       | SEAT CARRIERS             | ASTM A276 316                  | 2    |              |
| 9        | SEATS                     | PEEK                           | 2    |              |
| 8        | PLUG                      | ASTM A479 316 or ASTM A276 316 | 1    |              |
| 7        | STEM BACKUP RINGS 2       | PTFE                           | 2    |              |
| 6        | STEM BACKUP RING 1        | PEEK                           | 1    |              |
| 5        | STEM O-RING               | FKM                            | 1    |              |
| 4        | STEM BEARING              | PEEK                           | 1    |              |
| 3        | STEM                      | ASTM A276 316                  | 1    |              |
| 2        | BALL                      | ASTM A276 316                  | 1    | PTFE COATING |
| 1        | BODY                      | ASTM A479 316                  | 1    |              |

| MATERIAL LIST |                   |                 |       |       |
|---------------|-------------------|-----------------|-------|-------|
| DATE          | 9.14.11           | TEST PRESS. MPa |       |       |
| SCALE         | FREE              | ITEM            | FLUID | HYDRO |
| APPD.         | <i>M.Segawa</i>   | SHELL           |       | 104   |
| CHKD.         | <i>M.Segawa</i>   | SEAT            |       | 75.8  |
| DESIGN        | <i>M.Matsuoka</i> | BACKSEAT        |       |       |
|               |                   | SEAL            |       | 75.8  |

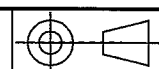
|                         |  |
|-------------------------|--|
| RECIPIENT               |  |
| MODEL NO.               | VUBV-168PBN                                      |
| TRADEMARK OR MODEL NAME |  |
| NAME                    | STAINLESS STEEL SCREWED TYPE TRUNNION BALL VALVE |
| DRG NO.                 | U241140E   |
| REV.MARK                | △ 2  |

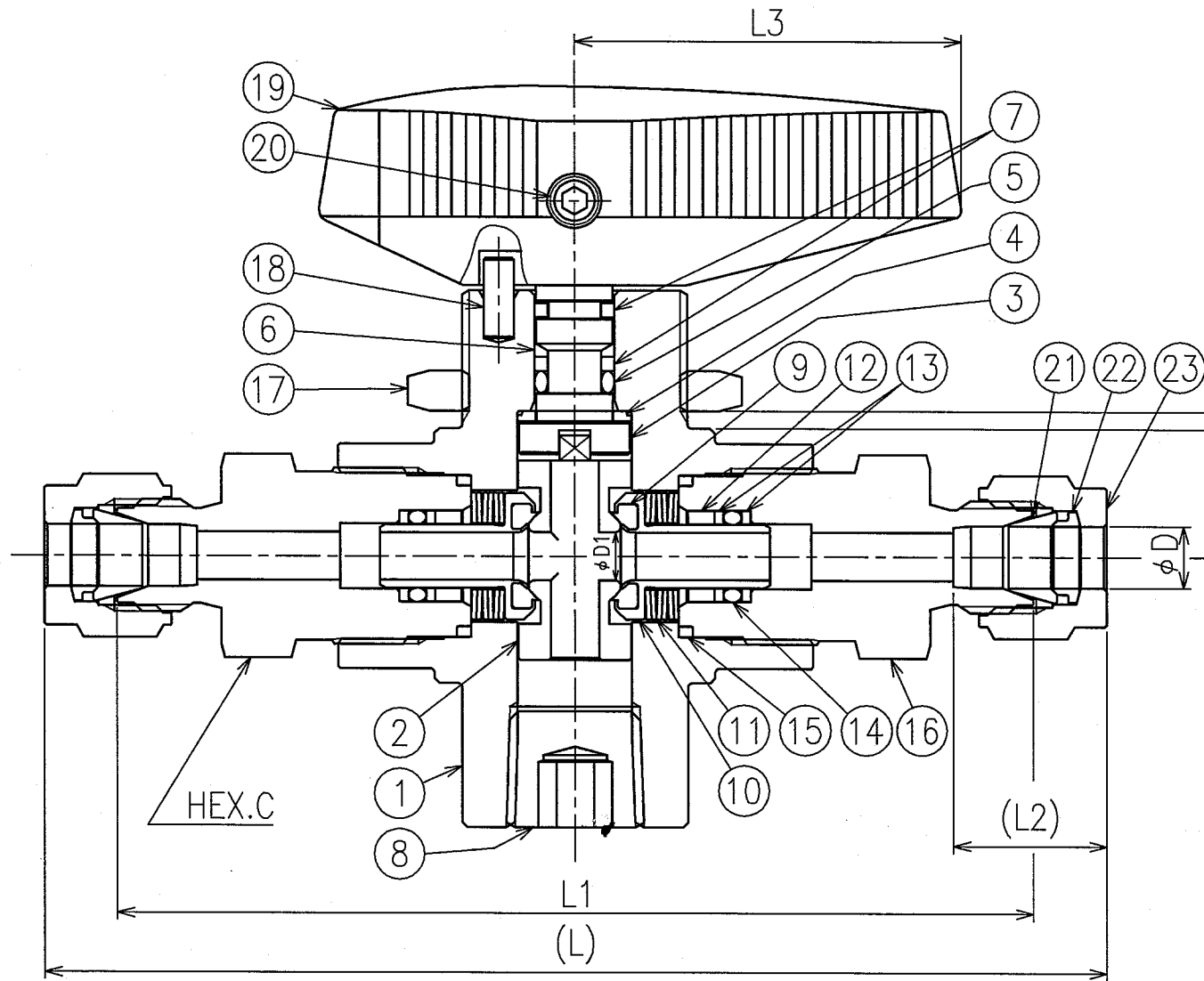
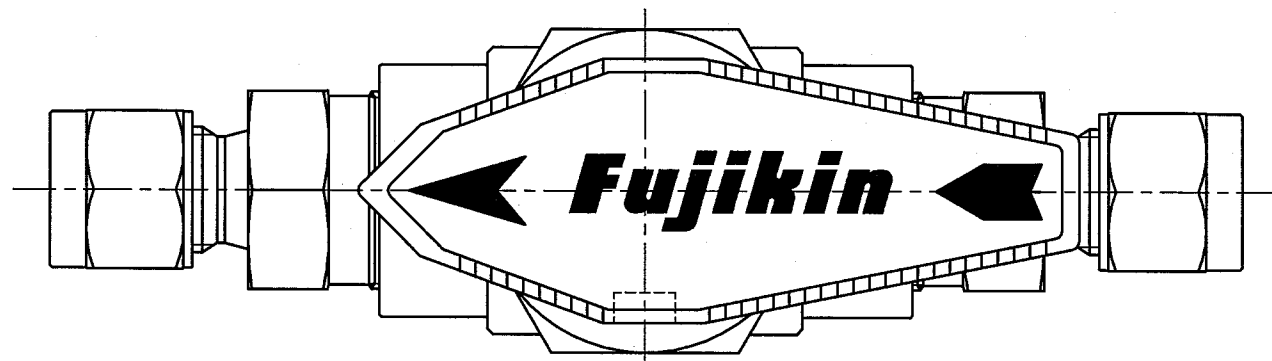
**Fujikin Incorporated**  
株式会社 フジキン

acad060/VUBV      CAB. NO.

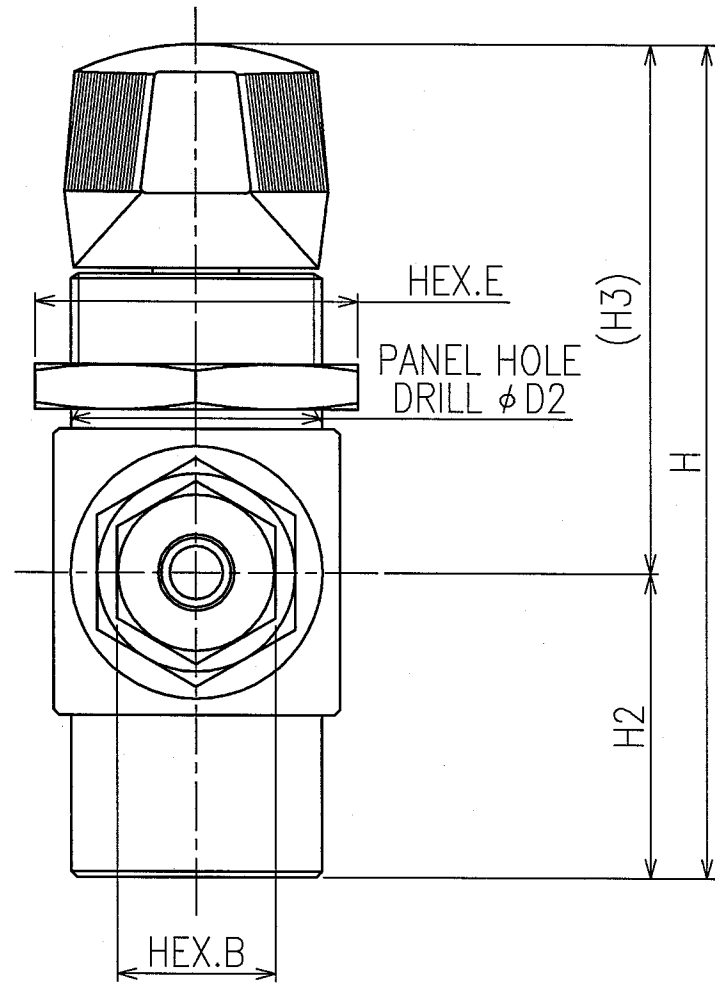
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|--------|----------------|------------------|------|------|------|------|------|------|-------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|
| CAREER | CONTRAST TABLE | NOMINAL SIZE (A) | 6    | 8    | 10   | 15   | 20   | 25   | 32    | 40    | 50   | 65    | 80   | 90    | 100   | 125   | 150   | 200   | 250   |
|        |                | NOMINAL SIZE (B) | 1/8  | 1/4  | 3/8  | 1/2  | 3/4  | 1    | 1 1/4 | 1 1/2 | 2    | 2 1/2 | 3    | 3 1/2 | 4     | 5     | 6     | 8     | 10    |
|        |                | OUTSIDE DIAMETER | 10.5 | 13.8 | 17.3 | 21.7 | 27.2 | 34.0 | 42.7  | 48.6  | 60.5 | 76.3  | 89.1 | 101.6 | 114.3 | 139.8 | 165.2 | 216.3 | 267.4 |

UNIT(mm) THE THIRD ANGLE





| NOMINAL DIA. D | DESIGN PRESS. (MPa) | TEST PRESS. (MPa)  |                             |                             |
|----------------|---------------------|--------------------|-----------------------------|-----------------------------|
|                |                     | FLUID: HYDRO SHELL | FLUID: GN <sub>2</sub> SEAT | FLUID: GN <sub>2</sub> SEAL |
| 6              | 68.9                | 104                | 75.8                        | 75.8                        |
| 8              | 51.6                | 77.4               | 56.8                        | 56.8                        |
| 10             | 57.8                | 86.7               | 63.6                        | 63.6                        |
| 12             | 45.4                | 68.1               | 50.0                        | 50.0                        |



| REV. NO. | DATE     | REVISED DESCRIPTION   | REVISED    | APPD.       |
|----------|----------|---|------------|-------------|
| 20       | 10.24.11 | φ8 to φ12 is added.   | M.Matsuoka | Y.Shimomura |
| 21       | 9.28.12  | Material of PLUG, PANEL NUT, and SET SCREW is written together. | M.Matsuoka | Y.Shimomura |
| 22       | 12.26.12 | Full review.  | M.Matsuoka | Y.Shimomura |

| REVISION |          |   |            |             |
|----------|----------|---|------------|-------------|
| REV. NO. | DATE     | REVISED DESCRIPTION   | REVISED    | APPD.       |
| 20       | 10.24.11 | φ8 to φ12 is added.   | M.Matsuoka | Y.Shimomura |
| 21       | 9.28.12  | Material of PLUG, PANEL NUT, and SET SCREW is written together. | M.Matsuoka | Y.Shimomura |
| 22       | 12.26.12 | Full review.  | M.Matsuoka | Y.Shimomura |

| PART. NO. | NAME OF PARTS             | MATERIAL                       | Q'TY | REMARK       |
|-----------|---------------------------|--------------------------------|------|--------------|
| 19        | HANDLE                    | PHENOLIC RESIN + C3604B        | 1    |              |
| 18        | STOP PIN                  | SUS304                         | 2    | EQUIVALENT   |
| 17        | PANEL NUT                 | ASTM A276 304 or ASTM A276 316 | 1    |              |
| 16        | END SCREWS                | ASTM A479 316                  | 2    |              |
| 15        | END SCREW SEALS           | PTFE                           | 2    |              |
| 14        | SEAT CARRIER O-RINGS      | FKM                            | 2    |              |
| 13        | SEAT CARRIER BACKUP RINGS | C-PTFE                         | 4    |              |
| 12        | SEAT CARRIER GUIDES       | ASTM A276 316                  | 2    |              |
| 11        | DISC SPRINGS              | ALLOY X-750                    | 12   |              |
| 10        | SEAT CARRIERS             | ASTM A276 316                  | 2    |              |
| 9         | SEATS                     | PEEK                           | 2    |              |
| 8         | PLUG                      | ASTM A479 316 or ASTM A276 316 | 1    |              |
| 7         | STEM BACKUP RINGS 2       | PTFE                           | 2    |              |
| 6         | STEM BACKUP RING 1        | PEEK                           | 1    |              |
| 5         | STEM O-RING               | FKM                            | 1    |              |
| 4         | STEM BEARING              | PEEK                           | 1    |              |
| 3         | STEM                      | ASTM A276 316                  | 1    |              |
| 2         | BALL                      | ASTM A276 316                  | 1    | PTFE COATING |
| 1         | BODY                      | ASTM A479 316                  | 1    |              |

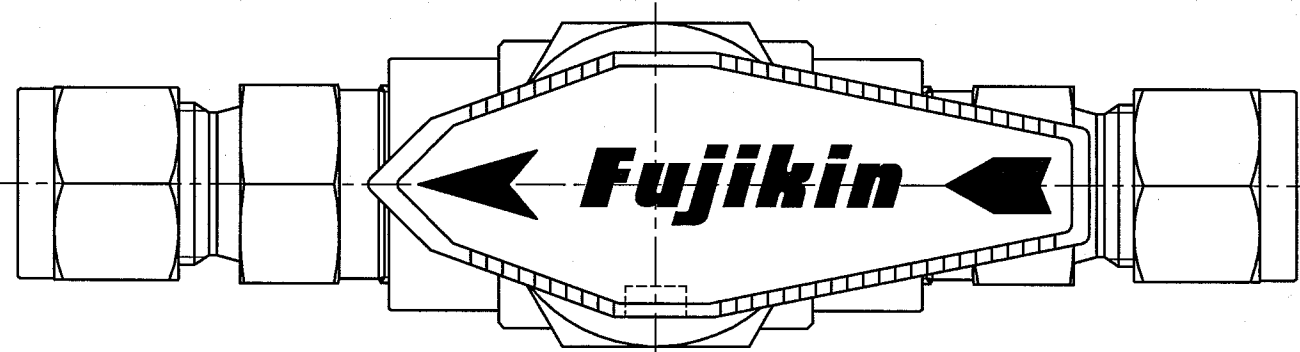
| MATERIAL LIST |                    |                 |             |                 |
|---------------|--------------------|-----------------|-------------|-----------------|
| DATE          | 9.14.11            | TEST PRESS. MPa |             |                 |
| SCALE         | FREE               | ITEM            | FLUID HYDRO | GN <sub>2</sub> |
| APPD.         | <i>m. Sogae</i>    | SHELL           |             |                 |
| CHKD.         | <i>m. Sogae</i>    | SEAT            |             |                 |
| DESIGN        | <i>m. Matsuoka</i> | BACKSEAT        |             |                 |
|               |                    | SEAL            |             |                 |

| NOMINAL DIA. D | D1  | L   | L1   | L2   | B  | D2 | H1   | C    | E    | L3   | H2   | H3   | H    | T    |      | ITEM No.     |
|----------------|-----|-----|------|------|----|----|------|------|------|------|------|------|------|------|------|--------------|
|                |     |     |      |      |    |    |      |      |      |      |      |      |      | MIN. | MAX. |              |
| 6              | 4.8 | 105 | 90.5 | 15.3 | 14 | 23 | 12.7 | 17.5 | 28.6 | 38.1 | 26.9 | 46.7 | 73.6 | 1.7  | 9.7  | VUBV-968P-6  |
| 8              | 4.8 | 105 | 90.5 | 16.2 | 16 | 23 | 12.7 | 17.5 | 28.6 | 38.1 | 26.9 | 46.7 | 73.6 | 1.7  | 9.7  | VUBV-968P-8  |
| 10             | 4.8 | 112 | 97.3 | 17.2 | 19 | 23 | 12.7 | 17.5 | 28.6 | 38.1 | 26.9 | 46.7 | 73.6 | 1.7  | 9.7  | VUBV-968P-10 |
| 12             | 4.8 | 117 | 96.5 | 22.8 | 22 | 23 | 12.7 | 20.6 | 28.6 | 38.1 | 26.9 | 46.7 | 73.6 | 1.7  | 9.7  | VUBV-968P-12 |

| CAREER | CONTRAST TABLE | NOMINAL SIZE (A) |      |      |      |      |      |       |       |      |       |      |       |       |       |       |       |       | UNIT(mm) | THE THIRD ANGLE |
|--------|----------------|------------------|------|------|------|------|------|-------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|----------|-----------------|
|        |                | 6                | 8    | 10   | 15   | 20   | 25   | 32    | 40    | 50   | 65    | 80   | 90    | 100   | 125   | 150   | 200   | 250   |          |                 |
|        |                | 1/8              | 1/4  | 3/8  | 1/2  | 3/4  | 1    | 1 1/4 | 1 1/2 | 2    | 2 1/2 | 3    | 3 1/2 | 4     | 5     | 6     | 8     | 10    |          |                 |
|        |                | NOMINAL SIZE (B) |      |      |      |      |      |       |       |      |       |      |       |       |       |       |       |       |          |                 |
|        |                | OUTSIDE DIAMETER |      |      |      |      |      |       |       |      |       |      |       |       |       |       |       |       |          |                 |
|        |                | 10.5             | 13.8 | 17.3 | 21.7 | 27.2 | 34.0 | 42.7  | 48.6  | 60.5 | 76.3  | 89.1 | 101.6 | 114.3 | 139.8 | 165.2 | 216.3 | 267.4 |          |                 |

| RECIPIENT                         |   |
|-----------------------------------|---|
|                                   |   |
| MODEL NO.                         |   |
|                                   |   |
| TRADEMARK OR MODEL NAME           |   |
|                                   |   |
| NAME                              | STAINLESS STEEL <b>V-Lok</b> TYPE TRUNNION BALL VALVE |
| DRG NO.                           | U241139E  |
| REV.MARK                          | 3   |
| Fujikin Incorporated<br>株式会社 フジキン |   |

|              |          |  |
|--------------|----------|--|
| acad060/VUBV | CAB. NO. |  |
|--------------|----------|--|



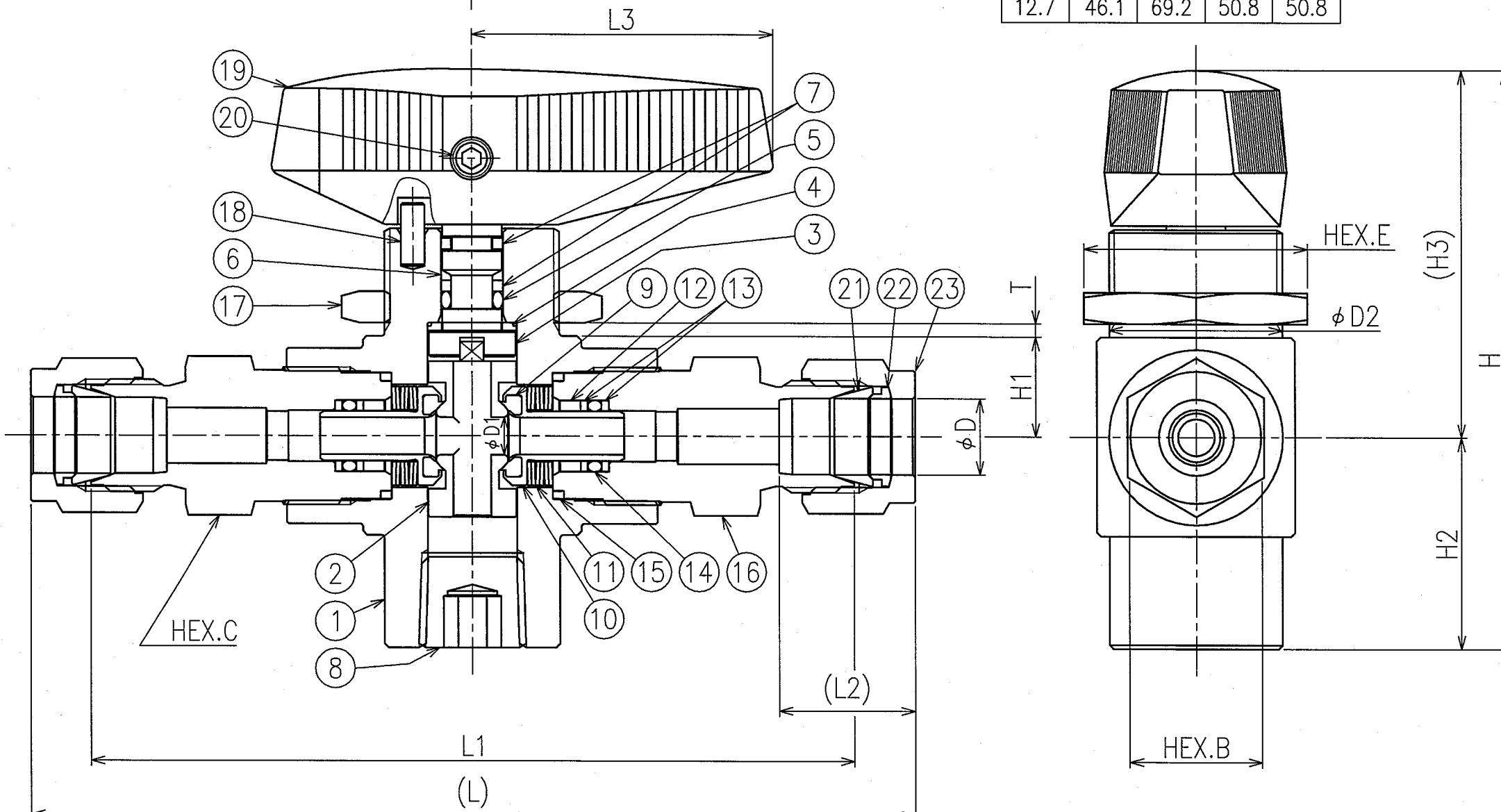
|    |             |                  |   |            |
|----|-------------|------------------|---|------------|
| 20 | SET SCREW   | S17400 or SUS630 | 1 |            |
| 21 | FRONT RINGS | ASTM A276 316    | 2 |            |
| 22 | BACK RINGS  | ASTM A276 316    | 2 |            |
| 23 | NUTS        | ASTM A276 316    | 2 | Ag PLATING |

| REVISION |          |   |            |             |
|----------|----------|---|------------|-------------|
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| △        | 9.28.12  | Material of PLUG, PANEL NUT, and SET SCREW is written together. | M.Matsuoka | Y.Shimomura |
| △        | 12.26.12 | Full review.  | M.Matsuoka | M.Sogawa    |

| NOMINAL DIA. D | DESIGN PRESS. (MPa) | TEST PRESS. (MPa) |      |                        |
|----------------|---------------------|-------------------|------|------------------------|
|                |                     | FLUID: HYDRO      |      | FLUID: GN <sub>2</sub> |
|                |                     | SHELL             | SEAT | SEAL                   |
| 6.35           | 68.9                | 104               | 75.8 | 75.8                   |
| 9.52           | 51.6                | 77.4              | 56.8 | 56.8                   |
| 12.7           | 46.1                | 69.2              | 50.8 | 50.8                   |

REMARK

| PART NO. | NAME OF PARTS             | MATERIAL                       | Q'TY | REMARK       |
|----------|---------------------------|--------------------------------|------|--------------|
| 19       | HANDLE                    | PHENOLIC RESIN +C3604B         | 1    |              |
| 18       | STOP PIN                  | SUS304                         | 2    | EQUIVALENT   |
| 17       | PANEL NUT                 | ASTM A276 304 or ASTM A276 316 | 1    |              |
| 16       | END SCREWS                | ASTM A479 316                  | 2    |              |
| 15       | END SCREW SEALS           | PTFE                           | 2    |              |
| 14       | SEAT CARRIER O-RINGS      | FKM                            | 2    |              |
| 13       | SEAT CARRIER BACKUP RINGS | C-PTFE                         | 4    |              |
| 12       | SEAT CARRIER GUIDES       | ASTM A276 316                  | 2    |              |
| 11       | DISC SPRINGS              | ALLOY X-750                    | 12   |              |
| 10       | SEAT CARRIERS             | ASTM A276 316                  | 2    |              |
| 9        | SEATS                     | PEEK                           | 2    |              |
| 8        | PLUG                      | ASTM A479 316 or ASTM A276 316 | 1    |              |
| 7        | STEM BACKUP RINGS 2       | PTFE                           | 2    |              |
| 6        | STEM BACKUP RING 1        | PEEK                           | 1    |              |
| 5        | STEM O-RING               | FKM                            | 1    |              |
| 4        | STEM BEARING              | PEEK                           | 1    |              |
| 3        | STEM                      | ASTM A276 316                  | 1    |              |
| 2        | BALL                      | ASTM A276 316                  | 1    | PTFE COATING |
| 1        | BODY                      | ASTM A479 316                  | 1    |              |



| NOMINAL DIA. D | D1  | L   | L1   | L2   | B    | D2 | H1   | C    | E    | L3   | H2   | H3   | H    | T    |      | ITEM No.       |
|----------------|-----|-----|------|------|------|----|------|------|------|------|------|------|------|------|------|----------------|
|                |     |     |      |      |      |    |      |      |      |      |      |      |      | MIN. | MAX. |                |
| 6.35           | 4.8 | 105 | 90.5 | 15.2 | 14.3 | 23 | 12.7 | 17.5 | 28.6 | 38.1 | 26.9 | 46.7 | 73.6 | 1.7  | 9.7  | VUBV-968P-6.35 |
| 9.52           | 4.8 | 112 | 97.3 | 16.8 | 17.5 | 23 | 12.7 | 17.5 | 28.6 | 38.1 | 26.9 | 46.7 | 73.6 | 1.7  | 9.7  | VUBV-968P-9.52 |
| 12.7           | 4.8 | 117 | 96.5 | 22.8 | 22.2 | 23 | 12.7 | 20.6 | 28.6 | 38.1 | 26.9 | 46.7 | 73.6 | 1.7  | 9.7  | VUBV-968P-12.7 |

| MATERIAL LIST                            |   |                 |                 |
|--|---|-----------------|-----------------|
| DATE                                     | 9.14.11   | TEST PRESS. MPa |                 |
| SCALE                                    | FREE  | ITEM            | FLUID           |
| APPD.                                    | M. Sogawa   | SHELL           | HYDRO           |
| CHKD.                                    | M. Sogawa   | SEAT            | GN <sub>2</sub> |
| DESIGN                                   | M. Matsuoka   | BACKSEAT        |                 |
|  |   | SEAL            |                 |
| RECIPIENT                                |   |                 |                 |
| MODEL NO.                                |   |                 |                 |
| TRADEMARK OR MODEL NAME                  |   |                 |                 |
| NAME                                     | STAINLESS STEEL <b>V-Lok</b> TYPE TRUNNION BALL VALVE |                 |                 |
| DRG NO.                                  | U241094E  | REV.MARK        | △ 2             |
| <b>Fujikin Incorporated</b><br>株式会社 フジキン |   |                 |                 |