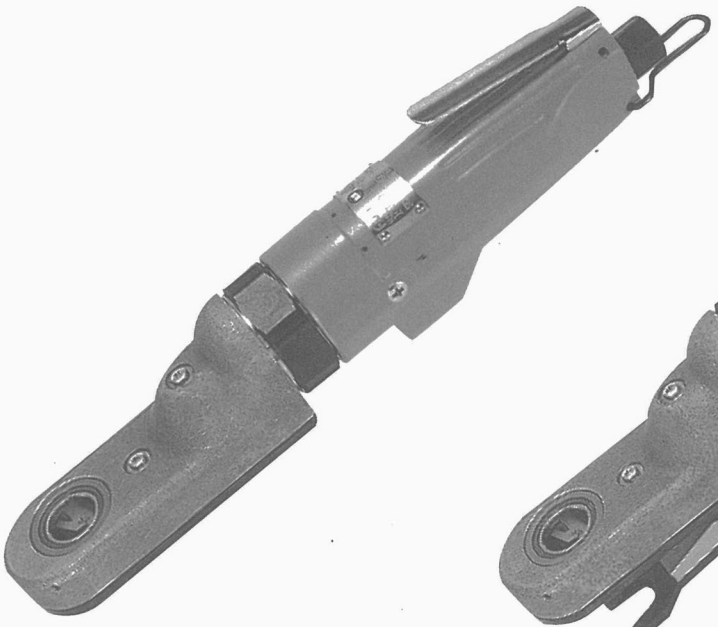
Fuji USER MANUAL

TIP DRESSERS

MODELS : FTD-18-1 & FTD-18A-1



FTD-18-1

FTD-18A-1

Cutter Cases

The cutter case bore diameter (ϕD) acts as a guide so that the cutter dresses at the correct location relative to the tip. Please specify a cutter case that matches the tip size.

A ϕ16 cutter case will be provided as a standard accessory. Please specify the cutter case size ϕ12 or ϕ13 otherwise.

SPECIFICATIONS

Model	Capacity Tip Size		Max Clamp Height		Rotational Frequency	Overall Length		Mass		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm	in	mm	in	min^{-1}	mm	in	kg	lb	m^3/min	ft^3/min	in	mm	in
FTD-18-1	12~16	15/32~5/8	———		1,300	290	11 7/16	1.65	3.64	0.5	17.7	PT or NPT 1/4	9.5	3/8
FTD-18A-1	13~16	33/64~5/8	25	63/64	1,300	307	12 3/32	2.02	4.45	0.5	17.7	PT or NPT 1/4	9.5	3/8

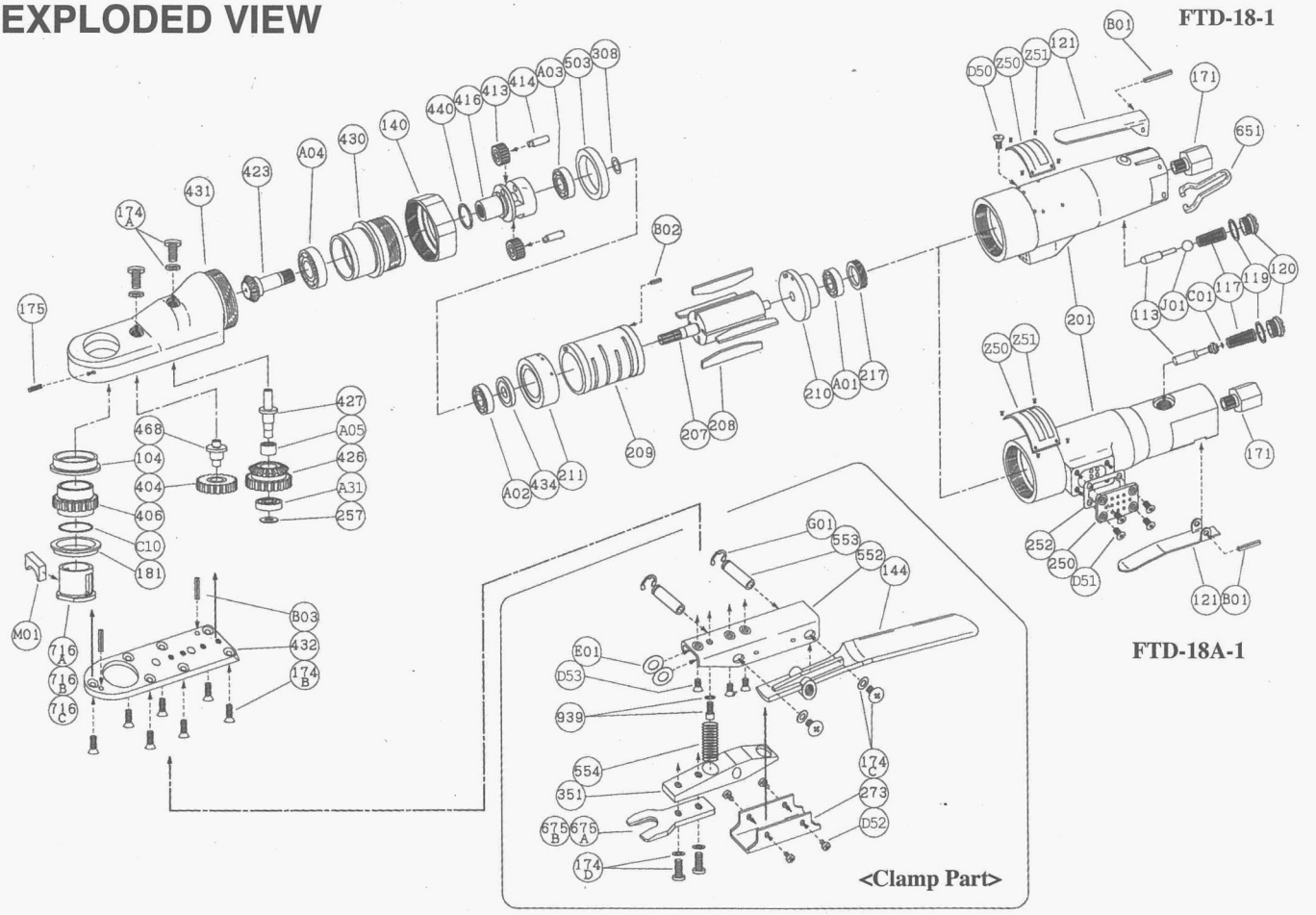
Please refer to P-3 for the cutter.

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

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

MODELS : FTD-18-1 & FTD-18A-1

EXPLODED VIEW



PARTS LIST

Index No.	Parts No.	Parts Name	Qt.
	FTD-18-1		
104	S-167104-00	Bushing	1
113	S-166113-00	Throttle Valve Rod	1
117	S-167117-00	Throttle Valve Spring	1
119	S-167119-00	Throttle Valve Cover Packing	1
120	S-167120-00	Throttle Valve Cover	1
121	S-166121-00	Throttle Valve Lever	1
140	S-167140-00	Cup Nut	1
171	S-167171-00	Inlet Joint <PT>	1
174A	S-167174-00	Small Screw (PW)	2
174B	S-167174-01	Small Screw	7
175	S-167175-00	Small Screw (B)	1
181	S-167181-00	Bushing (B)	1
201	S-166201-00	Housing	1
207	S-167207-00	Rotor	1
208	S-167208-00	Rotor Blade	4
209	S-167209-00	Cylinder	1
210	S-167210-00	Cylinder Upper Plate	1
211	S-167211-00	Cylinder Lower Plate	1
217	S-167217-00	Bearing Cover	1
257	S-167257-00	Washer	1
308	S-167308-00	Spacer	1
404	S-167404-00	No.2 Gear	1
406	S-167406-00	No.3 Gear	1
413	S-167413-00	No.1 Planet Gear	2
414	S-167414-00	No.1 Planet Gear Spindle	2
416	S-167416-00	No.1 Planet Gear Frame	1

Index No.	Parts No.	Parts Name	Qt.
423	S-167423-00	Bevel Pinion	1
426	S-167426-00	Bevel Gear	1
427	S-167427-00	Bevel Gear Spindle	1
430	S-167430-00	No.1 Gear Case	1
431	S-166431-00	No.2 Gear Case	1
432	S-166432-00	Gear Case Cover	1
434	S-167434-00	Bearing Washer	1
440	S-167440-00	Ring	1
468	S-167468-00	No.2 Gear Spindle	1
503	S-167503-00	Spacer (B)	1
651	S-166651-00	Hanger <for FTD-18-1>	1
716A	S-167716-00	Cutter Case (ϕ16)	1
716B	S-167716-01	Cutter Case (ϕ13)	1
716C	S-167716-02	Cutter Case (ϕ12) <for FTD-18-1>	1
A01	BB-626	Ball Bearing	1
A02	BB-608LLB	Ball Bearing	1
A03	BB-608	Ball Bearing	1
A04	BB-6200	Ball Bearing	1
A05	BB-EE2	Ball Bearing	1
A31	NB-F88-TORR	Needle Bearing	1
B01	SP-322	Spring Pin	1
B02	SP-2.58	Spring Pin	1
B03	SP-316	Spring Pin	2
C10	O-P22	"O" Ring	1
D50	S-48RS	Screw <for FTD-18-1>	1
J01	B-8U	Urethane Ball <for FTD-18-1>	1
Z50	NP-0721	Name Plate	1
Z51	NPN-0X3.2	Screw Rivet	4
M01	————	Cutter	1

Index No.	Parts No.	Parts Name	Qt.
It is common with FTD-18-1 excluding the undermentioned parts.			
	FTD-18A-1		
113	S-167113-00	Throttle Valve Rod	1
121	S-167121-00	Throttle Valve Lever	1
144	S-167144-00	Throttle Valve Lever (B)	1
174C	S-167174-02	Small Screw (CSW)	2
174D	S-167174-03	Small Screw (CSW)	2
201	S-167201-00	Housing	1
250	S-167250-00	Exhaust Cover	1
252	S-167252-00	Exhaust Cover Sheet	1
273	S-167273-00	Cover	1
351	S-167351-00	Clutch	1
432	S-167432-00	Gear Case cover	1
552	S-167552-00	Clutch Case	1
553	S-167553-00	Clutch Shaft	2
554	S-167554-00	Clutch Spring (A)	1
675A	S-167675-00	Holder (ϕ16)	1
675B	S-167675-01	Holder (ϕ13)	1
939	S-167939-00	Bolt (SW)	1
B01	SP-316	Spring Pin	2
C01	O-P4	"O" Ring	1
D51	S-410RS	Screw	4
D52	S-35B	Screw	4
D53	S-48S	Screw	3
E01	CSW-8	Spring Washer	2
G01	SR-E7	Spring Ring	1

☐ The standard cutter case size is ϕ16. Specify size in ordering.

■ Standard Accessory

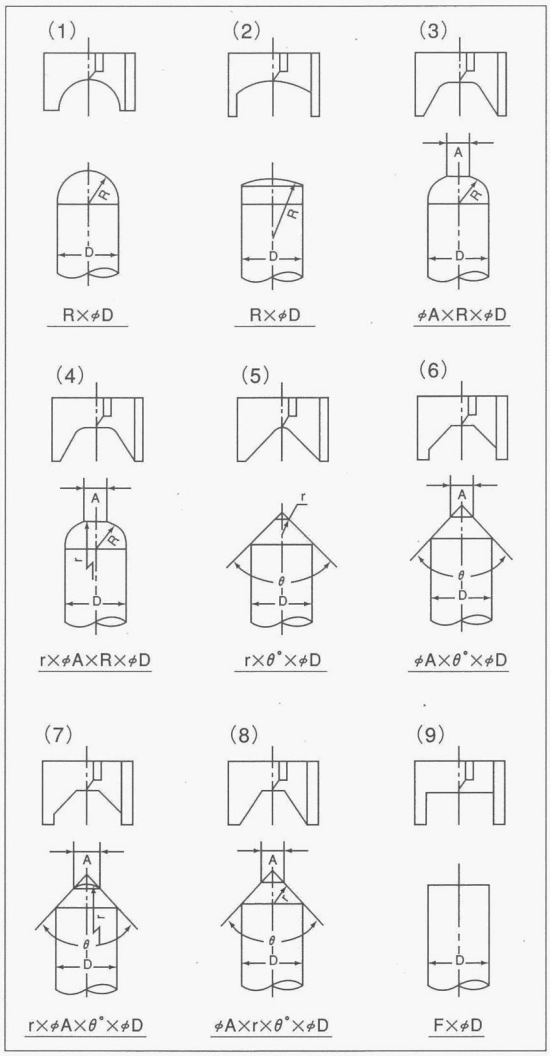
AC No.	Description	Qt.
IB-202N00	Inlet Bushing <for NPT Thread Air Inlet Type>	1

■ Classification Table For Cutter

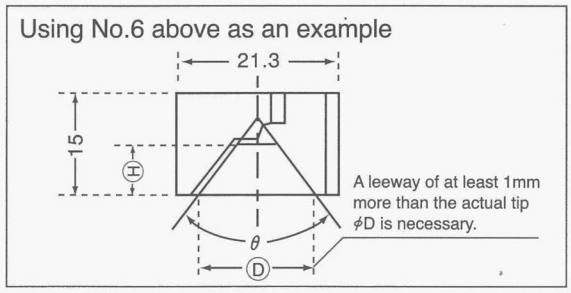
Type	Item No.	Tip shape (Nominal)	Max.diameter repaired(φD)	Standard
(1)	CUT-1001	6R	φ12	6R×φ12
	CUT-1002	6.5R	φ13	6.5R×φ13
	CUT-1003	8R	φ16	8R×φ16
(2)	CUT-2001	10R～150R	φ16	16R×φ16
	——			——
(3)	——	φA×6R	φ12	——
	——	φA×6.5R	φ13	——
	CUT-3001	φA×8R	φ16	φ5×8R×φ16
	CUT-3002			φ6×8R×φ16
(4)	——	r×φA×6R	φ12	——
	——	r×φA×6.5R	φ13	——
	CUT-4001	r×φA×8R	φ16	40r×φ6×8R×φ16
(5)	——	5～6r×60°	φ13	——
	——	3r or more×90°	φ16	——
(6)	——	7～φ9×50°	φ13	——
	——	φ10 or more×50°	φ16	——
	CUT-6001	5～φ7×60°	φ13	φ6×60°×φ13
	——	φ8 or more×60°	φ16	——
	——	3～φ4×75°	φ13	——
	CUT-6002	φ5 or more×75°	φ16	φ6×75°×φ16
	CUT-6003	φ3 or more×90°	φ16	φ4×90°×φ16
	CUT-6004			φ6×90°×φ16
	——	φ3 or more×120°	φ16	——
(7)	——	r×φA×θ°	φD	——
(8)	——	φA×r×θ°	φD	——
(9)	——	F	φ16	——

* Beside item listed above table, minimum 10pcs. per item is required for ordering optional cutters. Specify the nominal dimensions when ordering.
* Cutter is not provided as a standard accessory.

■ Shapes of Tip and Cutters



■ Example of Cutter Manufacturing Limitations



(1) The cutting edge depth (H) is limited to 7.5mm (which is 1/2 of the total height of 15mm) or less due to strength considerations.
(2) Should the cutting edge θ° on two-blade cutters get too small, chatter will result and the finished shape will be susceptible to breakage. Therefore we limit it to a maximum of 50 degrees.
* Cutters that do not meet the above conditions (1) and (2) can not be made.

■ Cutter Nominal Dimensions and Manufacturing Dimensions

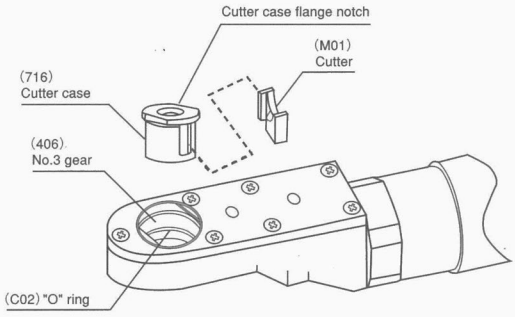
When ordering, please use the above classification table with regards to tip shape when specifying the nominal dimensions for cutters. However, depending on the shape of the tip and as long as the cutting edge depth (H) is not exceeded, we make cutters that can be used up to the maximum diameter of the tip (φ16) are made. For example, for an order for a cutter to handle 10R×φ13 tips, the cutter we make will be specified only as 10R. The cutter to be supplied will in fact be an item for 10R×φ16. If the tip diameter is φ16 or less, dressing can be performed with this cutter by merely replacing the cutter case with one that matches the tip diameter.

(Ordering example)	Cutter No.	Tip shape (Nominal)		Cutter Supplied
	(6)	φ6×75°×φ12	→	φ6×75°×φ16
	(9)	F×φ13	→	F×φ16

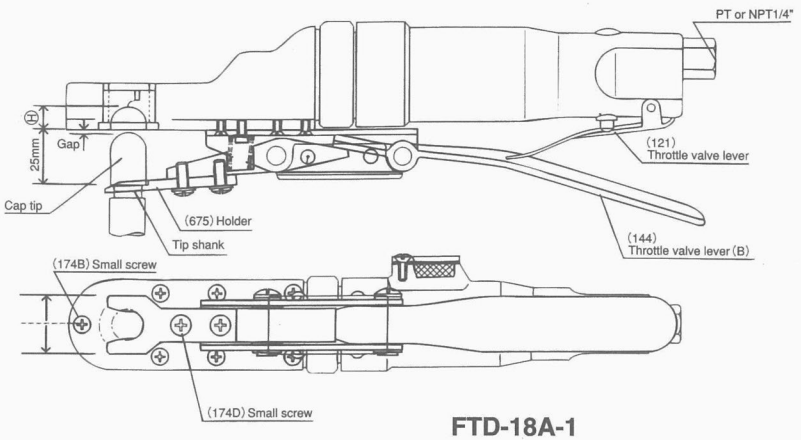
※For difficult specifications, please send us its drawing or an actual cutter.

■ Cutter Repair

A cutter can be repaired two to four times. We also offer you of cutter repair.
Please send as many together at once as possible.



FTD-18-1 & FTD-18A-1



FTD-18A-1

■ Operation Procedure for FTD-18-1 & FTD-18A-1

1. Select the cutter case (716) and the cutter (M01) suitable for the size and shape of the welding tip.
2. Insert the cutter (M01) into the cutter case (716).
3. Insert the cutter case (716) to the tool aligning its flange to No.3 gear (406).
   *As the cutter case (716) is held by the "O" ring (C02), a slight resistance will be felt when the cutter case (716) is inserted. If it easily comes out from the cutter case (716), the "O" ring (C02) must be replaced as it shows worn "O" ring (C02).
   *Push the cutter case (716) from the opposite side with a finger for removal.

FTD-18-1

4. Hold the tip dresser vertically to the welding tip and bring the opening of the cutter case (716) close to the tip.
5. Hold the tool firmly so that it does not incline to the welding tip.
6. Hold the throttle valve lever (121) lightly and apply the cutter to the welding tip slowly.
7. Apply the cutter to the welding tip lightly first with low speed, then slowly make it heavier and faster.
8. At the end, slowly stop pushing the tool and finish dressing. Then separate the tool from the welding tip while rotating.

FTD-18A-1

4. Select the holder (675) suitable in size for the tip shank (12,13 or 16mm).
5. Reset the small screws (174D) aligning the holder (675) into the center of the welding tip.
6. Hold the tool vertically to the welding tip and insert the holder (675) into the tip shank under the cap tip.
7. Hold the tool firmly and grip the throttle valve lever (B) (144) lightly and apply the cutter (M01) to the welding tip slowly. Patented interlocking valve mechanism will automatically apply the cutter to the welding tip lightly first with low speed, then heavier and faster gradually.
8. At the end, slowly release the throttle valve lever (B) (144) and separate the cutter (M01) from the welding tip while rotating. Then pull the holder (675) off from the tip.

Caution

— Be sure to disconnect the tool from air supply or shut off the air supply when mounting or dismounting the cutter and the cutter case.
— Make sure the cutter fits with the cutter case before use.
— Do not touch the cutter and the cutter case mounted on the tool in operation.
— Do not start the operation of the tool when the cutter is fixed on the welding tip in a jam.
— Start the tool slowly as a strong reaction torque is likely developed when repairing worn welding tip.
— Over-dressing will shorten the service life of welding tip and cutter.
We recommend you to find a suitable time for tip dressing by measuring the time for dressing in your factory.

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