

Professional Torque Tools And Accessories

About Wavor

Wavor Precision Machinery (Shanghai) Co., Ltd

Founded in 2008, Wavor focus on R&D and producing torque tools, including: electric torque wrench (electric nut runner), pneumatic torque wrench (pneumatic nut runner), cordless torque wrench (battery torque wrench or rechargeable torque wrench), hand torque multiplier (manual force multiplier). With reliable quality and excellent service, Wavor products have been widely used in maintenance, installation and manufacture application, and have been exported to many countries & areas such as Russia, Southeast Asia, Europe, Australia, etc.

In addition to the standard products, Wavor also offer customized products. Regardless of a torque wrench, a solution or a special accessory, Wavor could meet your requirement with her professional experiences!

Before delivery, to ensure the reliability and accuracy, all Wavor products would work through a rigorous torque calibration and test, and supplied with an unique test report.



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Recommended torque table

Bolts strength grade			4.8	6.8	8.8	10.9	12.9
Minimum broken strength			392Mpa	588Mpa	784Mpa	941Mpa	1176Mpa
Bolts size	Outer hex(mm)	Inner hex(mm)	Recommended torque				
			Nm				
M14	22	12	69	98	137	165	225
M16	24	14	98	137	206	247	353
M18	27	14	137	206	284	341	480
M20	30	17	176	296	402	569	680
M22	32	17	225	333	539	765	911
M24	36	19	314	470	686	981	1176
M27	41	19	441	637	1029	1472	1764
M30	46	22	588	882	1225	1962	2350
M33	50	24	735	1127	1470	2060	2450
M36	55	27	980	1470	1764	2453	2940
M39	60	27/30	1176	1764	2156	2943	3626
M42	65	32	1519	2352	2744	3826	4606
M45	70	—	1764	2744	3136	4415	5390
M48	75	36	2254	3430	3920	5592	6664
M52	80	36	2744	4116	4704	6573	8330
M56	85	41	3528	5149	5978	8437	10290
M60	90	46	4018	5978	7742	10791	13230
M64	95	46	4998	7448	8820		
M68	100	50	5684	8528	10780		
M72	105	55	6468	9800	12640		
M76	110	60	7350	10780	14700		
M80	115	65	8143	12250	18130		
M85	120	70	8820	13720	22050		
M90	130	70/75	10584	16170	24500		

Note:

- 1、The above data is only for reference, when dealing with specific application, please according to the technical requirement on site.
- 2、The above data is from Germany industrial standard, torque for 70% of the bolt yield limit.
- 3、For tightening, the recommended torque is 70%-80% of the above data.
- 4、For loosening, the recommended torque is 150% of the tightening torque.

Common torque units conversion

1Nm=0.7376Lbf.ft	1Lbf.ft =1.3558 Nm
1Nm=8.8507Lbf.in	1Lbf.in=0.1130 Nm
1Nm=0.1019Kgf.m	1Kgf.m= 9.8068Nm
1Nm=10.1970 Kgf.cm	1Kgf.cm=0.0981 Nm

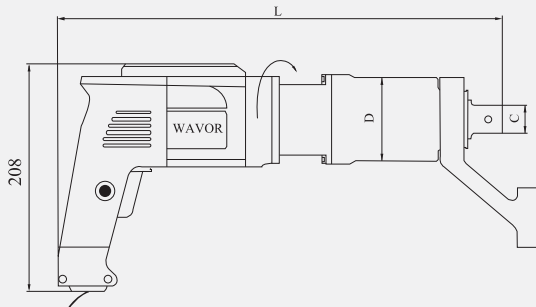


ESW series

Small size, light weight, more portable

Single speed electric wrench:

- Input: 220–240V AC, 50/60Hz
- Preset torque and automatic shutoff when reaching the set torque
- High output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$
- Digital torque control system with LCD display
- Free connection of power handle and drive unit
- Portable and durable design, low noise, with anti-overload protection
- With long-life and automatic cut-off carbon brushes
- Double insulation, more safe
- Industrial design, continuous working ability



Ⓐ LCD and Button



*ESW/ETW series electric torque wrench are equipped with high strength transparent protection shell, which could protect the LCD panel and PCB board effectively.

Model	Torque (Nm)	Square C	Diameter D (mm)	Length L (mm)	Free Speed (rpm)	Weight* (kg)
ESW-04	80-450	3/4"	76	395	21.0	5.4
ESW-08	100-850	3/4"	76	395	12.0	5.4
ESW-12	200-1200	1"	76	400	9.0	5.5

*Above weight does not include the reaction arm. The standard one is about 0.9kg.

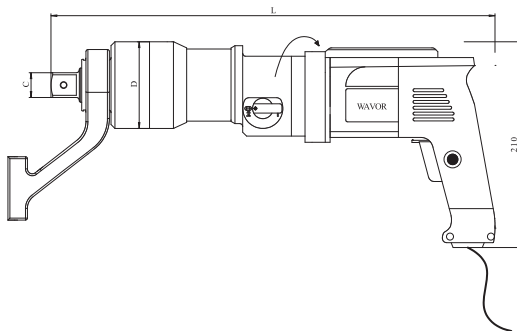


ETW-S series

Digital torque system with LCD

Digital electric torque wrench(straight type):

- ⊙ Input: 220–240V AC, 50/60Hz
- ⊙ Preset torque and automatic shutoff when reaching the set torque
- ⊙ High output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$
- ⊙ Single-chip intelligent torque control system with LCD display
- ⊙ With manual 2-speed gearbox, high/low speed can be shifted freely
- ⊙ Free connection of power handle and drive unit
- ⊙ Good continuous working ability, suitable for assembly line & installation & maintenance job
- ⊙ Double insulation design, much safer



Model selection:
For loosening, the torque should be 50% bigger than tightening.



Model	Torque (Nm)	Square C	Diameter D (mm)	Length L (mm)	Free Speed (rpm)	Weight* (kg)
ETW-08S	100-800	3/4"	88	429	20.0	7.5
ETW-12S	200-1200	1"	88	434	18.0	7.6
ETW-26S	400-2600	1"	88	455	7.0	8.2
ETW-38S	500-3800	1-1/2"	96	475	5.0	9.8
ETW-60S	1000-6000	1-1/2"	114	510	3.5	12.3
ETW-80S	1200-8000	1-1/2"	143	570	1.9	19.2
ETW-100S	1800-10000	1-1/2"	143	570	1.6	19.2
ETW-120S	2000-12000	1-1/2"	143	570	1.3	19.2

*Above weight does not include the reaction arm.

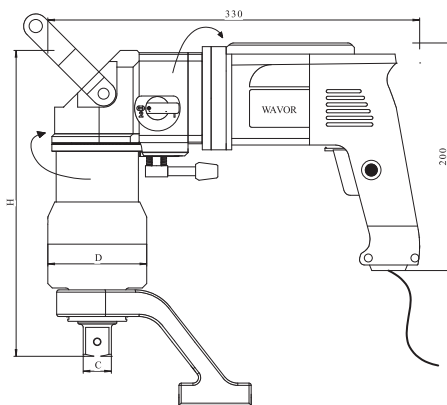
*Free speed is no load speed under gear 2.

ETW-A series

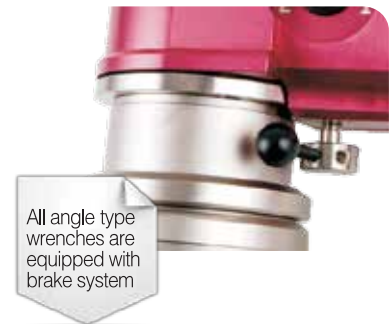
Digital torque system with LCD

Digital electric torque wrench(angle type):

- Input: 220–240V AC, 50/60Hz
- Preset torque and automatic shutoff when reaching the set torque
- High output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$
- Digital torque control system with LCD display
- With manual 2-speed gearbox, high/low speed can be shifted freely
- More suitable for limited working space compared to the straight type
- Good continuous working ability, suitable for assembly line & installation & maintenance job
- Double insulation design, much safer



⊙ Rotate 360°, more safe and convenient



Model	Torque (Nm)	Square C	Diameter D (mm)	High H (mm)	Free Speed (rpm)	Weight* (kg)
ETW-08A	100-800	3/4"	88	248	20.0	8.7
ETW-12A	200-1200	1"	88	253	18.0	8.8
ETW-26A	400-2600	1"	88	274	7.0	9.4
ETW-38A	500-3800	1-1/2"	96	294	5.0	11.0
ETW-60A	1000-6000	1-1/2"	114	329	3.5	13.5
ETW-80A	1200-8000	1-1/2"	143	390	1.9	20.4
ETW-100A	1800-10000	1-1/2"	143	390	1.6	20.4
ETW-120A	2000-12000	1-1/2"	143	390	1.3	20.4

*Above weight does not include the reaction arm.

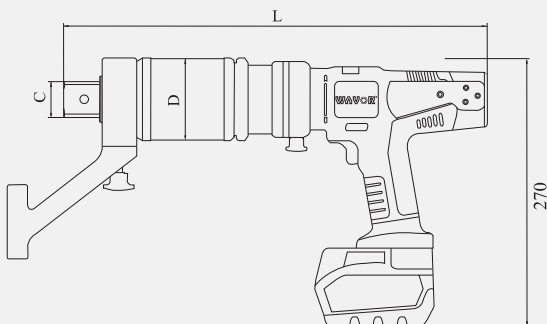
*Free speed is no load speed under gear 2.

RMW series

Digital torque system with LCD

Digital rechargeable torque wrench:

- ⊙ Preset torque and automatic shutoff when reaching the set torque
- ⊙ High output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$
- ⊙ With manual 2-speed gearbox, high/low speed can be shifted freely
- ⊙ 28V 3Ah LITHIUM-ION battery, powerful and durable, charges just in 1 hour or less
- ⊙ Suitable for removing or assembly the large nuts and bolts but no power supply
- ⊙ Free connection of power handle and drive unit, equipped with brake system
- ⊙ Supply scope: 2 pieces of Lithium battery and 1 piece of quick charger



Model	Torque (Nm)	Square C	Diameter D (mm)	Length L (mm)	Free Speed (rpm)	Weight* (kg)
RMW-07	100-700	3/4"	88	376	18.0	7.1
RMW-10	200-1000	1"	88	383	13.0	7.2
RMW-12	200-1200	1"	88	383	10.5	7.2
RMW-25	300-2500	1"	88	430	4.5	9.0
RMW-32	400-3200	1"	88	430	3.5	9.0
RMW-40	500-4000	1-1/2"	96	440	3.0	9.6

*Above weight include one battery but no reaction arm.

*Free speed is no load speed under gear 2.

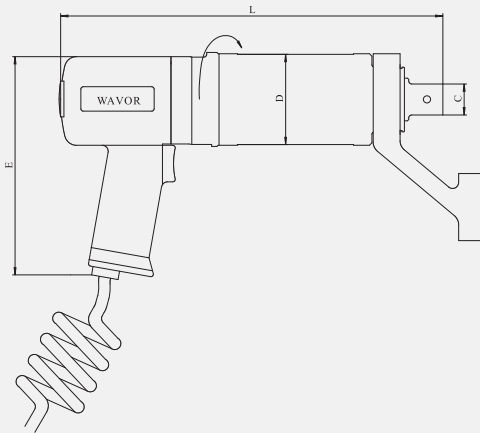


PSW series

Small size, light weight, more portable

Single speed pneumatic wrench:

- PSW-06~PSW-15, with engineering plastic handle, 6bar, 600L/min compressed air
- PSW-21~PSW-100, with aluminum alloy handle, 7bar, 800L/min compressed air
- Powerful and low noise, less than 80dBA
- Free connection of power handle and gear box, could be rotated 360°
- With single speed gearbox, light weight and small size, easily operated
- Very suitable for continuous working in production assembly and maintenance



Model	Torque (Nm)	Square C	Diameter D (mm)	Length L (mm)	Width E (mm)	Free Speed* (rpm)	Weight* (kg)
PSW-06	75-650	3/4"	76	300	186	23.0	4.9
PSW-10	120-1060	1"	76	300	186	13.0	5.0
PSW-15	170-1500	1"	76	300	186	10.0	5.0
PSW-21	320-2100	1"	88	310	255	14.0	7.5
PSW-28	430-2800	1"	88	310	255	10.5	7.5
PSW-39	610-3900	1-1/2"	96	350	255	7.5	9.8
PSW-58	950-5800	1-1/2"	114	400	255	5.0	12.5
PSW-100	1650-10000	1-1/2"	143	445	255	3.0	19.2

*Above weight does not include the reaction arm.

*Free speed is no load speed under 6 bar

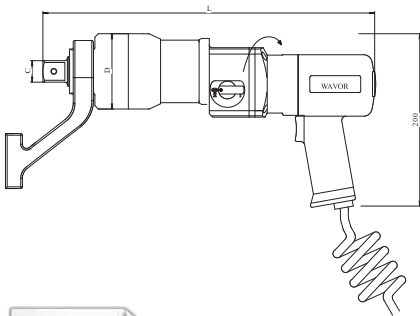


PTW-S series

Engineering plastic handle, light weight, low noise

Pneumatic torque wrench (straight type):

- Air supply: 6bar compressed air, max consumption is 600L/min
- Preset torque, output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$
- Powerful and low noise, less than 80dBA
- Free connection of power handle and gear box, could be rotated 360°
- With manual 2-speed gearbox, high/low speed can be shifted freely
- Reverse pressure-bias motor provide the higher torque when removing or loosening bolts
- Supply scope: Air register, hose, quick coupling (air inlet connector of air register is excluded)



When selecting model, 30% more torque is needed for unlock.



✓ Air register kit



For all models
of pneumatic
wrenches



Fast releasing compressed air would take away much heat, thus the power unit would not heat up noticeably under high intense working, even in hot summer.

Model	Torque (Nm)	Square C	Diameter D (mm)	Length L (mm)	Free Speed* (rpm)	Weight* (kg)
PTW-14S	200-1400	1"	88	370	22.0	6.7
PTW-29S	410-2900	1"	88	390	9.0	7.3
PTW-40S	560-4000	1-1/2"	96	410	7.0	9.2
PTW-62S	870-6200	1-1/2"	114	445	5.0	11.4
PTW-120S	1880-12000	1-1/2"	143	496	2.0	18.4

*Above weight does not include the reaction arm.

*Free speed is no load speed under 6 bar, gear 2

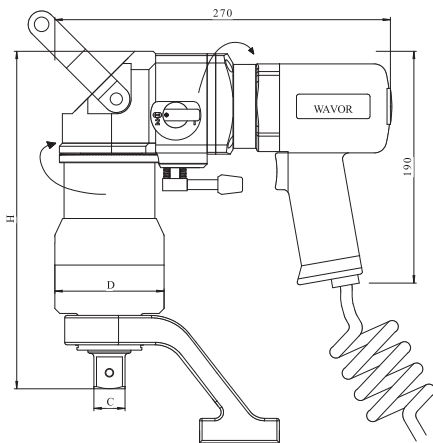


PTW-A series

Engineering plastic handle, light weight, low noise

Pneumatic torque wrench (angle type):

- Air supply: 6bar compressed air, max consumption is 600L/min
- Preset torque, output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$
- Powerful and low noise, less than 80dBA
- More suitable for limited working space compared to the straight type
- 7 pieces leaf high efficient air motor, no-impact torque output
- Equipped with brake system to protect the operator
- Supply scope: Air register, hose, quick coupling (air inlet connector of air register is excluded)



✓ Packing box



✓ Reaction arm



Model	Torque (Nm)	Square C	Diameter D (mm)	Height H (mm)	Free Speed* (rpm)	Weight* (kg)
PTW-14A	200-1400	1"	88	253	22.0	7.9
PTW-29A	410-2900	1"	88	274	9.0	8.7
PTW-40A	560-4000	1-1/2"	96	294	7.0	10.4
PTW-62A	870-6200	1-1/2"	114	329	5.0	12.3
PTW-120A	1880-12000	1-1/2"	143	390	2.0	19.6

*Above weight does not include the reaction arm.

**Free speed is no load speed under 6 bar, gear 2.

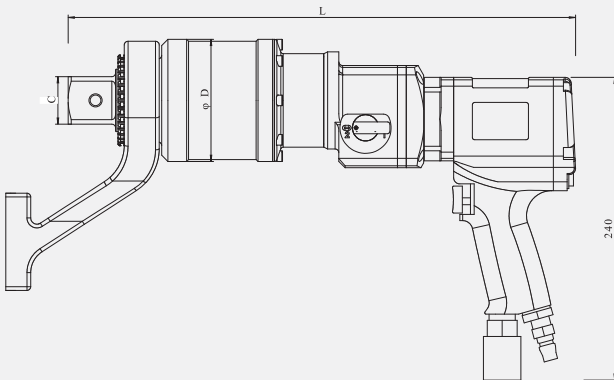


PAW-S series

Aluminum alloy handle, stable and durable

Pneumatic torque wrench (straight type):

- ⊙ Preset torque and automatic shutoff
- ⊙ 7bar compressed air, maximum 600L/min consumption
- ⊙ Adjust the torque via F.R.L unit, accuracy $\pm 5\%$
- ⊙ With manual 2-speed gearbox, high/low speed can be shifted freely
- ⊙ Aluminum alloy handle, excellent durability
- ⊙ Intense planetary design, small size, better torque/weight ratio
- ⊙ Excellent continuous working ability, suitable for high-intense job
- ⊙ Supplied with air register kit



Model	Torque (Nm)	Square C	Diameter D (mm)	Length L (mm)	Free Speed* (rpm)	Weight* (kg)
PAW-13S	210-1300	1"	88	365	24.0	7.5
PAW-29S	520-2900	1"	88	385	11.0	8.0
PAW-40S	720-4000	1-1/2"	96	405	8.0	10.0
PAW-60S	1030-6000	1-1/2"	114	440	6.0	12.0
PAW-120S	2170-12000	1-1/2"	143	490	3.0	19.0

*Above weight does not include the reaction arm.

**Free speed is no load speed under 6 bar, gear 2.

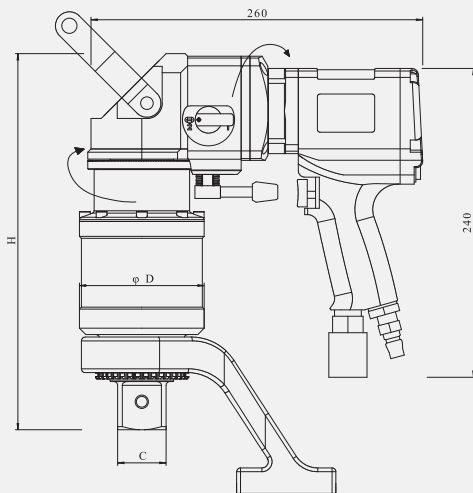


PAW-A series

Aluminum alloy handle, stable and durable

Pneumatic torque wrench (angle type):

- Preset torque and automatic shutoff, accuracy $\pm 5\%$
- 7bar compressed air, maximum 600L/min consumption
- More proper for limited space
- High/low two speed gearbox, more adaptable
- High strength one-piece reaction arm, 360 degree adjustable
- Equipped with reliable and durable brake system, protecting the operator
- Rotable aluminum alloy handle, more convenient
- Excellent continuous working ability, suitable for high-intense job



Model	Torque (Nm)	Square C	Diameter D (mm)	Height H (mm)	Free Speed* (rpm)	Weight* (kg)
PAW-13A	210-1300	1"	88	253	24.0	8.9
PAW-29A	520-2900	1"	88	274	11.0	9.4
PAW-40A	720-4000	1-1/2"	96	294	8.0	11.5
PAW-60A	1030-6000	1-1/2"	114	329	6.0	13.4
PAW-120A	2170-12000	1-1/2"	143	390	3.0	20.4

*Above weight does not include the reaction arm.

**Free speed is no load speed under 6 bar, gear 2.



HM series

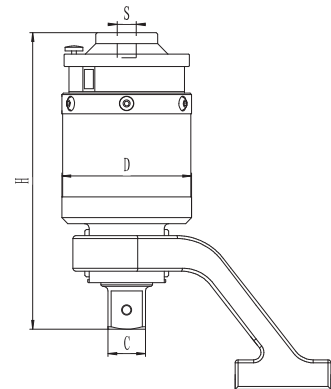
Compact, durable and reliable

Hand torque multiplier:

- Manual type, suitable for the occasions where it requires for high torque but power supply or space is limited.
- Sophisticated planetary gear system for torque multiplying, accuracy $\pm 5\%$.
- Equipped with anti-returning device, more convenient and safe.
- High torque-weight ratio, fulfill the locking/unlocking job easily with the hand wrench.
- Easily switch from clockwise to anti-clockwise direction by the reversing lever and buttons.



Do not drive the hand torque multiplier with the power impact tools, otherwise may destroy the gear system. Please operate with the hand wrench.



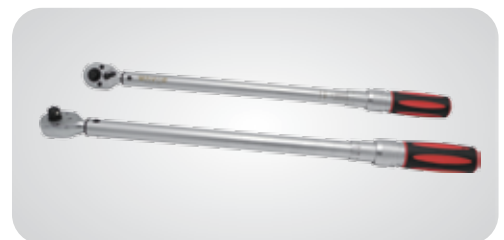
Model	Max Torque (Nm)	Torque Ratio	Input S	Output C	Diameter D(mm)	Height H(mm)	Weight *(kg)	Matched hand wrench
HM-12	1200	1:4	1/2"	1"	88	145	3.0	80330
HM-20	2000	1:4	3/4"	1"	88	156	3.1	80600
HM-30	3000	1:10	1/2"	1"	88	200	5.1	80330
HM-42	4200	1:14	1/2"	1-1/2"	96	210	6.7	80330
HM-62	6200	1:20	1/2"	1-1/2"	114	242	9.2	80330
HM-120	12000	1:38	1/2"	1-1/2"	143	305	16.3	80330

*Above weight does not include the reaction arm.

Hand torque wrench

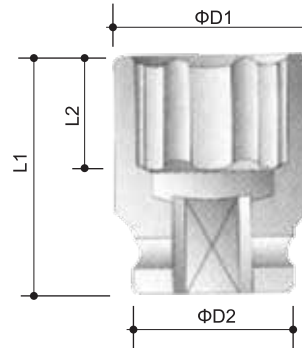
Click style N.m. & lbf.ft wrench; Bidirectional operation: clockwise and anti-clockwise;
Accuracy: $\pm 3\%$; Satisfy the requirements of ISO6789; Attached calibration certificate.

Model	Torque(Nm)	Square	Length (mm)	Weight (kg)
80020	4-20	1/4"	315	0.60
80030	6-30	3/8"	315	0.67
80060	10-60	3/8"	405	0.86
80100	20-100	3/8"	479	1.05
80200	40-200	1/2"	495	1.18
80330	60-330	1/2"	640	1.60
80600	100-600	3/4"	1050	5.03
80800	160-800	3/4"	1115	5.28
801000	200-1000	3/4"	1115	5.28



Socket series

Metric sockets



3/4"metric standard length sockets

Model	Size(mm)	L1(mm)	L2(mm)	D1(mm)	D2(mm)
M10-3/4	17	50	12	28.5	38
M12-3/4	19	50	14	30	
M14-3/4	22	52	16	34	
M16-3/4	24	52	16	36	
M18-3/4	27	52	16	40	
M20-3/4	30	52	20	44	44
M22-3/4	32	52	20	44	
M24-3/4	36	56	23	51	
M27-3/4	41	62	27	58	
M30-3/4	46	63	27	67	

3/4"metric deep length sockets

Model	Size(mm)	L1(mm)	L2(mm)	D1(mm)	D2(mm)
M10-3/4L	17	95	20	31	44
M12-3/4L	19	95	23	33	
M14-3/4L	22	95	23	37	
M16-3/4L	24	95	51	39	
M18-3/4L	27	95	62	43	
M20-3/4L	30	95	62	47	
M22-3/4L	32	95	62	49	
M24-3/4L	36	95	62	54	
M27-3/4L	41	95	60	60	
M30-3/4L	46	95	58	67	

1"metric standard length sockets

Model	Size(mm)	L1(mm)	L2(mm)	D1(mm)	D2(mm)
M16-1	24	58	17	40	51
M18-1	27	58	17	44	
M20-1	30	60	21	48	
M22-1	32	60	21	51	
M24-1	36	62	26	56	52
M27-1	41	62	26	61.5	
M30-1	46	64	27	68	58
M33-1	50	70	30	73	
M36-1	55	72	32	79	62
M39-1	60	78	35	87	

1"metric deep length sockets

Model	Size(mm)	L1(mm)	L2(mm)	D1(mm)	D2(mm)
M16-1L	24	100	21	42	54
M18-1L	27	100	23	46	
M20-1L	30	100	50	50	
M22-1L	32	100	50	52	
M24-1L	36	100	64	56	
M27-1L	41	100	64	63	
M30-1L	46	100	62	69	
M33-1L	50	100	62	74	
M36-1L	55	100	60	80	
M39-1L	60	120	77	86	

1-1/2"metric standard length sockets

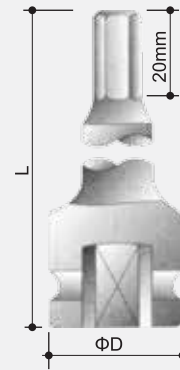
Model	Size(mm)	L1(mm)	L2(mm)	D1(mm)	D2(mm)
M27-1.5	41	80	26	70	86
M30-1.5	46	84	27	76	
M33-1.5	50	87	29	81	
M36-1.5	55	90	36	86	
M39-1.5	60	92	38	93	
M42-1.5	65	95	40	97	
M45-1.5	70	100	43	105	
M48-1.5	75	103	45	110	
M52-1.5	80	110	50	116	
M56-1.5	85	118	55	125	
M60-1.5	90	118	55	130	

1-1/2"metric deep length sockets

Model	Size(mm)	L1(mm)	L2(mm)	D1(mm)	D2(mm)
M27-1.5L	41	115	30	72	86
M30-1.5L	46	115	34	78	
M33-1.5L	50	135	36	81	
M36-1.5L	55	140	39	86	
M39-1.5L	60	150	41	94	
M42-1.5L	65	150	45	100	
M45-1.5L	70	160	47	106	
M48-1.5L	75	170	51	112	
M52-1.5L	80	170	51	118	
M56-1.5L	85	170	56	125	
M60-1.5L	90	170	56	125	

| Sockets series

Metric socket



3/4"metric inner hex sockets

Model	Size(mm)	D(mm)	L(mm)
H12-0.75	10	44	100
H14-0.75	12		
H16-0.75	14		
H20-0.75	17		
H24-0.75	19		
H30-0.75	22		
H33-0.75	24		
H36-0.75	27		

1"metric inner hex sockets

Model	Size(mm)	D(mm)	L(mm)
H16-1	14	54	100
H20-1	17		
H24-1	19		
H30-1	22		
H33-1	24		
H36-1	27		
H39-1	30		
H42-1	32		

1-1/2"metric inner hex sockets

Model	Size(mm)	D(mm)	L(mm)
H24-1.5	19	86	120
H30-1.5	22		
H33-1.5	24		
H36-1.5	27		
H39-1.5	30		
H42-1.5	32		
H48-1.5	36		

Note: If you would like to get more information about metric or imperial sockets, please do not hesitate to contact us.

WAVOR could customize special reaction arms or tools for you:





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