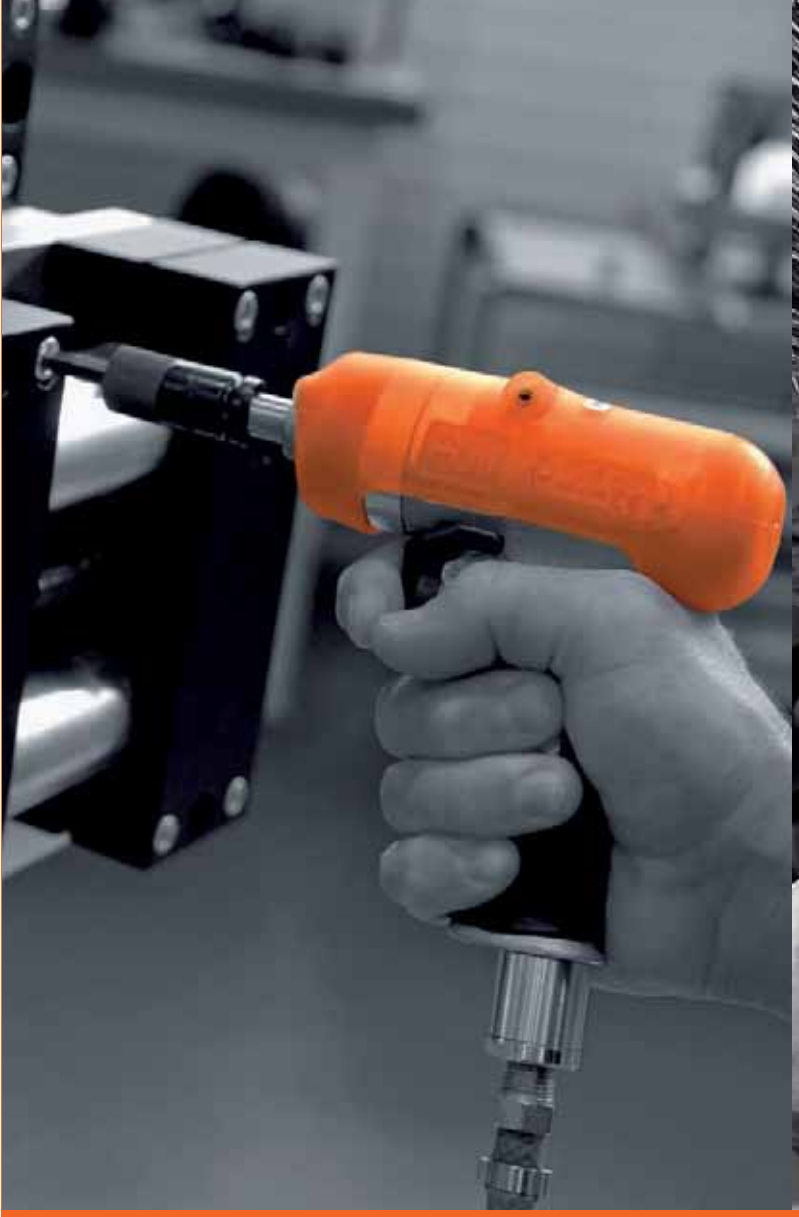


Power and Precision in Perfect harmony

Industrial tools from Fuji

Fuji

Japanese eco-quality since 1943

Power and Precision in Perfect harmony

Industrial tools from Fuji



For over sixty years, the name Fuji has been synonymous with performance, reliability and quality in industrial tools. Behind this reputation lies a deeply rooted corporate philosophy built on continuous learning, customer service and kaizen. These precepts guarantee that every Fuji tool, from the simplest to the most sophisticated, performs its task in perfect harmony with the operator and the industrial process. They also enable us to offer one of the most extensive, most cost-effective ranges of high quality industrial air tools available today.

Fuji

Japanese eco-quality since 1943

CONTENTS:

FUJI TOOLS

FUJI, WITH Utmost Passion for ECO-QUALITY

FUJI TOOLS, WITH UTMOST PASSION FOR ECO-QUALITY SINCE 1943

Total Quality

Every Fuji tool, from the simplest to the most sophisticated, is built to the same exacting standards. Moreover, our commitment to total quality extends beyond our products to include the world we live in. That's why our production facilities are compliant with both ISO 9001 quality management and ISO 14000 environmental management standards.

Best Technology

Over 60 years of non-stop investment in R&D and kaizen manufacturing ensures that our products are built using proven, advanced technologies and provide superior ergonomics, safety and handling.

Wide Choice

With a catalogue of over 1,400 references, we have one of the most extensive, most cost-effective ranges of industrial tools available today.

QUALITY GUARANTEED

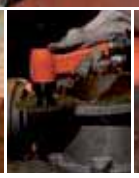
Our company is certified ISO 9001 quality management and ISO 14001 environmental management standards.

OUR FINAL GOAL IS TO PROVIDE 100% CUSTOMER SATISFACTION:

- Excellent human resource creates a powerful organisation.
- The complete follow-up service system is the definition of our quality.








LIFETIME SATISFACTION:

Our commitment to 100% customer satisfaction:

Our commitment to 100% customer satisfaction extends well beyond the moment of purchase. We provide highly reactive after-sales service through our worldwide network of authorized distributors to ensure that after years of service our products perform just as well as on day one.

Need to know more?

→ **www.fujitools.com**

About The Specifications on Our Catalogue

1) Model Number
Use this model number when ordering.

2) Bolt Size, Capacity
Shows the capacity, which the tool can handle, as guidance for tool selection. The bolt size of a fastening tool is a bolt size which the tool may fasten.
The capacities shown in this catalogue tapping capacity, riveting capacity, etc. show the size which the tool may handle. Be aware, that the capacity may vary depending on such conditions as the tension, joint rate, material, etc. of the work.

3) Recommended Torque Range, Max Torque
Shows recommended torque range or max torque of the model. Torque figures in the specifications must be used as guidance only, as final output depends on type and size of fastener, joint rate and air pressure etc.

4) Free Speed
Free speed is indicated in revolutions per minute, min^{-1} at which the tool runs at no load at the working air pressure of 0.63MPa, 6.3bar, 90psi if not otherwise specified.

5) Overall Length
Shows the longest part of the tool without accessories attached. Refer to the last part of this catalogue "Dimensions" if the details of dimensions are necessary.

6) Mass
Shows the mass of the tool without accessories.

7) Square Drive Size, Bit Shank Size
Square drive size shows the square size of the spindle or anvil of pulse wrenches and impact wrenches. Bit shank size indicates the bit shank size of the driver anvil of screw drivers.

8) Hex. Socket Size
Shows standard hexagonal size of the socket of the ratchet wrenches.

9) Air Inlet Thread Size
Female threaded BSP and NPT (National Pipe Threads) are available.

10) Air Hose Size
The air hose size indicates recommended minimum hose inside diameter which is necessary to supply enough volume of air to the tool for designed performance.

11) Air Consumption
The air consumption of the tools is stated in m^3/min, cubic meters per minute. It indicates the maximum air consumption at the working air pressure 0.63MPa, 6.3bar, 90psi if not otherwise stated.
Maximum air consumption is valid for the tool without a speed governor when the tool is running at no load.

Conversion Factors

Length	1 m	=1000 mm	=39.4 in	=3.28 ft
Diameter, Width, Depth, Height	1 in	=25.4 mm	=0.0254 m	=0.0833 ft
Thickness, Lift, Size	1 cm	=10 mm	=0.394 in	
Side to Center	1 ft	=12 in	=0.3048 m	=304.8 mm
Capacity				
Stroke				
Mass	1 kg	=1000 g	=2.20462 lb	
	1 lb	=0.45359237 kg		
Torque	1 N • m	=0.7375 ft • lb	=0.102 kgf • m	
Recommended Torque Range	1 kgf • m	=9.807 N • m	=7.233 ft • lb	
Max. Torque, Measuring Range	1 ft • lb	=1.3558 N • m	=0.138 kgf • m	
Stall Torque, Starting Torque				
Force	1 N	=0.102 kgf	=0.225 lbf	
Lifting Capacity	1 kgf	=9.807 N	=0.205 lbf	
	1 lbf	=4.448 N	=0.454 kgf	
	1kN	=1000 N	=102 kgf	
Pressure	1 Pa	=1 N/m^2		
Air Pressure	1 bar	=100 kPa	=0.1 MPa	=1.0197 kgf/cm^2
Vacuum Degree	1 MPa	=10.2kfg/cm^2	=10 bar	
	1 kPa	=0.01 bar	=0.0102 kp/cm^2	=7.5 mmHg
	1 kp/cm^2	=98.07 kPa		
Power	1 W	=0.102 kgf • m/s	=0.738 ft • lb/s	
Power Consumption	1 W	=1 J/s	=1 N • m/s	=1VA
Motor Output, Horse Power	1kgf • m/s	=9.807 W	=0.0133 PS	=7.233 ft • lb/s
	1 PS	=75 kgf • m/s	=0.7355 kW	
	1 kW	=1000 W		
Volume	1 m^3	=35.3 ft^3		
	1 m^3	=1000 ℓ	=1 kℓ	
	1 ℓ	=1000 cm^3	=0.001 m^3	
	1 ft^3	=28.3 ℓ		
Flow Rate	1 m^3/s	=60 m^3/min		
Max. Air Consumption	1 m^3/min	=35.3 ft^3/min		
Discharge Volume	1 m^3/h	=16.667ℓ/min	=0.2778ℓ/s	
Discharge Capacity	1 m^3/min	=16.667ℓ/s		
	1 ℓ/s	=2.1189 cfm		
	1 cfm	=0.4719ℓ/s		
Velocity	1 m/s	=3.28 ft/s	=3.6km/h	=60 m/min
Rope Speed, Lifting Speed	1 ft/s	=0.3048 m/s	=1.0973 km/h	
Propelling Speed	1 km/h	=0.278 m/s	=0.911 ft/s	
Rotational Frequency	1 s^{-1}	=60 rpm		
Free Speed, Pinion Speed Measuring Range	1 min^{-1}	=1 rpm	$\frac{\text{Peripheral Speed (m/min) x 1000}}{\pi \text{ x Wheel Diameter (mm)}}$	(π =3.14)
Frequency	1 Hz	=60 bpm	=60 spm	
Blow, Stroke per minute	1 kHz	=1000 Hz		

Assembly Tools

Selection Guide

TIGHTENING TORQUE (N.m)

This table shows the recommended tightening torque for common bolt size M2 to M48.

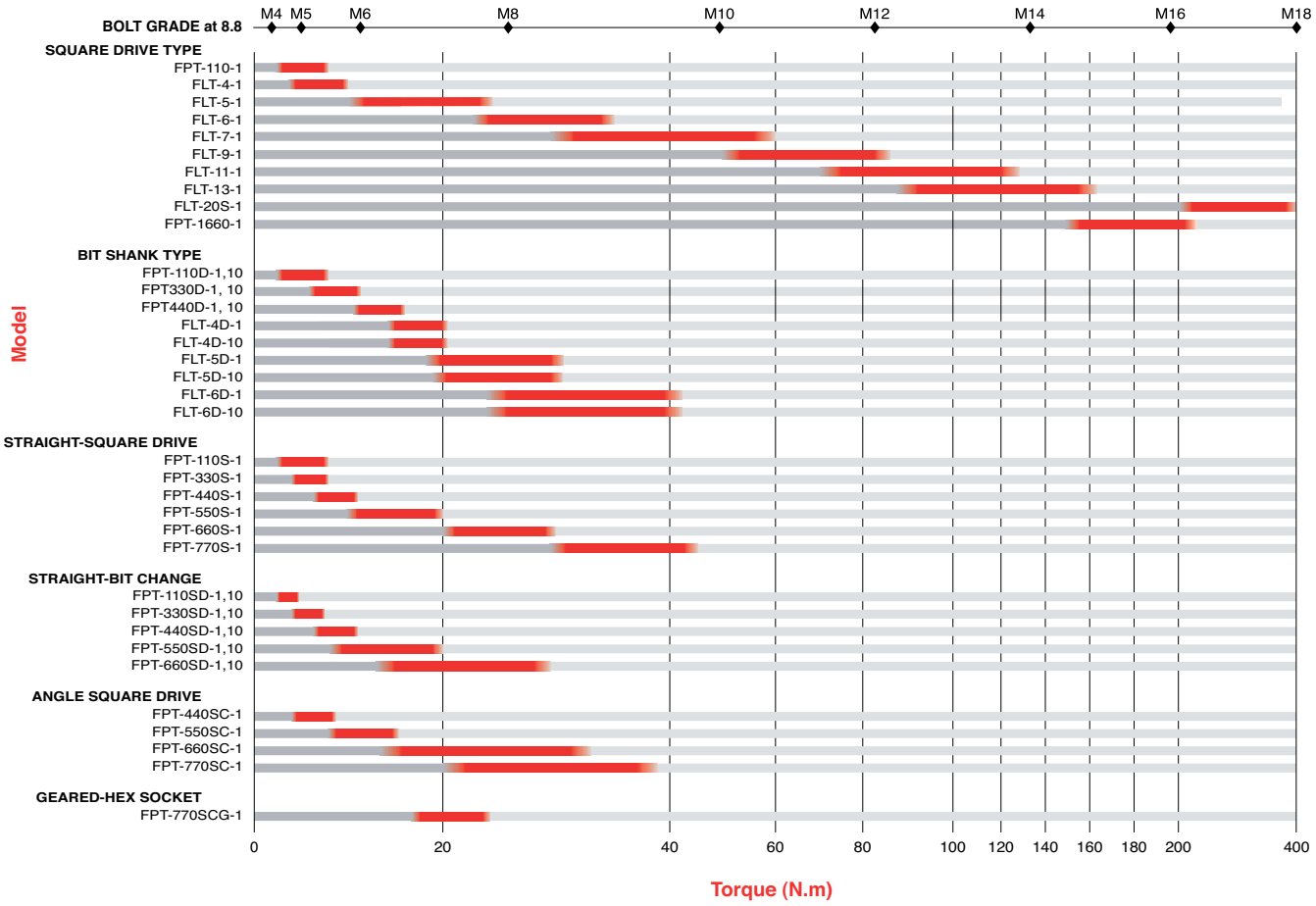
Bolt Size	Bolt Grade							Bolt Size	Bolt Grade					
mm	3.0	4.6	4.8	5.8	8.8	10.9	12.9	mm	4.6	4.8	5.8	8.8	10.9	12.9
M2	0.10	0.13	0.17	0.22	0.35	0.49	0.58	M18	103	121	172	275	386	463
M3	0.35	0.46	0.61	0.77	1.20	1.70	2.10	M20	144	170	240	385	541	649
M4	0.81	1.10	1.40	1.80	2.90	4.00	4.90	M22	194	230	324	518	728	874
M5	0.60	2.20	2.95	3.60	5.70	8.10	9.70	M24	249	295	416	665	935	1120
M6	2.80	3.70	4.90	6.10	9.80	14.0	17.0	M27	360	435	600	961	1350	1620
M8		8.9	10.5	15	24	33	40	M30	492	590	819	1310	1840	2210
M10		17	21	29	47	65	79	M36	855	1030	1420	2280	3210	3850
M12		30	36	51	81	114	136	M42	1360		2270	3640	5110	6140
M14		48	58	80	128	181	217	M45	1690		2820	4510	6340	7610
M16		74	88	123	197	277	333	M48	2040		3400	5450	7660	9190

according to ISO898/1

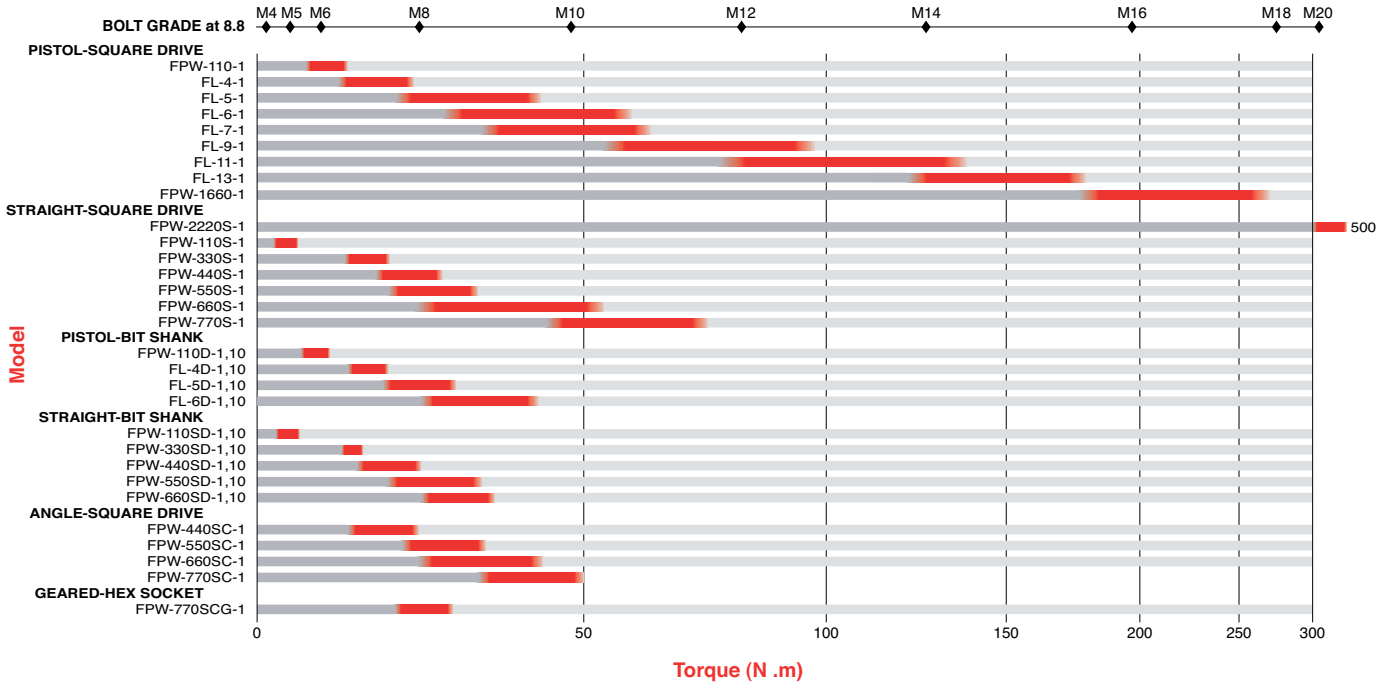
RECOMMENDED TORQUE RANGE

The torque requirement is one of the major factors to be considered when selecting fastening tools. The following graphic presentation shows the recommended torque range of our assembly tools. This is to be used for guidance only as final torque may vary depending on the type and size of the fastener, the joint rate, air pressure, etc.
Optimum performance is achieved at the mid range of the tool's torque capability.

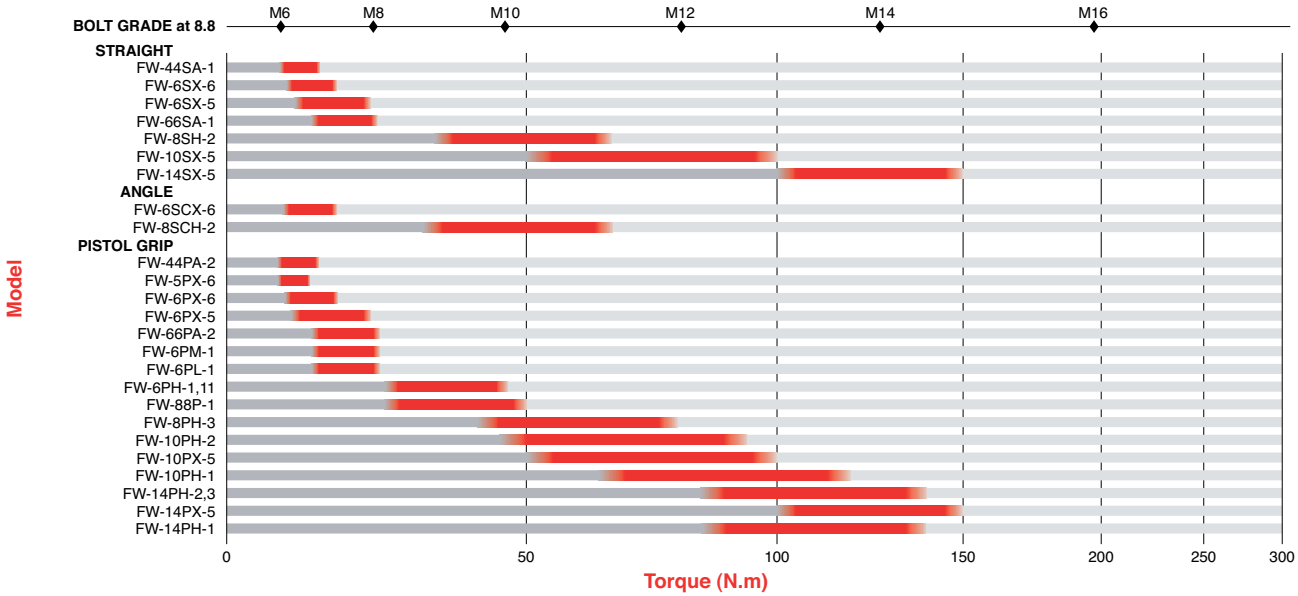
PULSE WRENCHES SHUT-OFF TYPE



PULSE WRENCHES



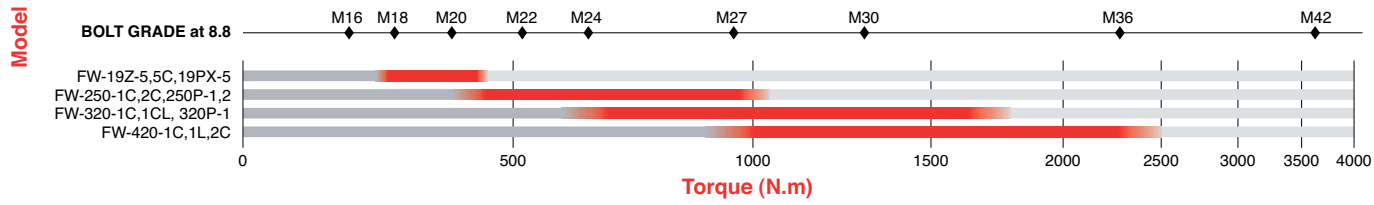
IMPACT WRENCHES



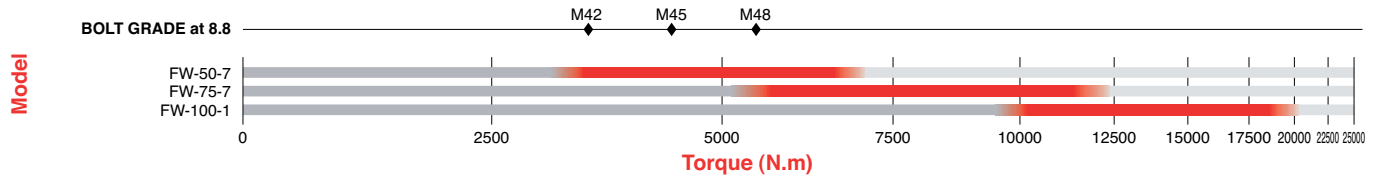
Torque range should be used for guidance only as final torque may vary depending on the type and size of fastener, the joint rate, air pressure etc.
Optimum performance is achieved at the mid range of the tool's torque capability.

Selection Guide

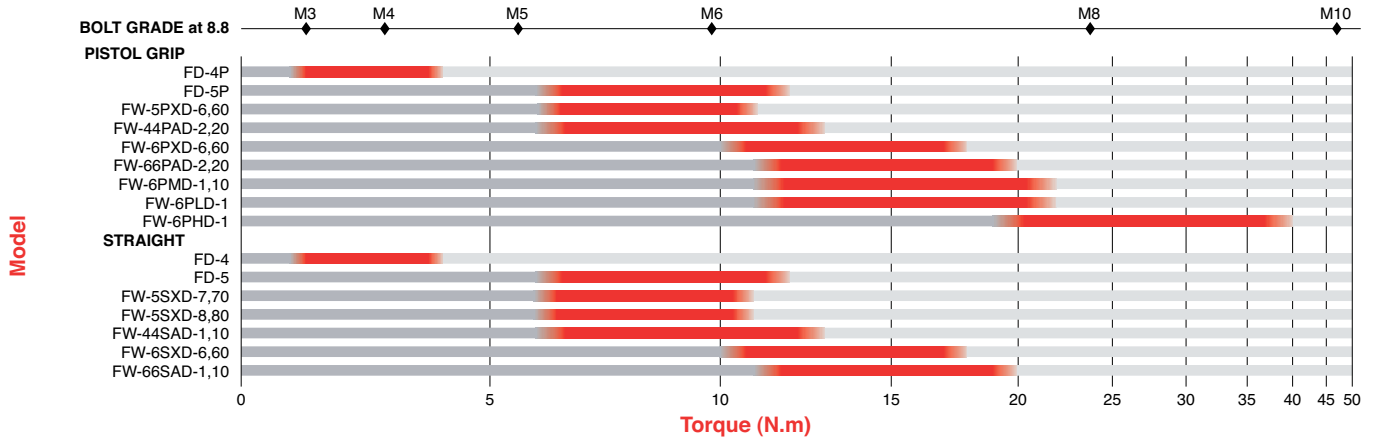
IMPACT WRENCHES



LARGE IMPACT WRENCHES



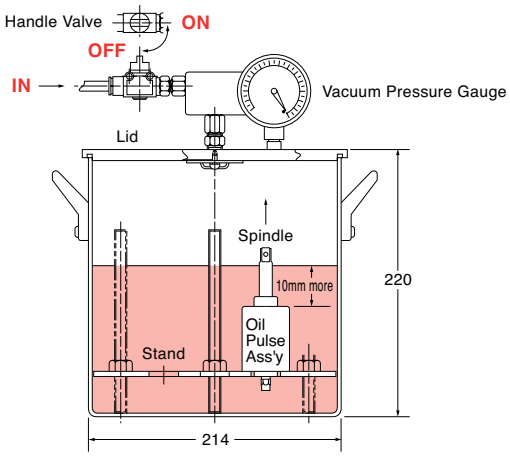
SCREW DRIVERS



Torque range should be used for guidance only as final torque may vary depending on the type and size of the fastener, the joint rate, air pressure, etc. Optimum performance is achieved at the mid range of the tool's torque capability.

Oil Filler

The Fuji oil filler is the ideal, and indispensable, equipment required for maintenance and repair of pulse wrenches. By connecting a conventional air supply to the handle valve, the oil filler makes re-filling the pulse unit assembly quick and easy.



1 EXHAUST WITH A MUFFLER

Our original built-in, swivel type, exhaust muffler is designed to reduce the noise level of the tool. The operator can also select a suitable direction of the exhaust air to minimise the risk of blowing any dust or debris in to the local work environment.

All WRENCHES EXCEPT FW-6PL, 6PLD, 5SXD-8, 80, FD-4, 5, 4P, 5P

REAR EXHAUST MUFFLER

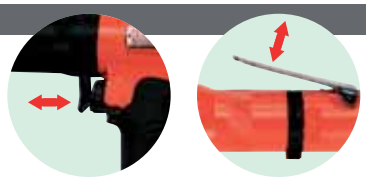
FRONT EXHAUST
FPW-2220S, FW-19Z, 250~420, FW-50, 75, 100

2 TWO STAGE / SQUEEZING TYPE THROTTLE VALVE MECHANISM

The two stage / squeeze type throttle enables the operator to start the tool slowly and increase to full speed to aid location of the fastening at the start of the cycle.

TWO STAGE TYPE : FPT, FPW, FW-6PM, 44P~88P

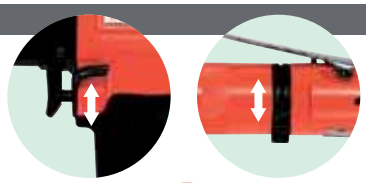
SQUEEZING TYPE : FPT-*S, FPW-*S, FW-44S~66S, FOW, FRW



3 REVERSE VALVE LEVER

All models feature a reversible motor. The operator can easily and quickly select the direction of rotation simply by turning or sliding the reverse actuator.

ALL WRENCHES EXCEPT FOW, FRW



FPW pistol, straight

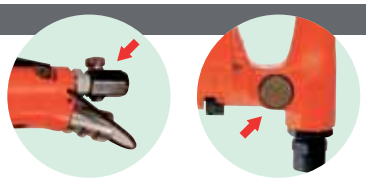
FW pistol, straight

4 AIR REGULATOR

To accommodate torque adjustment, the built in air regulator is used to regulate the air flow.

FW-6SX, 8SH, 10SX, 14SX, 6SCX, 8SCH, 50~100

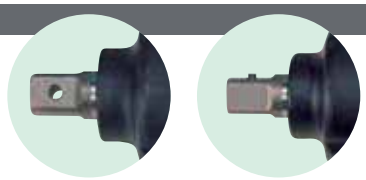
FW-6PX, 10PX, 14PX, 19Z, 420 SERIES



5 SQUARE DRIVE ANVIL

Two types of square drive anvils are available. As our standard for overseas, the models larger than 25.4 mm (1 inch) square drive are supplied with P anvil (Pin hole retainer type) and the models smaller than 19 mm (3/4 inch) square drive are supplied with BF anvil (Flat button retainer type). Small models can be supplied with P anvil on your request.

ALL WRENCHES WITH SQUARE DRIVE ANVIL

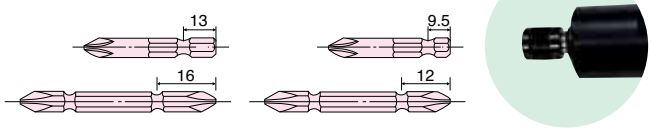


P ANVIL BF ANVIL

6 BIT SHANK TYPE ANVIL FOR SCREW DRIVERS

Two types of quick-change bit shank type anvils are available. Both are for 6.35 mm(1/4 inch) hex driver bit, but divided into two model groups according to the bit neck size.

ALL SCREW DRIVERS

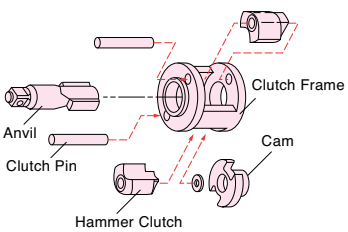


(1) GROUPS (2) GROUPS

7 CLUTCH MECHANISM-IMPACT WRENCHES AND DRIVERS

1) DOUBLE CLUTCH TYPE

The impact force is balanced with less torque reaction due to two impacts made per revolution.
The double clutch type impact wrenches and drivers benefit from less vibration and longer service life than conventional single clutch models.



Features

2) SINGLE CLUTCH TYPE

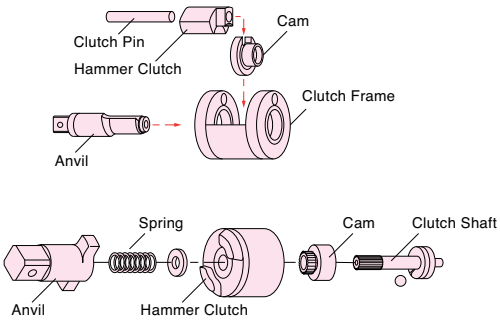
The impact force is harder and torque/weight ratio is better than the double clutch type. Single clutch type models are suitable for hard "pull-up" fastening operations for maintenance & service applications.

FW-6PX, 6SX-5, 10PX, 10SX-5, 14PX, 14SX-5, 19Z, 19PX-5, 5C

3) 2-JAW ONE-DOG CLUTCH TYPE

The Fuji 2-Jaw clutch impact wrenches generate very high torque/weight. These types of tool are most suited for tightening prevailing torque bolts and for removing corroded fasteners.

FW-250, 320, 420 SERIES



8 HANDLE PROTECTOR

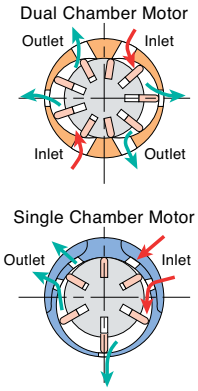
Ergonomically designed handle protectors provide reduced vibration, increased operator comfort and insulate the hand from the cold temperature generated by compressed air.

PISTOL GRIP MODELS : FPT, FPW, FW-6PM, 44P~88P

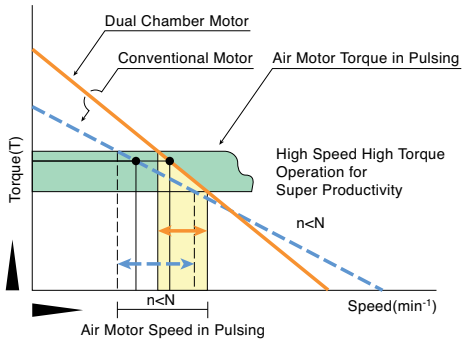
9 DUAL CHAMBER MOTOR

All Fuji pulse wrench models (FPT & FPW) and the new series of impact wrenches (FW-44~88) are built with a 9-blade, dual chamber motor. This motor is designed to provide high torque at low speed, giving the best characteristics for fast reliable and accurate tightening.

CROSS SECTION



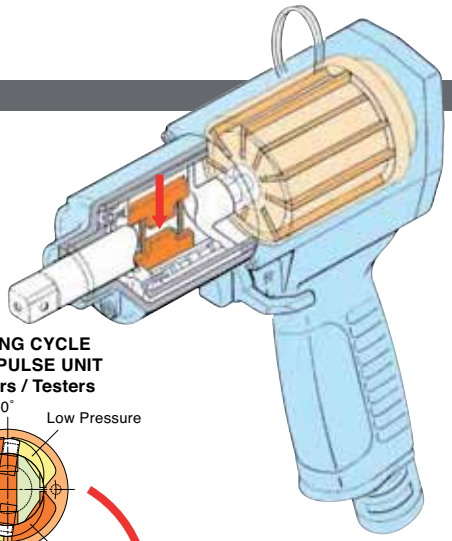
EFFICIENCY COMPARISON



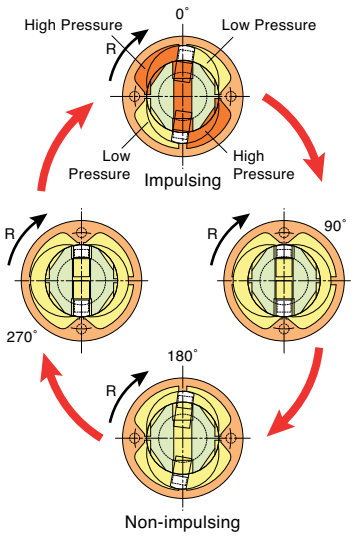
10 2-BLADE PULSE UNIT

As the pulsing cycle is very short, there is almost no torque reaction in the handle grip (low motor torque only is felt by the operator). Unlike an impact wrench, the pulse tool has no "metal to metal" contact and consequently the pulse wrenches provide softer and stable "impulsing". The benefits from this are less vibration, lower noise levels and longer service life when compared with conventional impact wrenches.
All pulse wrenches models (FPT & FPW series) utilise the Fuji patented 2-blade pulse unit combined with the dual chamber motor. This combination provides 50% higher power to weight ratio than comparable fastening tools.
For productivity, this design reaches torque faster, which is excellent for soft joint or prevailing torque applications with reduced noise and vibration levels.

FPT, FPW SERIES



IMPULSING CYCLE
2-BLADE PULSE UNIT
Controllers / Testers



Pulse Wrenches Shut-off Type

"FPT and FLT Series" are provided with Fuji patented original shut-off control mechanism having a dual chamber motor and 2-blade pulsing mechanism. It is designed for giving high torque at low speed, which gives the best characteristics for fast, reliable and accurate tightening. FPT and FLT Series contribute to high productivity, quality improvement, working environment improvement, and operator fatigue minimization in various industries.

SQUARE DRIVE TYPE

FPT-110S

FPT-330S~660S

FPT-770S

FLT-4

FLT-5

FLT-6

FPT-1110~1660

Models to be operated at air pressure 0.5MPa to 0.6MPa (5.0 to 6.3 bar)

Model	Bolt Size	Recommended Torque Range			Free Speed	Square Drive Size		Overall Length		Weight (without socket)		Air Consumption (at Load)	
	mm	N · m	kgf · m	ft · lb	min^{-1}	mm	in	mm	in	kg	lb	m^3/min	ft^3/min
Straight Models													
FPT-110S-1	M4~M5	4~7	0.4~0.7	3.0~5.2	4,500	9.5	3/8	236.5	9 5/16	0.85	1.9	0.20	7.1
FPT-330S-1	M5~M6	6~10	0.6~1.0	4.4~7.4	4,400	9.5	3/8	249	9 13/16	1.1	2.4	0.35	12.3
FPT-440S-1	M5~M6	8~13	0.8~1.3	5.9~9.6	5,000	9.5	3/8	250	9 27/32	1.1	2.4	0.35	12.3
FPT-550S-1	M6~M8	12~20	1.2~2.0	8.9~14.8	5,000	9.5	3/8	250	9 27/32	1.1	2.4	0.35	12.3
FPT-660S-1	M6~M8	20~30	2.0~3.1	14.8~22.1	5,000	9.5	3/8	262	10 21/64	1.1	2.4	0.50	17.6
FPT-770S-1	M8~M10	30~45	3.1~4.6	22.1~33.2	5,500	9.5	3/8	273.5	10 49/64	1.6	3.5	0.45	15.9
Pistol Grip Models													
FPT-110-1	M5~M6	4~7	0.4~0.7	3.0~5.2	6,000	9.5	3/8	194.5	7 21/32	0.95	2.1	0.20	7.1
FLT-4-1	M5~M6	5~12	0.5~1.2	3.6~8.8	6,200	9.5	3/8	181	7 1/8	0.97	2.1	0.40	14.1
FLT-5-1	M6~M8	11~24	1.1~2.4	8.1~17.7	6,500	9.5	3/8	181	7 1/8	0.97	2.1	0.45	15.8
FLT-6-1	M8~M10	22~35	2.2~3.5	16.2~25.8	6,300	9.5	3/8	192	7 19/32	1.00	2.2	0.55	19.4
FLT-7-1	M8~M10	30~60	3.0~6.1	22.1~44.2	6,100	9.5	3/8	189.5	7 29/64	1.10	2.4	0.60	21.1
FLT-9-1	M10	50~85	5.1~8.6	36.8~62.6	5,300	12.7	1/2	209	8 15/64	1.60	3.5	0.68	24.0
FLT-11-1	M10~M12	70~130	7.1~13.2	51.6~95.8	5,000	12.7	1/2	217.5	8 9/16	1.85	4.1	0.80	28.2
FLT-13-1	M12~M14	90~160	9.1~16.3	66.3~118	3,400	12.7	1/2	227.5	8 61/64	2.10	4.6	0.85	30.0
FLT-20S-1	M18~M20	200~400	20.4~40.8	147.5~295	2,500	19.0	3/4	405	15 3/32	8.80	19.4	1.3	45.8
FPT-1660-1	M16~M18	150~210	15.3~21.4	110.6~154.9	2,800	19.0	3/4	266	10 31/64	4.4	9.7	1.2	42.4

*Use all above models at 0.5-0.63 MPa (5.0 to 6.3 bar) air pressure but FPT-110 series at 0.4-0.63 MPa (4.0-6.3 bar) air pressure.
*Performance figures are at 0.63 MPa (6.3 bar) air pressure. *Air Inlet Thread Size: BSP or NPT 1/4", (FPT-1660) BSP or NPT 3/8".
*Air Hose Size: (FPT-110S, 330S, 440S, 550S, FLT-4-1, 5-1) 6.3mm (1/4"). (660S, 770S, 1660-1, FLT-6-1, 7-1, 9-1, 11-1, 13-1) 9.5mm (3/8"), (FLT-20S-1) 12.7mm (1/2").

Pulse Wrenches Shut-off Type

BIT SHANK TYPE

FPT-110SD

FPT-330SD~660SD

FLT-4

FLT-5

FLT-6

Models to be operated at air pressure 0.5MPa to 0.63MPa (5.0 to 6.3 bar)

Model	Bolt Size	Recommended Torque Range			Free Speed	Bit Shank Size		Overall Length		Weight (without socket)		Air Consumption (at Load)	
	mm	N · m	kgf · m	ft · lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min
Straight Models													
FPT-110SD-1(10)	M4~M5	4~7	0.4~0.7	3.0~5.2	4,500	6.35	1/4	240	9 29/64	0.85	1.9	0.20	7.1
FPT-330SD-1(10)	M5~M6	6~10	0.6~1.0	4.4~7.4	4,400	6.35	1/4	249	9 13/16	1.1	2.4	0.35	12.3
FPT-440SD-1(10)	M5~M6	8~13	0.8~1.3	5.9~9.6	5,000	6.35	1/4	251	9 57/64	1.1	2.4	0.35	12.3
FPT-550SD-1(10)	M6~M8	12~20	1.2~2.0	8.9~14.8	5,000	6.35	1/4	251	9 57/64	1.1	2.4	0.35	12.3
FPT-660SD-1(10)	M6~M8	15~28	1.5~2.9	11.1~20.7	5,000	6.35	1/4	262	10 21/64	1.1	2.4	0.50	17.6
Pistol Grip Models													
FPT-110D-1(10)	M5~M6	4~7	0.4~0.7	3.0~5.2	6,000	6.35	1/4	197.5	7 25/32	0.95	2.1	0.20	7.1
FPT-330-1	M5~M6	6~11	0.6~1.1	4.4~8.1	6,000	9.5	3/8	198	7 51/64	1.2	2.6	0.39	13.8
FPT-440D-1(10)	M6	10~16	1.0~1.6	7.4~11.8	6,700	6.35	1/4	193	7 39/64	1.2	2.6	0.35	12.3
FLT-4D-1	M6	14~20	1.4~2.0	10.3~14.7	6,700	6.35	1/4	140	5 3/64	0.79	1.7	0.36	12.7
FLT-4D-10	M6	14~20	1.4~2.0	10.3~14.7	6,700	6.35	1/4	140	5 3/64	0.79	1.7	0.36	12.7
FLT-5D-1	M6~M8	18~32	1.7~3.2	13.2~23.6	6,300	6.35	1/4	140	5 3/64	0.79	1.7	0.40	14.1
FLT-5D-10	M6~M8	18~32	1.7~3.2	13.2~23.6	6,300	6.35	1/4	140	5 3/64	0.79	1.7	0.40	14.1
FLT-6D-1	M8	25~42	2.5~4.2	18.4~30.9	6,700	6.35	1/4	152	5 63/64	0.83	1.8	0.42	14.8
FLT-6D-10	M8	25~42	2.5~4.2	18.4~30.0	6,700	6.3	1/4	152	5 63/64	0.83	1.8	0.42	14.8

*Use all above models at 0.5-0.63 MPa (5.0 to 6.3 bar) air pressure but FPT-110 series at 0.4-0.63 MPa (4.0-6.3 bar) air pressure.
*Performance figures are at 0.63 MPa (6.3 bar) air pressure. *Air Inlet Thread Size: or NPT 1/4".
*Air Hose Size: (FPT-110SD, 330SD, 440SD, 550SD, 110D, 330D, FLT-4D-1, 4D-10, 5D-1, 5D-10) 6.3mm (1/4").
(FPT660SD, FLT-6D-1, FLD-6D-10) 9.5mm (3/8").

SQUARE DRIVE TYPE

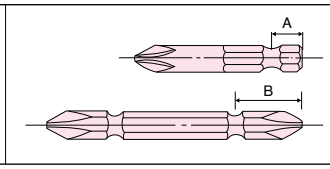
FPT-440SC~660SC

FPT-770SC-1

Models to be operated at air pressure 0.5MPa to 0.63MPa (5.0 to 6.3 bar)

Model	Bolt Size	Recommended Torque Range			Free Speed	Square Drive Size		Overall Length		Weight (without socket)		Air Consumption (at Load)	
	mm	N · m	kgf · m	ft · lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min
Angle Head Models													
FPT-440SC-1	M5~M6	6~11	0.6~1.1	4.4~8.1	4,500	9.5	3/8	280	11 1/32	1.46	3.2	0.35	12.4
FPT-550SC-1	M6	10~17	1.0~1.7	7.4~12.5	4,800	9.5	3/8	280	11 1/32	1.46	3.2	0.35	12.4
FPT-660SC-1	M6~M8	15~25	1.5~2.6	11.1~18.4	4,700	9.5	3/8	292	11 1/2	1.54	3.4	0.5	17.7
FPT-770SC-1	M8	20~35	2.0~3.6	14.8~25.8	5,500	9.5	3/8	306	12 3/64	2.3	5.1	0.45	15.9

*Air Inlet Thread Size: BSP or NPT 1/4". *Air Hose Size: 6.3mm (1/4"). (660SC, 770SC) 9.5mm (3/8").

Bit Size		
		FPT-***SD-1, ***D-1,1L A:9.5mm B:12mm
		FPT-***SD-10, ***D-10,10L A:13mm B:16mm

Geared Pulse Wrenches Shut-off Type

The Fuji Geared Pulse Wrenches Shut-Off type provides high power in combination with low noise and vibration though the Dual Chamber Air Motor & Gear-drive angle head.
The ergonomic design reduces the reaction forces experienced by the operator throughout the torque range.

FPT-770SCG-1

Models to be operated at air pressure 0.5MPa to 0.63MPa (5.0 to 6.3 bar)

Model	Bolt Size	Recommended Torque Range			Free Speed	Socket Hex Size		Overall Length		Weight		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	min^{-1}	mm	in	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
FPT-770SCG-1	M6	17~24	1.7~2.4	12.5~17.7	6,400	12	15/32	378	14 7/8	2.6	5.7	0.45	15.9	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

Pulse Wrenches

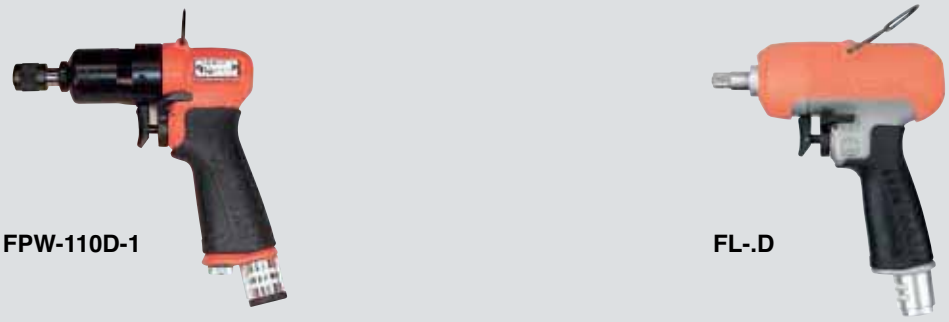
Featured with dual chamber air motor, FPW and FL series pulse wrenches are designed to generate higher torque and yet reducing vibration, torque reaction and noise levels. Combined with 2-blade impulsing mechanism, 9-blade dual chamber motor creates about 50% higher power-to-weight ratio than our former series of the same physical size. The reduction of vibration and torque reaction helps reduce operator fatigue and other problems associated with repeated vibration or impact motion.

SQUARE DRIVE TYPE

Model	Bolt Size	Recommended Torque Range			Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N · m	kgf · m	ft · lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
Pistol Grip Models															
FPW-110-1	M4~M5	7.5~13 (2~7.5)	0.8~1.3 (0.2~0.8)	5.5~9.6 (1.4~5.5)	4,500	9.5	3/8	143	5 41/64	0.75	1.7	0.20	7.1	6.3	1/4
FL-4-1	M6	16~24	1.6~2.4	11.8~17.7	6,700	9.5	3/8	139.5	5 31/64	0.79	1.7	0.36	12.7	6.3	1/4
FL-5-1	M6~M8	20~40	2.0~4.0	14.7~29.5	6,300	9.5	3/8	139.5	5 31/64	0.79	1.7	0.40	14.1	6.3	1/4
FL-6-1	M8	28~56	2.8~5.6	20.6~41.3	6,700	9.5	3/8	151.5	5 31/32	0.83	1.8	0.42	14.8	9.5	3/8
FL-7-1	M8~M10	34~60	3.4~6.1	25.0~44.2	6,100	9.5	3/8	155	6 7/64	1.02	2.2	0.60	21.1	9.5	3/8
FL-9-1	M10	52~96	5.3~9.7	38.3~70.8	5,000	12.7	1/2	173	6 13/16	1.45	3.2	0.65	22.9	9.5	3/8
FL-11-1	M10~M12	80~136	8.1~13.8	59.0~100.3	5,000	12.7	1/2	184	7 15/64	1.80	4.0	0.80	28.2	9.5	3/8
FL-13-1	M12~M14	120~172	12.2~17.5	88.5~126.8	3,800	12.7	1/2	192	7 9/16	2.10	4.6	0.85	30.0	9.5	3/8
FPW-1660-1	M16~M18	160~270	16.3~27.5	118~199.1	3,000	19.0	3/4	243	9 37/64	3.80	8.4	1.20	42.4	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4", (FPW-1660)PT or NPT 3/8".
*Figures in ( ) can be obtained at the position of "L" mark on the regulator knob, but for another, at "H" mark.

BIT SHANK TYPE



Model	Bolt Size	Recommended Torque Range			Free Speed	Bit Shank Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N · m	kgf · m	ft · lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
Pistol Grip Models															
FPW-110D-1	M4~M5	7~11 (2~7)	0.7~1.1 (0.2~0.7)	5.2~8.1 (1.4~5.1)	4,500	6.35	1/4	149	5 7/8	0.76	1.7	0.20	7.1	6.3	1/4
FPW-110D-10	M4~M5	7~11	0.7~1.1	5.2~8.1	4,500	6.35	1/4	149	5 7/8	0.76	1.7	0.20	7.1	6.3	1/4
FL-4D-1	M6	14~20	1.4~2.0	10.3~14.7	6,700	6.35	1/4	140	5 3/64	0.79	1.7	0.36	12.7	6.3	1/4
FL-4D-10	M6	14~20	1.4~2.0	10.3~14.7	6,700	6.35	1/4	140	5 3/64	0.79	1.7	0.36	12.7	6.3	1/4
FL-5D-1	M6~M8	18~32	1.8~3.2	13.2~23.6	6,300	6.35	1/4	140	5 3/64	0.79	1.7	0.40	14.1	6.3	1/4
FL-5D-10	M6~M8	18~32	1.8~3.2	13.2~23.6	6,300	6.35	1/4	140	5 3/64	0.79	1.7	0.40	14.1	6.3	1/4
FL-6D-1	M8	25~42	2.5~4.2	18.4~30.9	6,700	6.35	1/4	152	5 63/64	0.83	1.8	0.42	14.8	6.3	1/4
FL-6D-10	M8	25~42	2.5~4.2	18.4~30.9	6,700	6.35	1/4	152	5 63/64	0.83	1.8	0.42	14.8	6.3	1/4

*Air Inlet Thread Size: BSP or NPT 1/4".
*Figures in ( ) can be obtained at the position of "L" mark on the regulator knob, but for another, at "H" mark.

SQUARE DRIVE TYPE

FPW-110S~660S

FPW-770S-1

FPW-2220S-1

Model	Bolt Size	Recommended Torque Range			Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
Straight Models															
FPW-110S-1	M4	2~7.5	0.2~0.8	1.5~5.5	3,200	9.5	3/8	218	8 19/32	0.65	1.4	0.20	7.1	6.3	1/4
FPW-330S-1	M5	13~22	1.3~2.2	9.6~16.2	4,400	9.5	3/8	226	8 57/64	0.87	1.9	0.30	10.6	6.3	1/4
FPW-440S-1	M4~M6	20~34	2.0~3.5	14.8~25.1	5,500	9.5	3/8	226	8 57/64	0.87	1.9	0.35	12.4	6.3	1/4
FPW-550S-1	M6~M8	27~44	2.8~4.5	19.9~32.5	5,700	9.5	3/8	226	8 57/64	0.87	1.9	0.37	13.1	6.3	1/4
FPW-660S-1	M6~M8	34~54	3.5~5.5	25.1~39.8	5,800	9.5	3/8	238	9 3/8	0.95	2.1	0.50	17.7	9.5	3/8
FPW-770S-1	M8	44~76	4.5~7.8	32.5~56.1	6,300	9.5	3/8	240	9 7/16	1.25	2.7	0.50	17.7	9.5	3/8
FPW-2220S-1	M18~M20	300~500	30.6~51.0	221.3~368.8	2,500	19.0	3/4	350	10 13/16	7.00	15.4	1.30	45.9	12.7	1/2

*Air Inlet Thread Size: BSP or NPT 1/4", (FPW-2220S) BSP or NPT 1/2".

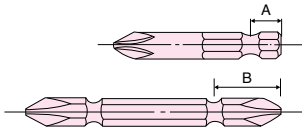
BIT SHANK TYPE

FPW-110SD

FPW-330SD~660SD

Model	Bolt Size	Recommended Torque Range			Free Speed	Bit shank Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
Straight Models															
FPW-110SD-1	M4	2~7	0.2~0.7	1.5~5.2	3,200	6.35	1/4	224	8 53/64	0.65	1.4	0.20	7.1	6.3	1/4
FPW-110SD-10	M4	2~7	0.2~0.7	1.5~5.2	3,200	6.35	1/4	224	8 53/64	0.65	1.4	0.20	7.1	6.3	1/4
FPW-330SD-1	M5	12~17	1.2~1.7	8.9~12.5	4,400	6.35	1/4	226	8 57/64	0.88	1.9	0.30	10.6	6.3	1/4
FPW-330SD-10	M5	12~17	1.2~1.7	8.9~12.5	4,400	6.35	1/4	226	8 57/64	0.88	1.9	0.30	10.6	6.3	1/4
FPW-440SD-1	M4~M6	15~25	1.5~2.6	11.1~18.4	5,500	6.35	1/4	226	8 57/64	0.88	1.9	0.35	12.4	6.3	1/4
FPW-440SD-10	M4~M6	15~25	1.5~2.6	11.1~18.4	5,500	6.35	1/4	226	8 57/64	0.88	1.9	0.35	12.4	6.3	1/4
FPW-550SD-1	M4~M6	20~34	2.0~3.5	14.8~25.1	5,700	6.35	1/4	226	8 57/64	0.88	1.9	0.37	13.1	6.3	1/4
FPW-550SD-10	M4~M6	20~34	2.0~3.5	14.8~25.1	5,700	6.35	1/4	226	8 57/64	0.88	1.9	0.37	13.1	6.3	1/4
FPW-660SD-1	M6~M8	25~37	2.6~3.8	18.4~27.3	5,800	6.35	1/4	238	9 3/8	0.95	2.1	0.50	17.7	9.5	3/8
FPW-660SD-10	M6~M8	25~37	2.6~3.8	18.4~27.3	5,800	6.35	1/4	238	9 3/8	0.95	2.1	0.50	17.7	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

Bit Size		FPW-***SD-1, FPW-***D-1,2,3,4 A:9.5mm B:12mm
		FPW-***SD-10, FPW-***D-10,20,30,40 A:13mm B:16mm

Pulse Wrenches

SQUARE DRIVE TYPE

FPW-440SC~660SC

FPW-770SC-1

Model	Bolt Size	Recommended Torque Range			Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N · m	kgf · m	ft · lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
Angle Head Models															
FPW-440SC-1	M4~M6	13~24	1.3~2.4	9.6~17.7	5,000	9.5	3/8	255	10 3/64	1.28	2.8	0.39	13.8	6.3	1/4
FPW-550SC-1	M6~M8	22~35	2.2~3.6	16.2~25.8	5,500	9.5	3/8	255	10 3/64	1.29	2.8	0.39	13.8	6.3	1/4
FPW-660SC-1	M6~M8	25~43	2.6~4.4	18.4~31.7	5,500	9.5	3/8	267	10 33/64	1.40	3.1	0.48	16.9	9.5	3/8
FPW-770SC-1	M8	33~50	3.4~5.1	24.3~36.9	6,300	9.5	3/8	271	10 43/64	1.70	3.7	0.50	17.7	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

Geared Pulse Wrenches

The Fuji Geared Pulse Wrenches Shut-Off type provides high power in combination with low noise and vibration through the Dual Chamber Air Motor & Gear-drive angle head.
The ergonomic design reduces the reaction forces experienced by the operator throughout the torque range.

FPW-770SCG-1

Model	Bolt Size	Recommended Torque Range			Free Speed	Socket Hex Size		Overall Length		Weight		Air Consumption (at Load)		Air Hose Size	
	mm	N · m	kgf · m	ft · lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
FPW-770SCG-1	M4~M6	21~30	2.1~3.1	15.5~22.1	7,000	12	15/32	343	13 33/64	2.0	4.4	0.50	17.7	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

'Dual Chamber Motor' Impact Wrenches

Fuji Impact Wrenches FW-44~88 have 9-blade dual chamber motor and double clutch type impact mechanism. They are designed for giving high torque at low speed, which give the best characteristics for fast reliable and accurate tightening. These models are provided with two types of lubricant in clutch part, FW-44PA~66PA and FW-44SA~66SA series are with oil (Oil Bath type) which features long service life and FW-44P~88P and FW-44S~66S are with conventional grease. Both series are suitable for self tapping type soft joint.

Pistol Grip Models

9.5mm(3/8")~12.7mm(1/2")

FW-44PA~66PA

FW-88P-1

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	N・m	min^{-1}	mm	in	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
・FW-44PA-2	M5	8~16	0.8~1.6	5.9~11.8	20	6,500	9.5	3/8	131	5 5/32	0.78	1.7	0.60	21.2	6.3	1/4
・FW-66PA-2	M6	14~26	1.4~2.7	10.3~19.2	32	5,000	9.5	3/8	137	5 25/64	0.88	1.9	0.48	16.9	6.3	1/4
FW-88P-1	M8	27~50	2.8~5.1	19.9~36.9	70	5,300	12.7	1/2	163	6 27/64	1.40	3.1	0.64	22.5	9.5	3/8

*Marked • are oil bath types. *All Models are double clutch types.
*Air Inlet Thread Size: BSP or NPT 1/4".

Straight Model

FW-44SA~66SA

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	N・m	min^{-1}	mm	in	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
・FW-44SA-1	M5	8~16	0.8~1.6	5.9~11.8	20	5,700	9.5	3/8	207	8 5/32	0.66	1.4	0.35	12.4	6.3	1/4
・FW-66SA-1	M6	14~26	1.4~2.7	10.3~19.2	32	5,000	9.5	3/8	212	8 11/32	0.78	1.7	0.37	13.1	6.3	1/4

*Marked • are oil bath types. *All Models are double clutch types.
*Air Inlet Thread Size: BSP or NPT 1/4".

Impact Wrenches

Fuji Impact Wrenches are suitable for various fastening and unfastening operations. The combination of high torque and fast run down minimise operator fatigue.

Small Size Pistol Grip Models

9.5mm (3/8")~15.9mm (5/8")

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	N・m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
・FW-5PX-6	M5	8~13	0.8~1.3	5.9~9.6	18	12,000	9.5	3/8	150	5 29/32	0.80	1.8	0.20	7.1	6.3	1/4
・FW-6PM-1	M6	14~26	1.4~2.7	10.3~19.2	32	8,500	9.5	3/8	140	5 33/64	0.92	2.0	0.53	18.7	9.5	3/8
・FW-6PL-1	M6	14~26	1.4~2.7	10.3~19.2	32	10,000	9.5	3/8	175	6 57/64	0.90	2.0	0.20	7.1	9.5	3/8
FW-6PX-5	M6	11~23	1.1~2.3	8.1~17.0	30	10,000	9.5	3/8	156	6 9/64	1.20	2.6	0.28	9.9	9.5	3/8
・FW-6PX-6	M6	10~18	1.0~1.8	7.4~13.3	25	10,000	9.5	3/8	156	6 9/64	1.20	2.6	0.28	9.9	9.5	3/8
・FW-6PH-1	M8	27~40	2.8~4.1	19.9~29.5	60	9,000	9.5	3/8	147	5 25/32	1.35	3.0	0.35	12.4	9.5	3/8
・FW-6PH-11	M8	27~40	2.8~4.1	19.9~29.5	60	9,000	12.7	1/2	152	6	1.40	3.1	0.35	12.4	9.5	3/8
・FW-8PH-3	M10	42~80	4.3~8.2	31.0~59.0	130	7,500	12.7	1/2	162	6 3/8	1.50	3.3	0.40	14.1	9.5	3/8
FW-10PX-5	M10	50~100	5.1~10.2	36.9~73.8	150	8,000	12.7	1/2	182	7 11/64	2.30	5.0	0.40	14.1	9.5	3/8
・FW-10PH-1	M10	63~120	6.4~12.2	46.5~88.5	160	7,500	12.7	1/2	179	7 3/64	2.00	4.4	0.45	15.8	9.5	3/8
・FW-10PH-2	M10	47~93	4.8~9.5	34.7~68.6	113	7,500	12.7	1/2	179	7 3/64	2.00	4.4	0.45	15.8	9.5	3/8
FW-14PX-5	M14	100~150	10.2~15.3	73.8~110.6	190	6,500	12.7	1/2	197	7 3/4	3.00	6.6	0.40	14.1	9.5	3/8
・FW-14PH-1	M14	85~140	8.7~14.3	62.7~103.3	180	7,500	12.7	1/2	202	7 15/16	2.56	5.7	0.60	21.2	9.5	3/8
・FW-14PH-2	M14	85~140	8.7~14.3	62.7~103.3	180	7,500	12.7	1/2	202	7 15/16	2.56	5.7	0.60	21.2	9.5	3/8
・FW-14PH-3	M14	85~140	8.7~14.3	62.7~103.3	180	7,500	15.9	5/8	202	7 15/16	2.56	5.7	0.60	21.2	9.5	3/8

*Marked ・ are double clutch types. Others are single clutch types.
*Air Inlet Thread Size: BSP or NPT 1/4".

Small Size Straight Models

9.5mm (3/8")~12.7mm (1/2")

FW-6SX-5,-6

FW-8SH-2

FW-10SX-5

FW-14SX-5

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N · m	kgf · m	ft · lb	N · m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
FW-6SX-5	M6	11~23	1.1~2.3	8.1~17.0	30	10,000	9.5	3/8	223	8 25/32	1.10	2.4	0.30	10.6	9.5	3/8
•FW-6SX-6	M6	10~18	1.0~1.8	7.4~13.3	25	10,000	9.5	3/8	223	8 25/32	1.10	2.4	0.30	10.6	9.5	3/8
•FW-8SH-2	M10	35~67	3.6~6.8	25.8~49.4	93	8,000	12.7	1/2	306	12 3/64	1.70	3.7	0.40	14.1	9.5	3/8
FW-10SX-5	M10	50~100	5.1~10.2	36.9~73.8	150	8,000	12.7	1/2	317	12 31/64	2.20	4.8	0.40	14.1	9.5	3/8
FW-14SX-5	M14	100~150	10.2~15.3	73.8~110.6	190	6,500	12.7	1/2	356	14 1/64	3.00	6.6	0.50	17.7	9.5	3/8

*Marked • are double clutch types. Others are single clutch types.
*Air Inlet Thread Size: BSP or NPT 1/4".

Angle Head Models

FW-6SCX-6

FW-8SCH-2

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N · m	kgf · m	ft · lb	N · m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
•FW-6SCX-6	M6	9~18	0.9~1.8	6.6~13.3	20	8,000	9.5	3/8	261	10 9/32	1.60	3.5	0.30	10.5	9.5	3/8
•FW-8SCH-2	M10	33~67	3.4~6.8	24.3~49.4	87	7,500	12.7	1/2	347	13 21/32	2.70	5.9	0.40	14.1	9.5	3/8

*Marked • are double clutch types.
*Air Inlet Thread Size: BSP or NPT 1/4".

Corner Attachment (Angle Head)

The Corner Attachment CA-14A can be mounted on straight or pistol grip type impact wrenches FW-14PX, 14SX to access fastening in confined spaces.

CA-14A

IMPACT WRENCHES+CORNER ATTACHMENT

CA-14A + FW-14SX-5

Model	Side to Center		Square Drive Size		Angle Head Height		Overall Length		Weight (without socket)		Models
	mm	in	mm	in	mm	in	mm	in	kg	lb	
CA-14A	24.5	31/32	12.7	1/2	84	3 5/16	146	5 3/4	1.4	3.0	**FW-14PX,14SX Series**

Impact Wrenches

Medium Size Straight Models

19mm (3/4")~31.8mm (1 1/4")

FW-19Z-5

FW-250-1,2

FW-320-1

FW-420-1C,2C

FW-320-1CL
(Long Anvil Type)
Inside Lever type

FW-420-1CL
(Long Anvil Type)
Inside Lever type

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Inlet Thread Size	Air Hose Size	
	mm	N・m	kgf・m	ft・lb	N・m	min^{-1}	mm	in	mm	in	kg	lb	m^3/min	ft^3/min	BSP or NPT	mm	in
FW-19Z-5C	M18	235~450	24.0~45.9	173.3~331.9	560	5,000	19.0	3/4	322	12 43/64	5.2	11.5	0.6	21.2	3/8	9.5	3/8
FW-250-1C	M24	380~1040	38.8~106.1	280.3~767.0	1200	5,000	25.4	1	302	11 57/64	6.0	13.2	0.7	24.7	1/2	12.7	1/2
FW-250-2C	M24	380~1040	38.8~106.1	280.3~767.0	1200	5,000	19.0	3/4	302	11 57/64	6.0	13.2	0.7	24.7	1/2	12.7	1/2
FW-320-1C	M30~M33	600~1800	61.2~183.6	442.5~1327.5	2300	4,800	25.4	1	353	13 29/32	8.7	19.2	1.0	35.3	1/2	12.7	1/2
•FW-320-1CL	M30~M33	600~1800	61.2~183.6	442.5~1327.5	2300	4,800	25.4	1	484	19 1/16	10.0	22.0	1.0	35.3	1/2	12.7	1/2
FW-420-1C	M36~M42	900~2500	91.8~255.0	663.8~1843.8	2800	4,500	25.4	1	349	13 3/7	10.8	23.8	1.2	42.4	1/2	19.0	3/4
•FW-420-1CL	M36~M42	900~2500	91.8~255.0	663.8~1843.8	2800	4,500	25.4	1	501	19 3/4	12.5	27.5	1.2	42.4	1/2	19.0	3/4
FW-420-2C	M36~M42	900~2500	91.8~255.0	663.8~1843.8	2800	4,500	31.8	1 1/4	351	13 13/16	10.8	23.8	1.2	42.4	1/2	19.0	3/4

*Marked • are long anvil types. *Models with C are Inside Lever types.
*FW-19Z-5 is single clutch type. Other Models are 2-Jaw clutch types.

Medium Size Pistol Grip Models

19mm (3/4")~25.4mm (1")

FW-19PX-5

FW-250P-1,2

FW-320P-1

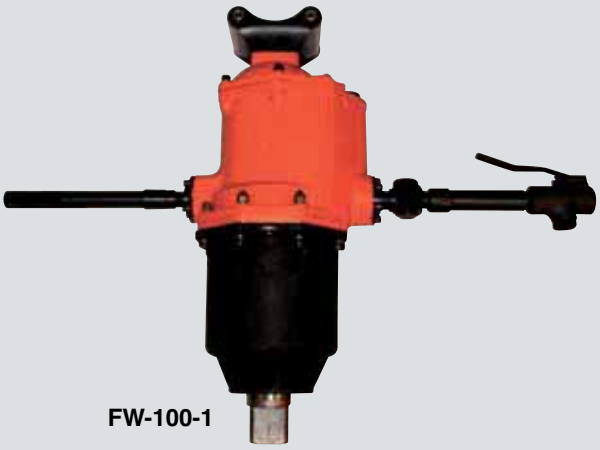
Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Inlet Thread Size	Air Hose Size	
	mm	N · m	kgf · m	ft · lb	N · m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FW-19PX-5	M18	235~450	24.0~45.9	173.3~331.9	560	5,000	19.0	3/4	239	9 13/32	4.4	9.7	0.6	21.2	1/4	9.5	3/8
FW-250P-1	M24	380~1040	38.8~106.1	280.3~767.0	1200	5,000	25.4	1	228	8 31/32	5.3	11.7	0.7	24.7	3/8	12.7	1/2
FW-250P-2	M24	380~1040	38.8~106.1	280.3~767.0	1200	5,000	19.0	3/4	228	8 31/32	5.3	11.7	0.7	24.7	3/8	12.7	1/2
FW-320P-1	M30~M33	600~1800	61.2~183.6	442.5~1327.5	2300	4,800	25.4	1	268	10 36/64	8.0	17.6	1.0	35.3	3/8	12.7	1/2

*FW-19PX-5 is single clutch type. Other Models are 2-Jaw clutch types.

Heavy Duty Straight Models

38.1mm (1 1/2")~63.5mm (2 1/2")

FW-50-7, 75-7



FW-100-1

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Square Drive Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Inlet Thread Size	Air Hose Size	
	mm	N · m	kgf · m	ft · lb	N · m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FW-50-7	M50	3300~7050	336.6~719.1	2433.8~5199.4	8400	4,000	38.1	1 1/2	500	19 11/16	33.0	72.6	1.9	67.3	1	19.0	3/4
FW-75-7	M68	5100~12400	520.2~1264.8	3761.3~9145.0	14000	3,000	63.5	2 1/2	610	24 1/64	60.0	132.0	2.1	74.9	1	19.0	3/4
FW-100-1	M76	9250~20800	943.5~2121.6	6821.9~15340.0	22000	2,500	63.5	2 1/2	700	27 9/16	85.0	188.7	3.2	114.1	1	25.4	1

*All Models are double clutch types.

Screwdrivers

Fuji screwdrivers are suitable for a wide range of screw fastening and disassembly applications. The compact and lightweight design provides operator comfort. All models are reversible via a reverse lever or push button. Impact clutch type models are all of double clutch design and their high torque and fast run-down minimise operator fatigue. Slip clutch type models are suitable for sheet metal screws and the torque setting can be adjusted easily.

IMPACT CLUTCH TYPE - Straight Models

FW-5SXD-7(70)

FW-5SXD-8(80)

FW-6SXD-6(60)

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Bit Shank Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	N・m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
FW-5SXD-7	M5	6~11	0.6~1.1	4.4~8.1	20	12,000	6.35	1/4	223	8 25/32	0.70	1.5	0.20	7.1	6.3	1/4
FW-5SXD-70	M5	6~11	0.6~1.1	4.4~8.1	20	12,000	6.35	1/4	223	8 25/32	0.70	1.5	0.20	7.1	6.3	1/4
FW-5SXD-8	M5	6~11	0.6~1.1	4.4~8.1	20	12,000	6.35	1/4	193	7 19/32	0.65	1.4	0.20	7.1	6.3	1/4
FW-5SXD-80	M5	6~11	0.6~1.1	4.4~8.1	20	12,000	6.35	1/4	193	7 19/32	0.65	1.4	0.20	7.1	6.3	1/4
FW-6SXD-6	M6	10~18	1.0~1.8	7.4~13.3	25	10,000	6.35	1/4	235	9 1/4	1.10	2.4	0.30	10.6	9.5	3/8
FW-6SXD-60	M6	10~18	1.0~1.8	7.4~13.3	25	10,000	6.35	1/4	235	9 1/4	1.10	2.4	0.30	10.6	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

Pistol Grip Models

FW-5PXD-6(60)

FW-6PLD-1

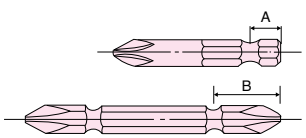
FW-6PXD-6(60)

FW-6PHD-1

FW-6PMD-1(10)

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Bit Shank Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N・m	kgf・m	ft・lb	N・m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
FW-5PXD-6	M5	6~11	0.6~1.1	4.4~8.1	20	12,000	6.35	1/4	160	6 19/64	0.80	1.8	0.30	10.6	6.3	1/4
FW-5PXD-60	M5	6~11	0.6~1.1	4.4~8.1	20	12,000	6.35	1/4	160	6 19/64	0.80	1.8	0.30	10.6	6.3	1/4
FW-6PMD-1	M6	11~22	1.1~2.2	8.1~16.2	34	8,500	6.35	1/4	146	5 3/4	0.92	2.0	0.53	18.7	9.5	3/8
FW-6PMD-10	M6	11~22	1.1~2.2	8.1~16.2	34	8,500	6.35	1/4	146	5 3/4	0.92	2.0	0.53	18.7	9.5	3/8
FW-6PLD-1	M6	11~22	1.1~2.2	8.1~16.2	34	10,000	6.35	1/4	182	7 11/64	0.90	2.0	0.20	7.1	9.5	3/8
FW-6PXD-6	M6	10~18	1.0~1.8	7.4~13.3	25	10,000	6.35	1/4	168	6 5/8	1.20	2.6	0.28	9.9	9.5	3/8
FW-6PXD-60	M6	10~18	1.0~1.8	7.4~13.3	25	10,000	6.35	1/4	168	6 5/8	1.20	2.6	0.28	9.9	9.5	3/8
FW-6PHD-1	M8	19~40	1.9~4.1	14.0~29.5	60	9,000	6.35	1/4	154	6 1/6	1.35	3.0	0.35	12.4	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

Bit Size		
		FW-*SXD-6, 7, 8, *PXD-6, *P*D-1 A:9.5mm B:12mm
		FW-*SXD-60, 70, 80, *PXD-60, *P*D-10 A:13mm B:16mm

IMPACT CLUTCH TYPE

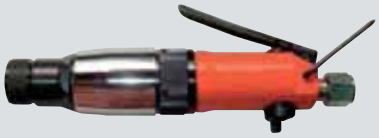
FW-44SAD~66SAD

FW-44PAD~66PAD

Model	Bolt Size	Recommended Torque Range			Max. Torque	Free Speed	Bit Shank Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)		Air Hose Size	
	mm	N · m	kgf · m	ft · lb	N · m	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min	mm	in
Straight Models																
•FW-44SAD-1	M5	6~13	0.6~1.3	4.4~9.6	20	5,700	6.35	1/4	207	8 5/32	0.66	1.4	0.35	12.4	6.3	1/4
•FW-44SAD-10	M5	6~13	0.6~1.3	4.4~9.6	20	5,700	6.35	1/4	207	8 5/32	0.66	1.4	0.35	12.4	6.3	1/4
•FW-66SAD-1	M6	11~20	1.1~2.0	8.1~14.8	28	5,000	6.35	1/4	218	8 19/32	0.78	1.7	0.37	13.1	6.3	1/4
•FW-66SAD-10	M6	11~20	1.1~2.0	8.1~14.8	28	5,000	6.35	1/4	218	8 19/32	0.78	1.7	0.37	13.1	6.3	1/4
Pistol Grip Models																
•FW-44PAD-2	M5	6~13	0.6~1.3	4.4~9.6	20	6,500	6.35	1/4	132	5 3/16	0.78	1.7	0.60	21.2	6.3	1/4
•FW-44PAD-20	M5	6~13	0.6~1.3	4.4~9.6	20	6,500	6.35	1/4	132	5 3/16	0.78	1.7	0.60	21.2	6.3	1/4
•FW-66PAD-2	M6	11~20	1.1~2.0	8.1~14.8	28	5,000	6.35	1/4	143	5 5/8	0.88	1.9	0.48	16.9	6.3	1/4
•FW-66PAD-20	M6	11~20	1.1~2.0	8.1~14.8	28	5,000	6.35	1/4	143	5 5/8	0.88	1.9	0.48	16.9	6.3	1/4

*Marked • are oil bath types.
*Air Inlet Thread Size: BSP or NPT 1/4".

SLIP CLUTCH TYPE

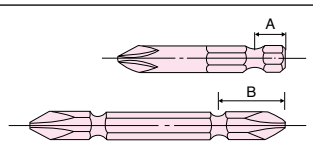


FD-4
FD-5

FD-4P
FD-5P

Model	Bolt Size	Recommended Torque Range			Free Speed	Bit Shank Size		Overall Length (without socket)		Weight (without socket)		Air Consumption (at Load)	
	mm	N · m	kgf · m	ft · lb	min⁻¹	mm	in	mm	in	kg	lb	m³/min	ft³/min
Straight Models													
FD-4	M4	1~4	0.1~0.4	0.7~3.0	2,000	6.35	1/4	174	6 27/32	0.6	1.3	0.20	7.1
FD-5	M5	6~12	0.6~1.2	4.4~8.9	1,600	6.35	1/4	233	9 11/64	1.0	2.2	0.30	10.6
Pistol Grip Models													
FD-4P	M4	1~4	0.1~0.4	0.7~3.0	2,000	6.35	1/4	173	6 13/16	0.8	1.7	0.20	7.1
FD-5P	M5	6~12	0.6~1.2	4.4~8.9	1,600	6.35	1/4	216	8 1/2	1.2	2.6	0.30	10.6

*Air Inlet Thread Size: BSP or NPT 1/4".
*Air Hose Size: 6.3mm (1/4").

Bit Size		FW-**SD-1, **SAD-1, FD-4, 4P, 5, 5P FW-**PD-2, **PAD-2 A:9.5mm B:12mm
		FW-**SD-10, **SAD-10 FW-**PD-20, **PAD-20 A:13mm B:16mm

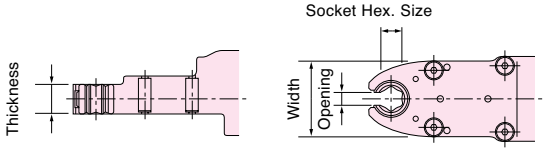
Open-end Wrenches

Fuji offers stall torque type Open-end Wrenches for fast, accurate tube nut tightening mainly used in the assembly of hydraulic and pneumatic brake pipes and other hose and cable connections in the car and aircraft assembly lines. Gear driven mechanism without ratcheting provides precise torque, low noise operation and long life service. One hand two-step mechanism simplifies the socket release back to the open position.

FOW-10-1

FOW-10-2

HEAD SIZE



SOCKET SIZE

Model	Socket Hexagon Size (mm)	
	Standard	Other Sizes
FOW-10-1	10	8 • 9 • 3/8"
FOW-10-2	14	10 • 11 • 12 • 13 • 1/2"

*Specify the socket size in ordering the tool.

Model	Max. Torque			Free Speed	Head Size						Hex. Socket Size (Standard)		Overall Length		Weight		Air Consumption (at Load)	
					Thickness		Opening		Width									
	N • m	kgf • m	ft • lb	min⁻¹	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	m³/min	ft³/min
FOW-10-1	13.6	1.4	10.0	410	14	35/64	6	15/64	36	1 27/64	10	25/64	294	11 37/64	1.5	3.3	0.4	14.1
FOW-10-2	18.5	1.9	13.6	300	14	35/64	9	23/64	40	1 37/64	14	35/64	306	12 3/64	1.6	3.5	0.4	14.1

*Air Inlet Thread Size: BSP or NPT 1/4". *Air Hose Size: 9.5mm (3/8").

Ratchet Wrenches

Ratchet Wrenches are used for fastening operations in confined spaces where angle impact tools and nutrunners cannot reach. Reverse operation can be accomplished by simply turning the wrench over.

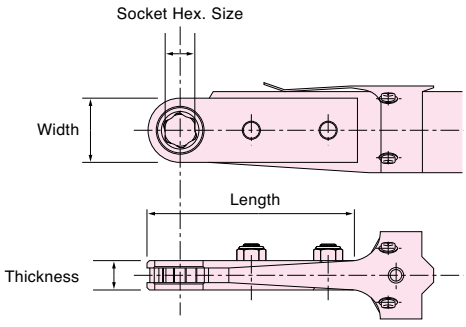
FRW-6NX-3, -4(A)

FRW-8NX-2, (-2A)

FRW-10N-2

FRW-13N-3,-4

HEAD SIZE



SOCKET SIZE

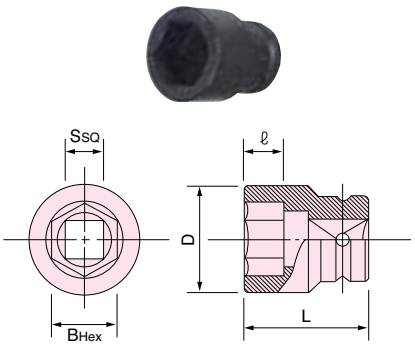
Model	Socket Hexagon Size (mm)	
	Standard	Other Sizes
FRW-6NX-3	10	8 • 8W • 10W
FRW-6NX-3A	10	8
FRW-6NX-4	13	12 • 12W • 13W
FRW-6NX-4A	13	12
FRW-8NX-2	14	10 • 12 • 13 • 1/2" • 9/16" • 10W • 12W • 13W • 14W
FRW-8NX-2A	14	10 • 12 • 13
FRW-10N-2	17	13 • 14 • 16 • 9/16" • 5/8" • 14W • 17W
FRW-13N-3	21	18 • 19 • 19W • 21W
FRW-13N-4	24	22 • 26 • 27 • 22W • 24W • 26W • 27W

*Specify the socket size in ordering the tool.

Model	Bolt Size	Max. Torque			Free Speed	Hex. Socket Size	Head Size						Overall Length		Weight		Air Consumption (at Load)	
							Thickness		Width		Length							
	mm	N • m	kgf • m	ft • lb	min⁻¹	mm	mm	in	mm	in	mm	in	mm	in	kg	lb	m³/min	ft³/min
FRW-6NX-3	M6	10.8	1.1	8.1	200	10	13	33/64	20	25/32	88	3 15/32	316	12 7/16	1.2	2.6	0.25	8.8
FRW-6NX-3A	M6	10.8	1.1	8.1	200	10	10	25/64	20	25/32	88	3 15/32	316	12 7/16	1.2	2.6	0.25	8.8
FRW-6NX-4	M6	12.7	1.3	9.4	170	13	13	33/64	24	61/64	93	3 21/32	320	12 9/16	1.2	2.6	0.25	8.8
FRW-6NX-4A	M6	12.7	1.3	9.4	170	13	10	25/64	24	61/64	93	3 21/32	320	12 9/16	1.2	2.6	0.25	8.8
FRW-8NX-2	M8	29.4	3.0	22.1	200	14	18	45/64	25	63/64	108	4 1/4	378	14 57/64	2.2	4.9	0.43	15.2
FRW-8NX-2A	M8	29.4	3.0	22.1	200	14	10	25/64	25	63/64	108	4 1/4	378	14 57/64	2.1	4.6	0.43	15.2
FRW-10N-2	M10	44.1	4.5	33.1	140	17	18	45/64	33	1 19/64	115	4 17/32	417	16 13/32	2.7	6.0	0.58	20.5
FRW-13N-3	M12	58.8	6.0	44.1	130	21	18	45/64	36	1 27/64	116	4 9/16	419	16 1/2	2.7	6.0	0.58	20.5
FRW-13N-4	M12	78.4	8.0	58.8	100	24	18	45/64	46	1 13/64	129	4 5/64	431	16 31/32	3.0	6.6	0.58	20.5

*Air Inlet Thread Size: BSP or NPT 1/4". *Air Hose Size: 9.5mm (3/8").

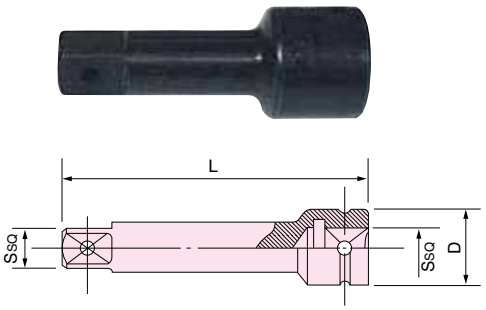
HEXAGONAL SOCKETS



AC No.	Bolt Size		Size					Models
			S (SQ)	B (Hex)	L	ℓ	D	
	M	W	mm(in)	mm	mm	mm	mm	
1101	4	-	9.53 (3/8)	7	20	4	13	FPT-110~770 FLT-4-1~5-1 FPW-110~770 FL-4-1~5-1 FW-5 FW-6, 44~66
1102	5	-		8	25	5	13	
1103	6	1/4		10	25	7	16	
1104	7	-		11	25	7	18	
1133	8	-		12	25	8	19	
1105	8	-		13	27	8	20	
1106	-	5 /16		14	27	8	22	
2101	6	1/4	12.7 (1/2)	10	35	7	18	FLT6-1~9-1 FL6-1~9-1 FW-6PH-11 FW-8 FW-88, 10, 14 except for FW-14PH-3
2118	8	-		12	35	8	21	
2102	8	-		13	35	8	21	
2103	-	5/16		14	38	9	23	
2104	10	3/8		17	38	10	27	
2105	12	7/16		19	40	12	30	
2106	-	1/2		21	40	14	33	
2107	14	-		22	43	14	34	
4102	-	1/2	19.0 (3/4)	21	50	13	33	FPT-1660 FPW-1660, 2220 FW-19 FW-2C FW-250P-2
4103	14	-		22	50	14	35	
4104	16	-		24	53	14	38	
4105	-	5/8		26	53	15	40	
4106	18	-		27	53	15	42	
4107	20	-		30	55	16	46	
4108	22	3/4		32	55	18	49	
5104	-	7/8	25.4 (1)	35	62	19	55	FW-1C FW-250P-1 FW-320 FW-420
5105	24	-		36	62	19	56	
5106	27	1		41	68	26	63	
5107	30	1-1/8		46	72	26	69	
5108	33	1-1/4		50	75	28	73	
5109	-	1-3/8		54	80	28	78	
5110	36	-		55	80	28	80	
5111	-	1-1/2		58	80	31	83	
5112	39	-		60	80	32	86	
6105	36	-	31.8 (1 1/4)	55	82	27	83	FW-420-2, 2C
6106	-	1-1/2		58	85	28	87	
6107	39	-		60	88	30	89	
7107	-	1-5/8	38.1 (1 1/2)	63	100	30	96	FW-50-7
7108	42	-		65	100	32	98	
7109	-	1-3/4		67	100	33	101	
7110	45	-		70	100	34	104	
7112	48	-		75	105	36	109	
7113	-	2		77	105	38	112	
8110	-	2	63.5 (2 1/2)	77	128	38	122	FW-75-7 FW-100-1
8112	56	2-1/4		85	132	43	130	
8114	64	2-1/2		95	140	49	145	
8115	68	-		100	152	52	150	
8116	72	-		105	154	54	168	
8117	-	3		110	160	60	168	
8120	90	3-1/2		130	170	70	192	
8122	100	4		145	180	79	213	

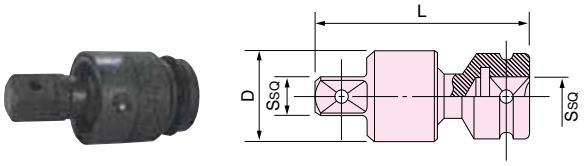
*Other socket sizes are available on request.

EXTENSION BARS



AC No.	Size			Models
	S (SQ)	L	D	
	mm(in)	mm	mm	
1201	9.53 (3/8)	50	19	FPT-110~770 FLT-4-1~5-1 FL-4-1~5-1 FPW-110~770 FW-5, 6, 44~66
1202		75		
1203		100		
1204		150		
2201	12.7 (1/2)	50	25	FLT6-1~9-1 FL6-1~9-1 FW-6PH-11, 8, 88 FW-10, 14 except for FW-14PH-3
2202		75		
2203		100		
2204		150		
4201	19.0 (3/4)	75	37	FPT-1660, FPW-1660, 2220 FW-19 FW-2C FW-250P-2
4202		100		
4203		150		
4204		200		
5201	25.4 (1)	100	49	FW-1C FW-250P-1 FW-320 FW-420
5202		160		
5203		200		
5204		300		
6201	31.8 (1 1/4)	150	62	FW-2C
6202		200		
6203		250		
6204		300		
7204	38.1 (1 1/2)	200	69	FW-50-7
7201		300		
8201	63.5 (2 1/2)	300	130	FW-75-7 FW-100-1
8202		457		

UNIVERSAL JOINTS



AC No.	Size			Models
	S (SQ)	L	D	
	mm(in)	mm	mm	
1501	9.53(3/8)	48	24	FLT-4-1~9-1 FPT-110 FL-4-1~9-1 FPW-110 FW-5, 6, 44~66
2502	12.7(1/2)	68	32	FLT-11-1~20S-1 - FL11-1~13-1 FW-6PH-11, 8, 88 FW-10, 14 except for FW-14PH-3
4502	19.0(3/4)	112	52	FPT-1660, FPW-1660, 2220 FW-19 FW-2C FW-250P-2
5502	25.4(1)	128	61	FW-250~420
6502	31.8(1 1/4)	151	74	FW-2C
7503	38.1(1 1/2)	202	102	FW-50-7

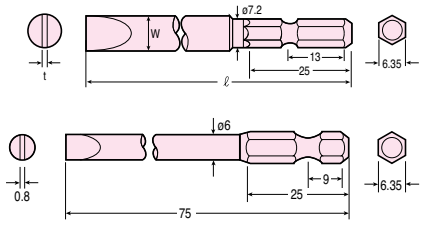
Accessories

BITS SELECTION GUIDE

Fuji offers two types of screwdriver bits according to their neck length. Select suitable models or bits using the following table. Our screwdriver bits are available in three different categories of hardness to cover almost all applications: H (hard), G (standard), E (soft). The most common hardness bit are listed. Other hardness's are available on request.

GROUP	MODELS
(1)	**FPT**-110D-10, FLT-4D-1~4D-10~5D-1~5D-10~6D-1~6D10, 110SD-10, 330SD-10, 440SD-10, 550SD-10, 660SD-10
	FPW-110D-10, 770D-30 - FL-4D-10~5D-10~6D-10, 110SD-10, 330SD-10, 440SD-10, 550SD-10, 660SD-10
	FW-5SXD-70, 80, 6SXD-60, 5PXD-60, 6PMD-10, 6PLD-10, 6PXD-60, 6PHD-10, 44SAD-10, 66SAD-10, 44PAD-20, 66PAD-20
(2)	**FPT**-110D-1, FLT-4D-1~4D-10~5D-1~5D-10~6D-1~6D10, 110SD-1, 330SD-1, 440SD-1, 550SD-1, 660SD-1
	FPW-110D-1, 770D-3 - FL-4D-1~5D-1~6D-1, 110SD-1, 330SD-1, 440SD-1, 550SD-1, 660SD-1
	FW-5SXD-7, 8, 6SXD-6, 5PXD-6, 6PMD-1, 6PLD-1, 6PXD-6, 6PHD-1, 44SAD-1, 66SAD-1, 44PAD-2, 66PAD-2, FD-4, 5, 4P, 5P

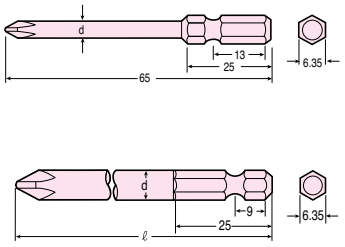
SLOTTED BITS



Thickness mm	Width mm	Length mm	Hardness	AC No.	Model Group
0.8	6	45	G	A166045	(1)
0.8	6	70	G	A166070	(1)
1.0	8	45	G	A168045	(1)
1.0	8	70	G	A168070	(1)
1.2	10	52	G	A161052	(1)
1.2	10	70	G	A161070	(1)
0.8	6	75	E	B356075	(2)

*Minimum order required : 100pcs. /item.

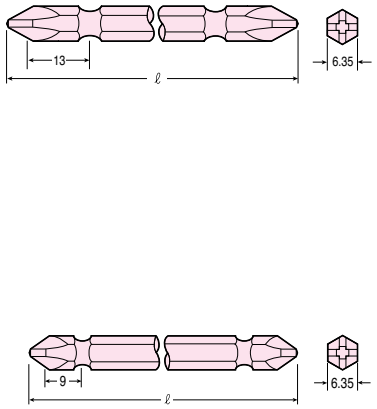
CROSS RECESSED BITS SINGLE-ENDED



Diameter mm	Point Size	Length mm	Hardness	AC No.	Model Group
3	1	65	H	A161065	(1)
4.5	2	65	H	A162065	(1)
7	1	50	H	B351050	(2)
7	1	75	H	B351075	(2)
4.5	1	100	H	B351100	(2)
7	2	50	G	B352050	(2)
7	2	75	G	B352075	(2)
7	2	100	G	B352100	(2)
7	2	150	G	B352150	(2)
4.5	2	100	H	B252100	(2)
7	3	75	E	B353075	(2)
7	3	100	E	B353100	(2)
7	3	150	G	B353150	(2)

*Minimum order required : 100pcs. /item.

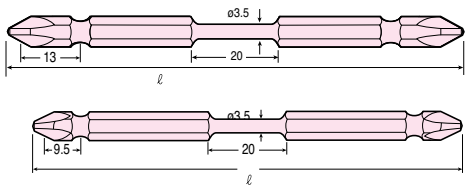
CROSS RECESSED BITS DOUBLE-ENDED



Point Size	Length mm	Hardness	AC No.	Model Group
1	45	H	A141045	(1)
1	65	H	A141065	(1)
1	110	H	A141110	(1)
2	45	G	A142045	(1)
2	65	G	A142065	(1)
2	110	G	A142110	(1)
2	150	G	A142150	(1)
2	200	G	A142200	(1)
2	300	G	A142300	(1)
3	45	E	A143045	(1)
3	65	E	A143065	(1)
3	110	E	A143110	(1)
1	75	H	B431075	(2)
2	50	H	B432050	(2)
2	75	G	B432075	(2)
2	100	G	B432100	(2)
2	150	G	B432150	(2)
2	200	G	B432200	(2)
3	75	E	B433075	(2)
3	100	E	B433100	(2)

*Minimum order required : 100pcs. /item.

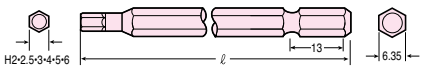
CROSS RECESSED BITS DOUBLE-ENDED TORSION TYPE

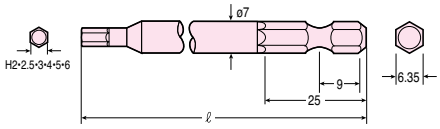


Diameter mm	Point Size	Length mm	Hardness	AC No.	Model Group
3.5	2	65	H	AT142065	(1)
3.5	2	110	H	AT142110	(1)
3.5	2	75	H	BT432075	(2)
3.5	2	100	H	BT432100	(2)

*Minimum order required : 100pcs. /item.

ALLEN BITS

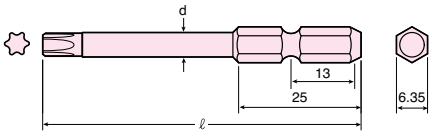


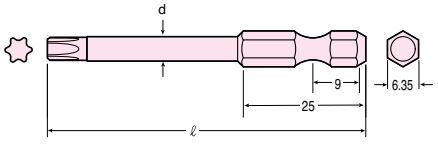


Hex Size mm	Length mm	Hardness	AC No.	Model Group
2	65	H	A16H2065	(1)
2	110	H	A16H2110	(1)
2.5	65	H	A16H25065	(1)
2.5	110	H	A16H25110	(1)
3	65	H	A16H3065	(1)
3	110	H	A16H3110	(1)
4	65	H	A16H4065	(1)
4	110	H	A16H4110	(1)
5	65	G	A16H5065	(1)
5	110	G	A16H5110	(1)
6	65	G	A16H6065	(1)
6	110	G	A16H6110	(1)
2	75	H	B35H2075	(2)
2	100	H	B35H2100	(2)
2.5	75	H	B35H25075	(2)
2.5	100	H	B35H25100	(2)
3	75	H	B35H3075	(2)
3	100	H	B35H3100	(2)
4	75	H	B35H4075	(2)
4	100	H	B35H4100	(2)
5	75	G	B35H5075	(2)
5	100	G	B35H5100	(2)
6	75	G	B35H6075	(2)
6	100	G	B35H6100	(2)

*Minimum order required : 100pcs. /item.

TORX® BITS





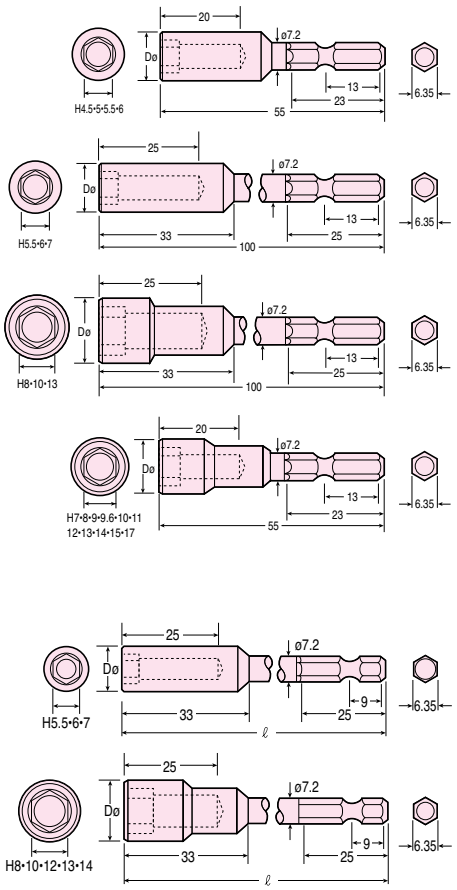
Point Size	Length mm	Body Diameter mm	AC No.	Model Group
T6	65	4.0	VT6065	(1)
T8	65	4.5	VT8065	(1)
T8	110	4.5	VT8110	(1)
T10	65	4.5	VT10065	(1)
T10	110	4.5	VT10110	(1)
T15	65	4.5	VT15065	(1)
T15	110	4.5	VT15110	(1)
T20	65	5.0	VT20065	(1)
T20	110	5.0	VT20110	(1)
T25	65	5.0	VT25065	(1)
T25	110	5.0	VT25110	(1)
T27	65	5.5	VT27065	(1)
T27	110	5.5	VT27110	(1)
T30	65	6.0	VT30065	(1)
T30	110	6.0	VT30110	(1)
T40	65	H6.35	VT40065	(1)
T40	110	H6.35	VT40110	(1)
T6	75	4.0	JT6075	(2)
T6	100	4.0	JT6100	(2)
T8	75	4.5	JT8075	(2)
T8	100	4.5	JT8100	(2)
T10	75	4.5	JT10075	(2)
T10	100	4.5	JT10100	(2)
T15	75	4.5	JT15075	(2)
T15	100	4.5	JT15100	(2)
T20	75	5.0	JT20075	(2)
T20	100	5.0	JT20100	(2)
T25	75	5.0	JT25075	(2)
T25	100	5.0	JT25100	(2)
T27	75	5.5	JT27075	(2)
T27	100	5.5	JT27100	(2)
T30	75	6.0	JT30075	(2)
T30	100	6.0	JT30100	(2)
T40	75	7.0	JT40075	(2)
T40	100	7.0	JT40100	(2)
T45	75	8.0	JT45075	(2)
T45	100	8.0	JT45100	(2)

*Minimum order required : 100pcs. /item.

*TORX® is a registered trademark of Camcar Div., Textron Inc., USA.

Accessories

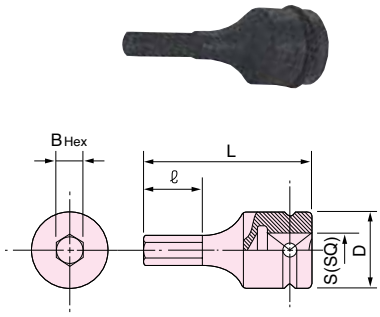
SOCKET HEAD BITS



Hex Size mm	Length mm	Body Diameter mm	AC No.	Model Group
4.5	55	7.5	A2045055	(1)
5	55	8.5	A205055	(1)
5.5	55	10	A2055055	(1)
5.5	100	10	A2055100	(1)
6	55	10	A206055	(1)
6	100	10	A206100	(1)
7	55	13	A207055	(1)
7	100	13	A207100	(1)
8	55	13	A208055	(1)
8	100	13	A208100	(1)
9	55	16	A209055	(1)
10	55	16	A2010055	(1)
10	100	16	A2010100	(1)
11	55	16	A2011055	(1)
12	55	19	A2012055	(1)
12	100	19	A2012100	(1)
13	55	19	A2013055	(1)
13	100	19	A2013100	(1)
14	55	20	A2014055	(1)
15	55	22	A2015055	(1)
17	55	23	A2017055	(1)
5.5	75	10	B4555075	(2)
5.5	100	10	B4555100	(2)
6	100	10	B456100	(2)
7	75	13	B457075	(2)
7	100	13	B457100	(2)
8	75	13	B458075	(2)
8	100	13	B458100	(2)
8	150	13	B458150	(2)
10	75	16	B4510075	(2)
10	100	16	B4510100	(2)
10	150	16	B4510150	(2)
12	100	18	B4512100	(2)
13	75	19	B4513075	(2)
13	100	19	B4513100	(2)
14	100	20	B4514100	(2)

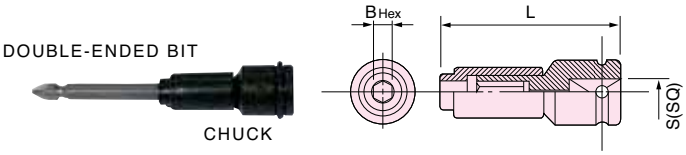
*Minimum order required : 100pcs. /item.

ALLEN SOCKETS



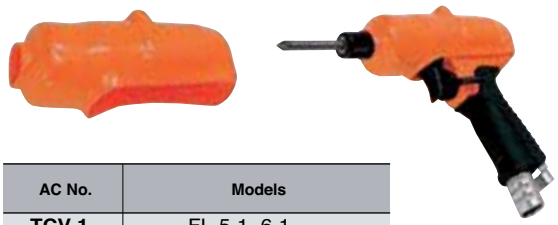
AC No.	Size S (SQ) mm(in)	B (Hex) mm	L mm	ℓ mm	D mm	Models
HG-3-4	9.53 (3/8)	4	50	15	19	FPT-110~770 FLT-4-1~9-1 FL-4-1~9-1 FPW-110~770 FW-5, FW-6, 44~66
HG-3-5		5	50	17	19	
HG-3-6		6	50	18	19	
HG-3-8		8	60	23	20	
HG-3-10		10	60	27	20	
HG-4-6	12.7 (1/2)	6	60	18	25	FLT-11-1~20S-1
HG-4-8		8	60	23	25	FL-11-1~13-1
HG-4-10		10	68	27	27	FW-6PH-11, 8, 88
HG-4-12		12	68	30	27	FW-10, 14 except for FW-14PH-3
HG-4-14		14	78	40	28	

CHUCKS FOR WRENCHES FOR USE OF BITS



AC No.	Size S (SQ) mm(in)	B (Hex) mm	L mm	Models
DC-1	9.53(3/8)	6.35(1/4)	51	FPT-110, FLT-4-1~9-1 FPW-110, FL-4-1~9-1, FW-5, 6, 44~66
DC-2	12.7(1/4)	8.00(5/16)	56	FLT-11-1~20S-1 - FL11-1~13-1 FW-6PH-11, 8, 88, 10, 14 except for FW-14PH-3

TOOL COVER FOR FPW SERIES



AC No.	Models
TCV-1	FL-5-1~6-1
TCV-2	FL-7-1

Abrasive Tools

Grinders and Sanders

INSTRUCTION AND WARNING FOR SAFETY USE

1) INTENDED USE

The tool is designed to be used with abrasive product for grinding, cutting and sanding materials. Do not use the tool for any other purpose.

2) PROTECTIVE EQUIPMENT

Always wear necessary protective equipment such as an eye protector, an ear protector, a face shield, a safety apron, a helmet, gloves and other necessary protective clothing. Use protective barriers where necessary.

3) MAXIMUM SPEEDS OF ABRASIVE PRODUCT AND TOOL

Always check the spindle speed of the tool when mounting the abrasive product. Ensure that the maximum free speed rating of the abrasive product is above that of the tool in use.

4) WHEEL SIZES OF ABRASIVE PRODUCT AND PERIPHERAL SPEED

The following is a reference of Grinding wheel size / Peripheral speed / Maximum free speed. When using abrasive product, on which the peripheral speed is shown instead of the maximum allowable free speed, refer to the reference.

5) CORRECT WHEEL GUARD AND FLANGES FOR GRINDER

Always use the wheel guard and wheel flanges supplied with the tool and ensure that they are mounted correctly with the appropriate tightness when mounting the abrasive product. Only trained & qualified personnel should mount the abrasive product. Do not use a wheel guard or the flanges if they are damaged or worn. Do not modify or repair a wheel guard or flanges.

6) CORRECT ABRASIVE PRODUCT TO CORRECT TOOL

Make sure the dimensions of the abrasive product are compatible with the tool and that the abrasive product fits the spindle of the tool.

7) MOUNTING AND DISMOUNTING ABRASIVE PRODUCT

When mounting and dismounting the abrasive product, make sure to disconnect tool. Make sure the dimensions of the abrasive product are compatible with the tool and that the abrasive product fits the spindle of the tool.

8) TOOL WITH SPEED GOVERNOR

For the grinder with a speed governor, check the maximum free speed regularly. Make it a rule to check the maximum free speed, whenever before use.

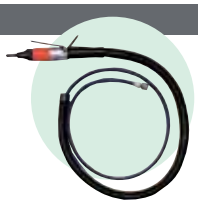
Wheel diameter / Peripheral speed / Maximum free speed

Grinding wheel diameter	Peripheral speed (m/s)														
	10	15	20	25	28	30	33	35	40	45	48	50	60	70	80
mm	Maximum free speed (min^{-1})														
25	7639	11459	15279	19099	21390	22918	25210	26738	30558	34377	36669	38197	45837	53476	61115
40	4775	7162	9549	11937	13369	14324	15756	16711	19099	21486	22918	23873	28648	33423	38197
50	3820	5730	7639	9549	10695	11459	12605	13369	15279	17189	18335	19099	22918	26738	30558
63	3032	4547	6063	7579	8488	9095	10004	10610	12126	13642	14551	15158	18189	21221	24252
80	2387	3581	4775	5968	6685	7162	7878	8356	9549	10743	11459	11937	14324	16711	19099
100	1910	2865	3820	4775	5348	5730	6303	6685	7639	8594	9167	9549	11459	13369	15279
115	1661	2491	3321	4152	4650	4982	5480	5813	6643	7473	7972	8304	9964	11625	13286
125	1528	2292	3056	3820	4278	4584	5042	5348	6112	6875	7334	7639	9167	10695	12223
150	1273	1910	2546	3183	3565	3820	4202	4456	5093	5730	6112	6366	7639	8913	10186
180	1061	1592	2122	2653	2971	3183	3501	3714	4244	4775	5093	5305	6366	7427	8488
200	955	1432	1910	2387	2674	2865	3151	3342	3820	4297	4584	4775	5730	6685	7639
230	830	1246	1661	2076	2325	2491	2740	2906	3321	3737	3986	4152	4982	5813	6643
250	764	1146	1528	1910	2139	2292	2521	2674	3056	3438	3667	3820	4584	5348	6112
300	637	955	1273	1592	1783	1910	2101	2228	2546	2865	3056	3183	3820	4456	5093

1 REAR EXHAUST

The rear exhaust reduces the risk of scattering debris such as grindings, shavings, etc. due to the exhaust air direction.
In addition, when using the inlet and exhaust hoses supplied with the tools, this helps to reduce the sound level.

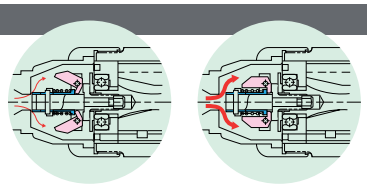
FG-06-1, 13X, 12UX, 25DX, 26X, 50X, FA-2CX, 3CX SERIES



2 CENTRIFUGAL SPEED GOVERNOR

The speed governor maintains the working speed of the tool to a better degree than a conventional tool without a governor. Consequently, the abrasive life is improved due to the stability of the cutting speed. It is less susceptible to changes in air pressure and wear of the governor parts.

ANGLE, STRAIGHT, VERTICAL GRINDERS



3 ANTI-FREEZING SWIVEL SILENCER

The anti-freezing swivel silencer minimises the effect of freezing during operation of the tool. In addition, it also enables the operator to direct the exhaust air to provide maximum operator comfort.

ANGLE GRINDERS EXCEPT FA-2C, 3CX, 150K SERIES

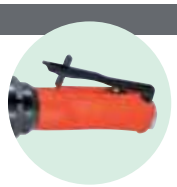
4 GEAR COOLING DEVICE

The patented gear cooling device helps to minimise wearing of the bevel gear and pinion by metering some exhaust air through them and providing a cooling effect.

ANGLE GRINDERS

5 LOCKING LEVER HANDLE

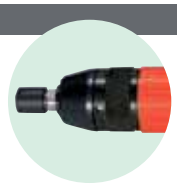
The locking lever helps to reduce the risk of inadvertent starting of the tool. The operator needs to push the locking lever, or the locking button, to start operation of the tool. When the lever is released, the tool automatically reverts to the locked condition.



6 ACCURATE COLLET ALIGNMENT

The collet is mounted in the spindle in order to provide minimal deflection.
Furthermore, the compact collet nut enables finishing operations in confined spaces.

DIE GRINDERS



7 STURDY STEEL HOUSING

Die Grinders feature a compact and durable steel housing for longer service life.

FG-13-2,13X-2, 20, 26-20

Pencil Grinder

Pencil Grinders are excellent tools for deburring, contouring and light grinding when used with a rotary burr. The small compact diameter, and light weight, aid precise application.

FG-06-1

Model	Collet Size		Max. Dia.				Free Speed	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
			Mounted Wheel		Burr Head												
	mm	in	mm	in	mm	in	min⁻¹	kW	hp	mm	in	kg	lb	m³/min	ft³/min	mm	in
FG-06-1	3	1/8	10	3/8	6	1/4	60,000	0.10	0.14	153	6 1/32	0.2	0.4	0.17	6.0	4.0	5/32

*Air Inlet Thread Size: BSP or NPT 1/4".

Turbo Grinders

Super high speed operation provides a more precise finish. Ø3mm or Ø1/8" and Ø6mm or Ø1/4" collet sizes are available to suit the application.

TURBO-100

TURBO-100A

Model	Collet Size		Max. Dia.				Free Speed	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
			Mounted Wheel		Burr Head												
	mm	in	mm	in	mm	in	min⁻¹	kW	hp	mm	in	kg	lb	m³/min	ft³/min	mm	in
TURBO-100	3	1/8	8	5/16	6	1/4	80,000~100,000	0.05	0.07	153	6 1/32	0.2	0.4	0.28	9.8	4.0	5/32
TURBO-100A	6	1/4	8	5/16	8	5/16	80,000~100,000	0.05	0.07	155	6 7/64	0.2	0.4	0.28	9.8	4.0	5/32

*Air Inlet Thread Size: BSP or NPT 1/8".

Accessories Provided for Turbo Series

F-101 Open-End Wrench ····· 1
F-301 Hex. Wrench ····· 1
IH-4B Inlet Hose ····· 1
AL3000-1/4 Oiler ····· 1
F-501 Pin Wrench ····· 1
BB-SF0011 Ball Bearing ····· 2

Fuji Die Grinders feature accurate collet alignment, light weight, compact design and high power-to-weight ratio. They are widely used for grinding and deburring with either a mounted wheel or rotary burr. Model variations include front or side exhaust, rear exhaust and extended spindle.

LOCKING LEVER HANDLE MODELS

FG-13-1F

FG-13-10F

FG-13X-1F

FG-13X-10F

Model	Collet Size		Max. Dia. Mounted Wheel		Max. Dia. Burr Head		Free Speed	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	mm	in	mm	in	min⁻¹	kW	hp	mm	in	kg	lb	m³/min	ft³/min	mm	in
Front Exhaust Type																	
FG-13-1F	3	1/8	13	1/2	10	3/8	30,000	0.15	0.21	158	6 7/32	0.3	0.6	0.25	8.8	6.3	1/4
FG-13-10F	3	1/8	13	1/2	10	3/8	30,000	0.15	0.21	158	6 7/32	0.4	0.9	0.25	8.8	6.3	1/4
Rear Exhaust Type																	
FG-13X-1F	3	1/8	13	1/2	10	3/8	30,000	0.13	0.17	183	7 13/64	0.4	0.9	0.25	8.8	6.3	1/4
FG-13X-10F	3	1/8	13	1/2	10	3/8	30,000	0.13	0.17	183	7 13/64	0.4	0.9	0.21	7.4	6.3	1/4

*Air Inlet Thread Size: BSP or NPT 1/4".

LOCKING LEVER HANDLE MODELS

FG-26-20BF, 50-2BF

FG-26-10F, 50-1F

FG-26X-10F, 50X-1F

Model	Collet Size		Max. Dia Mounted Wheel		Max. Dia Burr Head		Free Speed	Power		Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm	in	mm	in	mm	in	min⁻¹	kW	hp	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
•Front or Side Exhaust Type																		
FG-26-20BF	6	1/4	25	1	13	1/2	24,000	0.26	0.34	180	7 3/32	0.7	1.5	0.40	14.1	1/4	9.5	3/8
FG-26-10F	6	1/4	25	1	13	1/2	24,000	0.26	0.34	179	7 3/64	0.5	1.1	0.40	14.1	1/4	9.5	3/8
FG-50-2BF	6	1/4	32	1 1/4	22	7/8	18,000	0.33	0.44	189	7 7/16	0.8	1.8	0.43	15.2	1/4	9.5	3/8
FG-50-1F	6	1/4	32	1 1/4	22	7/8	18,000	0.33	0.44	191	7 33/64	0.8	1.8	0.43	15.2	1/4	9.5	3/8
Rear Exhaust Type																		
FG-26X-10F	6	1/4	25	1	13	1/2	24,000	0.26	0.34	206	8 7/64	0.6	1.3	0.40	14.1	1/4	9.5	3/8
FG-50X-1F	6	1/4	32	1 1/4	22	7/8	18,000	0.33	0.44	214	8 27/64	0.7	1.5	0.45	15.8	1/4	9.5	3/8

• Specify front or side exhaust when ordering.

FG-12U series, FG-25D series and FG-50D series Die Grinders are featured with an ergonomic spindle design supported by double bearings and connected to the motor spindle via a coupling. This design provides lower vibration, lower contact shock against the work piece, high accuracy and manoeuvrability.

LOCKING LEVER HANDLE MODELS

FG-12U-1F

FG-25D-1F, 50D-1F

FG-12UX-1F, 25DX-1F, 50DX-1F

Model	Collet Size		Max. Dia. Mounted Wheel		Max. Dia. Burr Head		Free Speed	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	mm	in	mm	in	min⁻¹	kW	hp	mm	in	kg	lb	m³/min	ft³/min	mm	in
Side Exhaust Type																	
FG-12U-1F	3,6	1/8,1/4	13	1/2	8	5/16	43,000	0.13	0.18	188	7 13/64	0.6	1.3	0.30	10.6	6.3	1/4
FG-25D-1F	3,6	1/8,1/4	25	1	13	1/2	24,000	0.26	0.34	198	7 51/64	0.8	1.8	0.40	14.1	9.5	3/8
FG-50D-1F	3,6	1/8,1/4	32	1 1/4	22	7/8	18,000	0.33	0.44	210	8 17/64	0.9	2.0	0.45	15.9	9.5	3/8
Rear Exhaust Type																	
FG-12UX-1F	3,6	1/8,1/4	13	1/2	8	5/16	43,000	0.13	0.18	213	8 25/64	0.7	1.5	0.30	10.6	6.3	1/4
FG-25DX-1F	3,6	1/8,1/4	25	1	13	1/2	24,000	0.26	0.34	230	9 1/16	0.8	1.8	0.40	14.1	9.5	3/8
FG-50DX-1F	3,6	1/8,1/4	32	1 1/4	22	7/8	18,000	0.33	0.44	243	9 9/16	0.9	2.0	0.45	15.9	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

Die Grinders

EXTENDED TYPE MODELS

FG-26L-1BF

FG-3H-5F

Model	Collet Size		Max. Dia. (Mounted Wheel)		Free Speed	Spindle Thread Size	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	mm	in	min^{-1}	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
Locking Lever Handle Models																
FG-26L-1BF	6	1/4	25 x 13 x –	1 x 1/2 x –	24,000	5/16–24UNF	0.22	0.30	306	12 3/64	0.9	2.0	0.40	14.1	9.5	3/8
FG-3H-5F	6	1/4	45 x 13 x –	1 25/32 x 1/2 x –	14,600	3/8-24UNF	0.48	0.64	367	14 29/64	1.5	3.3	0.55	19.4	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4", FG-3H-5, 5F: BSP or NPT 3/8".

ANGLE TYPE MODELS

FA-2C-2BF, 3BF

Side Exhaust Type

Model	Collet Size		Max. Dia. (Mounted Wheel)		Free Speed	Spindle Thread Size	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	mm	in	min^{-1}	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
Locking Lever Handle Models																
FA-2C-2BF	6	1/4	38 x 13 x –	1 1/2 x 1/2 x –	15,000	3/8–24UNF(M)	0.26	0.34	188	7 13/32	0.7	1.5	0.40	14.1	9.5	3/8
FA-2C-3BF	6	1/4	38 x 13 x –	1 1/2 x 1/2 x –	15,000	W3/8–16(M)	0.26	0.34	188	7 13/32	0.7	1.5	0.40	14.1	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

FA-2CX-2BF, 3BF

Rear Exhaust Type

Model	Collet Size		Max. Dia. (Mounted Wheel)		Free Speed	Spindle Thread Size	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	mm	in	min^{-1}	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
Locking Lever Handle Models																
FA-2CX-2BF	6	1/4	38 x 13 x –	1 1/2 x 1/2 x –	15,000	3/8–24UNF(M)	0.26	0.34	226	8 57/64	1.0	2.2	0.40	14.1	9.5	3/8
FA-2CX-3BF	6	1/4	38 x 13 x –	1 1/2 x 1/2 x –	15,000	W3/8–16(M)	0.26	0.34	226	8 57/64	1.0	2.2	0.40	14.1	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

Low Speed Grinders

These powerful Grinders are designed with a gear reduction mechanism and speed control governor to maintain the power and rotational speed. Their light weight and compact design make them excellent for polishing, grinding, paint removal and can be used with non-woven cloth, brushes, flap wheels and buffs.

FG-2VX-1F

FG-3VX-1F, 6F

Model	Collet Size		Free Speed	Spindle Thread Size	Power		Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm	in	min^{-1}	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	PT or NPT	mm	in
Locking Lever Handle / Rear Exhaust Models															
FG-2VX-1F	6	1/4	4,300	3/8-24UNF	0.29	0.39	216	8 1/2	0.9	2.0	0.34	12.0	1/4	9.5	3/8
FG-3VX-1F	6	1/4	7,600	W3/8-16	0.28	0.37	331	13 1/32	1.4	3.1	0.45	15.9	1/4	9.5	3/8
FG-3VX-6F	6	1/4	12,000	W3/8-16	0.31	0.41	331	13 1/32	1.4	3.1	0.47	16.6	1/4	9.5	3/8

FG-3VX-2F, 3F

Model	Capacity		Free Speed	Wheel Thread Size	Power		Overall Length		Weight (with wheel guard)		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm	in	min^{-1}	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	BSP or NPT	mm	in
Locking lever Handle / Rear Exhaust Models															
FG-3VX-2F	75 x 19x 9.5	3 x 3/4 x 3/8	9,500	W3/8–16	0.29	0.39	316	12 7/16	• 1.4	• 3.1	0.47	16.6	1/4	9.5	3/8
FG-3VX-3F	125 x 19x 9.5	5 x 3/4 x 3/8	7,600	W3/8–16	0.28	0.37	316	12 7/16	• 1.4	• 3.1	0.45	15.9	1/4	9.5	3/8

*Models marked • are without wheel guard.

Straight Grinders

All Fuji Grinders are designed and produced using Fuji's latest grinder technology. Fuji Straight Grinders are equipped with centrifugal speed control governors, noise reducing design, and a locking handle. These standard features assure high performance and smooth operation.

FG-3H-1F, 2F

FG-4H-1F, 2F

FG-5H-1M, 2M, 6H-1M

FG-8H-1M, 2M

FG-8H-1C

Model	Max. Dia. (Grinding Wheel)		Free Speed	Spindle Thread Size	Power		Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm	in	min^{-1}	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	BSP or NPT	mm	in
Locking Lever Handle Models															
FG-3H-1F	65 x 13 x 9.53	2 1/2 x 1/2 x 3/8	14,600	W3/8–16	0.48	0.64	342	13 15/32	1.7	3.7	0.55	19.4	3/8	9.5	3/8
FG-3H-2F	75 x 13 x 9.53	3 x 1/2 x 3/8	12,700	W3/8–16	0.48	0.64	342	13 15/32	1.7	3.7	0.55	19.4	3/8	9.5	3/8
FG-4H-1F	100 x 19 x 9.53	4 x 3/4 x 3/8	9,500	W3/8–16	0.70	0.94	408	16 1/16	2.3	5.1	0.80	28.2	3/8	12.7	1/2
FG-4H-2F	100 x 19 x 12.7	4 x 3/4 x 1/2	9,500	W1/2–12	0.70	0.94	414	16 19/64	2.3	5.1	0.80	28.2	3/8	12.7	1/2
FG-5H-1M	125 x 19 x 12.7	5 x 3/4 x 1/2	7,600	W1/2–12	0.96	1.28	506	19 59/64	2.5	5.5	1.00	35.3	3/8	12.7	1/2
FG-5H-2M	125 x 19 x 15.8	5 x 3/4 x 5/8	7,600	5/8–11UNF	0.96	1.28	511	20 7/64	2.5	5.5	1.00	35.3	3/8	12.7	1/2
FG-6H-1M	150 x 25 x 15.8	6 x 1 x 5/8	6,300	5/8–11UNF	1.03	1.38	531	20 29/32	3.4	7.5	1.20	42.4	3/8	12.7	1/2
FG-8H-1M	205 x 25 x 15.8	8 x 1 x 5/8	4,600	5/8–11UNF	1.47	1.97	556	21 57/64	5.5	12.1	1.60	56.5	1/2	12.7	1/2
FG-8H-2M	180 x 25 x 15.8	7 x 1 x 5/8	5,300	5/8–11UNF	1.62	2.17	556	21 57/64	5.4	11.8	1.80	63.5	1/2	12.7	1/2
Grip Handle Models															
FG-8H-1C	205 x 25 x 15.8	8 x 1 x 5/8	4,600	5/8–11UNF	1.47	1.97	538	21 3/16	5.6	12.3	1.60	56.5	3/8	12.7	1/2

Extended Grinders

Fuji Extended Grinders are ideal for grinding operations in confined spaces or inside pipes. A wide range of Grinders is offered to cover various grinding operations.

FG-50L-1BF

FG-3HL-1F

FG-50Y-1BF

FG-4HL-1F

Model	Max. Dia. (Grinding Wheel)		Free Speed	Spindle Thread Size	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
Locking Lever Handle Models														
FG-50L-1BF	50 x 13 x 9.53	2 x 1/2 x 3/8	18,000	W3/8–16	0.29	0.39	316	12 7/16	1.4	3.1	0.43	15.2	9.5	3/8
FG-50Y-1BF	50 x 13 x 9.53	2 x 1/2 x 3/8	18,000	W3/8–16	0.29	0.39	532	20 15/16	2.0	4.4	0.43	15.2	9.5	3/8
FG-3HL-1F	65 x 13 x 9.53	2 1/2 x 1/2 x 3/8	12,000	W3/8–16	0.48	0.64	547	21 17/32	1.9	4.2	0.55	19.4	9.5	3/8
FG-4HL-1F	75 x 19 x 9.53	3 x 3/4 x 3/8	12,000	W3/8–16	0.74	0.99	615	24 7/32	2.6	5.7	0.80	28.2	12.7	1/2
FG-5HL-2M	100 x 19 x 12.7	4 x 3/4 x 1/2	9,000	W1/2–12	0.96	1.28	1,050	41 11/32	5.4	11.9	1.00	35.3	12.7	1/2

*FG-50L, 50Y series: 1/4" Air Inlet. FG-3HL, 4HL, 5HL series: 3/8" Air Inlet.

Angle Grinders

Fuji offers a wide variety of Angle Grinders for use in any grinding operation. Many models have features of machined bevel gears, speed control governor, built-in exhaust and a patented gear cooling design. Fuji has more models and variations than any other manufacturer.

Locking Lever Handle Models

FA-2CX-1BF

FA-3CX-1F/2F

Model	Max. Dia (Grinding Wheel)		Free Speed	Spindle Thread Size	Angle Head Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	in	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
Rear Exhaust Type																
FA-2CX-1BF	50 x 4 x 9.5	2 x 5/32 x 3/8	15,000	1/4-28UNF(F)	47	1 55/64	0.26	0.34	226	8 57/64	1.0	2.2	0.40	14.1	9.5	3/8
FA-3CX-1F	75 x 4 x 9.5	3 x 5/32 x 3/8	15,000	M8-1.25P(F)	63	2 31/64	0.33	0.44	247	9 3/4	1.3	2.9	0.40	14.1	9.5	3/8
FA-3CX-2F	100 x 6 x 15.8	4 x 1/4 x 5/8	13,500	M8-1.25P(F)	63	2 31/64	0.33	0.44	247	9 3/4	1.3	2.9	0.40	14.1	9.5	3/8

*Air Inlet Thread SIze: BSP or NPT 1/4".

Locking Lever Handle Models

FA-5E-13F

FA-5E-13VF

Model	Max. Dia. (Grinding Wheel)		Free Speed	Angle Head Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
3/8-24UNF Thread Male Spindle Type															
FA-5E-13F	125 x 6 x 22.2	5 x 1/4 x 7/8	12,000	75	2 61/64	0.96	1.29	282	11 7/64	2.2	4.8	0.95	33.5	9.5	3/8
FA-5E-13VF	125 x 6 x 22.2	5 x 1/4 x 7/8	12,000	75	2 61/64	0.96	1.29	262	10 5/16	2.2	4.8	0.95	33.5	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 3/8".

Locking Lever Handle Models

Model	Max.Dia. (Grinding Wheel)		Free Speed	Angle Head Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
5/8-11UNC Thread Male Spindle Type															
FA-6C-8M	180 x 6 x 22.2	7 x 1/4 x 7/8	7,600	107	4 7/32	1.03	1.38	353	13 57/64	3.0	6.6	1.10	38.8	12.7	1/2
FA-7E-6VF	180 x 6 x 22.2	7 x 1/4 x 7/8	7,600	101	3 31/32	1.62	2.17	307	12 3/32	3.1	6.8	1.40	49.4	12.7	1/2
FA-7E-8VF	180 x 6 x 22.2	7 x 1/4 x 7/8	8,400	101	3 31/32	1.62	2.17	307	12 3/32	3.1	6.8	1.40	49.4	12.7	1/2

⋆Air Inlet Thread Size: BSP or NPT 3/8".

Angle Sanders

Locking Lever Handle Models

Model	Max.Dia.				Free Speed	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	Sanding Disc		Wire Brush												
	mm	in	mm	in	min^{-1}	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
3/8-24UNF Thread Male Spindle Type															
FA-5E-6VF	180 x – x 22.2	7 x – x 7/8	100 x – x 15.8	4 x – x 5/8	6,000	0.96	1.29	262	10 5/16	2.0	4.4	0.95	33.5	9.5	3/8
5/8-11UNC Thread Male Spindle Type															
FA-6C-9M	180 x – x 22.2	7 x – x 7/8	100 x – x 15.8	4 x – x 5/8	7,000	1.03	1.38	353	13 57/64	3.0	6.6	1.10	38.8	12.7	1/2
FA-7E-5VF	180 x – x 22.2	7 x – x 7/8	100 x – x 15.8	4 x – x 5/8	7,000	1.62	2.17	307	12 3/32	3.1	6.8	1.40	49.4	12.7	1/2

⋆Air Inlet Thread Size: BSP or NPT 3/8". ⋆Specify Sanding Discs or Wire Brushes when ordering.

Locking Lever Handle Model (110° Angle)

Model	Max.Dia.				Free Speed	Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	Sanding Disc		Wire Brush												
	mm	in	mm	in	min^{-1}	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
W1/2-16 Thread Female Spindle Type															
FA-4chk-3F	150 x – x 22.2	6 x – x 7/8	125 x – x 15.8	5 x – x 5/8	8,400	0.63	0.84	259	10 13/64	1.8	4.0	0.65	22.9	9.5	3/8

⋆Air Inlet Thread Size: BSP or NPT 3/8". ⋆Specify Sanding Discs or Wire Brushes when ordering.

Disc Sander

This Sander features rear exhaust, low noise, high speed and comfortable design. It is useful for various sanding work.

Model	Max.Dia. (Sanding Disc)		Free Speed	Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
FG-5PX-1	125 x – x 22.2	5 x – x 7/8	12,000	170	6 11/16	0.37	0.49	108	4 1/4	1.0	2.2	0.50	17.7	9.5	3/8

⋆Air Inlet Thread Size: BSP or NPT 1/4".

Vertical Grinders

Fuji Vertical Grinders are very powerful due to their direct drive shafts. All vertical grinders feature a centrifugal speed control governor that maintains rotational frequency even under a heavy grinding load. All Models are 5/8"-11UNC male spindle type with locking lever handle.

STANDARD TYPE

FV-7-1M,4M

FV-9BH-1M

Model	Max.Dia. (Grinding Wheel)		Free Speed	Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
FV-7-1M	180 x 6 x 22.2	7 x 1/4 x 7/8	6,000	192	7 9/16	1.40	1.87	247	9 23/32	4.0	8.8	1.40	49.4	12.7	1/2
FV-7-4M	180 x 6 x 22.2	7 x 1/4 x 7/8	8,400	192	7 9/16	1.76	2.37	247	9 23/32	4.0	8.8	1.70	60.0	12.7	1/2
FV-9BH-1M	230 x 10 x 22.2	9 x 3/8 x 7/8	5,900	222	8 47/64	2.90	3.88	278	10 61/64	5.8	12.7	2.80	98.9	19.0	3/4

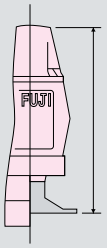
*Air Inlet Thread Size: BSP or NPT 3/8", FV-9BH Series: BSP or NPT 1/2".

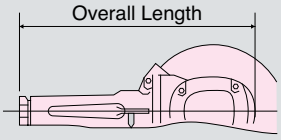
CUP WHEEL TYPE

FV-9BH-4M

Height

Height is a distance from wheel flange to top.





Model	Max.Dia. (Cup Wheel)		Free Speed	Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
FV-9BH-4M	150 x 50 x 22.2	6 x 2 x 7/8	4,500	204	8 1/32	2.90	3.88	278	10 61/64	6.1	13.4	2.40	84.7	19.0	3/4

*Air Inlet Thread Size: BSP or NPT 1/2".

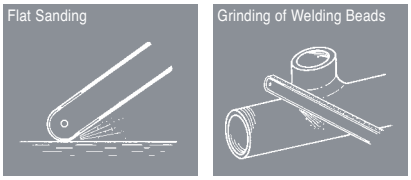
SANDING DISC TYPE

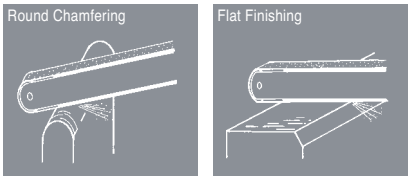
FV-7-2M

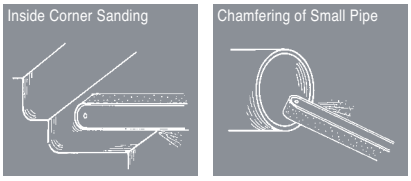
Model	Max.Dia. (Sanding Disc)		Free Speed	Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
FV-7-2M	180 x – x 22.2	7 x – x 7/8	7,000	192	7 9/16	1.54	2.07	247	9 23/32	4.0	8.8	1.60	56.5	12.7	1/2

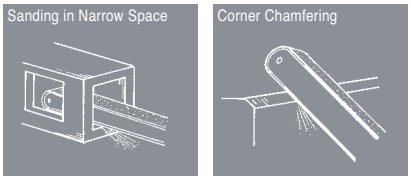
*Air Inlet Thread Size: BSP or NPT 3/8".

Fuji Belt Sanders are ideal for precise and efficient sanding of confined areas such as spherical surfaces and tubes which are difficult to access with conventional grinders. They are also the ideal tool for de-burring applications. 360 degree head rotation provides versatile solution for almost any application.









Angle Adjustment
(Up to 360 degrees)

Model	Belt Size		Free Speed	Belt Speed	Power		Overall Length		Height		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	m/min	kW	hp	mm	in	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
FBS-1-1	10 x 330	13/32 x 12 1/64	20,000	1,200	0.28	0.37	281	11 5/64	124	4 57/64	1.1	2.4	0.57	20.1	9.5	3/8
FBS-1-2	20 x 520	51/64 x 19 1/2	20,000	1,200	0.28	0.37	375	14 25/32	124	4 57/64	1.2	2.6	0.57	20.1	9.5	3/8
FBS-1-3	13 x 460	33/64 x 18 1/8	20,000	1,200	0.28	0.37	345	13 19/32	124	4 57/64	1.2	2.6	0.57	20.1	9.5	3/8
FBS-1-4	20 x 460	51/64 x 18 1/8	20,000	1,200	0.28	0.37	345	13 19/32	124	4 57/64	1.2	2.6	0.57	20.1	9.5	3/8

*Air Inlet Thread Size: BSP or NPT 1/4".

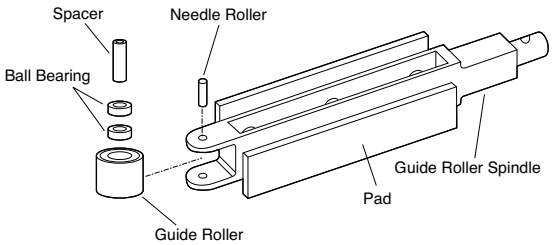
Sanding Belts

Sanding Belts in different size are able to be mounted to the tool by replacing Contact Arm Ass'y.

Applicable Model	Belt Size (mm)	Grit #40	Grit #60	Grit #80	Grit #100	Grit #120
FBS-1-1	10 x 330	DSB-271	DSB-273	•DSB-274	DSB-275	DSB-276
FBS-1-2	20 x 520	DSB-261	DSB-263	•DSB-264	DSB-265	DSB-266
FBS-1-3	13 x 460	DSB-221	DSB-223	•DSB-224	DSB-225	DSB-226
FBS-1-4	20 x 460	DSB-241	DSB-243	•DSB-244	DSB-245	DSB-246

*Marked • are Standard Accessories.

Contact Arm Assembly



Contact Arm Ass'y	Size	Model
S-169044-00	10 x 330	FBS-1-1
S-169044-01	20 x 520	FBS-1-2
S-169044-02	13 x 460	FBS-1-3
S-169044-03	20 x 460	FBS-1-4

Orbital Sanders

Fuji Orbital Sanders are compact, lightweight & manoeuvrable, yet powerful enough for finishing lacquered and metal surfaces prior to re-painting. The effective dust extraction with rear exhaust helps to keep the working environment clean.

Features

- Powerful sanding, high stability and low vibration.
- Excellent dust extraction ability to help keep the work area clean
- Available to suit variations of sandpapers; self-adhesive type, Velcro (Nylon Strip Fastener) Type and standard Clip-on Type.

DISC TYPE

FOR-125BF, 150BF

Model	Capacity (Sanding Disc)		Free Speed	Angle Head Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
Locking Lever Handle Models															
FOR-125BF-E(M)	ø125	5	8,000	124	4 7/8	0.118	0.158	243	9 9/16	2.0	4.4	0.36	12.7	6.3	1/4
FOR-150BF-E(M)	ø150	6	8,000	124	4 7/8	0.118	0.158	256	10 5/64	2.1	4.6	0.36	12.7	6.3	1/4

*Air Inlet Thread Size: BSP or NPT 1/4".
*Adhesive paper type: (E). *Velcro paper type : (M).
*FOR Series, Orbit 9mm (11/32")

RECTANGLE SHEET TYPE

FOS-175BF

Model	Capacity (Sanding Pad Size)		Free Speed	Angle Head Height		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
	mm	in	min^{-1}	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
Locking Lever Handle Models															
FOS-175BF-E(M)	100 x 175	4 x 7	6,500	130	5 1/8	0.118	0.158	268	10 9/16	2.4	5.2	0.34	11.9	6.3	1/4
FOS-230BF-E	100 x 230	4 x 9	6,000	130	5 1/8	0.118	0.158	291	11 29/64	2.6	5.7	0.34	11.9	6.3	1/4
FOS-400BF-E	100 x 400	4 x 16	5,500	130	5 1/8	0.118	0.158	400	16	3.3	7.2	0.32	11.3	6.3	1/4

*Air Inlet Thread Size: BSP or NPT 1/4".
*Adhesive paper type: (E). *Velcro paper type : (M).
*FOS Series, Orbit 5mm (3/16")

ACCESSORIES PROVIDED

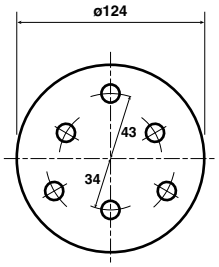
Model	Exhaust Hose	Dust Bag	Spanner	Punching Tool / Rod	Sanding Disc
FOR-125B	●	●	●	Rod	● 2pcs.
FOR-150B	●	●	●	Rod	● 2pcs.
FOS-175BF	●	●	-	-	● 2pcs.
FOS-230BF-E	●	●	-	●	● 2pcs.
FOS-400BF-E	●	●	-	●	● 2pcs.

* ● = provided, - = not provided

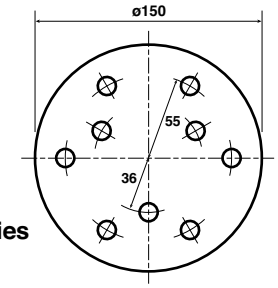
HOLE PATTERN AND DIMENSIONS OF SANDING PAPERS AND PADS

Disc Type

FOR-125 Series



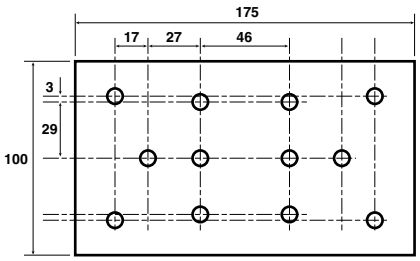
FOR-150 Series



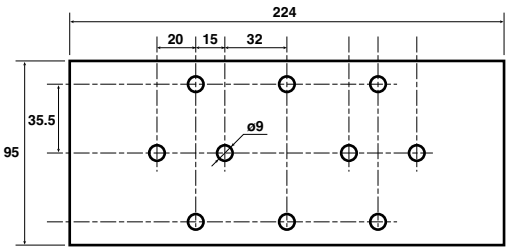
Model	Adhesive Paper Type		Velcro Paper Type	
	Paper	Pad	Paper	Pad
FOR-125	FOR-125-#40~#150	PAD-125E	FOR-125-M40~M600	PAD-125M
FOR-150	FOR-150-#40~#150	PAD-150E	FOR-150-M40~M600	PAD-150M

* Specify the grit when ordering sanding papers.

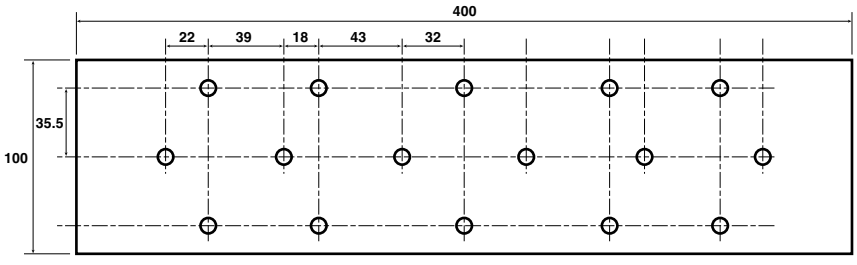
Rectangle Sheet Type



FOS-175 Series



FOS-230 Series



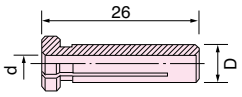
FOS-400 Series

Model	- Adhesive Paper Type		Velcro Paper Type		Roll Paper (Clip-on type)
	Paper	Pad	Paper	Pad	
FOS-175	FOS-175-#40~#240	PAD-175E	FOS-175-M40~M600	PAD-175M	-
FOS-230	FOS-230-#40~#240	PAD-230E	-	-	FOS-230-C40~C240
FOS-400	FOS-400-#40~#240	PAD-400E	-	-	FOS-400-C40~C240

* Roll Paper Size: 100mm x 15m (Dimension: FOS-230 (100 x 300)mm, FOS-400 (100 x 470) mm).
* Specify the grit when ordering sanding papers.

Accessories

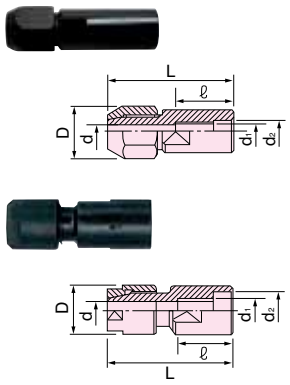
COLLET BUSHES



Parts No.	Size D mm	Size D in	Size d mm	Size d in	Models
G-032347-00	6.0	-	3.0	-	FG-26, 26X, 26L, 50, 50L, 50Y Series
G-032347-02	6.0	-	-	1/8	FG-3H, 3HL, 4H, 4HL Series
G-032347-03	-	1/4	-	1/8	FA-2C, 2BF, 3BF, 2CX,2BF, 3BF

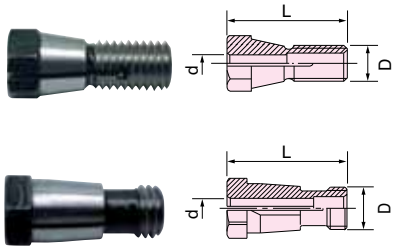
*These collet bushes are used for collet chucks.

COLLET CHUCKS

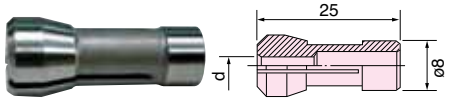


AC No.	Collet	Collet Nut	Size d mm	Size d in	d_1	d_2 mm	d_2 in	D mm	L mm	ℓ mm	Models
CN-1210	G-101342-00	G-162343-00	6	-	3/8-24UNF	-	3/8	17Hex	57	32	FG-50L, 2BF, 50Y, 2BF, 3HL, 2F,
CN-1207	G-041342-00		-	1/4							
CN-1402	G-017342-00		6	-	W3/8-16	-	3/8	17Hex	57	32	FG-50L-, 1BF, 50Y-, 1BF, 3HL-, 1F, 4HL-1F, 4H-1F
CN-1404	G-017342-01		-	1/4							
CN-1202	G-011342-00		6	-	3/8-24UNF	-	3/8	17Hex	42	17	FG-2VX-1F, FA-2C, 2BF, 2CX, 2BF
CN-1208	G-028342-00		-	1/4							
CN-1406	A-122342-01		6	-	W3/8-16	-	3/8	17Hex	42	17	FA-2C, 3BF, 2CX, 3BF
CN-1407	A-122342-02		-	1/4							
CN-1114	G-144342-03	G-144343-02	3	-	5/16-24UNF	12	-	14	44	21	FG-26, 26X, 26L, FG-50, 50X Series
CN-1115	G-144342-04		-	1/8							
CN-1112	G-144342-00	G-144343-00	6	-				16	44	21	
CN-1113	G-144342-01		-	1/4							

COLLETS

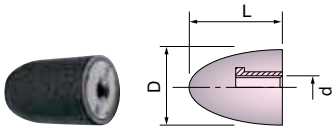


Parts No.	Size d mm	Size d in	D	Taper	L mm	Models
G-001342-01	3.0	-	1/4-28UNF	3/10	20	TURBO-100
G-001342-02	-	1/8				
G-002342-00	6.0	-	W11-24	2/5	23	TURBO-100A
G-002342-01	-	1/4				
G-185342-00	3.0	-	1/4-28UNF	-	18	FG-06-1 FG-13Series, 13XSeries
G-185342-01	-	1/8				



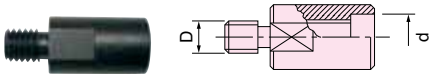
Parts No.	Size d mm	Size d in	Models
G-028342-08	3.0	-	FG-12U, 12UX FG-25D, 25DX FG-50D, 50DX
G-028342-04	-	1/8	
G-028342-07	6.0	-	
G-028342-06	-	1/4	

CONE WHEEL



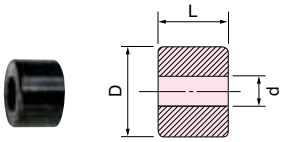
AC No.	Size D mm	Size L mm	Size d	Material
124	38	65	W3/8-16	A-36P

ADAPTER FOR CONE WHEEL



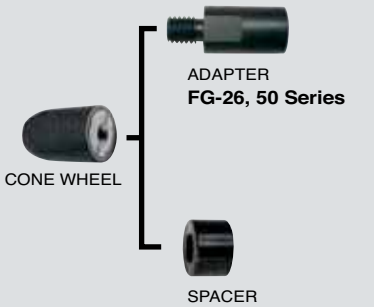
Part No.	Size D	Size d
G-158309-00	W3/8-16	5/16-24UNF

SPACER FOR CONE WHEEL

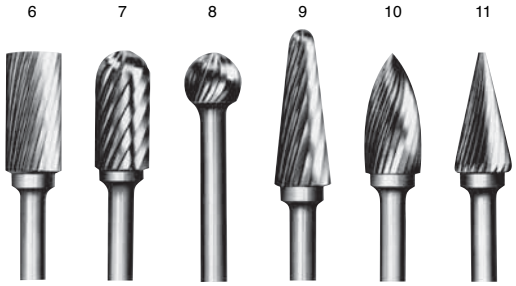


Part No.	Size d mm	Size d in	D	L
G-013308-00	9.53	3/8	20	13.5

CONE WHEEL APPLICATIONS



TUNGSTEN CARBIDE BURRS



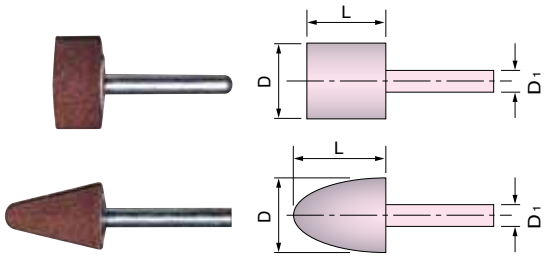
3mm Shank Dia

Index No.	AC No.	Size		Model
		Head Dia	Length	
		mm	in	
1	**A03**	3	38	**FG-06-1** **TURBO-100** **FG-13-1F** **FG-13X-1F**
2	**B03**	3	38	
3	**C03**	3	38	
4	**E03**	3	38	
5	**F03**	3	38	

6mm Shank Dia

Index No.	AC No.	Size		Model
		Head Dia	Length	
		mm	in	
6	**A08(A13)**	8(13)	55(70)	**TURBO-100A** **FG-12U, 25D, 50D Series** **FG-12UX, 25DX Series** **FG-50DX Series**
7	**B08(B13)**	8(13)	55(75)	
8	**C08(C13)**	8(13)	55(60)	
9	**E08(E13)**	8(13)	55(84)	
10	**F08(F13)**	8(13)	55(75)	
11	**H08(H13)**	8(13)	55(70)	

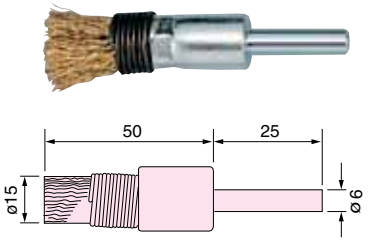
MOUNTED WHEELS



Type	AC No.	Size			Material	Model
		D	L	D_1		
		mm	mm	mm		
Straight	103	10	10	3	WA-60	**FG-13, 13X Series** **FG-12U, 12UX Series** **FG-25DX, 50DX Series**
	105	25	13	6		**FG-12U, 12UX, 26, 26X, 50, 50X Series** **FG-25D, 25DX, 50D, 50DX Series, 3H-5, 5F** **FG-3VX-6F, FA-2C-2, 3, 2CX-2, 3 Series**
Cone	111	10	15	3	WA-60	**FG-13, 13X Series** **FG-12U, 12UX Series** **FG-25DX, 50DX Series**
	113	19	25	6		**FG-12U, 12UX, 26, 26L, 26X, 50, 50X Series** **FG-25D, 25DX, 50D, 50DX Series, 3H-5, 5F** **FG-3VX-6F, FA-2C-2, 3, 2CX-2, 3 Series**

*Minimum order required :100pcs. / item

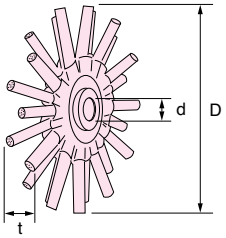
SHANK BRUSH



AC No.	Free Speed	Models
	min^{-1}	
170	15,000	**FG-3VX-6F, 3H-5, 5F** **FA-2C-2BF, 3BF** **FA2CX-2BF, 3BF**

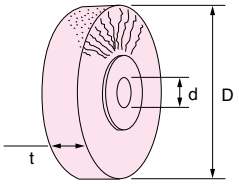
Accessories

RADIAL WIRE BRUSHES



AC No.	Size			Maximum Free Speed	Models
	D	t	d		
	mm	mm	mm	min^{-1}	
KWH-100WK5	100	13	10	12,000	FG-4H-1F
KWH-123WK5	125	14	16	9,500	FG-5H
KWH-156WK5	150	17	16	7,500	FG-6H-1M

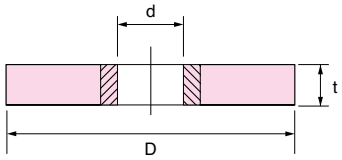
*Minimum order required :10pcs. / item.



AC No.	Size			Maximum Free Speed	Models
	D	t	d		
	mm	mm	mm	min^{-1}	
181	50	13	10	18,000	
182	65	13	10	15,000	FG-3H-1F, 3HL-1F
183	75	13	10	13,000	FG-3H-2F, 4HL-1F
184	100	13	10	9,500	FG-4H-1F
184-2	100	13	13	9,500	FG-4H-2F, 5HL-2M
185	125	19	16	7,600	FG-5H-2M
185-2	125	19	13	7,600	FG-5H-1M
186	150	25	16	6,300	FG-6H-1M
187	205	25	16	4,600	FG-8H-1C, 1M

*Minimum order required :10pcs. / item.

STRAIGHT GRINDING WHEELS FOR STRAIGHT AND EXTENSION GRINDERS



AC No.	Size						Material	Maximum Free Speed	Models
	D		t		d				
	mm	in	mm	in	mm	in		min^{-1}	
•131	50	2	13	1/2	9.53	3/8	A-36Q	18,000	
•132	65	2 1/2	13	1/2	9.53	3/8	A-30R	14,000	FG-3H-1F, 3HL-1F, 2F
•133	75	3	13	1/2	9.53	3/8	A-24P	12,000	FG-3H-2F, 4HL-1F
•133-1	75	3	19	3/4	9.53	3/8	A-24P	12,000	FG-4HL-1F
134	100	4	19	3/4	9.53	3/8	A-24P	9,000	FG-4H-1F
136-2	125	5	19	3/4	12.70	1/2	A-24P	7,600	FG-5H-1M
137	125	5	19	3/4	15.88	5/8	A-24P	7,600	FG-5H-2M
138	150	6	25	1	15.88	5/8	A-24P	6,300	FG-6H-1M
139	180	7	25	1	15.88	5/8	A-24P	5,300	FG-8H-2 Series
140	205	8	25	1	15.88	5/8	A-24P	4,600	FG-8H-1 Series

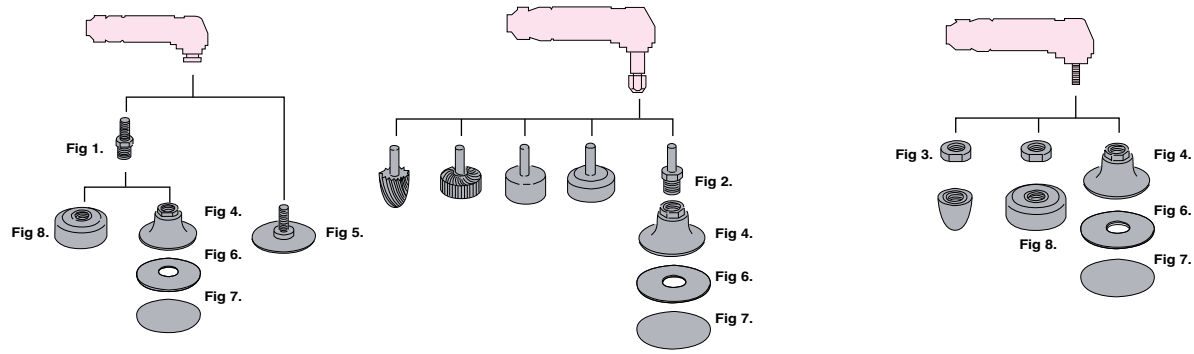
* • = Minimum order required :100pcs. / item, others = Minimum order required : 50pcs. / item.

HEAT SHRINK-TUBES FOR EXTENSION GRINDERS

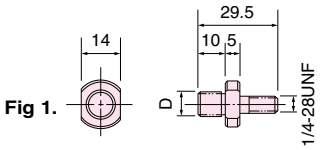
- Comfort grip to soften application vibration and warm to touch.
- Tube diameter will shrink to half size when heated to 120°C (250°F).
- Cut to suitable size to fit the tool.

AC No.	Length	Before	After		Object Size	Models
		Inside Diameter	Inside Diameter	Thickness		
	m	mm	mm	mm	mm	
M20-10-1	5	20	10	1	12~17	FG-06
M20-10-2	5	20	10	2	12~17	
M30-15-1	5	30	15	1	18~27	FG-26L
M30-15-2	5	30	15	2	18~27	
M40-20-1	5	40	20	1	23~35	FG-50, 3HL
M40-20-2	5	40	20	2	23~35	
M50-25-2	5	50	25	2	28~45	FG-4HL
M50-25-3	5	50	25	3	28~45	
M60-30-2	5	60	30	2	35~55	FG-5HL
M60-30-3	5	60	30	3	35~55	

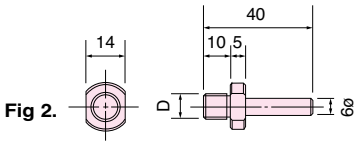
ACCESSORIES FOR FA-2C, -2CX SERIES



ATTACHMENTS

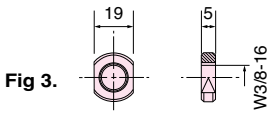


Parts No.	Size D	Models
A-122693-00	W3/8-24	FA-2C-1BF
A-122693-01	W3/8-16	FA-2CX-1BF



Parts No.	Size D	Models
A-122693-03	W3/8-16	FA-2CX-2, 3 Series

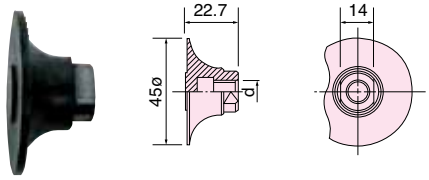
SPACER



Part No.	Models
A-122308-01	FA-2C-3BF, 2CX-3BF

RUBBER BACKING PADS Fig 4.

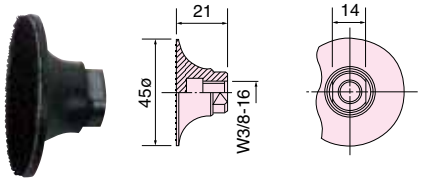
Fig. 4



ADHESIVE TYPE

AC No.	Size d
RP-2-1	W3/8-24
RP-2-2	W3/8-16

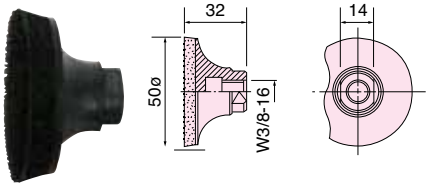
Fig. 4



VELCRO TYPE

AC No.
MP-2-1

Fig. 4



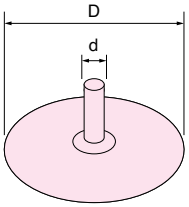
VELCRO WITH SPONGE TYPE

AC No.
MP-2-1S

Accessories

SANDING DISCS

Fig 5.

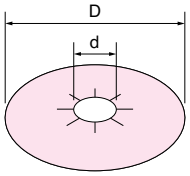


SHAFT TYPE

AC No.	Size D mm	Size d mm	Grit #	Models
MD-1	50	1/4-28 UNF	40	FA-2C-1BF FA-2CX-1BF
MD-2			60	
MD-3			80	
MD-4			100	
MD-5			120	

*Minimum order required : 50pcs. / item

Fig 6.

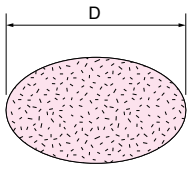


ADHESIVE TYPE

AC No.	Size D mm	Size d mm	Grit #	Models
DP-2-1	50	16	40	FA-2CX-2, 3 Series
DP-2-2			60	
DP-2-3			80	
DP-2-4			100	
DP-2-5			120	
DP-2-6			150	
DP-2-7			180	
DP-2-8			240	
DP-2-9			320	
DP-2-10			400	

*Minimum order required :100pcs. / item

Fig 7.



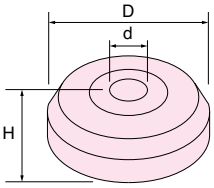
VELCRO TYPE

AC No.	Size D mm	Grit #	Models
MP-2-10	50	40	FA-2CX-2, 3 Series
MP-2-2		60	
MP-2-3		80	
MP-2-4		100	
MP-2-5		120	
MP-2-6		150	
MP-2-7		240	
MP-2-8		320	

*Minimum order required :100pcs. / item

CUP WHEEL

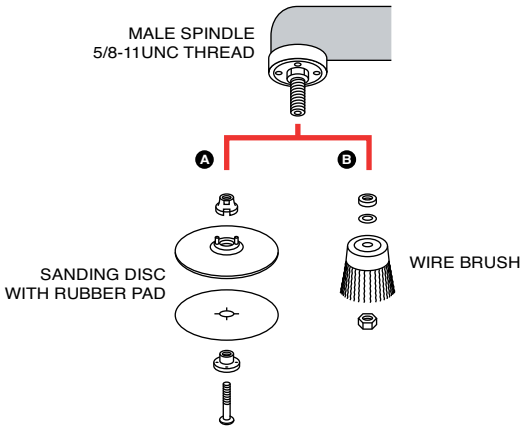
Fig 8.

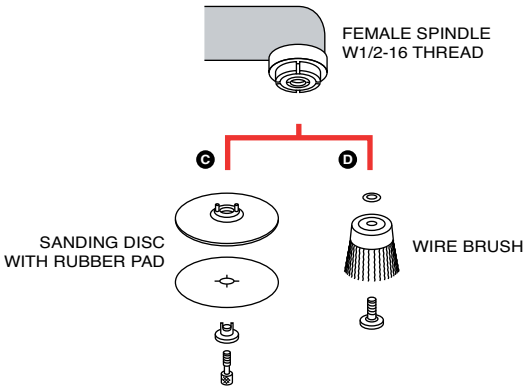


AC No.	Size D mm	Size H mm	Size d mm	Grit #	Models
MC-2-16	40	18	W3/8-16	60	FA-2C-2BF, 2CX, 3BF

*Minimum order required :10pcs. / item

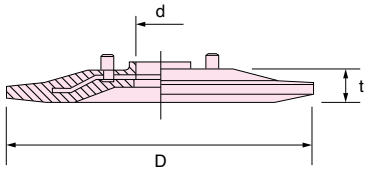
RUBBER PAD AND WIRE BRUSH COMBINATION FOR ANGLE SANDERS





*Male Spindle 3/8-24UNF Thread type is applicable to Ⓐtype

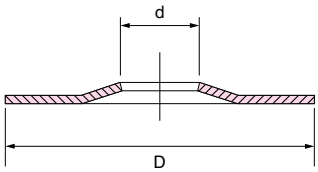
RUBBER BACKING PADS FOR ANGLE AND VERTICAL SANDERS



AC No.	Size								Maximum Free Speed	Models
	D		t		d		Pin Space			
	mm	in	mm	in	mm	in	mm	in	min⁻¹	
RP-2-1	45	1 49/64	22.7	57/64	-	3/8-24UNF	with Attachments		15,000	**FA-2C-1BF, 1BF *(A-122693-00)**
RP-2-2	45	1 49/64	22.7	57/64	-	W3/8-16	"		15,000	**FA-2C-1BF, 2CX-1BF *(A-122693-01)**
RP-4-3	100	4	12.0	15/32	15.8	5/8	34	1 11/32	13,500	**FA3CX-2F**
RP-5-5	125	5	17.0	43/64	22.2	7/8	46	1 13/16	8,500	**FA-4CHK-3**
RP-5-6	125	5	14.0	35/64	22.2	7/8	46	1 13/16	8,500	**FA-5E-4 Series**
RP-7	180	7	15.0	19/32	22.2	7/8	46	1 13/16	7,000	**FA-5E-6 Series, 7E-1, 5 Series, FV-7-1M, 2M**
RP-9-1	230	9	15.0	19/32	22.2	7/8	46	1 13/16	5,900	**FV-9BH-1M**

*Marked * are attachment number.

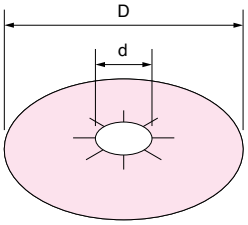
DISC BACKING PADS FOR FG-5PX-1



AC No.	Size				Model
	D		d		
	mm	in	mm	in	
FP-3-1	75	3	22.2	7/8	**FG-5PX-1**
FP-5-1	125	5	22.2	7/8	

Accessories

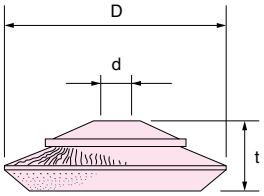
SANDING DISCS FOR ANGLE AND VERTICAL SANDERS



AC No.	Size				Grain #	Models
	D		d			
	mm	in	mm	in		
DP-5	125	5	22.2	7/8	14~60	FG-5PX-1
DP-6	150	6	22.2	7/8	14~60	FA-4CHK, 3F
DP-7	180	7	22.2	7/8	14~60	FA-6C, 9M FA-7E, 5 Series, FV-7-1M, 2M

*Minimum order required :100pcs. / item

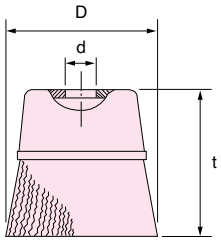
BEVEL WIRE BRUSHES



AC No.	Size			Maximum Free Speed	Models
	D	t	d		
	mm	mm	mm	min^{-1}	
195	125	35	16	8,400	FA-4CHK-3, 3F
195S	125	35	16	8,400	

*S - Stainless Steel
*Minimum order required :10pcs. / item.

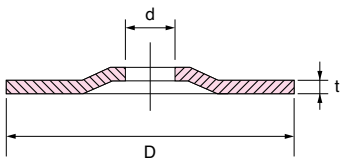
CUP WIRE BRUSHES



AC No.	Size			Maximum Free Speed	Models
	D	t	d		
	mm	mm	mm	min^{-1}	
192	75	47	16	8,400	FA-4CHK-3, 3F
193	100	55	16	8,400	FA-4CHK-3, 3F
192S	75	47	16	7,000	FA-6C-9M
193S	100	55	16	7,000	FA-6C-9M

*S - Stainless Steel
*Minimum order required :10pcs. / item.

CENTER DEPRESSED WHEELS FOR ANGLE AND VERTICAL GRINDERS



AC No.	Size						Material	Maximum Free Speed	Models
	D		t		d				
	mm	in	mm	in	mm	in		min^{-1}	
161	50	2	4	5/32	9.53	3/8	A-36P	15,000	FA-2C-1BF
161-1S	50	2	2	5/64	9.53	3/8	A-46P		
162	75	3	4	5/32	9.53	3/8	A-36S	15,000	FA-3C-1F
163	100	4	6	1/4	16.00	5/8	A-36P	13,500	FA3CX-1F
169	125	5	6	1/4	22.00	7/8	A-36P	12,000	FA-5E,13 F Series
165	180	7	6	1/4	22.00	7/8	A-36P	8,400	FA-6C, 8M, 9M FV-7-1M, 2M, 4M
168	230	9	6	1/4	22.00	7/8	A-36P	5,900	FV-9BH-1M

*Minimum order required : 25pcs. / item. (162 = Minimum order required : 500pcs. / item, 168 = Minimum order required :10pcs. / item.)

Drills / Tappers

Drills

DRILL SIZE, CUTTING SPEED AND MATERIAL

When selecting a suitable model of drill for your application, it should be chosen on the basis of drill bit size and suitable cutting speed for the material to be drilled. The table below shows the recommended drill bit sizes for different speeds when drilling some common materials. The figures in the table are based on drill speeds at normal pressure and the minimum torque in conjunction with drill breakthrough. The table only shows which drill bit sizes give the cutting speeds within the ranges stated. Note that it is quite possible to drill with smaller diameter drill bits, i.e. at lower cutting speeds. Longer drill bits than those indicated may also be used for occasional drilling work. However, in the case of drill bit sizes larger than the standard chuck capacity of the machine, the torque may be insufficient for the high cutting forces occurring in conjunction with drill breakthrough.
In order to obtain a sufficient cutting force when applying feed pressure by hand, pre-drilling is recommended for drill bit sizes above 8 mm when drilling in mild steel, soft cast iron, malleable iron as well as for holes larger than 6 mm in forged steel and stainless steel.

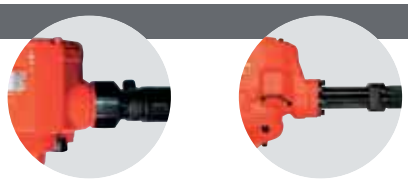
Suggested Cutting Speed (min^{-1}) for Drilling

Material	Stainless Steel	Forged Steel	Mild Steel	Soft Cast Iron	Malleable Iron	Brass or Bronze	Aluminum	Magnesium	Plastic	Wood	Titanium
Cutting speed (m/min) / Drill bit size	9-12	12-15	24-33	30-45	24-27	60-90	60-90	75-120	30-45	90-120	15-18
3mm	1100	1400	3000	4000	2700	8000	8000	10400	4000	11000	1750
4mm	840	1100	2200	3000	2000	6000	6000	7800	3000	8400	1300
5mm	660	860	1800	2400	1600	4800	4800	6200	2400	6700	1050
6mm	550	700	1500	2000	1350	4000	4000	5200	2000	5600	880
8mm	420	540	1100	1500	1000	3000	3000	3900	1500	4200	660
10mm	330	430	900	1200	800	2400	2400	3100	1200	3300	630
12mm	280	350	750	1000	700	2000	2000	2600	1000	2800	440
13mm	260	330	700	920	630	1800	1800	2400	920	2550	400
14mm	240	300	640	850	580	1700	1700	2200	850	2400	370
16mm	210	270	560	750	500	1500	1500	1950	750	2100	330
19mm	180	230	480	630	430	1250	1250	1600	630	1800	280
22mm	150	200	410	540	370	1100	1100	1400	540	1500	240
23mm	140	190	390	520	350	1000	1000	1350	520	1450	230
25mm	130	170	360	480	320	960	960	1250	480	1330	210
28mm	120	150	320	420	290	850	850	1100	420	1200	190
32mm	100	130	280	380	250	750	750	980	380	1050	160
44mm	75	100	210	270	180	550	550	700	270	750	120
50mm	65	85	180	240	160	480	480	620	240	670	110
75mm	44	57	120	160	110	320	320	420	160	450	70
100mm	33	43	90	120	80	240	240	310	120	330	55

1 REVERSIBLE DRILLS

Fuji offer some reversible drills. The reverse action is selected by simply turning the reverse lever.

FRD-20R~100R, FCD-23R~100R, F-22RCR, 32RCR



2 TWO-STAGE THROTTLE ACTUATION

This mechanism allows slow start smooth operation to full speed allowing the drill bit to be centralised prior to drilling at full speed.

FRD-5P, 8PX, 12Z~16Z

3 SWIVEL TYPE EXHAUST COVER

The exhaust cover can be rotated to enable the operator to choose a convenient direction of the exhaust air.

FRD-20R~50R, FCD-23R~100R

4 REAR EXHAUST WITH BUILT-IN MUFFLER

The noise level is minimised via the muffler built into the exhaust cover.

FRD-5P, 6PX, 8PX, FCD-6X, 10X

5 LOCKING HANDLE

The locking handle is designed to reduce the risk of inadvertent starting of the drill. The handle reverts automatically to the locked position when released.

6 PLASTIC COVER

The plastic cover softens the effect of vibration during the drilling application and creates a "warm to touch" feeling to improve operator comfort.

FCD-10X, 6EX

7 DEAD HANDLE

The dead handle helps to soften the breakthrough reaction force experienced when drilling "through holes".

FRD-6S-7, 6PX-7, 8PX-2, 3, 12Z~16Z

8 SELF-RETURN ROLL HANDLE

When the operator releases the handle, it automatically returns to the "OFF" position and the air supply is switched off. When ordering, add "S" to the end of the model name.

FRD-20R~100R, FCD-23R~100R

9 SWIVEL TYPE AIR EXHAUST HOSE JOINT (OPTION)

Connecting an air exhaust hose, with the optional swivel type air exhaust hose joint, provides improved operator comfort by directing the exhaust air away and reducing the noise level.

FRD-20R~50R, FCD-23R~100R

Drills

Fuji Drills are light weight with a sturdy construction. Their practical design represents Fuji's latest developments in drills technology. Fuji offers a complete line of drills with a drilling capacity range from 2mm to 100mm.

STRAIGHT/SIDE EXHAUST TYPE

FRD-5S-1F~6S-7F

Model		Drilling Capacity		Stall Torque			Free Speed	Type and Size of Spindle		Chuck Capacity (mm)		Side to Center		Power		Overall Length		Weight		Max. Air Consumption	
Thread Type	Taper Type	mm	in	N·m	kgf·m	ft·lb	min⁻¹	Thread	Taper	Thread	Taper	mm	in	kW	hp	mm	in	kg	lb	m³/min	ft³/min
FRD-5S-1F	–	5	3/16	2.0	0.20	1.4	3,200	3/8–24	–	6.5	–	18.5	47/64	0.18	0.24	175	6 57/64	0.6	1.3	0.60	21.2
–	FRD-5S-2TF	2	5/64	0.3	0.03	0.2	24,000	–	J.T#D	–	5.0	18.5	47/64	0.18	0.24	164	6 15/32	0.6	1.3	0.60	21.2
FRD-6S-2F	–	5	3/16	2.5	0.25	1.8	4,300	3/8–24	–	6.5	–	21.0	53/64	0.29	0.39	209	8 15/64	0.9	1.9	0.68	24.0
FRD-6S-3F	–	8	5/16	2.9	0.30	2.1	2,800	3/8–24	–	8.0	–	21.0	53/64	0.29	0.39	212	8 23/64	1.0	2.2	0.68	24.0
FRD-6S-5F	–	10	7/16	6.9	0.70	5.0	1,300	3/8–24	–	10.0	–	23.0	29/32	0.29	0.39	233	9 3/16	1.0	2.2	0.68	24.0
•FRD-6S-7F	–	13	1/2	15.7	1.60	11.5	600	1/2–20	–	13.0	–	21.0	53/64	0.29	0.39	261	10 9/32	1.5	3.3	0.68	24.0

*FRD-5 series: 1/4" Air Inlet, 1/4"(6.35mm) Air Hose. All other models: 1/4" Air Inlet, 3/8"(9.5mm) Air Hose.
*Marked • are furnished with Dead Handle.

PISTOL/REAR EXHAUST TYPE

FRD-5P-1

FRD-6PX Series

FRD-8PX Series

Model	Drilling Capacity		Stall Torque			Free Speed	Type and Size of Spindle		Chuck Capacity (mm)		Side to Center		Power		Overall Length		Weight		Max. Air Consumption	
Thread Type	mm	in	N·m	kgf·m	ft·lb	min⁻¹	Thread	Taper	Thread	Taper	mm	in	kW	hp	mm	in	kg	lb	m³/min	ft³/min
FRD-5P-1	5	3/16	2.0	0.20	1.4	3,200	3/8–24	–	6.5	–	18.0	45/64	0.18	0.24	155	6 7/64	0.6	1.3	0.40	14.1
FRD-6PX-2	5	3/16	2.5	0.25	1.8	4,300	3/8–24	–	6.5	–	21.0	53/64	0.29	0.39	167	6 37/64	1.1	2.4	0.55	19.4
FRD-6PX-3	8	5/16	3.0	0.30	2.1	2,800	3/8–24	–	8.0	–	21.0	53/64	0.33	0.44	171	6 47/64	1.1	2.4	0.55	19.4
FRD-6PX-5	10	7/16	6.9	0.70	5.0	1,300	3/8–24	–	10.0	–	22.5	57/64	0.27	0.36	187	7 3/8	1.3	2.8	0.55	19.4
•FRD-6PX-7	13	1/2	15.7	1.60	11.5	600	1/2–20	–	13.0	–	22.5	57/64	0.23	0.31	222	8 3/4	1.7	3.7	0.55	19.4
FRD-8PX-1	8	5/16	5.9	0.60	4.3	2,600	3/8–24	–	8.0	–	25.0	63/64	0.44	0.59	187	7 3/8	1.5	3.3	0.76	26.8
•FRD-8PX-2	10	7/16	11.8	1.20	8.6	1,300	3/8–24	–	10.0	–	26.5	1 3/64	0.44	0.59	210	8 9/32	1.9	4.2	0.76	26.8
•FRD-8PX-3	13	1/2	16.7	1.70	12.3	900	1/2–20	–	13.0	–	25.5	1	0.44	0.59	240	9 29/64	2.5	5.5	0.76	26.8

*FRD-5 series: 1/4" Air Inlet, 1/4"(6.35mm) Air Hose. All other models: 1/4" Air Inlet, 3/8"(9.5mm) Air Hose.
*Marked • are furnished with Dead Handle.

DRILL CHUCKS

No.	Models	Type and Size of Spindle	Chuck Capacity
DCK-5J	FRD-5S-2T, 2TF	J.T.#D(Taper)	5mm
DCK-6.5	FRD-5S-1, 1F, 6S-2, 2F, 5P-1, 6PX-2	3/8-24(Thread)	6.5mm
DCK-8	FRD-6S-3, 3F, 6PX-3, 8PX-1	3/8-24(Thread)	8mm
DCK-10	FRD-6S-5, 5F, 6PX-5, 8PX-2	3/8-24(Thread)	10mm
DCK-13	FRD-6S-7, 7F, 6PX-7, 8PX-3, 12Z-1, 1C	1/2-20(Thread)	13mm
DCK-16	FRD-16Z-1, 1C	5/8-16(Thread)	16mm

GRIP HANDLE MEDIUM SIZE DRILLS

FRD-12Z-1C, 16Z-1C
(Inside Lever)

Model	Drilling Capacity (Guidance)		Stall Torque			Free Speed	Type and Size of Spindle		Chuck Capacity	Side to Center		Power		Overall Length		Weight		Max. Air Consumption	
Inside Lever	mm	in	N·m	kgf·m	ft·lb	min^{-1}	Thread	Taper	mm	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min
FRD-12Z-1C	12	1/2	22.0	2.2	15.9	1,200	1/2–20	–	13	34	1 11/32	0.66	0.89	324	12 3/4	3.3	7.3	1.20	42.4
FRD-16Z-1C	16	5/8	34.3	3.5	25.3	800	5/8–16	–	16	34	1 11/32	–	0.00	364	14 21/64	3.7	8.1	1.20	42.4

*3/8" Air Inlet Thread Size. 12.7mm(1/2") Air Hose Size. All models can be used for reaming work.
FRD-12Z series 8mm capacity, and FRD-16Z series 13mm capacity.

HEAVY-DUTY DRILLS

FRD-20R~32R

FRD-40R, 50R, 65R

FRD-75R, 100R

Model	Capacity (Guidance)				Stall Torque			Free Speed	Socket	Feed Length		Power		Overall Length		Weight		Max. Air Consumption	
	Drilling		Reaming Tapping																
Self-return Type	mm	in	mm	in	N·m	kgf·m	ft·lb	min^{-1}	M.T.#	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min
FRD-20R-21S	19	3/4	16	5/8	63.7	6.5	47.0	600	2	67	2 41/64	0.88	1.18	282	11 7/64	7.0	15.4	1.20	42.4
FRD-20R-22S	19	3/4	16	5/8	63.7	6.5	47.0	600	3	67	2 41/64	0.88	1.18	307	12 3/32	7.0	15.4	1.20	42.4
FRD-23R-21S	22	7/8	19	3/4	78.4	8.0	57.8	480	2	67	2 41/64	0.88	1.18	282	11 7/64	7.3	16.0	1.20	42.4
FRD-23R-22S	22	7/8	19	3/4	78.4	8.0	57.8	480	3	67	2 41/64	0.88	1.18	307	12 3/32	7.4	16.3	1.20	42.4
FRD-25R-11S	25	1	22	7/8	147.0	15.0	108.4	530	3	96	3 25/32	2.10	2.82	353	13 29/32	14.0	30.8	3.20	113.0
FRD-28R-11S	28	1 1/8	25	1	177.0	18.0	130.1	430	3	96	3 25/32	2.10	2.82	353	13 29/32	14.0	30.8	3.20	113.0
FRD-32R-11S	32	1 1/4	25	1	196.0	20.0	144.6	380	3	96	3 25/32	2.10	2.82	353	13 29/32	14.5	31.9	3.20	113.0
FRD-32R-12S	32	1 1/4	25	1	196.0	20.0	144.6	380	4	96	3 25/32	2.10	2.82	353	13 29/32	14.5	31.9	3.20	113.0
FRD-40R-11S	44	1 47/64	32	1 1/4	304.0	31.0	224.2	220	4	93	3 43/64	1.80	2.41	446	17 9/16	18.7	41.1	3.20	113.0
FRD-50R-11S	50	2	50	2	431.0	44.0	318.1	150	4	93	3 43/64	1.80	2.41	446	17 9/16	18.7	41.1	3.20	113.0
FRD-65R-1S	65	2 9/16	65	2 9/16	608.0	62.0	448.4	190	5	125	4 59/64	3.30	4.43	487	19 11/64	32.0	70.4	5.50	194.2
FRD-75R-1S	75	3	75	3	1156.0	118.0	855.0	85	5	128	5 3/64	3.10	4.16	600	23 5/8	43.0	94.6	5.50	194.2
FRD-100R-1S	100	4	100	4	1823.0	186.0	1344.8	55	5	128	5 3/64	3.10	4.16	600	23 5/8	43.0	94.6	5.50	194.2

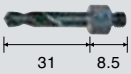
*Air Hose Size: FRD-20R~23R: 1/2", FRD-25R~50R: 3/4", FRD-65R~100R: 1".
*Air Inlet Thread Size: FRD-65R~100R: 1". All other models: 1/2".

Baby Angle Drills

Fuji Baby Angle Drills are equipped with a compact head (low height and side-to-center head dimensions) to allow these tools to be used in confined areas. Ball and needle bearings used throughout angle heads provide long service life and less spindle run-out.

FCD-6B-1F

SNAKE DRILLS (SN-2~6)



DRILL CHUCKS (CN-1802~1807)

Snake Drill Bits 2mm to 6mm and Drill Chuck capacities 1/16" to 1/4" are available on request.

Model	Drilling Capacity (Guidance)		Stall Torque			Free Speed	Spindle Thread Size	Side to Center		Power		Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm	in	N·m	kgf·m	ft·lb	min^{-1}	in	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	BSP or NPT	mm	in
Front Exhaust Type																				
FCD-6B-1F	6	1/4	2.5	0.25	1.8	2,500	1/4–28UNF	9.5	3/8	0.16	0.21	222	8 47/64	0.60	1.3	0.56	19.8	1/4	6.3	1/4

Corner Drills

Fuji utilizes their power transmission knowledge in their line of corner drills. In addition to their power, these drills are designed to work well in confined spaces.

FCD-6X-1F, 2F

FCD-10X-1F

Model	Drilling Capacity (Guidance)		Stall Torque			Free Speed	Spindle Thread Size	Chuck Capacity	Side to Center		Power		Overall Length		Weight		Max. Air Consumption		Air Hose Size	
Locking Lever	mm	in	N·m	kgf·m	ft·lb	min^{-1}	in	mm	mm	in	kW	hp	mm	in	kg	lb	m^3/min	ft^3/min	mm	in
FCD-6X-1F	6	1/4	4.9	0.50	3.6	2,500	3/8–24UNF	6.5	21	53/64	0.34	0.46	267	10 33/64	1.7	3.7	0.68	24.0	9.5	3/8
FCD-6X-2F	8	5/16	7.8	0.80	5.7	1,500	3/8–24UNF	8.0	21	53/64	0.29	0.39	281	11 1/16	1.9	4.1	0.68	24.0	9.5	3/8
FCD-10X-1F	10	7/16	11.8	1.20	8.6	1,200	1/2–20UNF	10.0	21	53/64	0.42	0.56	377	14 27/32	2.2	4.8	0.50	17.6	9.5	3/8

*1/4" Air Inlet Thread Size, All models are Rear Exhaust types.

HEAVY-DUTY CORNER DRILLS (NON-REVERSIBLE)

F-14CN.S

F-22RCN.S

F-32RCN, 32RCNS

Model	Capacity (Guidance)				Stall Torque			Free Speed	Socket	Side to Center		Feed Length		Power		Overall Length		Weight		Max. Air Consumption	
	Drilling		Reaming Tapping																		
Self-return Type	mm	in	mm	in	N·m	kgf·m	ft·lb	min⁻¹	M.T.#	mm	in	mm	in	kW	hp	mm	in	kg	lb	m³/min	ft³/min
F-14CN-1S	14	9/16	9.5	3/8	31.4	3.2	23.1	1,000	1	24	15/16	38	1 1/2	0.70	0.94	410	16 9/64	4.6	10.1	1.25	44.1
F-14CN-2S	14	9/16	9.5	3/8	31.4	3.2	23.1	1,000	2	24	15/16	38	1 1/2	0.70	0.94	410	16 9/64	4.6	10.1	1.25	44.1
F-22RCN-1S	22	7/8	19.0	3/4	108.0	11.0	79.5	450	2	35	1 3/8	60	2 3/8	1.10	1.48	493	19 13/32	8.5	18.7	1.50	53.0
F-32RCN-1S	32	1 1/4	25.0	1	127.0	13.0	94.0	400	3	40	1 37/64	60	2 3/8	1.32	1.77	523	20 19/32	9.7	21.3	1.50	53.0
F-32RCNS-1S	32	1 1/4	25.0	1	127.0	13.0	94.0	400	3	40	1 37/64	25	1	1.32	1.77	529	20 53/64	8.8	19.3	1.50	53.0

*12.7mm (1/2") Air Hose Size.
*Air Inlet Size: F-14CN series: 3/8", All others: 1/2".

HEAVY-DUTY CORNER DRILLS (REVERSIBLE)

F-22RCR.S

F-32RCR.S

FCD-23R~50R.S

FCD-75R, 100R.S

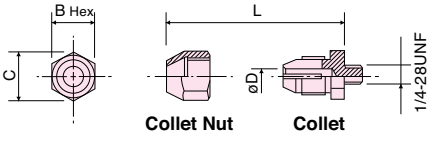
Model	Capacity (Guidance)				Stall Torque			Free Speed	Socket	Side to Center		Feed Length		Power		Overall Length		Weight		Max. Air Consumption	
	Drilling		Reaming Tapping																		
Self-return Type	mm	in	mm	in	N·m	kgf·m	ft·lb	min⁻¹	M.T.#	mm	in	mm	in	kW	hp	mm	in	kg	lb	m³/min	ft³/min
F-22RCR-1S	22	7/8	19.0	3/4	93.2	9.5	68.7	400	2	35	1 3/8	60	2 3/8	0.90	1.21	505	19 7/8	8.5	18.7	1.50	53.0
F-32RCR-1S	32	1 1/4	25.0	1	113.0	11.5	83.1	315	3	40	1 37/64	60	2 3/8	0.81	1.09	538	21 3/16	10.0	22.0	1.50	53.0
FCD-23R-11S	22	7/8	19.0	3/4	80.4	8.2	59.3	430	2	27	1 1/16	35	1 3/8	0.90	1.21	472	18 37/64	7.0	15.4	1.50	53.0
FCD-23R-12S	22	7/8	19.0	3/4	80.4	8.2	59.3	430	3	27	1 1/16	35	1 3/8	0.90	1.21	472	18 37/64	7.1	15.6	1.50	53.0
FCD-32R-11S	32	1 1/4	32.0	1 1/4	177.0	18.0	130.1	350	3	35	1 3/8	53	22 3/4	1.60	2.15	578	22 3/4	13.5	29.7	1.80	63.5
FCD-50R-11S	50	2	50.0	2	392.0	40.0	289.0	140	4	41	1 5/8	58	2 5/16	1.60	2.15	595	23 27/64	16.0	35.2	2.25	79.4
FCD-75R-11S	75	3	75.0	3	834.0	85.0	614.8	85	5	49	1 15/16	57	2 1/4	1.90	2.55	651	25 5/8	20.5	45.1	2.50	88.3
FCD-100R-11S	100	4	100.0	4	1370.0	140.0	1012.6	40	5	62	2 7/16	105	4 1/8	1.90	2.55	730	28 3/4	29.3	64.4	2.25	79.4

*Air Hose Size: FCD-23 series and F-22, -32series 12.7mm(1/2"), All others: 19mm (3/4") .
*Air Inlet Thread Size: 1/2".

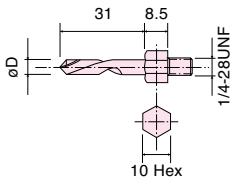
Accessories

COLLET CHUCKS, SNAKE DRILLS, ATTACHMENT AND PADS FOR FCD-6B

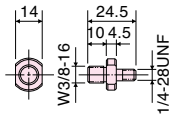
COLLET CHUCKS



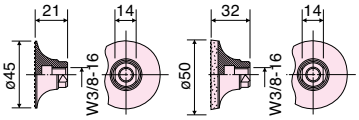
SNAKE DRILLS



ATTACHMENT



VELCRO RUBBER PAD

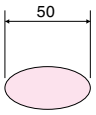


AC No.	Part No.		Size				
			D		B(Hex)	C	L
	Collet Nut	Collet	mm	in	mm	mm	mm
CN-1801	D-021343-00	D-021342-02	–	1/16	12	13.8	15
CN-1802	D-021343-00	D-021342-00	3	–	12	13.8	15
CN-1803	D-021343-00	D-021342-01	3.2	–	12	13.8	15
CN-1804	D-023343-01	D-023342-01	4	–	14	16.2	21
CN-1805	D-023343-01	D-023342-03	–	3/16	14	16.2	21
CN-1806	D-023343-01	D-023342-02	5	–	14	16.2	21
CN-1807	D-023343-00	D-023342-04	6	–	17	19.6	23
CN-1808	D-023343-00	D-023342-00	–	1/4	17	19.6	23

AC No.	Size
	D
	mm
SN-2	2
SN-3	3
SN-4	4
SN-5	5
SN-6	6

Part No.	Part No.	Part No. (with SPONGE)
A-179693-00	MP-2-1	MP-2-1S

VELCRO SANDING PAPERS

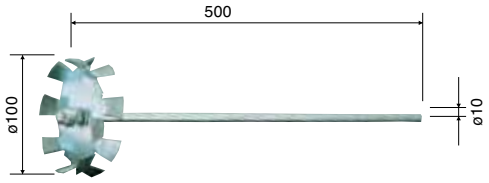


AC No.	Grit #
MP-2-10	40
MP-2-2	60
MP-2-3	80
MP-2-4	100
MP-2-5	120
MP-2-6	150
MP-2-7	240
MP-2-8	320

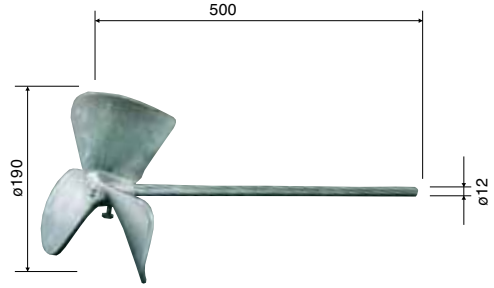
*Minimum order required :100pieces / item

STIRRING PROPELLERS

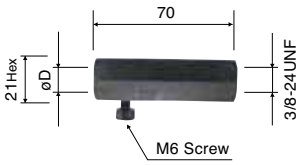
AC No. : AT-P01
For use with 10mm Drill Chuck



AC No. : AT-P02
For use with 13mm Drill Chuck



ADAPTERS TO CONNECT PROPELLERS TO DRILLS



Part No.	Size D (mm)	Stirring Propellers	models
M-002693-01	10	AT-P01	FRD-5S, 6S-2~5 5P, 6PX-2~5 8PX-1, 2
M-002693-00	12	AT-P02	

*These adapters are designed to connect propellers directly to drills.

DEAD HANDLE FOR FRD-12Z, 16Z

PART No. : A-192014-00
This dead handle softens vibration and eases operator's fatigue much more than the ordinary dead handle.

APPLICATION EXAMPLES

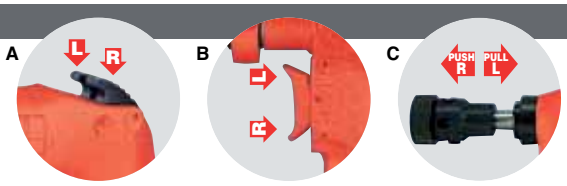
Stirring propellers attached to FRD series drills

SOFT JACKETS

- Soften vibration and Chill-touch
- Protect work piece and tool
- Improve comfort

AC No.	Applicable Dia. (mm)	Thickness x Length (mm)
SO-25	22 – 28	2 x 120
SO-30	26 – 33	
SO-35	34 – 42	
SO-55	56 – 70	

1 REVERSING



A. Twin lever type-one lever for forward rotation (with throttle actuaion) and one lever for reverse rotation (with throttle actuaion).

FT-6BX

B. See-saw type lever for throttle actuaion and reversing.

FT-8PX

C. Push/Pull type-forward rotation when the tool is pushed into the work-piece, reverse rotation when the tool is pulled away from the work-piece.

FT-6P, 13Z

2 TWO-STAGE THROTTLING

This mechanism allows a "slow start" to ensure tap is correctly aligned prior to actuating "full speed".

FT-6P, 8PX, 13Z

3 AIR REGULATOR

A 4 click stop regulator is built in and the operator can regulate air supply for torque adjustment.

FT-6P

4 DEAD HANDLE

The dead handle is used to reduce the effect of "snatching" when tapping a through hole. It is also used when tapping "high torque" threads.

FT-8PX, 13Z

5 REAR EXHAUST WITH AIR EXHAUST HOSE

Connecting an air exhaust hose, provides improved operator comfort by directing the exhaust air away and reducing the noise level.

FT-6BX

6 REAR EXHAUST WITH BUILT-IN MUFFLER

The noise level is minimised via the muffler built into the exhaust cover.

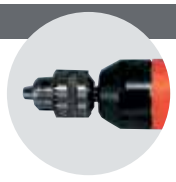
FT-8PX

7 UNIVERSAL TAPPING CHUCK

The universal tapping chuck provides optimal grip of the tap during the tapping operation.

FT-6BX-1T, 8PX-1, 13Z-1

8 DRILL CHUCK



A drill chuck can also be used for tapping where appropriate.

FT-6P, 6BX-1(D Type)

Tappers

Easy to use throttle and reversing trigger combined with a universal tapping chuck provide a smooth tapping operation. Fuji Tappers are available in tapping capacities from 6mm to 13mm.

FT-6P-1

FT-6BX-1
(Drill Chuck type)

FT-6BX-1
(Universal Tapping Chuck type)

FT-8PX-1

Model	Type	Tapping Capacity (Guidance)				Free Speed(min⁻¹)		Type and Size of Spindle	Chuck Capacity	Overall Length		Weight		Max. Air Consumption		Air Hose Size	
		Steel		Aluminum													
		mm	in	mm	in	R	L	Taper #	mm	mm	in	kg	lb	m³/min	ft³/min	mm	in
FT-6P-1	–	6	1/4	8	5/16	1,000	1,000	J.T.#1	8	236	9 19/64	1.8	4.0	0.50	17.7	9.5	3/8
FT-6BX-1	D	6	1/4	8	5/16	2,000	2,000	J.T.#1	6.5	205	8 7/64	1.3	2.9	0.56	19.8	8.0	5/16
FT-6BX-1	T	6	1/4	8	5/16	2,000	2,000	J.T.#1	8	240	9 29/64	1.3	2.9	0.56	19.8	8.0	5/16
FT-8PX-1	–	8	5/16	10	3/8	450	450	M.T.#1	9	232	9 9/64	2.0	4.4	0.50	17.7	9.5	3/8

*FT-6P-1, 6BX-1, 8PX-1: 1/4" Air Inlet Thread Size.
*TYPE: D...Drill Chuck, T...Tapping Chuck.

TAPPING CHUCKS

No.	Models	Type and Size of Spindle Taper #	Chuck Capacity
TCK-6	FT-6BX-1T	J.T.#1	8mm
TCK-8F	FT-8PX-1	M.T.#1	9mm

DRILL CHUCKS

No.	Models	Type and Size of Spindle Taper #	Chuck Capacity
DCK-6.5J	FT-6BX-1(D Type)	J.T.#1	6.5mm
DCK-8J	FT-6P-1	J.T.#1	8mm

Percussive Tools

Features

1 VALVE MECHANISM

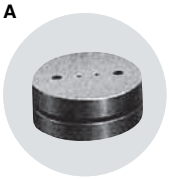
Equipped with following valve mechanism, Fuji Percussion Tools have trouble-free long life.

A. PLATE VALVE

Plate valve consists of four parts of valve sheet, valve cover, valve case and valve. This simple mechanism and plate valve surface provide longer durability.

FR Series

A



B. SLEEVE VALVE

Hollow valve enables a light and compact body and longer stroke for its size.

FRH Series

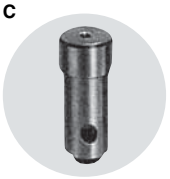
B

C. PISTON VALVE

High blow frequency (60Hz to 90Hz) can be maintained as this piston functions as a valve providing high working efficiency.

FCH Series, FNS Series and FS Series

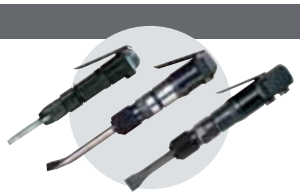
C



2 LOW AIR CONSUMPTION

Low air consumption 0.14-0.18 m^3/min (due to the valve mechanism) enables Fuji Percussion Tools to be used with a smaller compressor.

FCH Series and FNS Series



3 QUICK CHANGE ATTACHMENTS FOR PERCUSSIVE TOOLS

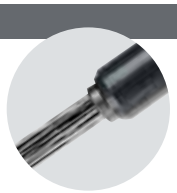
Attachment, such as chisels and needles, can be quickly and easily changed.

FCH Series and FNS Series

4 MULTI-NEEDLES

Fuji Needle Scalers utilise multiple needles that do not contaminate the workpiece.

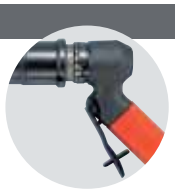
FNS Series



5 PLASTIC HANDLE COVER

The plastic handle cover reduces the effect of vibration and provides an insulated grip for the operator.

FNS-2P-1F



6 SCALING HEADS

Three models are available to suit different applications- single head, dual head and triple head.

FS Series

7 LOCKING HANDLE

The locking handle are designed to reduce the risk of accidental starting of the tools. The handle is automatically locked when the operator releases the handle.

Locking Lever Handle

FS, FR, FCH, FNS Series

8 TUNGSTEN CARBIDE TIPPED PISTON (OPTION)

4-point Tungsten Carbide Piston is available on request for heavy removal operations.

FS Series

9 LOW BLOW FREQUENCY

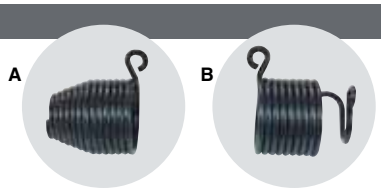
The built-in Sleeve Valve allows the operator to adjust the blow frequency by adjusting the throttle valve.

FRH Series

10 CHISEL RETAINER

A. Holder Spring (Bee-Hive Retainer)
B. Holder Spring (B) (Quick Change Retainer)

FRH Series, FC-01SA



11 CHISEL HOLDER

Fuji Chipping and Calking Hammers are supplied with a chisel retainer as standard. This reduces the risk of the chisel releasing during operation.

FC Series

Flux Chippers

Fuji offers 3 variants of Flux Chippers with different removal rates. They are ideal for various removal operations like light chipping, carving stone, scaling, removing paint, rust, weld flux and light fins from castings. FCH-25B offers a "blow" function which is ideal for blowing particles away from the work piece.

FCH-20F-1F

FCH-25-1F

FCH-25B-1F
(Separate Blow Type)

Model	Blows	Piston Diameter		Stroke		Overall Length		Weight		Air Consumption (At Load)		Air Inlet Thread Size	Air Hose Size	
Locking Lever	Hz	mm	in	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FCH-20-1F	90	20	25/32	16	5/8	176	6 13/64	0.8	1.8	0.14	4.9	1/4	6.3	1/4
FCH-20F-1F	90	20	25/32	16	5/8	182	7 5/32	1.0	2.2	0.14	4.9	1/4	9.5	3/8
FCH-25-1F	60	25	1	20	25/32	204	8 1/32	1.5	3.3	0.18	6.4	1/4	9.5	3/8
FCH-25B-1F	60	25	1	20	25/32	239	9 13/32	1.7	3.7	0.18	6.4	1/4	8.0	5/16

Light Hammers

Fuji Light Hammers provide a controllable impact for rivetting to reduce the effect of work hardening of the rivet or damage to the surrounding metal. These tools are easily adapted to perform other operations, such as cutting, ripping, shearing, punching and gouging with suitable chisels fitted.

FRH-3

FRH-6

FRH-6A

FRH-SERIES KIT

FRH-Model
Air Regulator
Hose Nipple
Holder Spring
Holder Spring (B)
7 kinds of Chisel
Metal Carrying Case

Model	Chisel Shank	Riveting Capacity (mm)		Blows	Piston Diameter		Stroke		Overall Length		Weight		Air Consumption (At Load)		Air Inlet Thread Size	Air Hose Size	
		Duralmin	Steel	Hz	mm	in	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FRH-3-1	Hex	3.2	2.5	60	14.3	9/16	38.0	1 1/2	140	5 33/64	1.1	2.4	0.35	12.4	1/4	9.5	3/8
FRH-3-2	Round	3.2	2.5	60	14.3	9/16	38.0	1 1/2	140	5 33/64	1.1	2.4	0.35	12.4	1/4	9.5	3/8
FRH-6-1	Hex	6.4	5.0	30	12.7	1/2	100.0	4	206	8 7/64	1.4	3.0	0.35	12.4	1/4	9.5	3/8
FRH-6-2	Round	6.4	5.0	30	12.7	1/2	100.0	4	206	8 7/64	1.4	3.0	0.35	12.4	1/4	9.5	3/8
FRH-6A-1	Hex	6.4	5.0	50	20.0	25/32	44.5	1 3/4	193	7 19/32	1.5	3.3	0.40	14.1	1/4	9.5	3/8
FRH-6A-2	Round	6.4	5.0	50	20.0	25/32	44.5	1 3/4	193	7 19/32	1.5	3.3	0.40	14.1	1/4	9.5	3/8

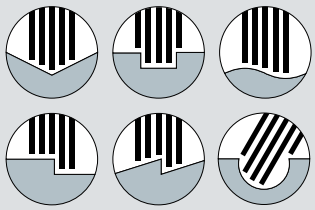
Needle Scalers

Fuji Needle Scalers are useful for removing weld flux, sand from castings, scales from forgings, rust, paint, scales from ship hulls and finishing rough surfaces of rock or concrete. Fuji Needle Scalers feature a unique valve less design and work well on uneven or irregular surfaces.

FNS-2-1F

FNS-2P-1F

MOVEMENT OF NEEDLES



Model	Throttle Type	Blows	Piston Diameter		Needle Length		No. and Dia of Needle		Needle Stroke		Overall Length		Weight		Air Consumption (At Load)		Air Inlet Thread Size	Air Hose Size	
Locking Lever		Hz	mm	in	mm	in	3mm	2mm	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FNS-2-1F	Straight	133	25	1	180	7 3/32	19	37	7	9/32	325	12 51/64	1.9	4.1	0.18	6.4	1/4	9.5	3/8
FNS-2P-1F	Pistol	133	25	1	180	7 3/32	19	37	7	9/32	371	14 39/64	2.5	5.5	0.18	6.4	1/4	9.5	3/8

*Specify needle diameter (3mm or 2mm) when ordering.

Scaling Hammers

Fuji offers 1, 2 and 3-Head Scaling Hammers. These tools have proven to be very efficient in cleaning heavily oxidized surfaces which occur on ships' hulls, bridges and storage tanks.

FS-2A-1F

Model	Number of Cylinder	Blows	Piston Diameter		Stroke		Angle Height		Overall Length		Weight		Air Consumption (At Load)		Air Inlet Thread Size
		Hz	mm	in	mm	in	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT
FS-2A-1F	1	133	30	1 3/16	16	5/8	94	3 11/16	510(537)	20 5/64(21 9/64)	2.5	5.5	0.25	8.8	3/8

*9.5mm (3/8") Air Hose.

Sand Rammers

Fuji Sand Rammers are powerful but light with a stroke range from 50mm to 127mm. Fuji Sand Rammers are excellent for ramming sand for casting in any ferrous or non-ferrous foundry. Non-rotary type rammers are available for use with irregular shaped butts.

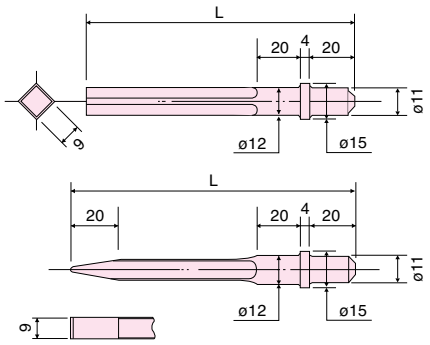
FR-18B-2F~25B-2F

FR-18L-2F~32-2F

Model	Blows	Piston Diameter		Stroke		Butt Diameter		Overall Length		Weight		Air Consumption (At Load)		Air Inlet Thread Size	Air Hose Size	
Locking Lever	Hz	mm	in	mm	in	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FR-18B-2F	30	18.0	45/64	50	1 31/32	41	1 5/8	280(383)	11 1/32(15 5/64)	1.5	3.3	0.40	14.1	1/4	9.5	3/8
FR-22B-2F	17	22.0	55/64	64	2 33/64	51	2 1/32	350(451)	13 25/32(17 3/4)	3.0	6.6	0.50	17.7	3/8	9.5	3/8
FR-25B-2F	13	25.4	1	83	3 17/64	67	2 41/64	506(597)	19 59/64(23 1/2)	5.5	12.1	0.70	24.7	3/8	12.7	1/2
FR-18L-2F	30	18.0	45/64	50	1 31/32	41	1 5/8	558(523)	21 31/32(20 19/32)	2.0	4.4	0.40	14.1	1/4	9.5	3/8
FR-22L-2F	17	22.0	55/64	64	2 33/64	51	2 1/32	633(600)	24 59/64(23 5/8)	3.3	7.2	0.50	17.7	1/4	9.5	3/8
FR-25L-2F	13	25.4	1	83	3 17/64	67	2 41/64	1,043(1,005)	41 1/16(39 9/16)	6.0	13.2	0.70	24.7	1/2	12.7	1/2
FR-32-2F	12	32.0	1 17/64	127	5	75	2 61/64	1,086(1,090)	42 3/4(42 29/32)	10.0	22.0	0.80	28.2	1/2	12.7	1/2

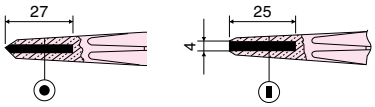
Accessories

CHISELS FOR FCH-20



Type	AC No.	Size L mm
Blank	G-1-1	125
	G-1-2	155
	G-1-3	200
	G-1-4	250
	G-1-5	300
Flat	G-2-1	130
	G-2-2	155
	G-2-3	200
	G-2-4	250
	G-2-5	300

TIPPED CHISELS FOR FCH-20

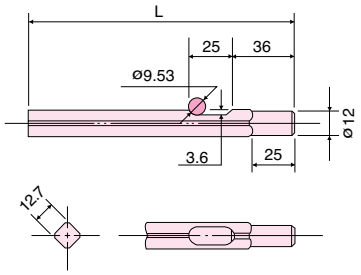


Type	AC No.	Overall Length mm	Remark
Point	S-1	120	Standard
	S-3	160	Small Point
Flat	S-2	120	Standard
	S-4-1	160	Small Flat

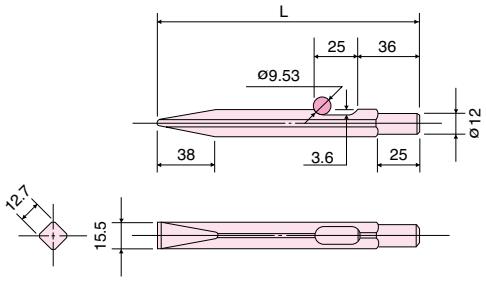
BUSHING CHISELS FOR FCH-20

AC No.	Tip Size Point	l x w x L	
TWH-0006	4	2.5 x 2.5 x 5	

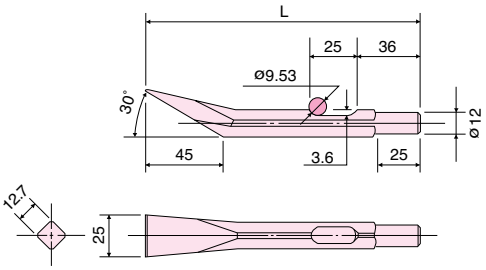
CHISELS FOR FCH-20F, 25 AND 25B



Type	AC No.	Size L mm
Blank	F-1-1	140
	F-1-2	155
	F-1-3	200
	F-1-4	250
	F-1-5	300

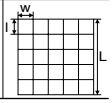


Type	AC No.	Size L mm
Flat	F-2-2	155
	F-2-3	200
	F-2-4	250
	F-2-5	300
	F-2-7	400

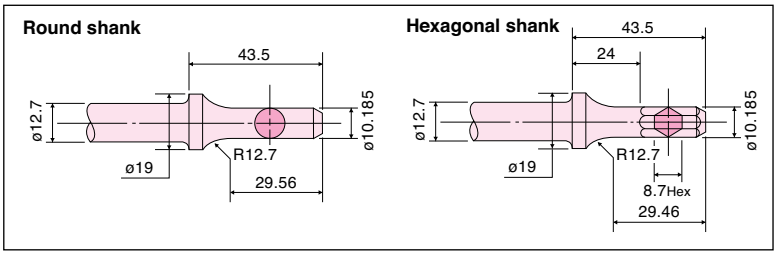


Type	AC No.	Size L mm
Flux	F-3-2	155
	F-3-3	200
	F-3-4	250
	F-3-5	300
	F-3-7	400

BUSHING CHISELS FOR FCH-20F, 25 AND 25B

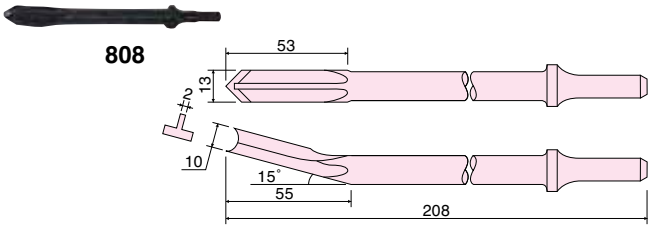
AC No.	Tip Size Point	l x w x L	
TWH-0007	4	6 x 6 x 12	
TWH-0003	9	5 x 5 x 15	
TWH-0002	16	4 x 4 x 16	
TWH-0004	25	4.5 x 4.5 x 22.5	

CHISELS FOR FRH SERIES



Index No.	AC No.		Part Name
	Round	Hexagonal	
808	**WA-808**	**WA-808H**	Muffler Cutter
809	**WA-809**	**WA-809H**	Double Edge Panel Cutter
810	**WA-810**	**WA-810H**	Flat Chisel
812	**WA-812**	**WA-812H**	Taper Punch
813	**WA-813**	**WA-813H**	Rivet Cutter
814	**WA-814**	**WA-814H**	Blank Chisel
815	**WA-815**	**WA-815H**	Spot Weld Breaker

808



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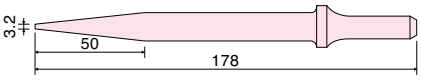

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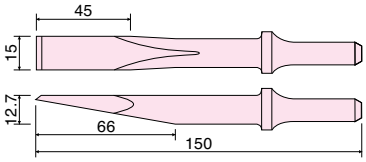

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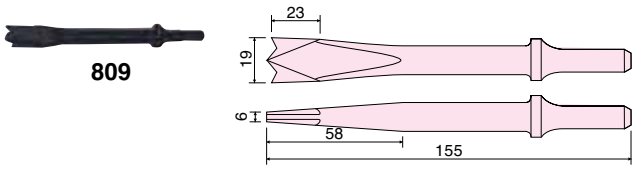

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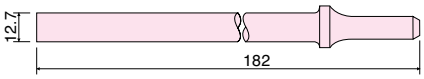

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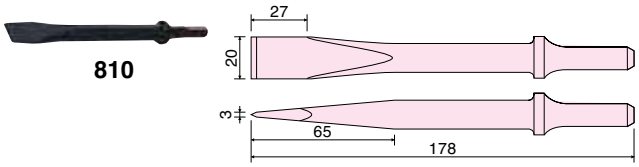
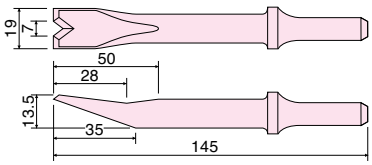


815



Accessories

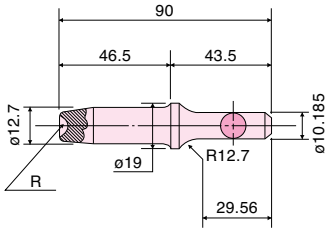
RETAINER FOR FRH SERIES

Holder Spring

Holder Spring (B)

Part No.			Part Name
FC-01SA	FRH-3, 6	FRH-6A	
H-043715-00	H-019715-00	H-024715-00	Holder Spring
H-043719-00	H-019719-00	H-024719-01	Holder Spring (B)

RIVET SNAPS FOR FRH SERIES



AC No.	R Size	Rivet Size
	mm	mm
SNAP-3	3.0	3
SNAP-4	3.7	4
SNAP-5	4.8	5
SNAP-6	5.1	6

RUBBER BUTTS FOR FR-SERIES

AC No.	Size			Model
	D	d	H	
	mm	mm	mm	
R-1	51	11.8	60	FR-18B, 18L
R-1-1	41	12.7	47	FR-18B, 18L
R-2	51	13.75	60	FR-22B, 22L
R-3	67	17.25	80	FR-25B, 25L
R-4	75	18.75	92	FR-32

Air Motors

Air Motors

Fuji Air Motors are compact and light weight, yet sturdy and offer high power-to-weight ratios. Fuji offers a wide range of air motors from small 0.1 kW hand-held motor to large 20 kW stationary motor which are found at versatile industries like ships, chemical plants, mines and power plants etc. As air motors are less likely to generate sparks (unlike brushes in electric motors), they are better suited for use in hazardous environments.

REVERSIBLE TYPE

F-5SM-8.5R

F-5SM-2R

F-6SM-2.5R~28R

F-8SM-12R~28R

F-8SM-8.5R

Model	Stall Torque			Horse Power		Free Speed	Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	N・m	kgf・m	ft・lb	kW	PS	min⁻¹	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
F-5SM-8.5R	5.4	0.55	4.0	0.12	0.16	850	147	5 51/64	0.6	1.3	0.28	9.9	1/8	6.3	1/4
F-5SM-2R	21.6	2.20	15.9	0.10	0.14	190	182	7 11/16	0.8	1.8	0.28	9.9	1/8	6.3	1/4
F-6SM-28R	3.3	0.34	2.5	0.25	0.34	2,300	147	5 51/64	0.8	1.8	0.34	12.0	1/8	8.0	5/16
F-6SM-21R	4.0	0.41	3.0	0.26	0.35	2,000	146	5 3/4	0.9	2.0	0.34	12.0	1/8	8.0	5/16
F-6SM-12R	5.9	0.60	4.3	0.23	0.31	1,000	157	6 3/16	0.8	1.8	0.34	12.0	1/8	8.0	5/16
F-6SM-8R	9.8	1.00	7.2	0.23	0.31	750	179	7 1/16	1.0	2.2	0.34	12.0	1/8	8.0	5/16
F-6SM-5R	14.7	1.50	10.8	0.22	0.30	500	180	7 3/32	1.0	2.2	0.34	12.0	1/8	8.0	5/16
F-6SM-2.5R	26.0	2.65	19.2	0.21	0.29	250	192	7 9/16	1.2	2.6	0.34	12.0	1/8	8.0	5/16
F-8SM-28R	6.4	0.65	4.7	0.38	0.52	2,300	183	7 13/64	1.5	3.3	0.50	17.7	1/4	9.5	3/8
F-8SM-12R	9.8	1.00	7.2	0.37	0.50	1,100	199	7 53/64	2.2	4.8	0.50	17.7	1/4	9.5	3/8
F-8SM-8.5R	14.7	1.50	10.8	0.37	0.50	850	222	8 3/4	2.4	5.3	0.50	17.7	1/4	9.5	3/8

*Specify type of spindle when ordering.

NON-REVERSIBLE TYPE

F-5SM-8.5

F-6SM-2.5~28

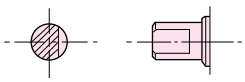
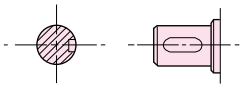
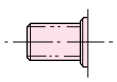
F-5SM-2

F-8SMA-8.5~28

Model	Stall Torque			Horse Power		Free Speed	Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	N・m	kgf・m	ft・lb	kW	PS	min⁻¹	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
F-5SM-8.5	5.9	0.60	4.3	0.13	0.18	950	153	6 1/32	0.6	1.3	0.28	9.9	1/8	6.3	1/4
F-5SM-2	23.5	2.40	17.4	0.12	0.16	200	187	7 3/8	0.9	2.0	0.28	9.9	1/8	6.3	1/4
F-6SM-28	3.9	0.40	2.9	0.29	0.40	2,800	167	6 37/64	0.7	1.5	0.34	12.0	1/4	9.5	3/8
F-6SM-21	4.4	0.45	3.3	0.29	0.40	2,400	167	6 37/64	0.8	1.8	0.34	12.0	1/4	9.5	3/8
F-6SM-12	7.4	0.75	5.4	0.29	0.40	1,300	181	7 1/8	0.9	2.0	0.34	12.0	1/4	9.5	3/8
F-6SM-8	10.8	1.10	8.0	0.26	0.35	900	200	7 7/8	1.0	2.2	0.34	12.0	1/4	9.5	3/8
F-6SM-5	15.7	1.60	11.6	0.26	0.35	600	200	7 7/8	1.0	2.2	0.34	12.0	1/4	9.5	3/8
F-6SM-2.5	28.4	2.90	21.0	0.26	0.35	300	213	8 25/64	1.2	2.6	0.34	12.0	1/4	9.5	3/8
F-8SMA-28	5.9	0.60	4.3	0.44	0.60	2,600	171	6 47/64	1.5	3.3	0.50	17.7	1/4	9.5	3/8
F-8SMA-12	11.8	1.20	8.7	0.44	0.60	1,300	200	7 7/8	2.0	4.4	0.50	17.7	1/4	9.5	3/8
F-8SMA-8.5	16.7	1.70	12.3	0.44	0.60	900	208	8 3/16	2.2	4.8	0.50	17.7	1/4	9.5	3/8

*Specify type of spindle when ordering.

Type of Spindle

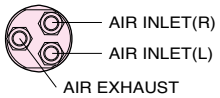
Chord Type		Key Type		Thread Type			
							
Model		Model		*Model		Spindle Thread Size	Applicable Drill Chuck
F-5SM Series		F-8SMA Series		F-6SM-5, 8, 12, 21 F-8SMA-12, 28 F-6SE, 6SF, 6PFX		3/8-24(UNF)	DCK-6.5 DCK-8 DCK-10
F-6SM Series		F-8SM Series		F-8SMA-8.5 F-10MT		1/2-20(UNF)	DCK-13

*Drill chucks are applicable to thread type spindle models.

Hose Connection

Non-Reversible Type

Reversible Type



NON-REVERSIBLE TYPE

F-6SE

F-6SF

F-6PFX

F-10MT

Application Example
Stirring propeller attached to F-6PFX

Model	Stall Torque			Horse Power		Free Speed	Overall Length		Spindle Thread Size	Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	N・m	kgf・m	ft・lb	kW	PS	min⁻¹	mm	in	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
F-6SE	15.7	1.6	11.6	0.26	0.35	600	210	8 9/32	3/8-24UNF	1.0	2.2	0.42	14.8	1/4	9.5	3/8
F-6SF	28.4	2.9	21.0	0.26	0.35	300	225	8 55/64	3/8-24UNF	1.1	2.4	0.43	15.2	1/4	9.5	3/8
F-6PFX	28.4	2.9	21.0	0.26	0.35	300	184	7 1/4	3/8-24UNF	1.7	3.7	0.43	15.2	1/4	9.5	3/8
F-10MT	78.5	8.0	57.8	0.37	0.50	180	270	10 41/64	1/2-20UNF	3.4	7.5	0.63	22.3	1/4	9.5	3/8

*For application examples, please refer to the stirring propellers on page 56.

PORTABLE TYPE

FM-2R-2C

FNR-20

FM-14RK~27RK

Model	Stall Torque			Horse Power		Free Speed(min⁻¹)		Socket	Spindle Square Size	Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	N・m	kgf・m	ft・lb	kW	PS	R	L	M.T.#	mm	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FM-2R-2C	161.8	16.5	119.3	0.74	1.0	150	170	-	19	630	22 13/16	10.5	23.1	1.50	53.1	1/2	12.7	1/2
FNR-20	171.6	17.5	127.0	0.66	0.9	150	135	-	16	506	19 15/16	7.0	15.4	1.10	38.9	1/2	12.7	1/2
FNR-20S	171.6	17.5	127.0	0.66	0.9	150	135	-	16	506	19 15/16	7.0	15.4	1.10	38.9	1/2	12.7	1/2
FM-14RK-101	73.5	7.5	54.2	0.88	1.2	430	390	2	13	473	18 5/8	7.4	16.3	1.50	53.1	1/2	12.7	1/2
FM-24RK-101	166.6	16.6	120.0	1.69	2.3	350	310	3	14	579	22 51/64	13.5	29.7	2.25	79.6	1/2	19.0	3/4
FM-24RK-201	392.0	40.0	289.2	1.54	2.1	140	125	4	19	596	23 15/32	16.2	35.6	2.25	79.6	1/2	19.0	3/4
FM-27RK-101	745.0	76.0	549.5	1.90	2.6	85	75	5	31	652	25 43/64	20.0	44.0	2.50	88.5	1/2	19.0	3/4

*Stall Torque, Horse Power and Max. Air Consumption shown in this table are of clockwise rotation.

Air Motors

STATIONARY TYPE

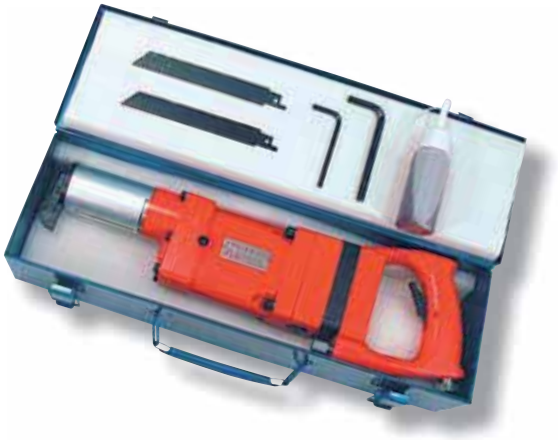
FM-1R~3R

FM-5R~10R

Model	Stall Torque			Horse Power		Free Speed(min^{-1})		Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	N・m	kgf・m	ft・lb	kW	PS	R	L	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FM-1R-5	56.9	5.8	41.9	0.90	1.2	600	600	273	10 3/4	7.0	15.4	1.5	53.1	1/2	12.7	1/2
FM-1R-12	28.4	2.9	20.9	0.90	1.2	1,250	1,250	273	10 3/4	7.0	15.4	1.5	53.1	1/2	12.7	1/2
FM-2R-5	137.0	14.0	101.2	2.35	3.2	650	650	375	14 3/4	13.0	28.6	3.1	109.7	3/4	19.0	3/4
FM-3R-3	284.0	29.0	209.7	2.79	3.8	320	296	395	15 1/2	17.0	37.4	4.4	155.8	3/4	19.0	3/4
FM-3R-5	177.0	18.0	130.1	2.79	3.8	525	485	395	15 1/2	17.0	37.4	4.4	155.8	3/4	19.0	3/4
FM-5R-2	471.0	48.0	247.1	3.68	5.0	300	300	435	17 1/8	21.0	46.2	5.6	198.2	1	25.4	1
FM-10R-2	1,140.0	116.0	839.0	7.35	10.0	240	240	570	22 7/16	42.0	92.4	10.0	354.0	1 1/4	32.0	1/4

*Stall Torque, Horse Power and Max. Air Consumption shown in this table are of clockwise rotation.

Complementary Range



Tip Dressers

Fuji Tip Dresser FTD-18 series are designed to be compact, light weight and ideal for dressing tips in narrow space between opposing tips on electric spot welders. Patent applied FTD-18A clamp system provides excellent tip center alignment and accurate tip repairing. Various types of welding tips can be dressed by replacing cutter and cutter case.

FTD-18-1

FTD-18A-1

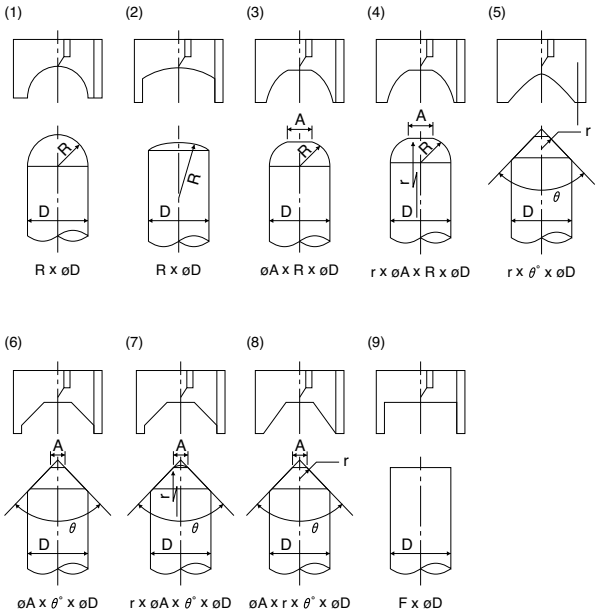
Model	Capacity Tip Size		Max. Clamp Height		Free Speed	Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm	in	mm	in	min^{-1}	mm	in	kg	lb	m^3/min	ft^3/min	in	mm	in
FTD-18-1	12~16	15/32~5/8	–	–	1,300	290	11 7/16	1.65	3.64	0.5	17.7	BSP or NPT 1/4	9.5	3/8
FTD-18A-1	13~16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

CLASSIFICATION TABLE FOR CUTTERS

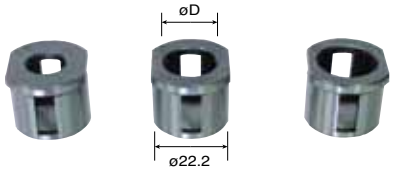
Type	Item No.	Tip shape (Nominal)	Max. diameter repaired(øD)	Standard
(1)	CUT-1001	6R	ø12	6R x ø12
	CUT-1002	6.5R	ø13	6.5R x ø13
	CUT-1003	8R	ø16	8R x ø16
(2)	CUT-2001			16R x ø16
	–	10R~150R	ø16	–
(3)	–	øA x 6R	ø12	–
	–	øA x 6.5R	ø13	–
	CUT-3001			ø5 x 8R x ø16
	CUT-3002	øA x 8R	ø16	ø6 x 8R x ø16
(4)	–	r x øA x 6R	ø12	–
	CUT-1002	r x øA x 6.5R	ø13	–
	CUT-1003	r x øA x 8R	ø16	40r x ø6 x 8R x ø16
(5)	–	5~6r x 60°	ø13	–
	–	3r or more x 90°	ø16	–
(6)	–	7~ø9 x 50°	ø13	–
	–	ø10 or more x 50°	ø16	–
	CUT-6001	5~ø7 x 60°	ø13	ø6 x 60° x ø13
	–	ø8 or more x 60°	ø16	–
	–	3~ø4 x 75°	ø13	–
	CUT-6002	ø5 or more x 75°	ø16	ø6 x 75° x ø16
	CUT-6003	ø3 or more x 90°	ø16	ø4 x 90° x ø16
	CUT-6004	ø3 or more x 90°	ø16	ø6 x 90° x ø16
	–	ø3 or more x 120°	ø16	–
(7)	–	r x øA x θ°	øD	–
(8)	–	øA x r x θ°	øD	–
(9)	–	F	ø16	–

*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 TIPS AND CUTTERS



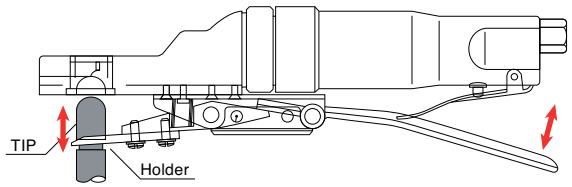
CUTTER CASES



Item No.	øD
S-167716-00	16
S-167716-01	13
S-167716-02	12

*Cutter dresses Welding Tip correctly as inside diameter (øD) of cutter case act as a guide. Specify cutter case diameter which matches tip size. ø16 cutter case is included as a standard accessory. Specify cutter case ø12 or ø13 otherwise.

<FTD-18A-1> PAT.P



Fuji FRF series compact Air File & Saws feature reduced vibration and are designed for deburring, filing and cutting of metal, wood, plastic, and fibreglass.
The FRS-45 Air Saw is equipped with a damper to minimize vibration and, a stroke regulator and blade cooling device. The cutting direction is adjustable to provide optimal operator comfort.

FRF-4-1, 2

FRS-45

Model	Tool Name	Stroke Per Minute SPM	Stroke		Chuck Capacity		Overall Length		Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
			mm	in	mm	in	mm	in	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
FRF-4-1F	File	1,600	12.0	15/32	4.0 x 13.0 x 20	5/32 x 1/2 x 25/32	229	9 1/32	0.8	1.7	0.28	9.9	1/4	6.3	1/4
FRF-4-2F	Saw	1,600	12.0	15/32	2.0 x 13.0 x 20	5/64 x 1/2 x 25/32	233	9 3/16	0.8	1.7	0.28	9.9	1/4	6.3	1/4
FRS-45	Saw	1,200	45.0	1 25/32	2.5 x 17.7 x 31	3/32 x 45/64 x 1 7/32	419	16 1/2	2.9	6.3	0.40	14.1	1/4	9.5	3/8

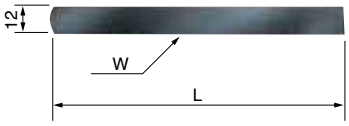
*Models marked 1F, 2F are locking lever handle types.

FILE BLADES FOR FRF-4-1, 1F

Index No.	AC No.	Name	Overall Length mm
1	•**FILE-4P**	Pillar	150
2	**FILE-4H**	Half Round	
3	**FILE-4R**	Round	
4	**FILE-4C**	Triangle	
5	**FILE-4S**	Square	

* • =Accessories included in FRF-4-1, 1F

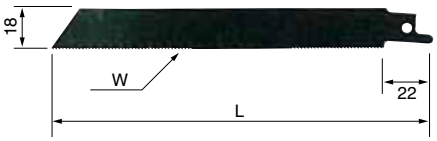
SAW BLADE FOR FRF-4-2, 2F



AC No.	Size L mm	Size W
•**SAW-4**	123	25

* • =Accessories included in FRF-4-2, 2F.
W =The number of teeth per inch.

SAW BLADES FOR FRS-45



AC No.	Size L mm	Size W	Cutting Materials
SAW-2014	200	14	steel plate, pipe, copper, brass, plastic, slate
•**SAW-2018**	200	18	steel plate, pipe
•**SAW-2024**	200	24	steel plate, pipe
SAW-2514	250	14	steel plate, pipe, copper, brass, plastic, slate
SAW-2518	250	18	steel plate, pipe
SAW-3014	300	14	steel plate, pipe, copper, brass, plastic, slate
SAW-3018	300	18	steel plate, pipe

* • =Accessories included in FRS-45. W =The number of teeth per inch.
*Using cutting fluid extends life of blade. A mixture of turpentine and kerosene with spindle oil, soapsuds, grease at the rate of 7 to 3 is recommended.

STANDARD ACCESSORIES FOR FRS-45

SAW-2018 Saw Blade ····· 1
SAW-2024 Saw Blade ····· 1
F-704 4mm Hex. Pin Wrench·· 1
F-706 6mm Hex. Pin Wrench·· 1
AO-30 Oil ····· 1
CASE-T431 Steel Case····· 1

Marking Pen

Fuji Marking Pen features a lower vibration level when compared to conventional marking pens enabling operators to use this tool for a full working day. This tool also requires no lubrication and meets requirements where oil free operation is specified.

G-400

Model	Diameter		Overall Length		Weight		Air Consumption (at Load)	
	mm	in	mm	in	kg	lb	m³/min	ft³/min
G-400	20	25/32	140	5 1/2	0.15	0.33	0.03	1.1

Air Cleaners

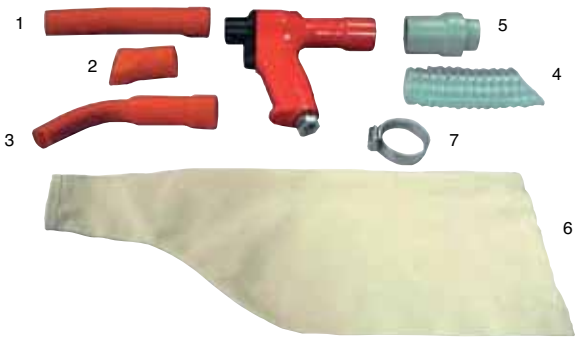
Fuji Air Cleaners remove dust, chips, sawdust, water and oil with their powerful vacuum action.

AC-200F

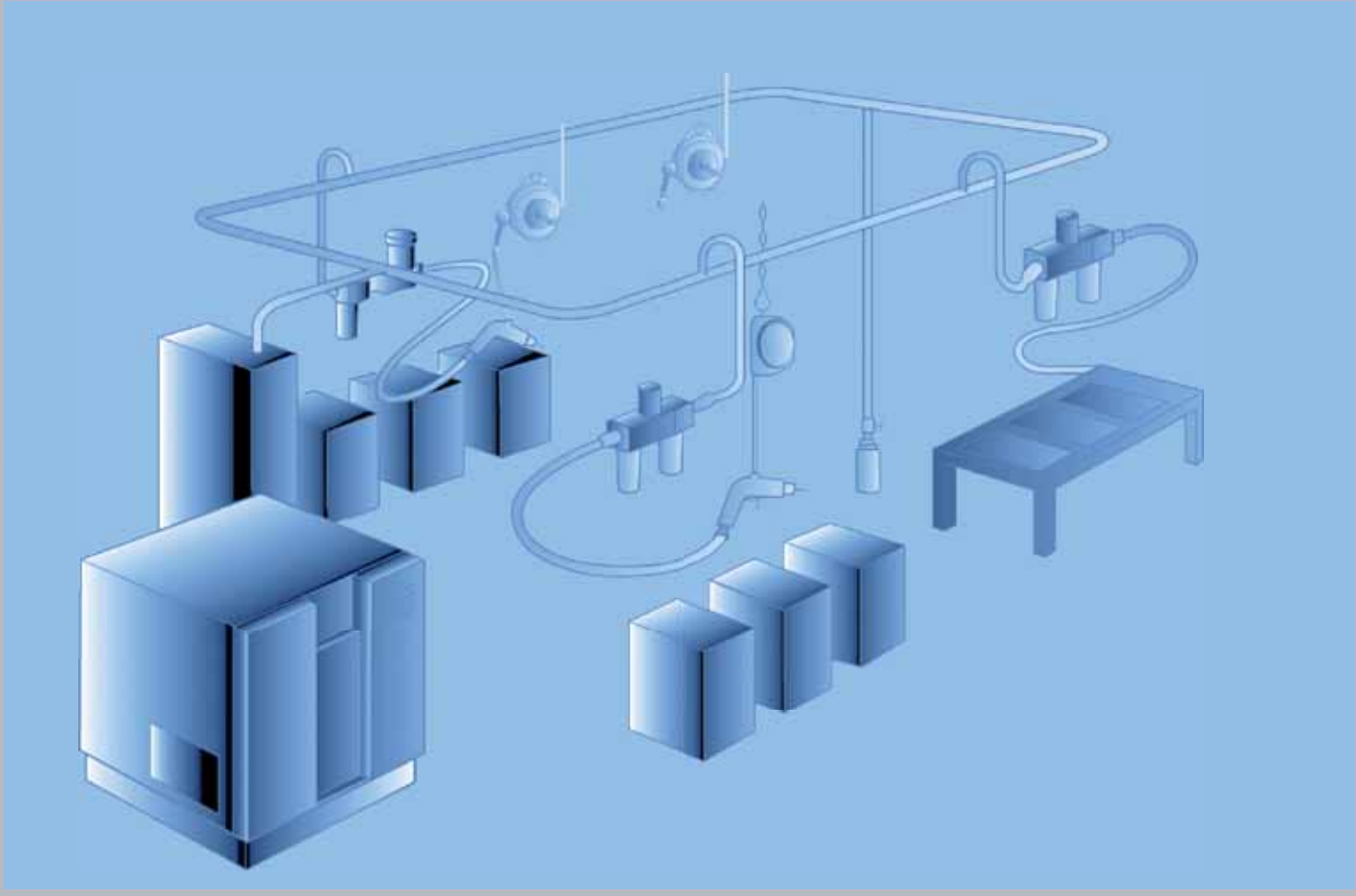
FJP-500

Model	Vacuum Degree		Overall Length		Outside Dia. of Discharge	Weight		Max. Air Consumption		Air Inlet Thread Size	Air Hose Size	
	mm Hg	in Hg	mm	in	mm	kg	lb	m³/min	ft³/min	BSP or NPT	mm	in
AC-200F	130	5 1/8	145	5 45/64	34	0.5	1.1	0.60	21.2	1/4	9.5	3/8
FJP-500	200	7 7/8	1020	40 5/32	37.5	1.5	3.3	1.10	38.8	3/8	9.5	3/8

Accessories Provided for AC-200F



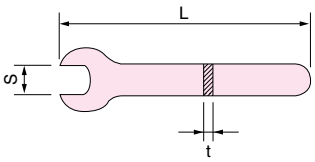
Index No.	AC No.	Name
1	ACB-1F	Main Nozzle
2	ACB-2F	Fan Shape Nozzle
3	ACB-3F	Small-Size End Nozzle
4	ACB-4F	Flexible Hose
5	ACB-5F	Rubber Joint
6	ACB-6F	Dust Bag
7	ACB-7F	Hose Band



Service Tooling

Spanners and Wrenches for Maintenance

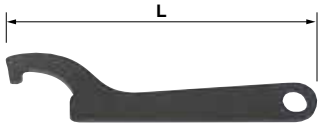
OPEN-END WRENCHES



AC No.	Size			Models
	S	L	t	
	mm	mm	mm	
F-100	5.5	81	2.5	FBM-1-1, 1F, 2, 2F
F-101	8.0	80	3.0	FG-13, 13X, TURBO-100
F-102	9.5	80	1.5	FCD-6A, 6B
F-103	10.0	80	3.0	FRD-5P-1, 5S-1, 1F, 6PX-2, 3, 5, •F-6SM-12, 21, 28, 28R, FRD-6S-2, 3, 5
F-103-1	10.0	105	4.0	FBM-16, 24
F-104	12.0	88	3.0	FG-12U, 12UX, 25D, 25DX, 50D, 50DX, FRD-8PX-1, 2, •F-5SM-2, 8.5, •8SMA-12, 28
F-105	14.0	100	3.0	FG-12U, 12UX, 2VX-1F, 3VX-1F, 6F, 25D, 25DX, 50DX, 26, 26X, 50X, 50D, FA-2C,2CX, TURBO-100A, FRD-6PX-7, 6S-7, 7F, 8PX-3, •F-6SM-2.5, 2.5R, •5, 8, F-6SE, 6SF, •8SM-8.5RA, •8SMA-8.5, 6PFX
F-106	17.0	130	3.0	FRD-16Z, FCD-6X, F-10MT
F-117-1	17.0	150	6.0	FBM-300
F-107	19.0	130	3.0	FCD-10X, FA-2C, 2CX, FT-8PX, FBM-80A
F-117	21.0	180	5.0	FG-3H, 3HL, 4HL, 50L, 50Y
F-109	24.0	200	4.0	FA-5E-3 Series, 7E-5, 6, 8 Series, FV-7, 9BH-1M, FX-027-1, FA-6C-6M, 8M, 9M, 9C-4, 4M
F-110	26.0	170	4.5	FA-150KG-5, 7, FA-5E-1, 2, 8, 13 Series, FA-7E-1, 2, 3 Series, 6C-1, 10, 12, 12M, 20, 9C-2, 2M, 7C-21
F-111	27.0	170	4.5	FG-5PX, FD-4, 4P
F-112	32.0	170	4.5	FG-3VX-2F, 3F, 4H, 4VA, 5HL, FA-4C, 4CH, 4CHK-1, FD-5, 5P
F-113	41.0	180	4.0	FV-9BH-4M, FRC-300-1

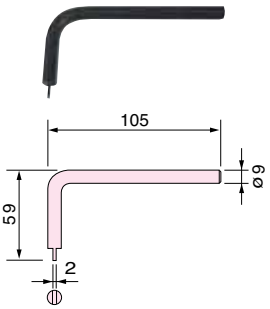
* • =Thread Spindle type

HOOK SPANNERS



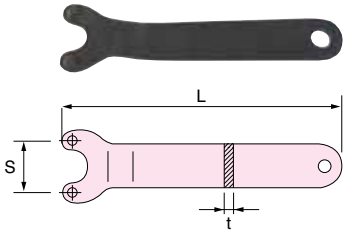
AC No.	Size		Models
	L	Thickness	
	mm	mm	
F-401	130	2	FD-4P, 4
F-402	160	2	FD-5P, 5
F-404	135	4.5	FA-3C, 3CX
F-405	170	4.5	FA-4CHK-3, 150K-2, 3

ANGLE WRENCH



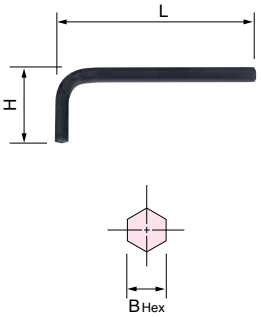
AC No.	Models
F-601	FD-5, 5P

OPEN-END PIN WRENCHES



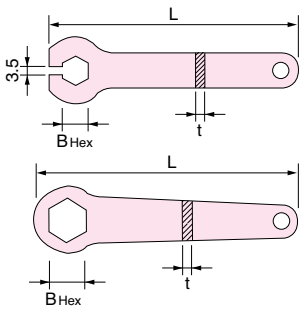
AC No.	Size			Models
	S	L	t	
	mm	mm	mm	
F-201	16	130	4.0	FG-5PX
F-202	30	160	4.5	FV-9BH-4M
F-203	32	180	4.5	FA-6C, 9C, 5E-13 Series, 7E-5, 6, 8 Series, FV-7-1M, 2M, 4M, 9BH-1M

HEXAGONAL PIN WRENCHES



AC No.	Size			
	B(Hex)		L	H
	mm	in	mm	mm
F-701-2	1.25	-	45	10
F-701	1.5	-	52	12
F-701-1	1.5	-	52	52
F-712	2.0	-	58	12
F-702-1	2.0	-	60	60
F-702	2.5	-	60	15
F-703	3.0	-	65	20
F-704	4.0	-	72	25
F-705	5.0	-	80	28
F-706	6.0	-	90	32
F-707	-	1/4	90	32
F-708	8.0	-	100	36
F-710	-	3/8	112	40
F-709	10.0	-	112	40

HEXAGONAL WRENCHES



AC No.	Size			Models
	B(Hex)	L	t	
	mm	mm	mm	
F-301	8	80	3	TURBO-100, FG-06-1, 13, 13X
F-304	9	100	3	FG-06-1
F-306	14	101	4	TURBO-100A
F-302	17	135	2	FD-4P, 4
F-303	21	138	2	FD-5P, 5

The capacity of an air compressor should be higher than the number of air tools in operation. In other words, when the respective factors are represented by the following signs, the expression should be Q > Nq + a.

Q : Capacity of Air Compressor
q : Air Consumption of Each Tool
a : Air Leakage in Piping
N : Number of Air Tools

The power of an air compressor necessary to compress air of 1 m^3/min at the air pressure of 0.63 MPa is theoretically calculated at 4.44 kW (6 PS). But, the required power of an air compressor comes to 7.4 kW (10 PS) to 11.1 kW (15 PS) depending on the types of compressors (reciprocating or screw compressors) when the actual efficiency of an air compressor is taken into account. For instance, what capacity of an air compressor is required if 1 piece of FA-7C-4 angle grinder is used? Air of 1.4 m^3/min is necessary to use 1 piece of FA-7C-4 angle grinder and the required power of an air compressor is calculated at 10.36 kW (14 PS) to 15.54 kW (21 PS). If 20 pieces of FA-7C-4 angle grinders are used at the same time, air of 19.6 m^3/min is necessary and the required power of an air compressor is calculated at 145.0 kW to 217.6 kW (196 PS to 294 PS). Even if the number of tools changes, the required power of an air compressor can be obtained by simple calculation. Yet, when a number of air tools are used at the same time, it does not seem that all the air tools are concurrently used at the maximum air consumption, so the following expression is given under our past experience.

Air Tools	: **A, B, C...**
Number of Air Tools	: **Na, Nb, Nc...**
Air Consumption of Each Tool	: **Ca, Cb, Cc...**
Coefficient according to Number of Air Tools	: **F**
Total Air Consumption	: **Q**

Q = F (Na x Ca + Nb x Cb + Nc x Cc +...)

The coefficient is given as per the under-mentioned table according to the number of air tools. The coefficient is in inverse proportion to the number of air tools.

Number of Air tools	1-5	6-10	11-20	21-30	31-50	51-100
F	1.0	0.8	0.7	0.6	0.5	0.4

Those coefficients are obtained because air tools are not always in successive operation. It is usual that operations of air tools are intermitted for changing jobs, lubrication, changing grinding wheel, drill bit, chisel, etc. There is a case that even small capacity of an air compressor can be available due to an interval of jobs when such air tools as impact wrenches, screw drivers, etc. are in operation. The running time of those air tools for one job is 2 to 5 seconds and they are not used in succession for one job.

Air Tools and Air Pressure

Air Tools and Air Pressure

Air pressure should be maintained at less than the recommended air pressure at the inlet of the air tool. Our air tools are usually designed to be used at the air pressure of 0.63 MPa and the fluctuation of air pressure affects the performance of the air tool. For instance, if the power of an air tool is 0.74 kW (1 PS) at the air pressure of 0.63 MPa , the power of the air tool generally comes to the following figures at each air pressure.

Air Pressure (MPa)	0.70	0.63	0.50	0.40	0.30
Power (kW)	0.93	0.74	0.56	0.40	0.26

It should be taken into account that air pressure drops at the inlet of the air tool due to the resistance and leakage caused when air passes in the pipe even if the air pressure is 0.63 MPa at the outlet of the air compressor. Needless to say, the loss of power may be caused unless the appointed air hose is used.

On the contrary, when air pressure fluctuates higher than the recommended air pressure at the inlet of the air tool, parts may consume comparatively faster, and what is worse, accidental operations may be induced, so air pressure should be maintained at less than the recommended air pressure at the inlet of the air tool in any case.

Air Tools and Air Pressure

Piping

Piping layout is very important to use the air tool efficiently. When a pipe is connected to an air compressor, the pipe should be installed at a reasonably high position from the air compressor to prevent drain from coming into the pipe from the air compressor. A slope more than 1/100 is necessary to drain water easily. The diameter of the main pipe should be determined according to an average air flow at load. The diameter of branch pipes should be 50% to 70% of the main pipe. Thin pipes may cause the drop of air pressure, so the pipes should be chosen lest air pressure should drop more than 0.0315 MPa. The drop of air pressure due to joints, elbows, etc. should be also taken into account.

Drop of Air Pressure (MPa) in 100 M
Straight Pipe at Air Pressure of 0.63 MPa (6.3 bar)

Pipe Inside Dia. (mm) \ Air Consumption (m^3/min)	0.5	1.0	2.0	5.0	10.0	15.0
20	0.0095	0.0380	0.1428			
25	0.0038	0.0095	0.0476	0.2380		
32		0.0038	0.0190	0.0761	0.2857	
40			0.0038	0.0285	0.0857	0.1142
50				0.0076	0.0476	0.0571
60				0.0028	0.0095	0.0190
70					0.00476	0.0095
80						0.0028

Drop of Air Pressure (MPa) in 10 M
Air Hose at Air Pressure of 0.63 MPa (6.3 bar)

Hose Dia. (mm) \ Air Consumption (m^3/min)	0.5	1.0	1.5	2.0	2.5	3.0	4.0
9.5mm (3/8")	0.0095	0.0485					
12.7mm (1/2")	0.0047	0.0317	0.0948	0.1826			
19.0mm (3/4")	0.0009	0.0041	0.0087	0.0190	0.0306	0.0463	
25.0mm (1")		0.0009	0.00213	0.0041	0.0074	0.0105	0.0126
38.0mm (1 1/2")					0.0005	0.0009	0.0013

Drop of Air Pressure in Coupling
(Valve, Elbow, etc.)

Pipe inside Dia. (mm)	Drop of air pressure in valve (m)	Drop of air pressure in elbow (m)
25	0.61	0.41
38	1.24	0.92
50	2.14	1.53
65	3.05	2.14
75	3.96	2.76
90	4.82	3.36
100	6.10	3.90
125	8.54	5.82
150	11.00	7.30

Recommended Piping Lay-Out for Air Line System

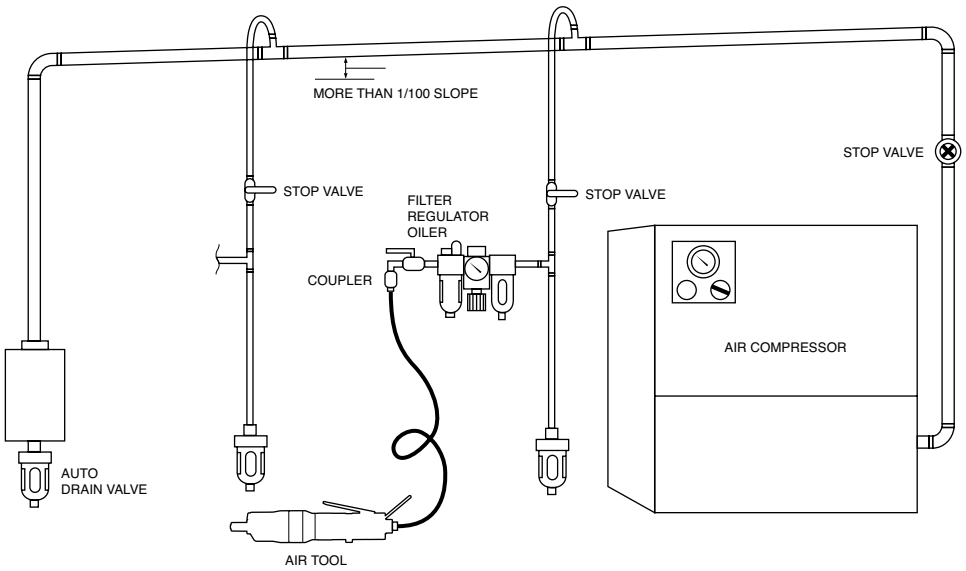


Fig 01-1

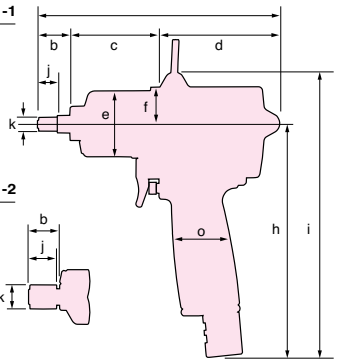


Fig 01-2

Fig 02-1

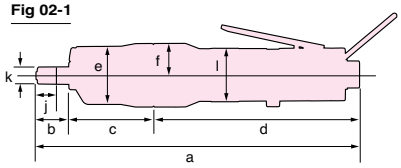


Fig 02-2

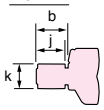


Fig 03

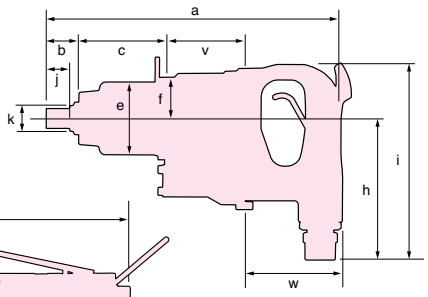


Fig 04

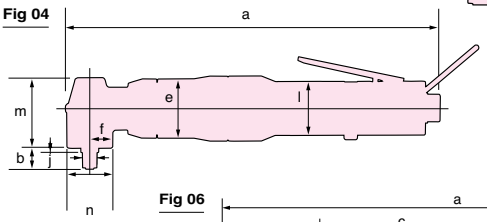


Fig 05

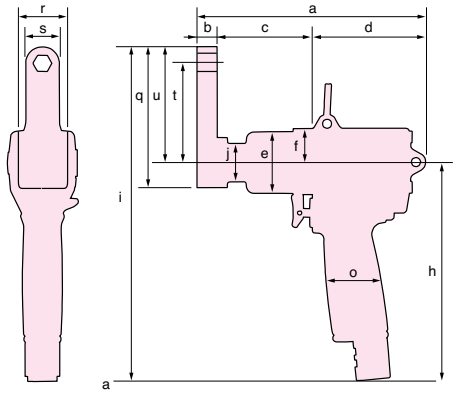
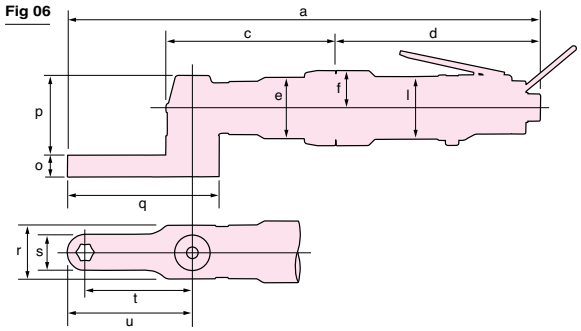


Fig 06



PULSE WRENCHES SHUT-OFF TYPE

Pistol Grip Models — High Air Pressure Use

Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
01-1	FPT-110D-1(10)	198	26.5	68.0	103.5	35	20	143	163	21.0	18	41
01-1	FPT-440D-1(10)	193	25.0	72.0	96.0	42	23	146	169	21.0	18	39
01-1	FPT-660D-1(10)	202	25.0	77.0	100.0	42	23	146	169	21.0	18	39

Straight Models — High Air Pressure Use

Fig No.	Model	a	b	c	d	e	f	j	k	l
02-1	FPT-330S-1	250	25.0	72	153.0	42	23	12	12	38.0
02-1	FPT-550S-1	250	25.0	72	153.0	42	23	12	12	38.0
02-1	FPT-770S-1	275	22.5	80	172.5	45	54	12	12	45.0
02-2	FPT-330SD-1(10)	250	25.0	72	153.0	42	23	21	18	38.0
02-2	FPT-550SD-1(10)	251	25.0	72	154.0	42	23	21	18	38.0

Angle Head Models — High Air Pressure Use

Fig No.	Model	a	b	e	f	j	k	l	m	n
04	FPT-550SC-1	281	15.0	41	14.5	12	12	38	41.5	29
04	FPT-770SC-1	307	16.0	50	18.0	12	12	45	55.0	36

GEARED PULSE WRENCHES SHUT-OFF TYPE

High Air Pressure Use

Fig No.	Model	a	b	c	d	e	f	h	i	j	o	q	r	s	t	u
05	FPT-770G-1	202	15	88.5	98.5	47	29	169	259	29	41	109	38	25	78	90

Fig No.	Model	a	c	d	e	f	l	o	p	q	r	s	t	u
06	FPT-770SCG-1	378	136	171	50	27	45	15	58	109	38	25	78	90

Low Air Pressure Use

Fig No.	Model	a	b	c	d	e	f	h	i	j	o	q	r	s	t	u
05	FPT-770G-1L	202	15	88.5	98.5	47	29	169	259	29	41	109	38	25	78	90

PULSE WRENCHES

Pistol Grip Models

Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
01-1	FPW-110-1	143	23.5	63.5	56.0	35	20.0	144	163	12.0	12	33
01-1	FPW-1660-1	243	36.0	88.5	118.5	70	39.0	205	256	24.0	25	48
Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
01-2	FPW-110D-1(10)	149	29.5	63.5	56	35	20.0	144	163	21	18	33
01-2	FPW-770D-3(30)	174	22.5	64.5	87	47	26.0	168	206	21	18	41

Straight Models

Fig No.	Model	a	b	c	d	e	f	j	k	l
02-1	FPW-110S-1	218	23.5	63.5	131	35	20.0	12	12	30.5
02-1	FPW-330S-1	226	24.0	57.0	145	42	22.5	12	12	38.0
02-1	FPW-440S-1	226	24.0	57.0	145	42	22.5	12	12	38.0
02-1	FPW-550S-1	226	24.0	57.0	145	42	22.5	12	12	38.0
02-1	FPW-660S-1	238	24.0	62.0	152	42	23.0	12	12	38.0
02-1	FPW-770S-1	240	24.0	67.0	149	44	27.0	12	12	47.0

PULSE WRENCHES

Straight Models

Fig No.	Model	a	b	c	v	w	e	f	h	i	j	k
03	FPW-2220S-1	352.5	36	103	112	101.5	90	47.5	144	204	24	25

Fig No.	Model	a	b	c	d	e	f	j	k	l
02-2	FPW-110SD-1(10)	224	29	63	132	35	20.0	21	18	30.5
02-2	FPW-330SD-1(10)	226	24	57	145	42	22.5	21	18	38.0
02-2	FPW-440SD-1(10)	226	24	57	145	42	22.5	21	18	38.0
02-2	FPW-550SD-1(10)	226	24	57	145	42	22.5	21	18	38.0
02-2	FPW-660SD-1(10)	238	24	62	152	42	23.0	21	18	38.0

Angle Head Models

Fig No.	Model	a	b	e	f	j	k	l	m	n
04	FPW-440SC-1	255	15	41	14.5	12	12	38	41.5	29
04	FPW-550SC-1	255	15	41	14.5	12	12	38	41.5	29
04	FPW-660SC-1	267	15	42	16.0	12	12	38	50.0	32
04	FPW-770SC-1	271	16	44	18.0	12	12	47	55.0	36

Assembly Tools

Fig 02-1

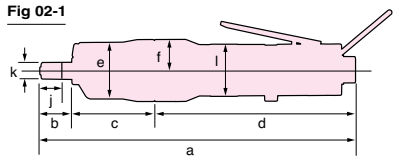


Fig 04

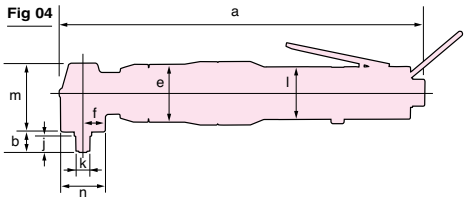


Fig 05

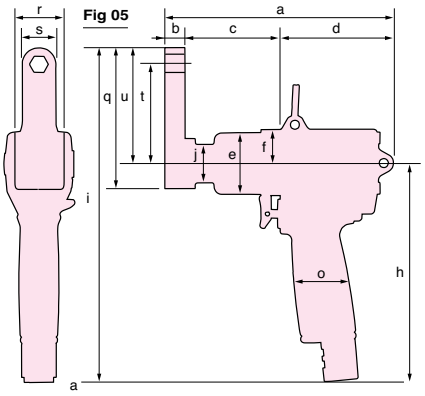


Fig 06

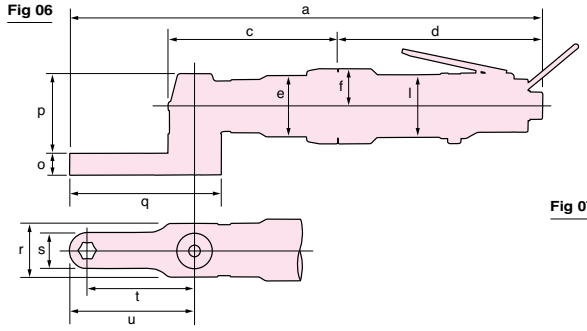


Fig 07-1

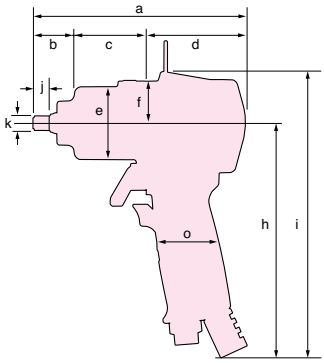
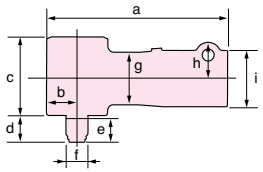


Fig 08



GEARED PULSE WRENCHES

Fig No.	Model	a	b	c	d	e	f	h	i	j	o	q	r	s	t	u
05	FPW-770G-1	177	15	75	87	47	26	169	258	29	41	109	38	25	78	90

Fig No.	Model	a	c	d	e	f	l	o	p	q	r	s	t	u
06	FPW-770SCG-1	343	124	148	44	27	45	15	58	109	38	25	78	90

DUAL CHAMBER MOTOR IMPACT WRENCHES

Pistol Grip Models

Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
07-1	FW-44PA-2	131.0	23.0	38.0	70.0	39.5	22.5	144.0	166.0	12.0	12	38
07-1	FW-66PA-2	137.0	18.0	49.0	70.0	42.0	22.5	144.0	166.0	12.0	12	38
07-1	FW-88P-1	163.0	22.5	54.0	86.5	50.0	29.0	173.0	211.0	16.5	16	41

Straight Models

Fig No.	Model	a	b	c	d	e	f	j	k	l
02-1	FW-44SA-1	197.5	14.5	38	145	39.5	22.5	12	12	38
02-1	FW-66SA-1	212.0	18.0	49	145	42.0	22.5	12	12	38

IMPACT WRENCHES

Small Pistol Grip Models

Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
07-1	FW-5PX-6	150.0	14.0	49.0	87.0	34.0	18.0	137.0	155.0	12.0	12.0	36.0
07-1	FW-6PM-1	140.0	18.0	48.0	74.0	42.0	23.5	145.0	168.0	12.0	12.0	38.0
07-1	FW-6PL-1	175.0	18.0	52.5	104.5	42.0	27.0	122.0	152.0	12.0	12.0	35.0
07-1	FW-6PX-5(6)	166.0	15.0	57.0	94.0	44.0	24.0	146.0	172.0	12.0	14.0	40.0
07-1	FW-6PH-1(11)	147.0	16.5	62.0	68.5	50.0	29.0	162.0	198.0	12.0	14.0	43.0
07-1	FW-8PH-3	162.0	21.0	65.0	76.0	54.0	29.0	168.0	208.0	16.5	16.0	45.5
07-1	FW-10PX-5	181.8	20.8	78.0	83.0	55.5	29.0	188.0	229.0	17.0	17.0	44.0
07-1	FW-10PH-1	179.4	23.9	77.5	78.0	58.0	33.0	171.0	214.0	17.0	17.0	44.3
07-1	FW-10PH-2	179.0	24.0	77.0	78.0	58.0	31.0	171.0	213.0	16.5	17.0	44.3
07-1	FW-14PX-5	197.3	21.3	93.0	83.0	66.0	34.5	192.0	237.0	16.5	16.8	50.0
07-1	FW-14PH-1	202.0	23.0	94.5	84.5	67.0	37.5	181.5	229.5	16.5	16.8	47.6
07-1	FW-14PH-2	202.0	23.0	94.0	85.0	67.0	37.5	181.0	228.0	16.5	20.0	47.6
07-1	FW-14PH-3	202.0	23.0	94.0	85.0	67.0	37.5	181.0	228.0	18.5	20.0	47.6

Straight Models

Fig No.	Model	a	b	c	d	e	f	j	k	l
02-1	FW-6SX-5	223	16	57	151	44.0	24	12.0	12	50
02-1	FW-6SX-6	225	16	57	152	44.0	24	12.0	14	50
02-1	FW-8SH-2	307	20	65	222	54.0	33	16.5	16	44
02-1	FW-10SX-5	318	21	78	219	55.5	33	17.0	17	44
02-1	FW-14SX-5	356	20	93	243	66.0	38	16.5	20	44

Angle Models

Fig No.	Model	a	b	e	f	j	k	l	m	n
04	FW-6SCX-6	262	13	44	17.5	12.0	12	49.5	46	35
04	FW-8SCH-2	354	20	58	22.0	16.5	16	44.0	63	44

CORNER ATTACHMENT(ANGLE HEAD)

Fig No.	Model	a	b	c	d	e	f	g	h	i
08	CA-14A	146	24.5	63	21	16.5	17	42	28	45

Fig 02-2

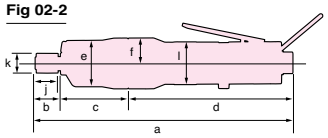


Fig 09

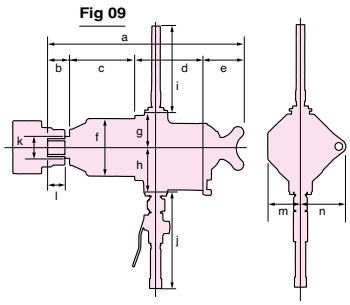


Fig 03

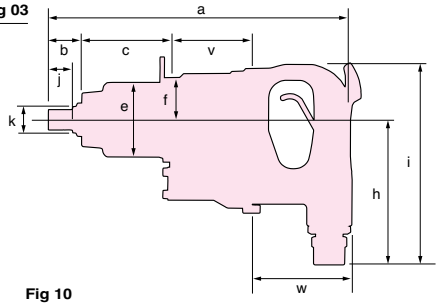


Fig 10

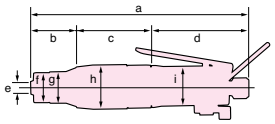
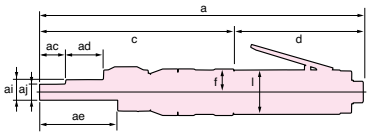


Fig 12



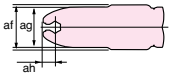


Fig 07-1

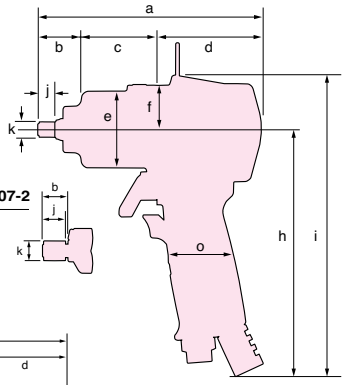
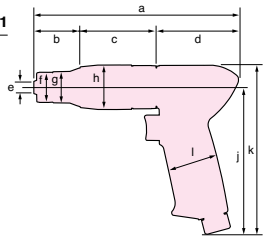


Fig 07-2

Fig 11



IMPACT WRENCHES

Middle Size Straight Models

Fig No.	Model	a	b	c	v	w	e	f	h	i	j	k
03	FW-19Z-5C	322	29.0	109.0	72.0	112.0	72	39.0	111	175	54	25
03	FW-250-1C	302	33.0	88.0	81.5	99.5	73	41.5	143	198	28	32
03	FW-250-2C	302	33.0	88.0	81.5	99.5	73	41.5	143	198	24	32
03	FW-320-1C	353	51.5	115.5	86.5	99.5	87	51.0	143	198	28	42
03	FW-320-1CL	484	182.0	116.0	86.5	99.5	87	51.0	143	198	28	40
03	FW-420-1C	349	34.0	132.0	80.0	103.0	93	55.0	143	198	28	42
03	FW-420-1CL	501	186.0	132.0	80.0	103.0	93	55.0	143	198	28	42
03	FW-420-2C	351	36.0	132.0	80.0	103.0	93	55.0	143	198	30	42

Middle Size Pistol Grip Models

Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
07-1	FW-19PX-5	239.0	29.0	109.0	101.0	72.0	40.0	200.0	249.0	24.0	25	50
07-1	FW-250P-1	228.0	33.0	88.0	107.0	73.0	41.5	205.5	265.0	28.0	32	46
07-1	FW-250P-2	228.0	33.0	88.0	107.0	73.0	41.5	205.5	265.0	24.0	32	46
07-1	FW-320P-1	268.0	51.5	115.5	101.0	87.0	51.0	210.0	261.0	28.0	40	46

Heavy Duty Straight Models

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	l	m	n
09	FW-50-7	500	50	220	110	120	142	100	120	298	340	49.8	40	90	100
09	FW-75-7	608	68	264	134	142	175	120	150	298	340	84.0	58	164	107
09	FW-100-1	710	77	253	232	148	212	130	160	316	358	80.0	58	118	165

SCREW DRIVERS

Impact Clutch Type

Straight Models

Fig No.	Model	a	b	c	d	e	f	j	k	l
02-2	FW-5SXD-7(70)	223	24	50	149	34	18	21	18	33.0
02-2	FW-5SXD-8(80)	194	27	50	117	34	18	21	18	33.0
02-2	FW-6SXD-6(60)	235	27	57	151	44	24	21	18	49.5

Pistol Grip Models

Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
07-2	FW-5PXD-6(60)	160	24.0	49.5	86.5	34	18.0	137	155	21	18	36
07-2	FW-6PMD-1(10)	146	24.0	48.0	74.0	42	23.5	145	168	21	18	38
07-2	FW-6PLD-1	180	23.5	52.5	104.0	42	30.0	122	152	20	19	35
07-2	FW-6PXD-6(60)	177	27.0	57.0	93.0	44	24.0	146	181	21	18	40
07-2	FW-6PHD-1	154	24.0	62.0	68.0	50	29.0	162	198	21	19	43

Straight Models

Fig No.	Model	a	b	c	d	e	f	j	k	l
02-2	FW-44SAD-1(10)	207	24	38	145	39.5	22.5	21	18	38
02-2	FW-66SAD-1(10)	218	24	49	145	42.0	22.5	21	18	38

Pistol Grip Models

Fig No.	Model	a	b	c	d	e	f	h	i	j	k	o
07-2	FW-44PAD-2(20)	132.0	24	38.0	70	39.5	22.5	144	166	21	18	38
07-2	FW-66PAD-2(20)	143.0	24	49.0	70	42.0	22.5	144	166	21	18	38

Slip Clutch Type

Straight Models

Fig No.	Model	a	b	c	d	e	f	g	h	i
10	FD-4	174	38.5	64	71.5	7.4	25	26	37	32
10	FD-5	233	45.0	92	96.0	7.4	25	32	42	38

Pistol Grip Models

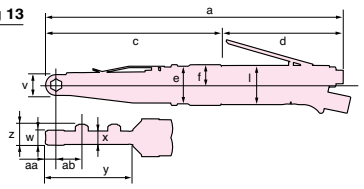
Fig No.	Model	a	b	c	d	e	f	g	h	j	k	l
11	FD-4P	173	39	64	70	7.4	25	26	37	125	143	42
11	FD-5P	210	45	92	73	7.4	25	32	42	130	150	42

OPEN-END WRENCHES

Fig No.	Model	a	c	d	f	l	ac	ad	ae	af	ag	ai	aj	ah
12	FOW-10-1	294	177	117	21	40	23.5	34.4	71	40	36	18	14	10.5
12	FOW-10-2	306	189	117	21	40	28.0	42.0	83	40	40	18	14	14.0

Assembly Tools

Fig 13



RATCHET WRENCHES

Fig No.	Model	a	c	d	e	f	l	v	w	x	y	z	aa	ab
13	FRW-6NX-3(3A)	316.0	182.0	134	38.6	21.5	32	20	13(10)	13(10)	88.0	20.2(15.2)	10.0	28.0
13	FRW-6NX-4(4A)	320.0	186.0	134	38.6	21.5	32	24	13(10)	13(10)	92.7	20.2(15.2)	12.0	30.7
13	FRW-8NX-2(2A)	380.0	217.0	163	46.0	25.0	48	25	18(10)	16(10)	108.0	25.5(15.2)	12.5	32.0
13	FRW-10N-2	417.0	228.0	189	46.0	29.0	32	33	18	16	115.0	25.5	16.5	37.5
13	FRW-13N-3	418.5	229.5	189	46.0	29.0	32	36	18	16	116.0	25.5	18.0	37.5
13	FRW-13N-4	431.0	242.0	189	46.0	29.0	32	46	18	16	129.0	25.5	23.0	45.0

Abrasive Tools

Fig 14

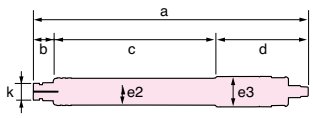


Fig 15

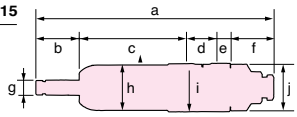
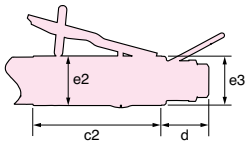


Fig 16



PENCIL GRINDERS

Fig No.	Model	a	b	c	d	e2	e3	k
14	FG-06-1	153	11	90	52	14.5	16	9.5

TURBO GRINDERS

Fig No.	Model	a	b	c	d	e	f	g	h	i	j
15	TURBO-100	153	28	70	18	9.0	28	9.5	29	31	29
15	TURBO-100A	155	30	70	18	9.0	28	16.0	29	31	29

DIE GRINDERS

Locking Lever Handle Models

Fig No.	Model	a	b	c1	c2	d	e1	e2	e3	k
16	FG-12U-1F	188.0	28.5	48.0	101.5	10.0	36.0	35	34.0	17.0
16	FG-13-1F	158.0	27.0	42.0	76.0	13.0	30.5	32	32.0	9.5
16	FG-13-10F	158.0	43.5	25.5	76.0	13.0	30.5	32	32.0	9.5
16	FG-25D-1F	198.0	28.0	52.0	108.0	10.0	38.5	39	38.0	17.0
16	FG-26-10F	179.0	49.0	30.0	90.0	10.0	35.5	36	35.0	16.0
16	FG-26-20BF	180.0	49.0	30.0	45.0	56.0	35.5	33	33.0	16.0
16	FG-50-1F	191.0	49.0	29.0	103.0	10.0	39.5	37	38.0	16.0
16	FG-50-2BF	189.0	49.0	29.0	54.0	57.0	39.5	36	39.0	16.0
16	FG-50D-1F	210.0	28.0	51.0	121.0	10.0	40.5	41	40.0	17.0
16	FG-12UX-1F	213.0	28.0	40.0	111.0	34.0	35.5	36	34.0	17.0
16	FG-13X-1F	183.0	27.0	42.0	83.5	30.5	30.5	32	32.0	9.5
16	FG-13X-10F	183.0	43.5	25.5	83.5	30.5	30.5	32	32.0	9.5
16	FG-25DX-1F	231.0	28.0	50.0	119.0	34.0	38.5	39	34.0	17.0
16	FG-26X-10F	206.0	49.0	30.0	96.5	30.5	35.5	35	34.0	16.0
16	FG-50DX-1F	243.0	26.0	52.5	129.0	35.5	40.5	41	34.0	17.0
16	FG-50X-1F	214.0	48.5	29.0	106.0	30.5	39.5	41	34.0	16.0

Fig 17

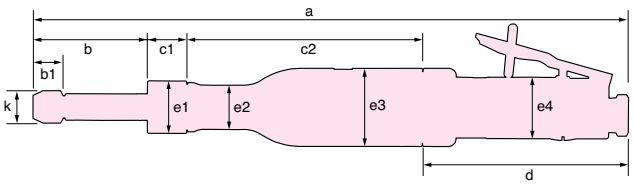


Fig 18

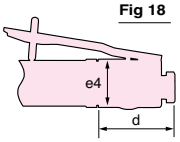
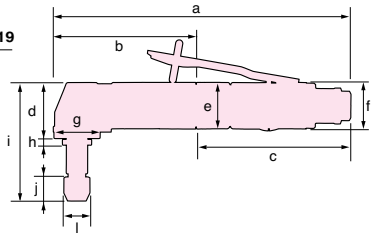


Fig 19



Extension Type Models

Fig No.	Model	a	b1	b	c1	c2	d	e1	e2	e3	e4	k
17	FG-3H-5F	369	18	71	24	148	126	32	27	48	38	17Hex
Fig No.	Model	a	b	c3	c1	c2	d	e1	e2	e3	e4	k
18	FG-26L-1BF	307	51	98	31	71	56	20	36	33	35	16

AngleType Models

Side Exhaust Type

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	l
19	FA-2C-2BF	190	110	80	42.5	35	35	35	5	90.3	18	17Hex
19	FA-2C-3BF	190	110	80	42.5	35	35	35	5	90.3	18	17Hex

Rear Exhaust Type

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	l
19	FA-2CX-2BF	226	109	117	42.5	35	35.0	35	5	90.3	18	17Hex
19	FA-2CX-3BF	226	109	117	42.5	35	35.0	35	5	90.3	18	17Hex

Fig 20

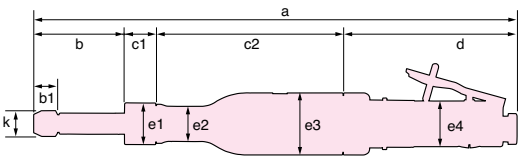
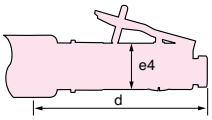


Fig 21



LOW SPEED GRINDERS

Locking Lever Handle Models

Fig No.	Model	a	b1	b	c1	c2	d	e1	e2	e3	e4	k
20	FG-2VX-1F	216.0	18	47.0	57.0	83	29.0	16	39	44.0	44	17Hex
20	FG-3VX-1F	331.0	18	70.5	26.5	97	137.0	16	40	41.0	34	17Hex
20	FG-3VX-6F	331.0	18	70.5	26.5	97	137.0	16	40	41.0	34	17Hex
21	FG-3VX-2F	316.0	14	55.5	26.5	97	137.0	-	40	41.0	34	17Hex
21	FG-3VX-3F	316.0	14	55.5	26.5	97	137.0	-	40	41.0	34	17Hex

Fig 21-2

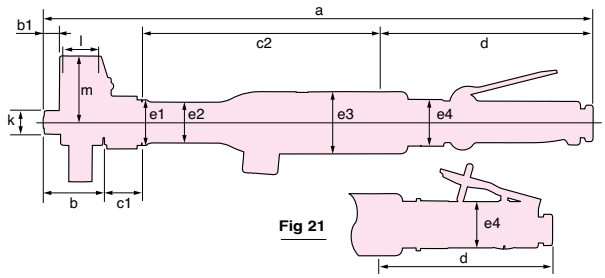


Fig 21

Fig 21-3

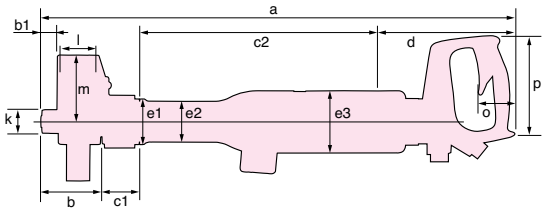


Fig 23

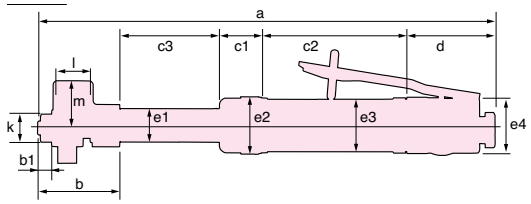
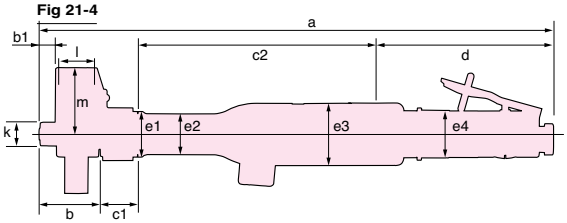


Fig 21-4



STRAIGHT GRINDERS

Locking Lever Handle Models

Fig No.	Model	a	b1	b	c1	c2	d	e1	e2	e3	e4	k	l	m
21	FG-3H-1F	342.0	14	44.0	24	148	126.0	32	27	48.0	38.0	17Hex	18.0	41.0
21	FG-3H-2F	342.0	14	44.0	24	148	126.0	32	27	48.0	38.0	17Hex	18.0	46.0
21	FG-4H-1F	411.0	14	52.0	31	202	126.0	38	34	52.0	38.0	17Hex	31.0	58.5
21	FG-4H-2F	419.0	14	60.0	31	202	126.0	38	34	52.0	38.0	21Hex	31.0	58.5
21-2	FG-5H-1M	506.0	14	58.0	31	210	207.0	38	34	58.0	38.0	21Hex	27.0	72.0
21-2	FG-5H-2M	511.0	23	63.0	31	210	207.0	38	34	58.0	38.0	26Hex	27.0	72.0
21-2	FG-6H-1M	531.0	23	76.0	31	210	214.0	38	36	64.0	38.0	26Hex	34.0	84.7
21-2	FG-8H-1M	557.0	23	78.0	30	232	217.0	52	40	80.0	38.0	26Hex	38.0	111.2
21-2	FG-8H-2M	557.0	23	78.0	30	232	217.0	52	40	80.0	38.0	26Hex	34.8	99.7

Grip Handle Models

Fig No.	Model	b1	b	c1	c2	d	e1	e2	e3	k	l	m	o	p
21-3	FG-8H-1C	23	78.0	30	232	198.0	52	40	80.0	26Hex	38.0	111.2	57	124

EXTENDED GRINDERS

Locking Lever Handle Models

Fig No.	Model	a	b1	b	c3	c1	c2	d	e1	e2	e3	e4	k	l	m
23	FG-50L-1BF	316.5	8	36.0	91	29	103.5	57	23	39.5	36	39	17Hex	22.0	32.0
23	FG-50Y-1BF	532.0	8	36.5	306	29	103.5	57	23	39.5	36	39	17Hex	22.0	32.0
23	FG-3HL-1F	547.0	14	43.0	252	21	105.0	126	23	40.0	48	38	17Hex	22.5	40.5

Fig No.	Model	a	b1	b	c1	c2	d	e1	e2	e3	e4	k	l	m
21-4	FG-4HL-1F	613.0	14	50.0	22	415	126.0	27	34	52.0	38	17Hex	33	45.5
21-2	FG-5HL-2M	1055.0	14	63.0	24	760	208.0	36	34	58.0	38	21Hex	31	58.5

Fig 24-1

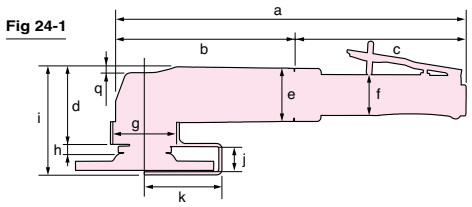
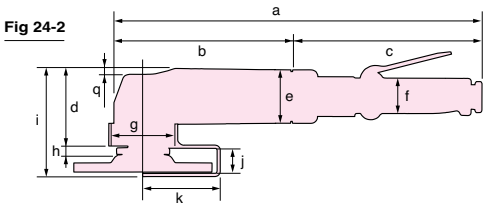


Fig 24-2



ANGLE GRINDERS

Locking Lever Handle Models

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	q
24-1	FA-2CX-1BF	226.0	109.0	117.0	42.5	35	35	35	5	59.5	18.8	33.6	-
24-1	FA-5E-13F	279.5	110.5	169.0	61.5	52	40	45	13	90.7	18.5	72.6	4.5
24-1	FA-5E-13VF	260.5	110.5	150.0	61.5	52	40	45	13	90.7	18.5	72.6	4.5
24-3	FA-6C-9M	353.0	146.0	207.0	74.0	56	38	60	32.0	126.0	25.8	98.0	-
24-3	FA-6C-8M	353.0	146.0	207.0	74.0	56	38	60	32.0	126.0	25.8	98.0	-
24-2	FA-7E-5VF	307.0	145.5	161.5	75.6	62	40	60	26.2	120.5	21.0	100.5	6
24-2	FA-7E-6VF	307.0	145.5	161.5	75.6	62	40	60	26.2	120.5	21.0	100.5	6

Fig 26-1

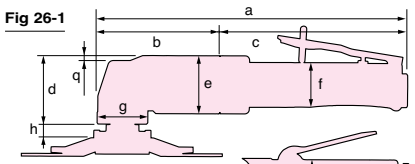


Fig 26-2

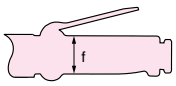
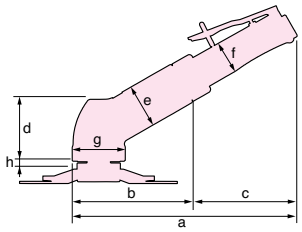


Fig 27-1



ANGLE SANDERS

Locking Lever Handle Models

Fig No.	Model	a	b	c	d	e	f	g	h	q
26-2	FA-6C-10M	353.0	146.0	207.0	74.0	56.0	38.0	60	15.0	-
26-1	FA-5E-6VF	260.5	110.5	150.0	61.5	52.0	40.0	45	13.0	4.5
26-2	FA-6C-9M	353.0	146.0	207.0	74.0	56.0	38.0	60	32.0	-
26-1	FA-7E-5VF	307.0	145.5	161.5	75.6	62.0	40.0	60	26.2	6.0

Locking Lever Handle Models (110˚)

Fig No.	Model	a	b	c	d	e	f	g	h
27-1	FA-4CHK-3F	235.0	129.0	106.0	70.0	48.0	38.0	52	8.6

Fig 28

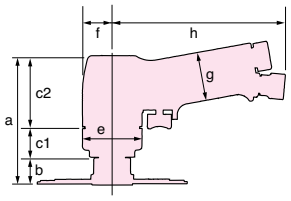


Fig 29-1

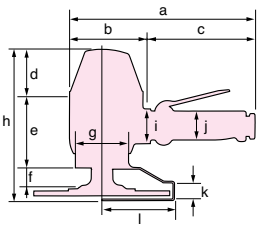


Fig 29-2

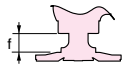
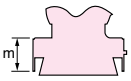


Fig 29-3



DISC SANDER

Fig No.	Model	a	b	c1	c2	e	f	g	h
28	FG-5PX-1	108.0	21.0	24.0	63.0	50.0	25.0	41	147.0

VERTICAL GRINDERS

Standard Type

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	l
29-1	FV-7-1M	247.0	100.0	147.0	63.0	94.4	26.2	64	201.0	46	38	22.0	96.6
29-1	FV-7-4M	247.0	100.0	147.0	63.0	94.4	26.2	64	201.0	46	38	22.0	96.6
29-1	FV-9BH-1M	266.0	127.5	138.5	69.0	119.0	50.2	69	238.2	46	38	30.0	122.0

Cup Wheel Type

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	l	m
29-3	FV-9BH-4M	266.0	127.5	138.5	69.0	119.0	76	69	264.0	46	38	88.4	56~85

Sanding DiscType

Fig No.	Model	a	b	c	d	e	f	g	i	j
29-2	FV-7-2M	247.0	100.0	147.0	63.0	94.4	38	64	46	38

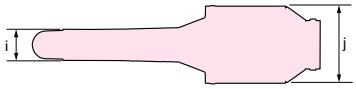
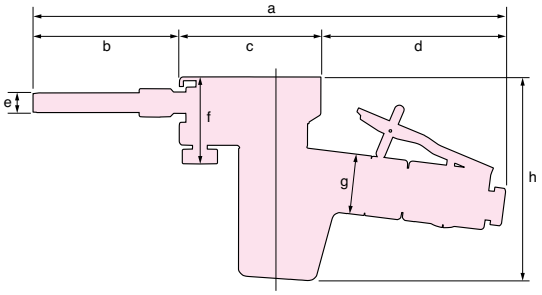


Fig 30



BELT SANDERS

Fig No.	Model	a	b	c	d	e	f	g	h	i	j
30	FBS-1-1	281	87	84	110	10	51	35	121	18	45.2
30	FBS-1-2	375	181	84	110	20	51	35	121	22	45.2
30	FBS-1-3	345	151	84	110	13	51	35	121	18	45.2
30	FBS-1-4	345	151	84	110	20	51	35	121	22	45.2

Fig 31

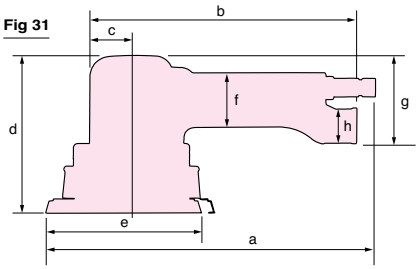
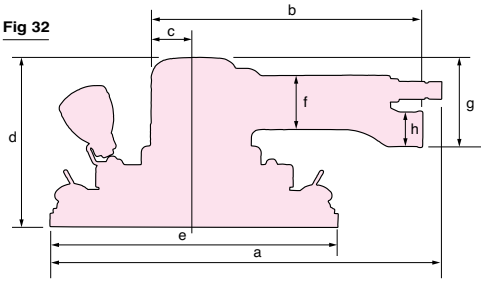


Fig 32



ORBITAL SANDERS

Locking Lever Handle Models

Fig No.	Model	a	b	c	d	e	f	g	h
31	FOR-125BF-E(-M)	259	216	35	122	125	42	69	26
31	FOR-150BF-E(-M)	276	124	35	122	150	42	68	26
32	FOS-175BF-E(-M)	285	216	35	130	100X175	42	69	26
32	FOS-230BF-E	312	217	35	132	100X230	42	68	26
32	FOS-400BF-E	400	211	32	138	100X400	43	66	26

Fig 33

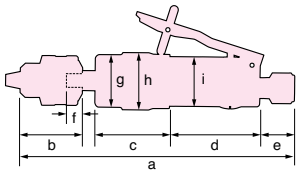
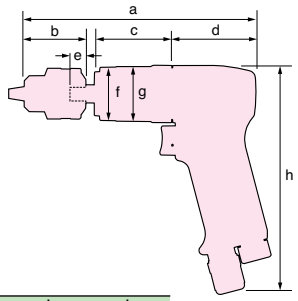


Fig 34-1



DRILLS

Straight / Side Exhaust Type

Fig No.	Model	a	b	c	d	e	f	g	h	i
33	FRD-5S-1F	179	40	49	58.5	22.5	12	34	37	32
33	FRD-6S-2F	209	40	57	82.5	22.5	12	39	42	38
33	FRD-6S-3F	212	43	57	82.5	22.5	12	39	42	38
33	FRD-6S-5F	230	51	69	82.5	22.5	12	41	46	38
33	FRD-6S-7F	265	64	91	82.5	22.5	15	32	42	38

Pistol / Rear Exhaust Type

Fig No.	Model	a	b	c	d	e	f	g	h
34-1	FRD-5P-1	155	40	46.5	60.5	12	34	35	159
34-1	FRD-6PX-2	166	40	57.0	62.0	12	39	40	165
34-1	FRD-6PX-3	169	43	57.0	62.0	12	39	40	165
34-1	FRD-6PX-5	187	51	69.0	62.0	12	41	45	165
34-1	FRD-6PX-7	222	64	91.0	62.0	15	32	38	165
34-1	FRD-8PX-1	187	43	62.0	75.0	12	40	45	191
34-1	FRD-8PX-2	210	51	77.0	75.0	12	40	52	191
34-1	FRD-8PX-3	240	64	95.0	75.0	15	48	51	191

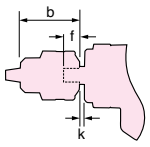


Fig 35-1

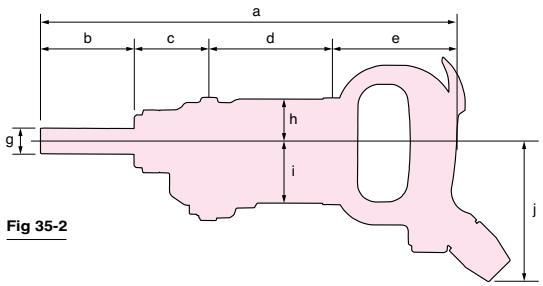


Fig 35-2

Grip Handle Middle Size Drills

Fig No.	Model	a	b	c	d	e	f	k	g	h	i	j
35-1	FRD-12Z-1(C)	349	51	58	96	97	15	5	-	33	47	108
35-1	FRD-16Z-1(C)	374	73	58	96	97	20	8	-	33	47	108

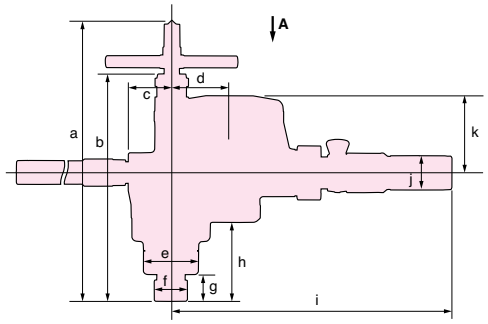
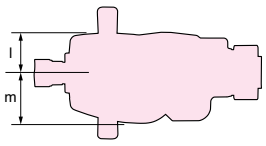


Fig 36



A VIEW

Heavy -Duty Rotary Drills

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	l	m
36	FRD-20R-21S	278.5~345.5	220.5	37	56.7	52	26	15.6	85.6	300.7	38	75.9	39	39
36	FRD-20R-22S	305~372	247.0	37	56.7	48	32	27.1	112.1	300.7	38	75.9	39	39
36	FRD-23R-21S	278.5~345.5	220.5	37	56.7	52	26	15.6	85.6	300.7	38	75.9	39	39
36	FRD-23R-22S	305~372	247.0	37	56.7	48	32	27.1	112.1	300.7	38	75.9	39	39
36	FRD-25R-11S	354.4~450.4	293.4	55	75.0	70	42	34.6	102.6	364.0	43	99.4	51	65
36	FRD-28R-11S	354.4~450.4	293.4	55	75.0	70	42	34.6	102.6	364.0	43	99.4	51	65
36	FRD-32R-11S	354.4~450.4	293.4	55	75.0	70	42	34.6	102.6	364.0	43	99.4	51	65
36	FRD-32R-12S	382.4~478.4	321.4	55	75.0	70	49	62.6	130.6	364.0	43	99.4	51	65
36	FRD-40R-11S	446.4~539.4	385.4	55	75.0	78	52	41.6	195.1	364.0	43	99.4	65	65
36	FRD-50R-11S	446.4~539.4	385.4	55	75.0	78	52	41.6	195.1	364.0	43	99.4	65	65
36	FRD-65R-1S	466~591	391.0	82	121.7	87	70	46.0	141.0	552.0	43	122.0	68	68
36	FRD-75R-1S	600~728	525.0	82	121.7	87	70	67.0	165.0	552.0	43	122.0	68	68
36	FRD-100R-1S	600~728	525.0	82	121.7	87	70	67.0	165.0	552.0	43	122.0	68	68

Drills

Fig 37

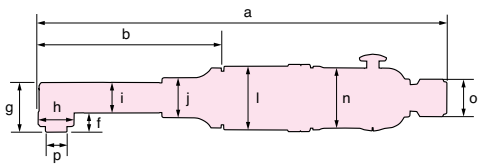
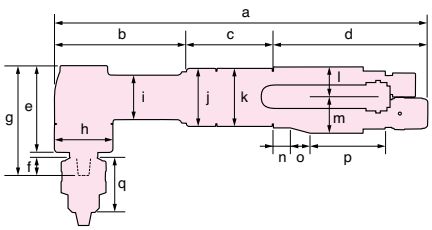


Fig 38



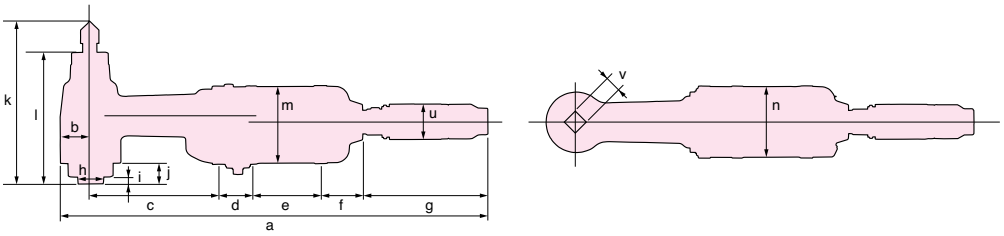
BABY ANGLE DRILLS

Fig No.	Model	a	b	f	g	h	i	j	l	n	o	p
37	FCD-6B-1(F)	222	99.5	10.5	26.5	19	16	21	34	32	19.6	9.5Hex

CORNER DRILLS

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
38	FCD-6X-1(F)	273	97	64	112	63	12	79	42	32	42	42	22.0	26.0	12	15	54	40
38	FCD-6X-2(F)	286	97	77	112	63	12	79	42	32	42	44	22.0	26.0	12	15	54	43
38	FCD-10X-1(F)	377	93	60	224	62	14	82	42	36	46	50	24.5	17.5	82	10	84	51

Fig 39



Heavy-Duty Corner Drills

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	l	m	n	u	v
39	F-14CN-1S	414	24	150	20	70	55	95	22	6.0	21.0	135.0~173.0	110.0	71.7	62	40	□ 16
39	F-14CN-2S	414	24	150	20	70	55	93	29	16.5	33.5	147.5~185.5	122.5	71.7	62	40	□ 16
39	F-22RCN-1S	499	35	150	39	79	50	146	29	8.0	24.0	177.0~237.0	152.0	88.0	82	38	□ 16
39	F-32RCN-1S	529	40	175	39	79	50	146	34	11.0	21.0	195.0~255.0	170.0	88.0	82	38	□ 16
39	F-32RCNS-1S	529	40	175	39	79	50	146	35	1.0	9.0	126.0~151.0	107.0	88.0	82	38	□ 14
39	F-22RCR-1S	528	35	150	39	79	50	175	29	8.0	24.0	177.0~237.0	152.0	88.0	82	38	□ 16
39	F-32RCR-1S	558	40	175	39	79	50	175	34	11.0	21.0	195.0~255.0	170.0	88.0	82	38	□ 16
39	FCD-23R-11(S)	473	27	96	39	80	60	172	27	5.5	15.5	151.5~186.5	126.5	91.5	81	38	□ 16
39	FCD-23R-12(S)	473	27	96	39	80	60	172	31	14.5	37.5	172.5~207.5	147.5	91.5	81	38	□ 16
39	FCD-32R-11S	579	35	118	50	101	72	203	35	10.0	26.0	194.0~247.0	164.0	110.0	96	43	□ 16
39	FCD-50R-11(S)	596	42	128	50	101	75	200	44	16.0	38.0	230.0~288.0	191.0	110.0	96	43	□ 22.2
39	FCD-75R-11(S)	652	49	157	50	121	75	200	60	18.0	48.0	272.0~329.0	227.0	110.0	96	43	□ 25.4
39	FCD-100R-11(S)	729	62	241	50	101	75	200	60	38.0	75.0	306.0~411.0	285.0	110.0	96	43	□ 23

Fig 34-1

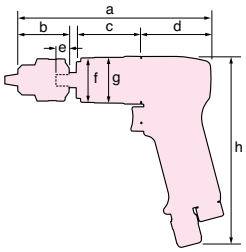
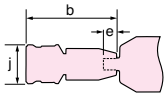


Fig 34-2

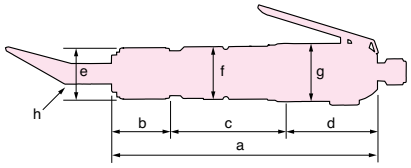


TAPPERS

Fig No.	Model	a	b	c	d	e	f	g	h	j
34-1	FT-6P-1	236	45	112	63.5	15	38	45	154.0	-
34-1	FT-6BX-1D	206	40	34	128.0	15	46	47	143.5	-
34-2	FT-6BX-1T	241	75	34	128.0	15	46	47	143.5	32
34-2	FT-8PX-1	232	78	27	121.0	14	46	45	193.0	32

Percussive Tools

Fig 41



FLUX CHIPPERS

Fig No.	Model	a	b	c	d	e	f	g	h
41	FCH-20-1F	176	66	52	58	33	32	36	□9.0
41	FCH-20F-1F	182	42	82	58	39	32	36	□12.7
41	FCH-25-1F	204	44	92	68	39	40	44	□12.7
41	FCH-25B-1F	239	44	92	103	39	40	44	□12.7

LIGHT HAMMERS

Fig No.	Model	a	b	c	d	e	f	g	h	b1
42	FRH-3-1	140	39.5	10	38	52.5	30	25	121	38
42	FRH-3-2	140	39.5	10	38	52.5	30	25	121	38
42	FRH-6-1	206	39.5	76	38	52.5	30	25	121	38
42	FRH-6-2	206	39.5	76	38	52.5	30	25	121	38
42	FRH-6A-1	193	42.0	63	36	52.0	36	25	121	36
42	FRH-6A-2	193	42.0	63	36	52.0	36	25	121	36

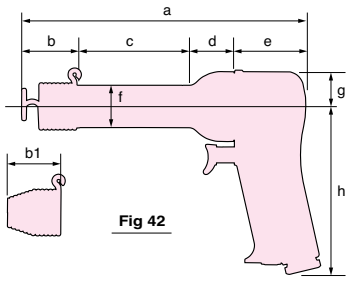


Fig 42

Fig 46-1

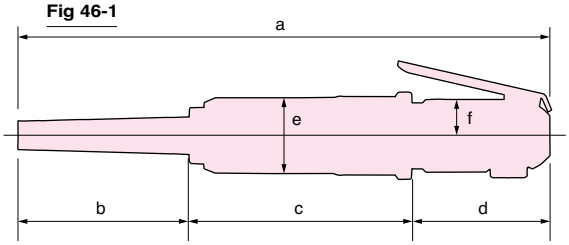
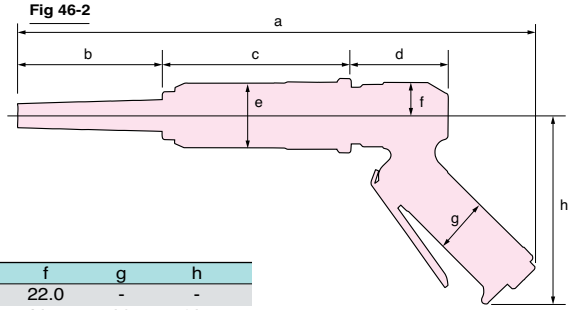


Fig 46-2



NEEDLE SCALERS

Fig No.	Model	a	b	c	d	e	f	g	h
46-1	FNS-2-1F	325	104	136	85	46	22.0	-	-
46-2	FNS-2P-1F	372	104	136	70	46	23.5	39	135

Fig 47-1

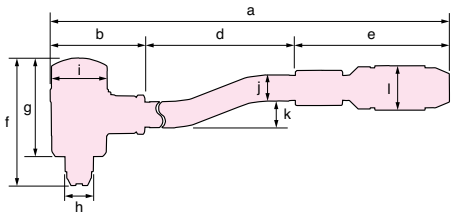
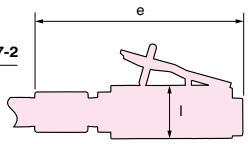


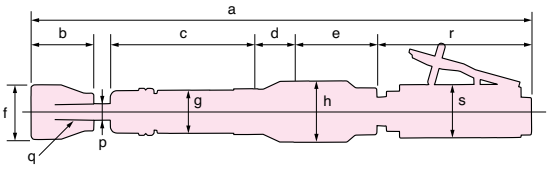
Fig 47-2



SCALING HAMMERS

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	l	m	n
47-1	FS-2A-1F	535	82	-	295	158	110~94	85	21	50	22	23	40		

Fig 48-1



SAND RAMMERS

Fig No.	Model	a	b	c	d	e	f	r	g	h	s	i	j	p	q
48-1	FR-18B-2F	390~440	47	114	28	63	41	118	32	46	40	-	-	12.0	taper 1:20
48-1	FR-22B-2F	465~529	60	154	35	68	51	118	38	50	40	-	-	14.0	taper 1:20
48-1	FR-25B-2F	630~713	80	228	49	90	67	118	46	60	40	-	-	17.5	taper 1:20

Fig 48-3

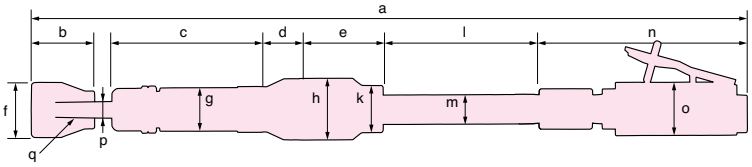


Fig No.	Model	a	b	c	d	e	f	g	h	k	l	m	n		
48-4	FR-18L-2F	542~592	60	113	28	64.0	51	32	46	35	124	21.7	158	40	12.0	taper 1:20
48-4	FR-22L-2F	614~678	60	154	35	68.0	51	38	50	35	124	21.7	158	40	14.0	taper 1:20
48-4	FR-25L-2F	1038~1121	80	228	49	90.0	67	46	60	45	400	21.7	158	40	17.5	taper 1:20
48-4	FR-32-2F	1123~1250	92	260	60	85.6	75	53	68	50	401	27.5	158	40	19.0	taper 1:20

Air Motors

Fig 49-1

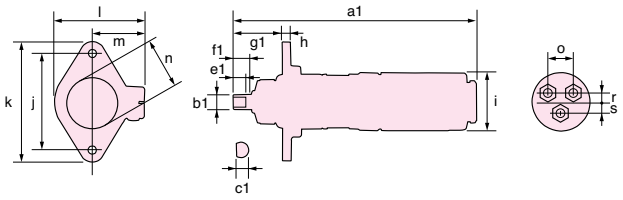
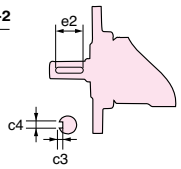


Fig 49-2



AIR MOTORS

Reversible Type

Fig No.	Model	a1	b1	c1	c3	c4	e1	e2	f1	g1	h	i	j	k	l	m	n	o	r	s
49-1	F-5SM-8.5R	147	8	7.0	-	-	10	-	12	20.0	5	40	60	74	55	33	35	18	6.5	8.0
49-1	F-5SM-2R	180	8	7.0	-	-	10	-	12	25.0	5	40	60	74	55	33	35	18	6.5	8.0
49-1	F-6SM-28R	146	10	8.5	-	-	12	-	14	19.0	6	42	70	88	64	38	39	20	6.5	8.0
49-1	F-6SM-21R	146	10	8.5	-	-	12	-	14	19.0	6	42	70	88	64	38	38	20	6.5	8.0
49-1	F-6SM-12R	157	10	8.5	-	-	12	-	14	18.0	6	42	70	88	64	38	39	20	6.5	8.0
49-1	F-6SM-8R	179	10	8.5	-	-	12	-	14	36.0	6	42	70	88	64	38	39	20	6.5	8.0
49-1	F-6SM-5R	179	10	8.5	-	-	12	-	14	36.0	6	42	70	88	64	38	38	20	6.5	8.0
49-1	F-6SM-2.5R	192	10	8.5	-	-	12	-	14	36.0	6	42	70	88	64	38	38	20	6.5	8.0
49-2	F-8SM-28R	183	12	-	2.5	4.0	-	18	25	29.0	6	58	70	88	64	38	45	26	11.0	17.0
49-2	F-8SM-12R	199	12	-	2.5	4.0	-	18	25	49.0	8	58	90	114	81	48	52	26	11.0	17.0
49-2	F-8SM-8.5R	222	16	-	3.0	5.0	-	25	32	46.5	8	58	90	114	81	48	51	26	11.0	17.0

Fig 50-1

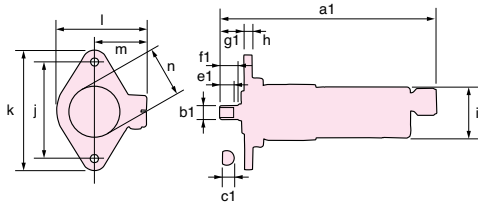


Fig 50-2

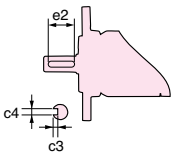
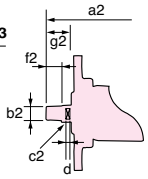


Fig 50-3



Non-reversible Type

Fig No.	Model	a1	b1	c1	c3	c4	e1	e2	f1	g1	h	i	j	k	l	m	n	a2	b2	c2	d	f2	g2
50-1	F-5SM-8.5	152	8	7.0	-	-	10	-	12	20.0	5	32	60	74	55	33	35	-	-	-	-	-	-
50-1	F-5SM-2	185	8	7.0	-	-	10	-	12	25.0	5	32	60	74	55	33	35	-	-	-	-	-	-
50-1, 3	F-6SM-28	167	10	8.5	-	-	12	-	14	19.0	6	38	70	88	64	38	39	169	3/8-24	10	4	12	21.0
50-1, 3	F-6SM-21	167	10	8.5	-	-	12	-	14	19.0	6	38	70	88	64	38	39	167	3/8-24	10	4	12	19.0
50-1, 3	F-6SM-12	178	10	8.5	-	-	12	-	14	18.0	6	38	70	88	64	38	41	178	3/8-24	10	4	12	18.0
50-1, 3	F-6SM-8	200	10	8.5	-	-	12	-	14	36.0	6	38	70	88	64	38	38	200	3/8-24	14	5	12	36.0
50-1, 3	F-6SM-5	200	10	8.5	-	-	12	-	14	36.0	6	38	70	88	64	38	38	200	3/8-24	14	5	12	36.0
50-1, 3	F-6SM-2.5	213	10	8.5	-	-	12	-	14	36.0	6	38	70	88	64	38	38	214	3/8-24	14	5	12	36.0
50-2, 3	F-8SMA-28	181	12	-	2.5	4.0	-	18	25	30.0	6	50	70	88	64	38	43	173	3/8-24	12	5	12	20.0
50-2, 3	F-8SMA-12	200	12	-	2.5	4.0	-	18	25	28.0	8	50	90	114	81	48	51	189	3/8-24	12	5	12	17.0
50-2, 3	F-8SMA-8.5	222	16	-	3.0	5.0	-	25	32	46.5	8	50	90	114	81	48	51	208	1/2-20	14	6	15	32.5

Fig 51

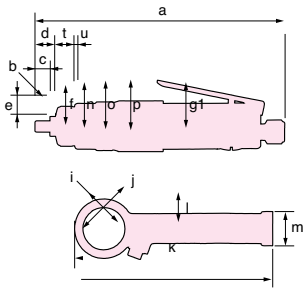


Fig 52

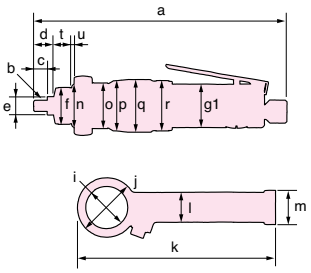
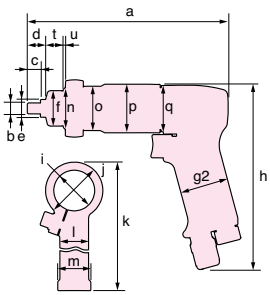


Fig 53



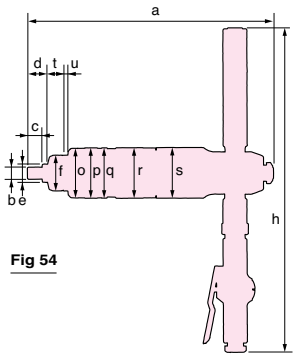


Fig 54

Non-reversible Type

Fig No.	Model	a	b	c	d	e	f	g1	g2	h	i	j	k	l	m	n	o	p	q	r	s	t	u
51	F-6SE	210	3/8-24	12	17	15.88	32	38	-	-	38	52	176	26	30	38	40	42	-	-	-	16	2
52	F-6SF	225	3/8-24	12	17	15.88	32	38	-	-	38	52	176	26	30	38	40	44	46	44	-	16	2
53	F-6PFX	184	3/8-24	12	17	15.88	32	-	44	170	38	52	176	26	30	38	40	44	42	-	-	16	2
54	F-10MT	266	1/2-20	16	22	19.05	38	-	-	352	-	-	-	-	-	-	53	54	54	54	54	17	5

Fig 55-1

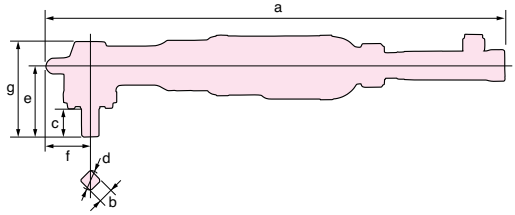


Fig 55-2

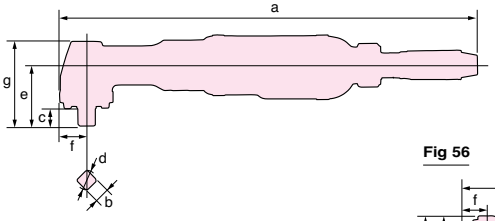
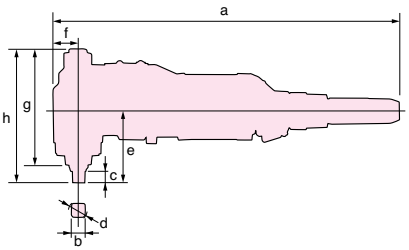


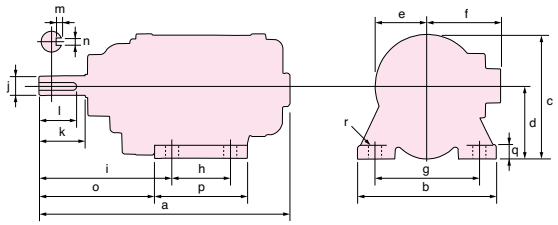
Fig 56



Portable Type

Fig No.	Model	a	b	c	d	e	f	g	h
55-1	FM-2R-2C	630	19	40	24	100	60	132	
55-2	FNR-20	506	16	17	20	62	31	95	
55-2	FNR-20S	506	16	17	20	62	31	95	
56	FM-14RK-101	473	13	16	16.5	80	27	133	158
56	FM-24RK-101	579	14	17	17.5	98	35	170	197
56	FM-24RK-201	596	19	20	25.0	122	42	197	227
56	FM-27RK-101	652	31	30	35.0	151	49	233	275

Fig 57

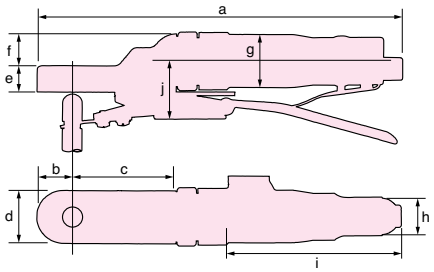


Stationary Type

Fig No.	Model	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
57	FM-1R-5	273	150	135	80	55	80	120	70	140	20	50	40	3.0	5	125	100	15	12
57	FM-1R-12	273	150	135	80	55	80	120	70	140	20	50	40	3.0	5	125	100	15	12
57	FM-2R-5	375	180	200	125	75	75	150	70	100	28	60	55	4.0	7	102	100	18	14
57	FM-3R-3	395	180	209	140	75	75	150	70	117	28	60	55	4.0	7	102	100	18	14
57	FM-3R-5	395	180	209	140	75	75	150	70	117	28	60	55	4.0	7	102	100	18	14
57	FM-5R-2	435	210	245	145	100	100	180	90	250	28	60	55	4.0	7	250	120	18	14
57	FM-10R-2	570	240	266	155	95	95	200	130	315	35	80	60	4.5	10	316	170	20	18

Complementary Range

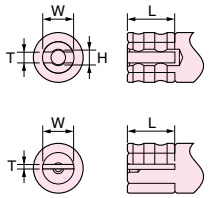
Fig 63

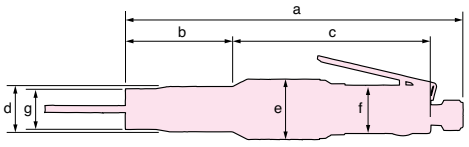


TIP DRESSER

Fig No.	Model	a	b	c	d	e	f	g	h	i	j
63	FTD-18-1	292	30	87	44	21.5	29	47	-	-	-
63	FTD-18A-1	307	30	83	44	22.0	26	46	30	147	54

Fig 68





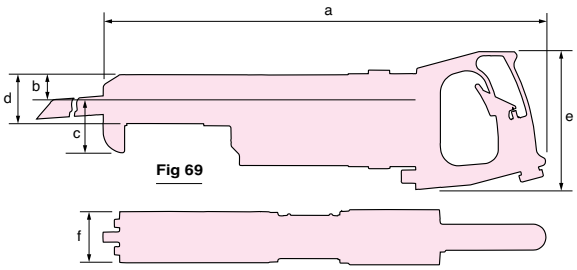


Fig 69

AIR FILES

Fig No.	Model	a	b	c	d	e	f	g	T	W	L	H
68	FRF-4-1F	228	73	133.5	30	40	32	27	4	13	21	6

AIR SAWS

Fig No.	Model	a	b	c	d	e	f	g	T	W	L
68	FRF-4-2F	232	77	133.5	30	40	32	27	2	13	21

Fig No.	Model	a	b	c	d	e	f
69	FRS-45	421	24	50	46	131	48

MARKING PEN

Fig No.	Model	a	b	c	d	e	f
72	G-400	147.5	76	19.5	17.5	2.15	1.5

Fig 72

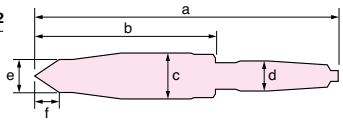


Fig 73

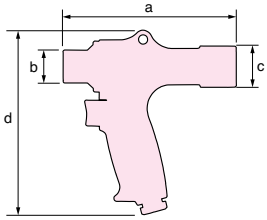
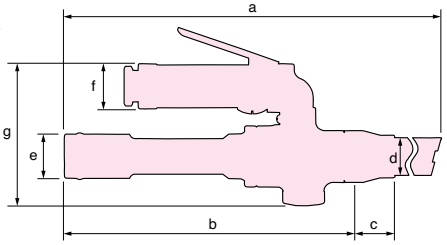


Fig 74



AIR CLEANERS

Fig No.	Model	a	b	c	d
73	AC-200F	145	27	34	153

Fig No.	Model	a	b	c	d	e	f	g
74	FJP-500	1020	248.5	32	32	38	38	121

PAGE	MODEL	VIBRATION (m/s²) THROTTLE HANDLE	VIBRATION (m/s²) SUPPORT HANDLE	NOISE dB(A)
11	FPT-110S-1	0.21	-	70
11	FPT-330S-1	0.29	-	77
11	FPT-440S-1	0.30	-	77
11	FPT-550S-1	0.71	-	80
11	FPT-660S-1	0.62	-	84
11	FPT-770S-1	0.46	-	80
11	FPT-110-1	0.21	-	66
11	FLT-4-1	0.53	-	76
11	FLT-5-1	0.90	-	78.5
11	FLT-6-1	0.50	-	78.5
11	FLT-7-1	1.30	-	79.8
11	FLT-9-1	1.70	-	81.0
11	FLT-11-1	1.70	-	83.8
11	FLT-13-1	1.70	-	84.0
11	FLT-20S-1	1.60	-	84.8
11	FPT-1660-1	0.36	-	84
12	FPT-110SD-1(10)	0.21	-	70
12	FPT-330SD-1(10)	0.29	-	77
12	FPT-440SD-1(10)	0.30	-	77
12	FPT-550SD-1(10)	0.71	-	80
12	FPT-660SD-1(10)	0.62	-	84
12	FPT-110D-1(10)	0.21	-	66
12	FPT-330D-1(10)	0.90	-	70
12	FPT-440D-1(10)	0.56	-	72
12	FLT-4D-1(10)	0.70	-	71
12	FLT-5D-1(10)	0.70	-	74.5
12	FLT-6D-1(10)	0.70	-	79
12	FPT-440SC-1	0.56	-	79
12	FPT-550SC-1	0.70	-	80
12	FPT-660SC-1	0.68	-	80
12	FPT-770SC-1	0.24	-	75
13	FTP-770G-1	0.50	-	80
13	FTP-770SCG-1	0.50	-	80
13	FTP-770G-1L	0.50	-	80
14	FL-4-1	0.53	-	76
14	FL-5-1	0.90	-	78.5
14	FL-6-1	0.50	-	78.5
14	FL-7-1	1.30	-	79.8
14	FL-9-1	1.70	-	81.0
14	FL-11-1	1.70	-	83.8
14	FL-13-1	1.70	-	84.0
14	FPW-110-1	0.41	-	80
14	FPW-110D-1	0.41	-	80
14	FPW-110D-10	0.41	-	80
14	FL-4D-1	0.53	-	76
14	FL-4D-10	0.53	-	76
14	FL-5D-1	0.90	-	78.5
14	FL-5D-10	0.90	-	78.5
14	FL-6D-1	0.50	-	78.5
14	FL-6D-10	0.50	-	78.5
14	FPW-770D-3	0.56	-	79
14	FPW-770D-30	0.56	-	79
15	FPW-110S-1	0.68	-	70
15	FPW-330S-1	0.71	-	74
15	FPW-440S-1	0.71	-	75
15	FPW-550S-1	0.71	-	78

PAGE	MODEL	VIBRATION (m/s²) THROTTLE HANDLE	VIBRATION (m/s²) SUPPORT HANDLE	NOISE dB(A)
15	FPW-660S-1	0.89	-	80
15	FPW-770S-1	0.73	-	85
15	FPW-2220S-1	0.86	-	85
15	FPW-110SD-1	0.68	-	70
15	FPW-110SD-10	0.68	-	70
15	FPW-330SD-1	0.71	-	74
15	FPW-330SD-10	0.71	-	74
15	FPW-440SD-1	0.71	-	75
15	FPW-440SD-10	0.71	-	75
15	FPW-550SD-1	0.71	-	78
15	FPW-550SD-10	0.71	-	78
15	FPW-660SD-1	0.89	-	80
15	FPW-660SD-10	0.89	-	80
16	FPW-440SC-1	0.76	-	79
16	FPW-550SC-1	0.72	-	80
16	FPW-660SC-1	0.57	-	80
16	FPW-770SC-1	0.73	-	82
16	FPW-770G-1	0.29	-	84
16	FPW-770SCG-1	0.77	-	85
17	FW-44PA-2	0.2	-	80
17	FW-66PA-2	0.22	-	77
17	FW-88P-1	0.32	-	82
17	FW-44SA-1	0.23	-	82
17	FW-66SA-1	0.36	-	79
18	FW-5PX-6	0.32	-	75
18	FW-6PM-1	0.31	-	78
18	FW-6PL-1	0.25	-	94
18	FW-6PX-5	0.4	-	79
18	FW-6PX-6	0.3	-	79
18	FW-6PH-1	0.32	-	88
18	FW-6PH-11	0.32	-	88
18	FW-8PH-3	0.28	-	76
18	FW-10PX-5	0.89	-	85
18	FW-10PH-1	0.4	-	78
18	FW-10PH-2	0.28	-	78
18	FW-14PX-5	0.47	-	89
18	FW-14PH-1	0.4	-	90
18	FW-14PH-2	0.4	-	90
18	FW-14PH-3	0.26	-	86
19	FW-6SX-5	0.4	-	86
19	FW-6SX-6	0.56	-	86
19	FW-8SH-2	0.5	-	86
19	FW-10SX-5	0.9	-	85
19	FW-14SX-5	0.33	-	89
19	FW-6SCX-6	0.6	-	90
19	FW-8SCH-2	0.79	-	95
20	FW-19Z-5C	0.63	-	103
20	FW-250-1C	0.58	0.74	100
20	FW-250-2C	0.58	0.74	100
20	FW-320-1C	0.9	1	100
20	FW-320-1CL	0.9	1	96
20	FW-420-1C	0.92	1.1	108
20	FW-420-1CL	0.92	1.1	108
20	FW-420-2C	0.92	1.1	108
21	FW-19PX-5	0.48	-	89
21	FW-250P-1	0.71	1.41	96

PAGE	MODEL	VIBRATION (m/s²) THROTTLE HANDLE	VIBRATION (m/s²) SUPPORT HANDLE	NOISE dB(A)
21	FW-250P-2	0.71	1.41	96
21	FW-320P-1	0.45	0.89	92
21	FW-50-7	0.21	0.3	104
21	FW-75-7	0.4	0.79	106
21	FW-100-1	0.4	0.71	103
22	FW-5SXD-7(70)	0.35	-	77
22	FW-5SXD-8(80)	0.35	-	77
22	FW-6SXD-6(60)	0.56	-	86
22	FW-5PXD-6	0.32	-	75
22	FW-5PXD-60	0.32	-	75
22	FW-6PMD-1	0.27	-	83
22	FW-6PMD-10	0.27	-	83
22	FW-6PLD-1	0.25	-	94
22	FW-6PXD-6	0.3	-	79
22	FW-6PXD-60	0.3	-	79
22	FW-6PHD-1	0.32	-	88
23	FW-44SAD-1	0.23	-	82
23	FW-44SAD-10	0.23	-	82
23	FW-66SAD-1	0.36	-	79
23	FW-66SAD-10	0.36	-	79
23	FW-44PAD-2	0.2	-	80
23	FW-44PAD-20	0.2	-	80
23	FW-66PAD-2	0.22	-	77
23	FW-66PAD-20	0.22	-	77
23	FD-4	0.36	-	77
23	FD-5	0.52	-	89
23	FD-4P	0.36	-	77
23	FD-5P	0.4	-	79
24	FOW-10-1	0.57	-	89
24	FOW-10-2	0.56	-	88
24	FRW-6NX-3	2.05	-	88
24	FRW-6NX-3A	2.05	-	88
24	FRW-6NX-4	2.18	-	89
24	FRW-6NX-4A	2.18	-	89
24	FRW-8NX-2	2.0	-	89
24	FRW-8NX-2A	2.0	-	89
24	FRW-10N-2	2.19	-	90
24	FRW-13N-3	2.34	-	93
24	FRW-13N-4	3.98	-	93
32	FG-06-1	0.48	-	82
32	TURBO-100	0.3	-	83
32	TURBO-100A	0.3	-	83
33	FG-13-1F	0.25	-	86
33	FG-13-10F	0.25	-	86
33	FG-13X-1F	0.4	-	83
33	FG-13X-10F	0.4	-	83
33	FG-26-20BF	0.77	-	86
33	FG-26-10F	0.71	-	93
33	FG-50-2BF	0.71	-	85
33	FG-50-1F	0.89	-	85
33	FG-26X-10F	0.79	-	80
33	FG-50X-1F	0.45	-	85
33	FG-12U-1F	0.89	-	81
33	FG-25D-1F	0.71	-	83
33	FG-50D-1F	0.32	-	90
33	FG-12UX-1F	0.63	-	74

PAGE	MODEL	VIBRATION (m/s²) THROTTLE HANDLE	VIBRATION (m/s²) SUPPORT HANDLE	NOISE dB(A)
33	FG-25DX-1F	0.32	-	74
33	FG-50DX-1F	0.2	-	75
34	FG-26L-1BF	0.69	-	87
34	FG-3H-5F	0.56	-	82
34	FA-2C-2BF	0.24	-	86
34	FA-2C-3BF	0.24	-	86
34	FA-2CX-2BF	0.79	-	77
34	FA-2CX-3BF	0.79	-	77
35	FG-2VX-1F	0.5	-	80
35	FG-3VX-1F	0.46	-	70
35	FG-3VX-6F	0.46	-	
35	FG-3VX-2F	0.69	-	77
35	FG-3VX-3F	0.26	-	74
35	FG-3H-1F	0.4	-	92
35	FG-3H-2F	0.32	-	90
35	FG-4H-1F	0.32	-	90
35	FG-4H-2	0.32	-	90
35	FG-5H-1M	0.73	-	82
35	FG-5H-2M	0.63	-	82
35	FG-6H-1M	0.72	-	80
35	FG-8H-1M	0.7	-	87
35	FG-8H-2M	0.48	-	89
35	FG-8H-1C	0.32	-	87
36	FG-50L-1BF	0.67	-	86
36	FG-50Y-1BF	0.72	-	88
36	FG-3HL-1F	1.13	-	82
36	FG-4HL-1F	1.02	-	86
36	FG-5HL-2M	1.05	-	86
36	FA-2CX-1BF	0.4	-	75
36	FA-3CX-1F	0.5	-	82
36	FA-3CX-2F	0.5	-	82
36	FA-5E-13F	0.36	0.4	86
36	FA-5E-13VF	0.5	0.4	86
37	FA-6C-8M	0.4	0.63	79
37	FA-7E-5VF	0.46	0.25	87
37	FA-7E-6VF	0.79	0.63	85
37	FA-5E-6VF	0.26	0.17	75
37	FA4CHK-3F	0.32	-	90
37	FG-5PX-1	0.32	-	90
38	FV-7-1M	0.16	0.22	86
38	FV-7-4M	0.28	-	83
38	FV-9BH-1M	0.35	0.71	92
38	FV-9BH-4M	0.16	1.26	95
38	FV-7-2M	0.18	0.28	90
39	FBS-1-1	0.3	-	83
39	FBS-1-2	0.3	-	83
39	FBS-1-3	0.3	-	83
39	FBS-1-4	0.3	-	83
40	FOR-125BF-E(M)	3.5	-	90
40	FOR-150BF-E(M)	3.1	-	90
40	FOS-175BF-E(M)	2.0	-	86
40	FOS-230BF-E	3.0	-	87
40	FOS-400BF-E	5.0	-	88
52	FRD-5S-1F	0.32	-	79
52	FRD-6S-2F	0.56	-	89
52	FRD-6S-3F	0.89	-	90

PAGE	MODEL	VIBRATION (m/s²) THROTTLE HANDLE	VIBRATION (m/s²) SUPPORT HANDLE	NOISE dB(A)
52	FRD-6S-5F	0.79	-	86
52	FRD-6S-7F	0.56	0.4	88
52	FRD-5P-1	0.56	0.4	88
52	FRD-6PX-2	0.56	-	79
52	FRD-6PX-3	0.32	-	77
52	FRD-6PX-5	0.25	-	88
52	FRD-6PX-7	0.35	0.35	78
52	FRD-8PX-1	0.18	-	87
52	FRD-8PX-2	0.45	0.25	88
52	FRD-8PX-3	0.45	0.35	85
53	FRD-12Z-1C	0.32	-	96
53	FRD-16Z-1C	0.32	-	96
53	FRD-20R-21S	0.18	-	105
53	FRD-20R-22S	0.18	-	105
53	FRD-23R-21S	0.18	-	110
53	FRD-23R-22S	0.18	-	110
53	FRD-25R-11S	0.5	-	108
53	FRD-28R-11S	0.22	-	110
53	FRD-32R-11S	0.32	-	109
53	FRD-32R-12S	0.32	-	109
53	FRD-40R-11S	0.25	-	110
53	FRD-50R-11S	0.57	-	107
53	FRD-65R-1S	0.45	-	103
53	FRD-75R-1S	0.56	-	106
53	FRD-100R-1S	0.5	-	103
54	FCD-6B-1F	0.5	-	81
54	FCD-6X-1F	0.5	-	81
54	FCD-6X-2F	0.32	-	81
54	FCD-10X-1F	0.32	-	86
55	F-14CN-1S	0.28	-	100
55	F-14CN-2S	0.32	-	100
55	F-22RCN-1S	0.4	-	103
55	F-32RCN-1S	0.32	-	105
55	F-32RCNS-1S	0.56	-	104
56	F-22RCR-1S	0.32	-	101
56	F-32RCR-1S	0.32	-	102
56	FCD-23R-11S	0.2	-	105
56	FCD-23R-12S	0.2	-	105
56	FCD-32R-11S	0.18	-	108
56	FCD-50R-11S	0.22	-	110
56	FCD-75R-11S	0.2	-	101
56	FCD-100R-11S	0.32	-	107
58	FT-6P-1	0.45	-	87
58	FT-6BX-1	0.45	-	74
58	FT-8PX-1	0.45	-	89
62	FCH-20-1F	15.54	-	93
62	FCH-20F-1F	12.6	-	101
62	FCH-25-1F	31.6	-	83
62	FCH-25B-1F	31.6	-	83
62	FRH-3-1	7.32	-	99
62	FRH-3-2	7.32	-	99
62	FRH-6-1	6.22	-	97
62	FRH-6-2	6.22	-	97
62	FRH-6A-1	19.88	-	103
62	FRH-6A-2	19.88	-	103
62	FNS-2-1F (NEEDLE_3)	13.09	-	100

PAGE	MODEL	VIBRATION (m/s²) THROTTLE HANDLE	VIBRATION (m/s²) SUPPORT HANDLE	NOISE dB(A)
62	FNS-2P-1F (NEEDLE_3)	13.46	-	102
63	FS-2A-1F	11.96	-	103
63	FR-18B-2F	14.8	-	99
63	FR-22B-2F	26.22	-	98
63	FR-25B-2F	5.01	-	96
63	FR-18L-2F	3.16	-	96
63	FR-22L-2F	5.01	-	92
63	FR-25L-2F	5.01	-	96
63	FR-32-2F	5.62	-	99
70	G400	1.4	-	78

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