

# Fuji USER MANUAL

## — DRILLS —

MODELS : FRD-20R-21, -21S, -22, -22S



FRD-20R-21, -21S, -22, -22S

### SPECIFICATIONS

| Model       | Capacity (Guidance) |     |                 |     | Stall Torque |       |       | Free Speed        | Socket | Feed Length |       | Overall Length |         | Mass |      | Max. Air Consumption |          | Air Inlet Thread Size | Air Hose Size |     |
|-------------|---------------------|-----|-----------------|-----|--------------|-------|-------|-------------------|--------|-------------|-------|----------------|---------|------|------|----------------------|----------|-----------------------|---------------|-----|
|             | Drilling            |     | Reaming-Tapping |     |              |       |       |                   |        |             |       |                |         |      |      |                      |          |                       |               |     |
|             | mm                  | in  | mm              | in  | N·m          | kgf·m | ft·lb | min <sup>-1</sup> | M.T.#  | mm          | in    | mm             | in      | kg   | lb   | Nm³/min              | Nlt³/min | in                    | mm            | in  |
| FRD-20R-21  | 19                  | 3/4 | 16              | 5/8 | 63.7         | 6.5   | 47.0  | 600               | 2      | 67          | 2 5/8 | 282            | 11 7/64 | 7.0  | 15.4 | 1.5                  | 53.0     | PT or NPT 1/2         | 12.7          | 1/2 |
| FRD-20R-21S | 19                  | 3/4 | 16              | 5/8 | 63.7         | 6.5   | 47.0  | 600               | 2      | 67          | 2 5/8 | 282            | 11 7/64 | 7.0  | 15.4 | 1.5                  | 53.0     | PT or NPT 1/2         | 12.7          | 1/2 |
| FRD-20R-22  | 19                  | 3/4 | 16              | 5/8 | 63.7         | 6.5   | 47.0  | 600               | 3      | 67          | 2 5/8 | 307            | 12 3/32 | 7.0  | 15.4 | 1.5                  | 53.0     | PT or NPT 1/2         | 12.7          | 1/2 |
| FRD-20R-22S | 19                  | 3/4 | 16              | 5/8 | 63.7         | 6.5   | 47.0  | 600               | 3      | 67          | 2 5/8 | 307            | 12 3/32 | 7.0  | 15.4 | 1.5                  | 53.0     | PT or NPT 1/2         | 12.7          | 1/2 |

The models with "S" at the end of model names are Self Return Rolling Throttle types.

The performance figures are at 0.63MPa (6.3bar).

⚠ Refer to "The Instructions and Warning for Safety Use" enclosed in each tool box.

Fuji Industrial Technique Co.,Ltd.

2-1-14, Kamiji, Higashinari-ku, Osaka, 537-0003 Japan

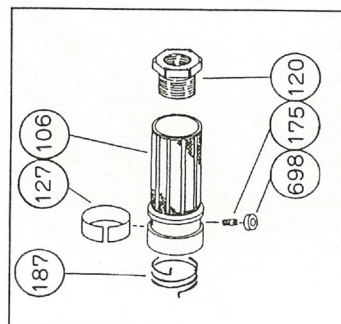
Tel : 81-6-6972-2335

Fax : 81-6-6972-2380

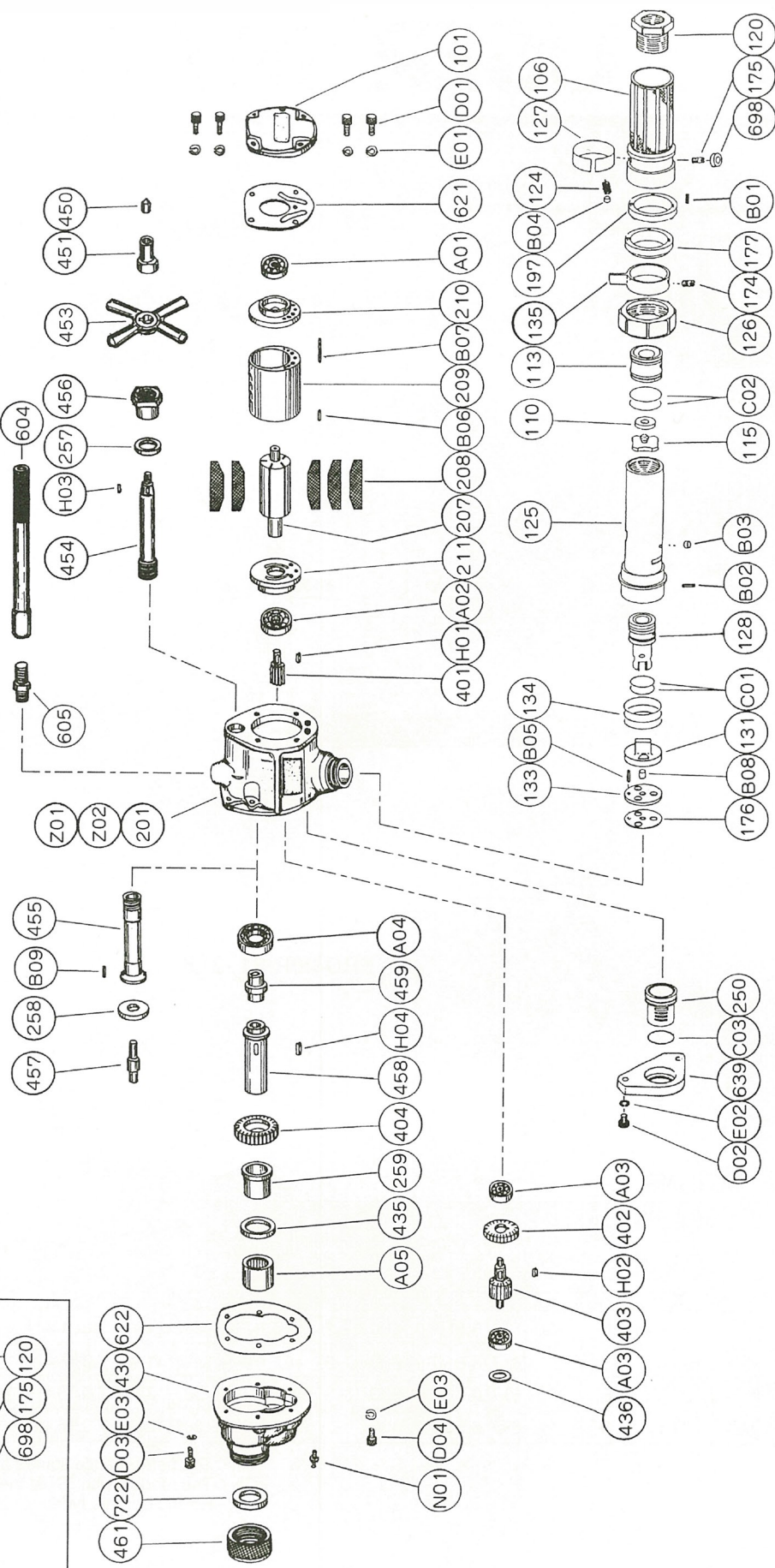
# MODELS : FRD-20R-21, -21S, -22, -22S

FRD-20R-21S,-22S

SELF RETURN ROLL HANDLE



FRD-20R-21,-22



# PARTS LIST

| Index No.     | Parts No.           |                         | Parts Name                     | Qt. |
|---------------|---------------------|-------------------------|--------------------------------|-----|
|               | Roll Handle         | Self Return Roll Handle |                                |     |
| <b>CP No.</b> | <b>D -095004-03</b> | <b>D -095004-04</b>     | <b>Throttle Valve Stem C.P</b> |     |
| 106           | M-040106-00         | ○                       | Throttle Valve Handle          | 1   |
| 110           | M-040110-00         | ○                       | Throttle Valve                 | 1   |
| 113           | M-040113-00         | ○                       | Throttle Valve Rod             | 1   |
| 115           | M-040115-00         | ○                       | Throttle Valve Sheet           | 1   |
| 120           | M-040120-00         | ○                       | Throttle Valve Cover <PT>      | 1   |
| 120           | M-040120-01         | ○                       | Throttle Valve Cover <NPT>     | 1   |
| 124           | G -005124-00        | —                       | Knock Spring                   | 1   |
| 125           | M-040125-00         | ○                       | Throttle Valve Stem            | 1   |
| 126           | D -095126-00        | ○                       | Throttle Valve Stem Nut        | 1   |
| 127           | M-040127-00         | ○                       | Throttle Valve Handle Band     | 1   |
| 128           | M-040128-00         | ○                       | Reverse Valve Rod              | 1   |
| 135           | D -026135-00        | ○                       | Reverse Valve Lever            | 1   |
| 174           | D -026174-00        | ○                       | Small Screw                    | 1   |
| 175           | M-040175-00         | ○                       | Small Screw <B>                | 1   |
| 177           | M-040177-00         | ○                       | Throttle Handle Step           | 1   |
| 187           | —                   | M-040187-00             | Throttle Valve Handle Spring   | 1   |
| 197           | D -097197-00        | —                       | Handle Bushing                 | 1   |
| (B01)         | SP-28               | —                       | Spring Pin                     | 1   |
| 698           | D -026698-00        | ○                       | Guide Roller                   | 1   |
| B02           | SP-38               | ○                       | Spring Pin                     | 1   |
| B03           | NR-45               | ○                       | Needle Roller                  | 1   |
| B04           | NR-35FR             | —                       | Needle Roller                  | 1   |
| C01           | O-11                | ○                       | "O" Ring                       | 2   |
| C02           | O-S20               | ○                       | "O" Ring                       | 2   |

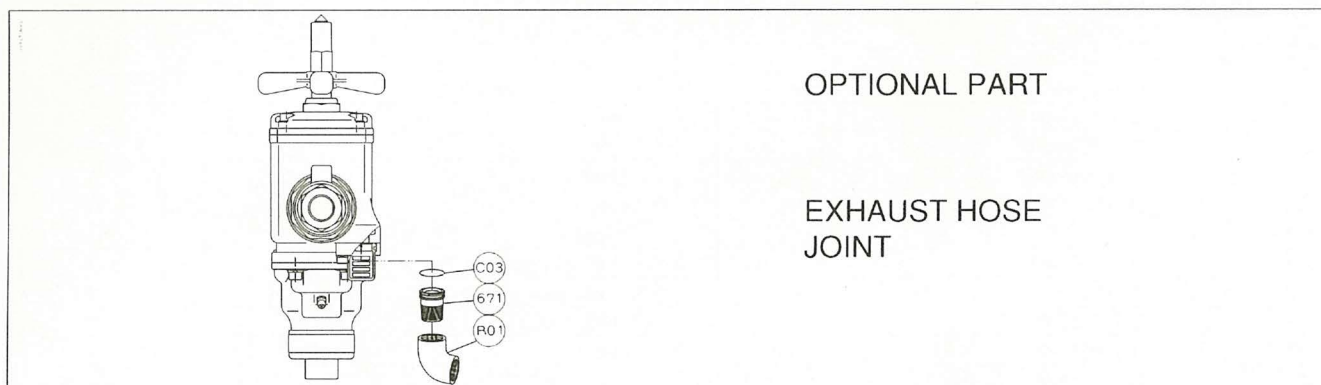
All of the above parts can be commonly used on the models.

| Index No.     | Parts No.           |                 | Parts Name                  | Qt. |
|---------------|---------------------|-----------------|-----------------------------|-----|
|               | FRD-20R-21,-21S     | FRD-20R-22,-22S |                             |     |
| <b>CP No.</b> | <b>D -095006-54</b> | <b>○</b>        | <b>Housing C.P</b>          |     |
| 133           | D -008133-02        | ○               | Reverse Valve Sheet         | 1   |
| 176           | D -008176-00        | ○               | Reverse Valve Sheet Packing | 1   |
| 201           | D -095201-04        | ○               | Housing                     | 1   |
| B05           | SP-38               | ○               | Spring Pin                  | 1   |
| 101           | D -095101-00        | ○               | Housing Cover               | 1   |
| 131           | D -008131-01        | ○               | Reverse Valve               | 1   |
| 134           | D -008134-01        | ○               | Reverse Valve Spring        | 1   |
| 207           | D -026207-00        | ○               | Rotor                       | 1   |
| 208           | D -026208-00        | ○               | Rotor Blade                 | 5   |
| 209           | D -026209-00        | ○               | Cylinder                    | 1   |
| (B06)         | SP-310              | ○               | Spring Pin                  | 1   |
| (B07)         | SP-320              | ○               | Spring Pin                  | 1   |
| 210           | D -026210-00        | ○               | Cylinder Upper Plate        | 1   |
| 211           | D -008211-00        | ○               | Cylinder Lower Plate        | 1   |
| 250           | D -097250-00        | ○               | Exhaust Cover               | 1   |
| 257           | D -008257-00        | ○               | Washer                      | 1   |
| 258           | D -008258-00        | ○               | Washer <B>                  | 1   |
| 259           | D -008259-00        | —               | Inner Race                  | 1   |
| 401           | D -026401-00        | ○               | No.1 Pinion                 | 1   |
| 402           | D -008402-00        | ○               | No.1 Gear                   | 1   |
| 403           | D -008403-00        | ○               | No.2 Pinion                 | 1   |
| 404           | D -008404-00        | ○               | No.2 Gear                   | 1   |
| 430           | D -008430-A         | D -034430-00    | No.1 Gear Case              | 1   |
| 435           | D -034435-00        | ○               | Thrust Washer               | 1   |
| 436           | D -008436-00        | ○               | Bearing Holder              | 1   |
| 450           | D -008450-00        | ○               | Feed Screw Center           | 1   |
| 451           | D -008451-00        | ○               | Center Holder               | 1   |
| 453           | D -008453-00        | ○               | Feed Screw Handle           | 1   |
| 454           | D -008454-00        | ○               | Feed Screw                  | 1   |
| 455           | D -008455-00        | ○               | Feed Sleeve                 | 1   |
| 456           | D -008456-00        | ○               | Feed Sleeve Nut             | 1   |
| 457           | D -008457-00        | D -034457-00    | Extractor                   | 1   |
| 458           | D -008458-00        | D -034458-00    | MT. Socket                  | 1   |
| 459           | D -008459-00        | D -034459-00    | Socket Arbor                | 1   |
| 461           | D -008461-A         | D -034461-00    | Socket Nut                  | 1   |
| 604           | T -004604-00        | ○               | Dead Handle                 | 1   |
| 605           | D -008605-00        | ○               | Dead Handle Joint           | 1   |
| 621           | D -095621-00        | ○               | Packing <A>                 | 1   |

|     | FRD-20R-21,-21S | FRD-20R-22,-22S |                      |   |
|-----|-----------------|-----------------|----------------------|---|
| 622 | D-008622-00     | ○               | Packing <B>          | 1 |
| 639 | D-095639-00     | ○               | Exhaust Cover Holder | 1 |
| 722 | D-008722-00     | D-034722-00     | Leather Packing      | 1 |
| A01 | BB-6202         | ○               | Ball Bearing         | 1 |
| A02 | BB-6203         | ○               | Ball Bearing         | 1 |
| A03 | BB-627          | ○               | Ball Bearing         | 2 |
| A04 | BB-7203         | ○               | Ball Bearing         | 1 |
| A05 | NB-SC2016       | ○               | Needle Bearing       | 1 |
| B08 | NR-412FR        | ○               | Needle Roller        | 1 |
| B09 | SP-38           | ○               | Spring Pin           | 1 |
| C03 | O-S22           | ○               | "O" Ring             | 1 |
| D01 | CS-622          | ○               | Cap Screw            | 4 |
| D02 | CS-520          | ○               | Cap Screw            | 2 |
| D03 | CS-622          | ○               | Cap Screw            | 4 |
| D04 | CS-616          | ○               | Cap Screw            | 2 |
| E01 | SW-6            | ○               | Spring Washer        | 4 |
| E02 | SW-5            | ○               | Spring Washer        | 2 |
| E03 | SW-6            | ○               | Spring Washer        | 6 |
| H01 | K-3311          | ○               | Key                  | 1 |
| H02 | K-338.5         | ○               | Key                  | 1 |
| H03 | K-3.53.511      | ○               | Key                  | 1 |
| H04 | K-4511.5        | K-4412          | Key                  | 1 |
| N01 | GN-6            | ○               | Grease Nipple        | 1 |
| Z01 | NP-3005         | ○               | Name Plate           | 1 |
| Z02 | NPN-0×3.2       | ○               | Screw Rivet          | 2 |

## OPTIONAL PART LIST : EXHAUST HOSE JOINT

| Index No. | Parts No.   | Parts Name          | Qt. |
|-----------|-------------|---------------------|-----|
| 671       | D-097671-00 | Exhaust Cover Joint | 1   |
| R01       | JE-1/2      | Elbow Joint         | 1   |



- ☐ CP No. denotes the assembled parts comprising of more than 1 pc. of parts.  
The related parts are shown in the thick frame.
- ☐ Mark ○ in the part No. column shows that same part shown in the left column is used.
- ☐ # 197 and 209 are supplied together with parts shown in ( ).
- ☐ Specify parts number and quantity in ordering.

**Fuji Industrial Technique Co.,Ltd.**

2-1-14, Kamiji, Higashinari-ku, Osaka, 537-0003 Japan

Tel : 81-6-6972-2335

Fax : 81-6-6972-2380

